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**“UTILITY OF NUCLEAR WEAPONS”**

**CHAIR:**  
**DARYL KIMBALL,**  
**ARMS CONTROL ASSOCIATION**

**PANELISTS:**  
**GENERAL EUGENE HABIGER, UNIVERSITY OF GEORGIA**  
**FRANK MILLER, THE COHEN GROUPS**  
**IVAN OELRICH, FEDERATION OF AMERICAN SCIENTISTS**  
**HENRIK SALANDER, WMD COMMISSION**

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DARYL KIMBALL: Good morning, everyone, and welcome. I am Daryl Kimball. I'm the executive director of the Arms Control Association and we're pleased to have the chance to present this panel on the utility of nuclear weapons to help provoke I hope some renewed thinking and debate about what is perhaps the oldest of all nuclear weapons issues: What purpose do nuclear weapons serve, if any? And in organizing this session, I have asked the speakers to respond to several fundamental questions. We are going to hear from each of these gentlemen for about 10 minutes and then we're going to move into our question-and-answer session, and we have some very smart and experienced people in the crowd. So I hope that we do have a good exchange.

I have asked them to address the question of how should the role of nuclear weapons be defined in the context of the U.S. foreign and military policy or that of other nuclear armed states, under what circumstances should the use of nuclear weapons be considered or ruled out, and why, what are the nonproliferation and global security implications of such policies, and what are the implications of these ideas, these policies for nuclear force structure or number, deployments of nuclear arsenals of the United States or other nuclear weapon states?

And to discuss these core issues – temporary questions – not looking back but looking at the present situation and forward, we have tried to pull together a variety of perspectives from several experienced individuals. First we are going to hear from General Eugene Habiger, who is currently a distinguished fellow at the Center for International Trade and Security at the University of Georgia, and perhaps is better known as our former commander and chief for U.S. Strategic Forces from 1996 to '98.

Next, we will hear from Ambassador Henrik Salander, who is on the end. He is currently the secretary general of the WMD Commission, also known as the Blix Commission. Ambassador Salander has served as Sweden's representative for over two decades now and has played a leading role in efforts on disarmament and nonproliferation at the Nonproliferation Treaty Review Conference and elsewhere.

Frank Miller is currently vice president with The Cohen Group, and previously served as special assistant to President Bush, and was the senior director for defense and policy – defense, policy, and arms control at the National Security Council from 2001 to 2005. He has also held numerous senior positions at the Department of Defense under the Reagan, Bush, and the Clinton administrations.

Last, we will hear from Ivan Oelrich, who is director of the Strategic Security Project at the Federation of American Scientists, and the author of the 2005 FAS reported, titled, "Missions for Nuclear Weapons after the Cold War."

Before I turn over the floor to the panelists, I would like to use the chairman's position to offer a couple of observations of my own, which I hope will provoke your thinking and that of the panelists. And I think it is important to consider, as we have this discussion, these specific circumstances of nuclear weapons use. And it was a very interesting and important circumstance back in the summer of 2002 when it appeared as though Pakistan might be tempted to use nuclear weapons to counter India's overwhelming conventional forces as the two countries lined up along the border.

The Secretary of State Colin Powell told the leaders of both states, and I quote, "Nuclear weapons in this day and age may serve some deferent effect, and so be it. But to think of using them as just another weapon in what might start out as a conventional conflict in this day and age seems to be something that no side should be contemplating," unquote.

Now, despite such common sense statements from Powell and other leaders, former and sitting, the past two nuclear weapons policy reviews since the end of the Cold War and reviews by the other nuclear weapons states have in my view and the views of many others essentially been unchanged since those of the late-Cold War era.

Current U.S. strategy, as many of us here know, calls for improving conventional strategic strike capabilities, but it also calls for maintaining approximately 2,000 deployed strategic warheads with more in reserve, as well as hundreds of tactical nuclear weapons by – through 2012 and beyond. The main mission of course remains deterring Russia's substantial arsenal.

But in addition, it is there to, quote, "provide credible military options to deter a wide range of threats including weapons of mass destruction and large-scale conventional military forces." That is from the nuclear posture of the U.S. and subsequent documents. The posture of the U.S. and National Security Presidential Directive 17 also calls for contingency plans for nuclear strikes against non-nuclear weapon states, though, in conflicts with nuclear-armed states that may begin as conventional wars. It calls for new military capabilities to destroy targets such as deeply buried hardened bunkers.

However, one feels about U.S. policy, I think many of us in this room and outside of this room would agree that too few policymakers and politicians, let alone the public, have been willing or able to carefully examine these policies and the deeper question of what purpose nuclear weapons serve in today's world and how they affect our overriding mission and common cause in preventing nuclear proliferation and nuclear uses by others.

In my view and the view of many at the Arms Control Association, I think most would begin to understand the wisdom of Powell's words if they were to evaluate these issues and start to pursue a radical shift from current plans from maintaining its large force, and consider limiting the U.S. nuclear force mission solely to deterring the use of nuclear weapons by another nuclear-equipped opponent.

The implication of that logic suggests too that the United States and other countries could adopt a no-first-use policy. And as James Goodby and Sidney Drell argue in an Arms Control Association Report – that is in the back – the United States could and should further slash the size and reduce the readiness posture of the U.S. nuclear arsenal – the U.S. nuclear arsenal within this decade.

So with those thoughts, I am going to turn the podium over to some more experienced gentlemen. And as Congressman David Hobson has said earlier this year, I think it is time – I hope you will agree – for a thoughtful and open debate on the role of nuclear weapons in our country's national security. So we will have General Habiger.

GENERAL EUGENE HABIGER: Well, thank you, Daryl. Good morning.

It is always a pleasure to get up and speak about the utility of nuclear weapons in front of an audience that understands nuclear weapons. If you go out to the hinterlands in our great nation, there are not many who understand.

Let me back up and just give you a perspective from Gene Habiger's view of the world that not many people are aware of. If you read my vitae carefully, you will see that I start out my military career not in the Air Force but the United States Army. And what is not in the vitae is that I was in the infantry, and also what is not in the vitae is that I was involved in some test projects in the early-'60s as a private.

The first of those was the Davy Crockett system. And think about this; this is a recoilless rifle that is on the back – mounted on the back of a jeep. It fires a small-yield nuclear weapon a couple of kilometers down the road. Of course we didn't use nuclear weapons in the testing of this system, but as a young private, I thought that was kind of slick, you know, to be able to fire nuclear weapons from the back of a jeep. Luckily that system didn't stay around for very long.

The second test project I was involved with was a facial cream, a skin cream that infantrymen would put on their faces – all exposed skin areas, so that in the event of a nuclear attack on the battlefield, you would not be burned. And you have not lived until you have run around the red clay of South Georgia in the middle of summer with this very sticky white cream on your face and your hands.

So that is how I started – the view very close to the earth in dealing with nuclear weapons and nuclear issues. But here I am today talking about the utility of nuclear weapons. And let me just start out and make it very, very simple. You cannot de-invent nuclear weapons; that is just a reality.

And as long as there are nuclear weapons on this planet, in order to protect our republic – and I want you to think about this for a second – if you look at what powers out there that are available to destroy our republic as we know it today – there are two that my wife don't like me – she doesn't like me to talk about very much – that is the space aliens are going to come and attack us, and you have to be careful how you talk

about that; the next perhaps is an asteroid that is going to come and destroy our great nation; and the other is the power of nuclear weapons. They are out there. If there was some way to de-invent them, I would be all for it.

I am all for getting down to lower and lower levels of nuclear weapons, and in another forum and another day perhaps we can talk about how we do that. I am very much an advocate of multilateral negotiations. We are way past that in terms of getting down to lower and lower levels of nuclear weapons to bring in all eight nations that have nuclear weapons, and let's start talking about getting down to lower and lower levels.

But having said all of that, the utility of nuclear weapons is that they deter. Now, do they deter non-nation states, transnational terrorist groups? Probably not, but they deter nation states that have nuclear weapons. And I gave a speech in 1996 at Stanford University with Dr. Edward Teller sitting in the front row.

And I made a very bold statement – and Dr. Teller had always been a minor mentor in terms of harassing me when I said the wrong things. I made the statement along the lines that we must be very careful where we go in the future of nuclear weapons because perhaps in 50 years we would be deterring France. Well, I am standing in front of a group of about 200 people in my uniform, and Teller is sitting in the front row nodding, and then I come to find out later there were two French journalists in the audience, and luckily they didn't write about my comments.

But the simple point is that nuclear weapons I'm afraid are going to be around for a long time. Will we ever get to zero? No. Should we get down to lower and lower levels? You bet. If you were to ask me today what would be the end game for the United States, I would say about 600. Now, where do I get that – no analytical data analysis; just that is a number that sounds about right.

Are nuclear weapons as viable as they were 30 years ago in the heart of the Cold War? No. Precision-guided munitions have put a whole new dimension into the ability to destroy targets. I was a B-52 crewmember, and we would feel very good if we could get a weapon into a basket size of 1,500 feet. So we are talking about tens of hundreds, thousands of feet in terms of accuracy. Today we are talking about feet, less than tens of feet with precision-guided munitions so that conventional munitions I think are – have increasing value, especially in this realm of war-fighting capabilities.

The other concern I have in terms of utility of nuclear weapons: Don't make nuclear weapons so attractive that they become attractive to use. And that has been one of my major concerns about the robust penetrating weapon. We have weapons in the inventory, the B-61 mod. 11, for example, that can get buried targets – not deeply buried targets under a hundred feet of granite, but they can get deeply buried targets. You might have to drop more than one, more than two, more than three, but eventually you are going to get down and destroy the target you are after. But to go out and build a new nuclear weapon that is attractive to use is counter-intuitive in my view, and would not be the right thing for our country to pursue.

The next thing I want to just talk a little bit about in terms of the utility of nuclear weapons is the fact that the military doesn't dictate the utility of nuclear weapons. And I want to make this very clear because not many understand it. The StratCom, Strategic Command, builds this single integrated operational plan, the SIOP, based upon guidance that comes from the president of the United States. The president of the United States signs out from time to time – and I will talk more about that in a few minutes – something called the presidential directive. And it is called various names. The directive is called various names by various administrations.

But the point is that is where the guidance comes from. This presidential guidance – and I am going to defer to my good friend, Frank Miller, who was in the NSC staff who was involved in these kinds of things – gives a top-secret document, three to four pages long, very broad guidance on how our nuclear forces should be employed. That memo is sent to the secretary of Defense, secretary of State, among others – the secretary of Energy, and the action office is the secretary of Defense.

Civilians within the secretary of Defense produce something called the nuclear weapons employment plan. We are talking about civilians now. And it is a little more specific in terms of what the nuclear war plan, the SIOP, the single integrated operational plan, ought to look like.

That nuclear weapons employment plan goes to the Joint Staff next, where it is fleshed out, and you have a product called the joint strategic capabilities plan, which is a lot more detailed in terms of how nuclear weapons should be employed to deter, and then that is sent to Strategic Command where it is built into the single-integrated operational plan, or, as some are calling it now, operations plan 8044. The guidance comes from the civilian leadership. That is point number one.

Point number two, one of the reasons we are so darn slow in getting down to lower and lower levels of nuclear weapons, is that we were just slow to react after the Cold War. And let me just give you – I'm going to read a quote from a general. "We didn't see the end of the Cold War coming. We saw the end of WWII coming and had prior planning. This time there was no planning. The problems we are experiencing now are the result of this lack of planning." Ladies and gentlemen, those words were spoken by General Major Vladimir Dvorkin, the chief of the Central Scientific Research Institute in the Ministry of Defense in 1993.

Well, the Russians didn't see the end of the Cold War coming, the United States in my view didn't see the end of the Cold War coming. The example I would give you is that in 1981, President Reagan signed a presidential directive regarding the use of nuclear weapons – 1981, right in the heart of the Cold War. This is when TK Jones over at the OSD staff was making statements like with enough shovels and enough doors, we can bury ourselves into individual little bomb shelters and survive, and win the war.

Ladies and gentlemen, the next revision to that presidential guidance was in 1997. Now, think about that. Six years after the end of the Cold War, 16 years after Reagan's presidential directive, we finally had a sea-state (?) change passed down through the system to change our nuclear war fighting strategy. In my view, that is part of our problem, is that the policy folks are behind the military folks in terms of addressing this issue. And I have said that before in public forums and I will say that again.

So getting back to the basic question: Should we be using nuclear weapons? No. Should they be attractive to use? No. Should we continue to have them? Unfortunately yes, only because that evil is out there and we have found – and I don't think we will find any viable alternative. Thank you.

(Applause.)

AMBASSADOR HENRIK SALANDER: Thank you, Daryl. Can you hear me?

Let me first make the usual disclaimer. I am not speaking today formally for the Weapons of Mass Destruction Commission nor for the Swedish Ministry of Foreign Affairs necessarily.

I will not talk much about military utility as such, which is mostly beyond my area oftentimes anyway. My angle will be more political. So to rephrase the starting point somewhat, even if the answer will be yes to the question do nuclear weapons have military utility, which I don't think it is, the next and more relevant question would be is it politically possible to take advantage of that utility?

Let's discuss this by first taking a quick look at deterrence, then the credibility of deterrence and the use, and then if we have time enough – otherwise in the question and answer – about the implications for nonproliferation. But first, let me start by making a prediction. I was inspired to this by Richard Rhodes yesterday.

In 2050, when I myself will be slightly more than 100 years old, there will be – there will not be eight or perhaps nine nuclear weapons states like today; there will be either several more or somewhat fewer, more probably – the former. And why is that – simply because there is no chance that the present-day status quo can hold over several decades.

The very reason for the unsustainability of the status quo or building to it – if eight states make it clear that they regard nuclear weapons as essential for their own security, there is no chance that they can persuade all other states that trying to get those weapons is wrong. Some few others, probably very few, but still some, will draw their own conclusions without listening to the eight.

That said, I do not at all believe that there will be a cascade, as it were, of proliferating states. In fact, a very large majority of all states do not have the slightest wish to possess nuclear weapons. Most states or those which can actually build nuclear

weapons themselves have not done that and will not do it, at least not for the time being. And this points for me to a suspicion that nuclear weapons perhaps do not have that much utility because if they have great utility, or if they had recently had that, then many more countries would already have been in possession of it.

For decades now, the primary motivation to possess nuclear weapons has been to deter others from using it. I do not believe that this kind of a deterrence is completely dead. It is not what it once was of course, especially not on the global scale, but it probably had some uncertain effect on the smaller scale, on the troubled regions of the world where nuclear weapons are possessed by one or more countries. This then implies that nuclear weapons may have or at least are perceived as having some utility in scaring away both nuclear weapons and other weapons in the hands of others.

And this is exactly why I believe that there will not be eight nuclear weapon states in a few decades, because if my hostile or at least potentially unfriendly neighbor has them, then I will believe I need them too – and this completely – regardless of their actual practical utility in an actual war.

It is often said that nuclear forces as a bilateral deterrent and as a deterring umbrella play a role for the United States and its allies that the conventional forces cannot play. This begs the question, how do we know that; it may be true. But we cannot be sure since the weapons were used 60 years ago twice in a completely different environment to finish a war, not to deter a neighbor.

But if we assume that what I just mentioned is true, the logical consequence must be that many more states would want nuclear weapons, or would want to be under a nuclear umbrella because otherwise they would risk being subject to nuclear blackmail. According to this logic, countries like, say, Sweden and Finland need nuclear weapons, and of course a number of other countries. But let's get back a bit to proliferation for a couple of minutes.

In the post-Cold-War world, nuclear deterrence runs into a credibility problem. Following the political, economic, technical, and communicational – communicational – is that a word? I don't know.

MR. KIMBALL: Now it is. (Laughter.)

AMB. SALANDER: In Swedish – developments globally in the last couple of decades, there will be uncertainty whether nuclear weapons will be used or not in a given confrontational situation because the negative side of use is so enormous that also states possessing nuclear weapons are uncertain whether the advantage outweighs the consequences.

One might of course respond that the credibility problem will be solved with one single use of nuclear weapons. That is true. Nuclear deterrence on all levels would be alive and well again but at the cost of a world that nobody would want to live in. The

credibility problem has led policy and planning off in several directions: into making new types of weapons, to contemplate first use, also preemptively, and to threaten use against other types of weapons of mass destruction.

Some planners are assuming that lower-yield nuclear weapons would be more usable because of their less traumatic consequences. But even if small nuclear weapons – in itself a euphemism of absurd proportions – even if they were to have military utility in a specific case, military planners could not be positive that their political leaders would release the authority to use the weapons because of the incalculable political consequences. So the credibility problem will still be there with low-yield weapons.

Similarly with the potential first use of nuclear weapons against biological or chemical weapons, even leaving aside the difficulties of intelligence and targeting, how to know who to bomb, I think the greater difficulty here is credibility. A nuclear response to a chemical or biological event or a threat would be an escalation of enormous proportions, in fact a response so disproportionate that threatening it would probably most likely not be credible.

And a strike would be counterproductive. Like Lee Butler has said, in a single act we would martyr our enemies, alienate our friends, give comfort to the non-declared nuclear states, and the impetus to states seeking nuclear weapons – (off mike).

Is it possible for the United States or any other democratically governed state to use nuclear weapons first? The U.S. is the only state which has in its power to choose that option in confidence that it would not be on the losing side in such a confrontation. It is of course military possible, but which kind of world would be the result? It would be a world which has passed the point of no return, which would be ruled by violence, by one or a few dominant powers, against the will of most others.

This in terms poses the question is it politically possible for the U.S. or any other democratically governed state to use nuclear weapons first? I believe the answer is no, and I believe this will affect NATO policy over time. At some point I think NATO will have to adopt a non-nuclear security posture if it is to maintain its cohesion and effectiveness.

I don't know how much time I have left – two minutes I guess. Thanks, Daryl. Let's get back to nonproliferation implications in the question-and-answer period perhaps. But let me just say that when it comes to that, the implications for nonproliferation of the perceived utility of nuclear weapons – it is clear not Finland or Sweden, like I said – (off mike) – nearest problem but those in other examples demonstrate the problem with the uncertainty argument. Both the U.K. and the U.S. maintain that the long-term uncertainties of the future require nuclear weapons. But any country could argue that, some perhaps more convincingly.

So if I were to summarize these remarks in one sentence, it would be something like this: While nuclear deterrence may still have some residual, but uncertain influence

on and among nuclear armed powers, the political impossibility for responsible governments of actually using nuclear weapons is gradually making them devoid of utility for such governments.

And this finally leaves us with the question of when will non-democratic governments have changed enough, and when will the world have changed enough for democratic governments to take the lead in prohibiting nuclear weapons like biological and chemical weapons – (off mike). Thank you, Daryl.

MR. KIMBALL: Thank you.

(Applause.)

FRANK MILLER: Thank you. Before I go into my prepared remarks, I do want to – and this is not a debate – I do want to correct a bit of the historical record – (off mike). And Gene is absolutely right, that there was no new presidential policy between 1981 and 1996.

There was, however, beginning in the mid-1980s, an enormous amount of change in the U.S. policy directed at the secretary of Defense level, which dramatically revised U.S. nuclear plans and policies, which led to the creation of a set of requirements that brought about START II as a proposal, and that in fact led to the creation of an entire new culture wherein formerly stovepipe, noncommunicative organizations known as OSD, the Joint Staff, and Strategic Command formed a community that set the model for government planning across the board. That story will I suppose some day be told. But there was in fact tremendous ferment and tremendous change.

In my view, nuclear weapons underwrite U.S. and U.K. ability to deter attack on their vital interests and on the vital interests of their allies. They did that during the Cold War and they do it today. The end of the Cold War did not eliminate potential military threats to the United States or our allies, and it did not eliminate the knowledge of how to build nuclear weapons. And therefore, American and British nuclear weapons guarantee not only American and British security but allied security. And in so doing, they undergird international stability and they provide an important element still of alliance cohesion and reassurance.

Nuclear weapons are not an all-purpose deterrent. An all-purpose deterrent does not exist. The United States needs and is seeking to develop more advanced conventional forces, better intelligence, better reconnaissance, and indeed long-range conventional capabilities. But the conventional capabilities that we will build can never fully replace the role played by U.S. nuclear forces, at least not in my lifetime.

Daryl has asked us all to address the question of the use of nuclear weapons. I would say to you that nuclear weapons, at least in the form of the U.S. and British nuclear deterrent, are used every day. You go back to one of the fundamental theses of

deterrence policy enunciated first by Bernard Brodie: These weapons were built never to be used – never to be used in war.

The point of Daryl's question, however, is more probing. Under what circumstances should a government consider the use of nuclear weapons? And I believe that to answer the question precisely, which is what we're asking – to answer the question precisely as the basis for national policy undercuts the entire idea of deterrence. Why did nuclear deterrence work and why does it? Nuclear deterrence works because it raises the threshold of an attack on a nation's vital interest immeasurably. Nuclear weapons changed the entire calculus of warfare. An aggressor government could no longer rely on its military genius to produce a successful military outcome because the nuclear deterrent of the attacked state would always render that victory meaningless.

If, a priori, the United States were to limit the circumstances under which it would use a nuclear response, that automatically weakens the deterrent to all of the non-included situations, you can do that, but that is the consequence. And it almost, I think, comes back to the basic fundamentals again. Nuclear deterrence was never just about preventing nuclear war; it was about preventing a major war between great powers. It was about preserving Europe so that there was not, again, another major war fought on its soil. It was about preserving (sic) all sorts of attacks on U.S. allies around the world.

It's fair to ask what effect U.S. nuclear policy has had over the decades on non-proliferation and global security, but my view has already been telegraphed. Without our deterrent, without our ability to extend it over the decades for non-nuclear weapons allies, those allies would either be subject to nuclear blackmail or they would need to consider building their own nuclear weapons programs. The U.S. umbrella eliminated both alternatives, and the positive diplomatic and nonproliferation benefits of that policy, which were often ignored, are very real and very important, because when you consider what some of those allied states are and who they are, you consider their capabilities, scientific and technical and military, it's clear that they could easily have built nuclear deterrents of their own.

I believe that the United States has carried out faithfully its Article 6 obligations. I realize that will produce a fight during the questions and answers. That's fine. But the nuclear arms race is over. I'm not aware of any great move to come up with a treaty for disarmament across the board for all nations, and the arsenals of the United States, and indeed of Russia, are coming down. And I personally reject – and I've rejected throughout my career – the notion that U.S. nuclear weapons are the cause of any nuclear proliferation which has occurred. In my judgment, proliferation as it occurs is a dimension of a regional issue which needs to be addressed on its own merits, and India and Pakistan did not develop nuclear weapons because the United States had nuclear weapons.

I mentioned that U.S. nuclear forces are declining. By 2012, by the time of the completion of the Treaty of Moscow, U.S. nuclear forces will be down 80 percent from 1990 levels and down two-thirds from 2002 levels. It's my personal belief that the levels

of U.S. strategic weapons can and should decline further than those allowed in the Treaty of Moscow. I would hope that the administration takes steps in the next year or so to produce that. I would hope that that initiative takes the form again of a high-level presidential initiative as opposed to allowing seven more years of wrangling between arms control bureaucracies that don't understand that the point of all of this is to get the weapons down, not to continue an endless negotiation which causes enmity between two capitals.

Daryl had asked about the implications for tactical weapons, or non-strategic weapons, and I would say to you that the level of U.S. non-strategic weapons is already minimal, and my concern has been – and has been for 10 years; it's a concern I have repeatedly expressed to Russian counterparts – is that the Russian government needs to take the same approach, and my concern about the size of the Russian tactical arsenal stems from the fact that there are those, I believe, who want such a massive arsenal because they actually think it is militarily useful. I think that's an enormous danger. I think that the presence of large numbers of Russian tactical nuclear weapons poses a great risk to all of us because of their potential for being stolen or sold.

And finally, to Daryl's question about pursuing new nuclear weapons capabilities, I believe that the question posed is the wrong question. I think the question that you have ask is whether you believe there is a role for U.S. nuclear deterrence in the future. If the answer is no – if you believe the answer is no, you do not believe any weapon, new or old is needed. If the answer is yes, then you have to decide what to do to maintain a credible deterrent in the future.

The youngest weapon in the U.S. arsenal dates from approximately the 1980s. It's the youngest weapon. At some point, that weapon will become unsustainable. Its predecessors will similarly become unsustainable at an earlier date. And by that point, if you believe that you want to have a nuclear deterrent because it's useful, then replacements will have to be built and deployed. So the question is not do you want to build new capabilities, but do you want to maintain a deterrent based on a credible arsenal?

MR. KIMBALL: Thank you, Frank.

Ivan?

(Applause.)

IVAN OELRICH: Thank you. Is this on?

MR. KIMBALL: Yes.

MR. OELRICH: Okay. As Daryl mentioned, earlier this year I released a Federal of American Scientists occasional paper with the title "Missions of Nuclear Weapons After the Cold War," and I think that's why I'm here. The title, I realized afterwards,

was a little bit misleading because I really focused on U.S. missions for nuclear weapons after the Cold War, and what I did, I collected this compiled proposed missions that I took from studies and reports from Congress and the administration, of think tanks, the National Labs, and made a long list and went through them. And there were 15 altogether, although for purposes of analysis we have lumped a lot of them together. Attacking biological agents is very similar to attacking chemical agents.

One of the first things that became clear in the study was how many past missions have fallen away, and there are two reasons for this: technical and strategic. On the strategic side, no one is talking today about air defense as a nuclear mission. We no longer have nuclear-armed torpedoes or depth charges for the sea control mission. We're at the end of a long process of denuclearizing the U.S. military, and this process has not been driven by arms control, by international pressure or moral revulsion at nuclear weapons; it's been driven, as others have pointed out, by the – overwhelmingly by the development in sensors and miniaturized electronics that have made precision conventional munitions possible and has made them the preferred military solution. And this trend continues today. I sense strongly that one of the reasons that the nuclear bunker buster was so important to nuclear advocates was that it was the last battlefield mission of which nuclear missions were not unambiguously obsolete.

Several of the proposed missions were very similar tactical missions to destroy nuclear, chemical and biological weapons, often, I believe, incorrectly lumped together as WMD, and they fail for the same reason. The problem in destroying these weapons is in finding them. If we can find them, then we can attack them with conventional weapons, with an exception I'll get to – going back to the bunker buster – and if we can't find them, even nuclear weapons can't destroy them. But the exception is the so-called deep and hard targets. The definition, I think, of a hard target is one that can't be destroyed with conventional weapons. Those we might know where they are and not be able to destroy them with conventional weapons.

The requirement to attack these targets is sometimes cast in terms of counterforce. That is, you've got to destroy the thing, whatever it is, at the end of the tunnel, and it seems to be this requirement alone is what calls for nuclear weapons. For some reason, sealing off the entrances, cutting off the water, the power, the cooling, the air, is not enough. For some reason we have to go to the end and crush the tunnel. But I believe that there is no class of targets for which, A, these conditions were met – that is, you have to destroy the thing rather than seal it off – and, B, we would expect to find in a tunnel – for example, small, high-value targets like a nuclear warhead are more likely to be mobile. What's more, countries can easily dig deeper so that even nuclear weapons can't destroy the ends of the tunnel and were forced to go back and attack the entrances.

More often, the requirements for bunker busters is cast in terms of deterrence, but that's because everything having to do with nuclear weapons is cast in deterrence, even though in most discussions it's not at all clear what it is we're deterring; deterrence is just this stuff that we buy. And I think that our conversations about deterrence will be much

clearer if we never talked about deterrence without saying what it is that we're trying to deter.

I pulled a quote from Linton Brooks out of the book – but there are a lot that are to the same effect – and he said in an interview, quote, “We fear that a dictator, believing there is nothing we can do to hold at risk the things he values, would be emboldened.” The problem is cast usually in terms of denying the enemy sanctuary. To deter we have to be able to threaten what the enemy values, but the argument assumes that the enemy gets to decide the one thing, or one of the very few things, that it defines as valuable enough to be deterrence-worthy, so to serve as the currency of deterrence, and moreover that it can bury these things, and moreover that burying these things is the only thing they can do to protect them. In fact, an enemy's army, navy and air force will all be vulnerable to conventional attack as industry, communication nodes, transportation nodes, its instruments of state control, will be vulnerable to conventional attack. They cannot at least be wholly hidden in tunnels.

Other times the tactical missions for nuclear weapons are stated not in terms of attacking enemy weapons but simply threatening them, making them theoretically vulnerable. This is to meet another of the administration's goals for nuclear weapons: dissuasion. The basic idea is that some bad guy is thinking about, you know, is he going to develop – (audio break, tape change) – weighs up the pros and cons, he just decides not to set down the path in the first place, and that's dissuasion. Okay, this is usually cast in the context of North Korea. The problem with this argument is that the North Koreans, taking that as an example, their nuclear program, at least the plutonium production part, is vulnerable now to conventional attack. Their reactors and reprocessing facilities are completely vulnerable to attack by precision conventional bombs, and indeed the United States has apparently seriously considered bombing these things. And the North Koreans continue apace.

So we're meant to believe that they are not dissuaded by perfectly plausible conventional attacks but they will be dissuaded by wholly implausible nuclear attacks. Again, I think their logic doesn't work. And once the bomb is built, it's small and mobile and difficult to find, and most likely not tractable in tunnel, and unfortunately we would have a very hard time destroying it and would be forced to destroy the attack delivery vehicles if we can find those.

A couple of the proposed missions were inherently nuclear missions, but I believe their importance is dramatically reduced by the profound changes in the strategic environment. One inherently nuclear mission follows what is often called the lowered-bar argument, always in reference to China. The idea is that the Chinese will not bother to compete with us in the nuclear realm if we have thousands of nuclear weapons, but they might be tempted to jump up for a lowered bar if we only had hundreds, because that's something they could imagine doing.

I don't believe there is anything in Chinese behavior over the last few decades that suggests that this argument is true, but I have to admit I have no way to prove that

it's false, but however you come out on that, you have to admit that this is, almost by definition, an inherently nuclear mission to keep nuclear weapons to prevent that temptation for the Chinese.

Another inherently nuclear mission is the one mission that I believe remains for nuclear weapons, and that is to threaten retaliation with the goal of deterring nuclear attack in the first place. And a huge deterrence literature grew up during the Cold War. I'm sure that most of you are familiar with it. I'm not sure we ever understood what we were doing or how deterrence worked, but I don't think that's entirely important now because I think that most of those arguments were largely irrelevant today. The key idea behind deterrence is to keep someone from doing something by threatening to impose costs that are greater than any potential prize that they might be tempted and able to steal.

During the Cold War we had two wholly incompatible ideological camps facing off against one another, and each thought that it should provide a model for the whole world. So if the prize in this calculation, in this deterrence equation, is the whole world, what kind of costs do you have to threaten to make seizing the prize seem like a bad deal. Well, you have to threaten nation-crushing pain. But we have to keep in mind that the forces needed for today are not tied to the size of the enemy arsenal, but to the size of the stakes involved, and the stakes today are much smaller.

One way to think about this how-much-is-enough question for deterrence is to imagine fighting a nuclear war and then asking how many nuclear weapons do you have to share – trade back and forth before you say, I don't even remember what we were fighting about, but whatever it was, it wasn't worth this. Well, in the Cold War, the answer could have been a very large number indeed. Some people were willing to fight rather than to accept a communist victory. I mean, they were willing to fight to the end rather than to accept a communist victory, but the stakes today are much, much smaller because we don't have this all-out, all-or-nothing ideological confrontation.

Finally we come to perhaps the strangest nuclear mission that I found, and that's the disarming first strike against Central Russian nuclear weapons. The United States government is intentionally vague about its nuclear doctrine, yet there is one mission that we've at least said in some statements that we explicitly exclude, and that is a surprise strike against Russian central systems. The U.S. government claims that its nuclear force requirements are determined by some required capability that is at best weakly linked to possible targets in Iran or Korea and Syria, but if we ignore the doctrine and just look at our force posture, both the weapons and the deployment, and look at possible targets, there is only one possible target set that comes anywhere close to justifying the thousands of nuclear weapons with hundreds of kiloton yields on fast-flying, highly-accurate missiles kept constantly on highest alert, the majority of them forward deployed on nuclear submarines, and that's a disarming first strike against Russia.

This is clearly an artifact of the Cold War. It's the most stressing nuclear mission I found in that it dominates the requirements of the arsenal and their deployment, and we kind of pretend it doesn't exist. Only by admitting that this is what our nuclear weapons

are for primarily will we be able to get past this legacy Cold War mission, but if we give up on this mission, we could make reductions in U.S. and Russian forces, in cooperation with the Russians, of our arsenals of 98 to 99 percent, and the security of the country and the world would be immeasurably enhanced.

MR. KIMBALL: Thank you, Ivan. (Applause.)

All right, now it's your turn. Please line up behind the microphone, as Michael – (inaudible) – has already done. Please ask a brief question if you can, and we'll try to get through as many as possible.

Q: Frank, does verification matter more or less as we drawdown our stockpiles and our deployed forces? We've heard the argument that we don't need verification because the Cold War is over and Russia is no longer our enemy. I think this is a foolish argument and the people who make it are not foolish people. So could you give us an insight as to what they really are thinking and whether or not, in your personal view, it's wise to extend the intrusive monitoring provisions that people like yourself and others have worked for decades to secure. Are we going to let them lapse in 2009?

MR. KIMBALL: Frank, I think that's for you.

MR. MILLER: Okay. Michael, first of all I don't know what's going to lapse in 2009, not being part of government anymore for the first time in 31 years, so that's a statement. I think that there is a nuanced answer to your question, and I think that the answer is that at current levels, verification is not as important as it used to be. And I think that as the arsenals draw down, perhaps to 600 or a lower number, verification may become more important, but then verification may be seen as transparency. I think one of the things that the administration did right in its nuclear policy in the Treaty of Moscow was to remove Russia from the enemies list where for decades the multiple warhead, land-based ICBMs were a huge concern to administrations and in START II we tried to do what Kissinger said was impossible, which was to put the genie back in the bottle. And the administration said Russia is not an enemy; it's not a military enemy. If Russia wants to have MIRVed ICBMs, then Russia can have MIRVed ICBMs. This is a sign that we do not – we are not threatened by these systems.

I think – I have always thought – that verification transparency is terribly important, and indeed I was frustrated in 2002 because we had achieved a breakthrough. We offered the Russian government unparalleled access to the nuclear weapons storage sites in the United States as part of the transparency arrangements associated with the Treaty of Moscow. And those were turned down. The Russian government said it would be too hard to do. I think that was a mistake then. I think we ought to strive to do it more in the future.

So my answer is, currently verification is not as important as it used to be. If you go lower, I think it should be, and I think that both governments need to work on transparency because the ultimate healing of what was the Cold War relationship can

only be accomplished on the basis of nuclear transparency. The U.S. government is prepared to open up its nuclear storage sites to the Russian teams. The Russian government ought to be willing to do the same, and that will provide the transparency that is necessary.

I hope that answers the question.

MR. KIMBALL: We're going to take two questions at a time so we can get through these questions, if our panelists could be brief.

Edward?

Q: Yeah, Edward – (inaudible) – from Georgetown University. Ten years ago, in connection with the NPT review conference, four of the nuclear weapons states issued formal, coordinated negative security assurances. The Chinese made their own statement, which was even stronger. In the narrow technical sense, these were not legally binding but they were blessed by a U.N. Security Council resolution. I have a lot of trouble harmonizing those assurances with what I understand to be current policy. And this question doesn't just arise about U.S. policy; it arises, for example, about the policy of France today.

So my question is, are there negative security assurances in place? If so, is the 1995 formulation still correct, or is it different today? Thank you.

MR. KIMBALL: Next question, please.

Q: Yes, my question is related to this –

MR. KIMBALL: And you are?

Q: I'm sorry. I'm – (inaudible). I'm a physicist from the University of California. I didn't hear all the discussion but I assume there was discussion of the doctrine for joint nuclear operations that was recently released – discussed in the Washington Post. My question is – I mean, my worry is that the U.S. will be forced into a situation where it may have to use a small nuclear weapon to defend against a conventional attack, and in the absence of any negative security assurances where the U.S. has stated it will not do that, then it may happen, and the short-term consequences may be not important, but in the long term, crossing the nuclear threshold that way would be devastating for the world, I believe.

And so my question is, do you believe that it's a real possibility, for example in a scenario like Iran, and if the U.S. is forced to use a small nuclear weapon, due to a conventional attack from Iran, for example, what will the world look like after that, after the U.S. nuclear superpower has used a nuclear weapon against a non-nuclear state? And why, to enforce nonproliferation, the U.S. cannot make negative security assurances against non-nuclear countries?

MR. KIMBALL: Okay. On the first question, on negative security assurances, let me invite Ambassador Salander to reflect on this somewhat from a non-nuclear state who is – and perhaps others too on that one.

AMB. SALANDER: I'm not sure I can answer that, but it's a very good question and, you know – but if I would have to answer, the answer would be no, I think. They don't seem to be in place, the NSAs, at least not for – (inaudible). The second question on nuclear response to conventional attack, I don't think it's my area.

MR. KIMBALL: And as a point of information, there was an update of the '95 NSA, expressed by Richard Boucher at a press conference in I think it was the spring of 2002, which was largely a reiteration of that statement. But still, there are states around the world who are pressing for legally binding NSAs because of the squishiness of these NSAs and the possible contradiction with the U.S. doctrine.

AMB. SALANDER: And it seems to be contradicted by the NPR and by others.

MR. KIMBALL: On the second question, how realistic is the execution of some of the strike options outlined in this draft doctrine, General Habiger, Frank, do you want to reassure us or make us a little bit more worried or –

GEN. HABINGER: Frank and I disagree on this so I'll let him go first.

MR. MILLER: It's always a mistake to get into this – everybody loves to talk about nuclear war-fighting scenarios. The point is that deterrence is supposed to work. For deterrence to work, somebody once said you have to have weapons that were – systems to deliver them, a plan which would use them, and the will to use them, and it has to be manifest and clear. The military has to create plans that those plans are at the disposal of the president of the United States.

That said, I don't feel that there is any likelihood of nuclear weapons being used in the near future. I would also say that the notion that because a weapon is small it is therefore considered more usable is something which is entirely foreign to me and entirely foreign to my experience, both in the Department of Defense and in the White House.

And last, I would say that the negative security assurances of the United States are in place. They are there. They are not legally binding. I believe they are not legally binding for reasons which I expressed in my prepared remarks, which were that when you specifically delimit situations where the deterrent doesn't apply, you encourage potential attacks in those areas. But 99.9 percent of the time, the negative security assurance applies.

You might recall that in the same year that the U.S. made that negative security assurance, 1995 – and it was restated by Boucher and this administration – Secretary of

Defense Perry – then-Secretary of Defense Perry, when asked whether we would use nuclear weapons against the Libyan chemical facility at Rabta said something along the following lines: He said, I have never seen the situation or scenario in which I would consider the use of a nuclear weapon against such a facility, but I would not give up the policy right to do so.

(END – ONE HOUR)