THE BROOKINGS INSTITUTION

A NEXT STEP IN NUCLEAR ARMS CONTROL: SECURING FISSILE MATERIALS

Washington, D.C.
Thursday, June 28, 2012

PARTICIPANTS:

Moderator:

STEVEN PIFER
Senior Fellow and Director, Arms Control Initiative
The Brookings Institution

Panelists:

RICHARD BURT
Chairman
Global Zero, USA

JOAN ROHLFING
President
Nuclear Threat Initiative

JAN LODAL
Former President
Atlantic Council

* * * * *

P R O C E E D I N G S

MR. PIFER: Well, good morning. Why don't we go ahead and get started?

I'm Steven Pifer. I'm the director of the Arms Control Initiative here at Brookings and it's my pleasure to welcome you this morning. What we're going to talk about, a nuclear control regime aimed at securing fissile materials.

First, thank you, all, for coming on this warm, summer, Washington day. At least we have air-conditioning to offer and I would like before introducing the program also to express our gratitude to the Ploughshares Fund which supports both the initiative and also events like this.

Nuclear arms control today is largely focused on negotiations between the United States and the Soviet Union and the United States and Russia and it's largely focused on limiting assembled nuclear weapons and the delivery systems for those, particularly in the strategic area. But there's a recognition growing that at some point, this process has to expand beyond just the United States and Russia to include other countries and there's also I think recognition growing that it needs to address more than just assembled nuclear weapons because you have huge stockpiles of separated plutonium and highly-enriched uranium out there which could be used for additional nuclear weapons.

And there have been in the last couple of years some multilateral efforts. Acting Undersecretary Rose Gottemoeller today and tomorrow is hosting a meeting of the U.N. Security Council permanent five to talk about nuclear arms control and nuclear disarmament issues such as verification, doctrines, and also questions such as coming up with a common terminology because I think right now when Americans, French, Chinese, and Russians use some of these terms, they may not mean the exact same

thing.

You've also had going back to April 2010 with President Obama's launching of the Nuclear Security Summit process an effort by governments to try to gain or raise the standards for securing nuclear materials and with the follow-up summit that was held earlier this spring in Seoul. And, in fact, I was at a discussion yesterday where somebody made the point that if you're looking at the Non-Proliferation Treaty in its three pillars: non-proliferation, disarmament, and access to peaceful nuclear technology, maybe it's time to add a fourth pillar, which would be nuclear security.

So, Rick Burt and Jan Lodal have developed a multilateral approach that looks at both fissile materials and also a global nuclear control regime and they're going to describe that today. Rick will lead off. He's the chair of Global Zero, U.S.A., but held several high-ranking positions in the State Department. Jan Lodal is the former president of the Atlantic Council, but also held a number of positions at the Office of the Secretary of Defense. They will do their presentation and then we're fortunate to have Joan Rohlfing, who's president of the Nuclear Threat Initiative, and NTI engages also in efforts to promote greater security for nuclear materials and she'll comment both on the idea that Jan and Rick will describe and then also discuss some of the work that NTI is doing.

So, with that introduction, Rick, let me turn it over to you.

MR. BURT: Thanks, Steve, and as I look out onto this audience, I'm first of all pleased to see some young people, but I'm also pleased to see some old friends in the audience which causes me to sort of think about an old saying that I heard one time which was there are three organizations that once you join you never really leave. One is the Catholic Church, the second is the U.S. Marine Corps, and the third is the KGB, but I think you could maybe extend that to the arms control community, as well, but I'm pleased to see all the old friends, as well.

I'm going to make some brief introductory remarks to really set up Jan's more detailed briefing on our concept here and then we'll come in at the end prior to Joan's comments to discuss really some political topics, but let me start off by making three points.

First, I think it's fair to say I agree with Steve that the focus of most contemporary and past arms control analysis and debate has been on the U.S.-Soviet, U.S.-Russia relationship, but I think I'd go beyond that to say two others things.

First, and I think it's very much evident in this presidential campaign, for a variety of reasons, arms control, while it was temporarily on the front burner of U.S. foreign and security policy at the beginning of the Obama Administration, has now been put on the backburner. I don't think that's just the decision taken by the Obama Administration, it's more, I think, a reaction to reality, the rise of global economic crisis, the emergence of other issues that have led policymakers to place less emphasis on the arms control agenda. And I think there's a good chance, I would argue, that regardless of the outcome of the coming election, it's going to be very difficult to get nuclear arms control back up on the priority list of policymakers unless there is a real effort by the analytical community to rethink existing approaches, and that was very much what Jan and I tried to do with this nuclear control regime idea, which was to think about ways, new approaches that could be taken that might not only here in the United States, but more broadly internationally stimulate greater political activity and interest in nuclear arms control.

And needless to say, as part of that new focus, the real danger and this is sort of embedded in our approach in our view is not so much the U.S.-Russia strategic nuclear relationship. Both sides, of course, are spending a lot of money on renewing their strategic forces. It's arguable how necessary that is, how likely U.S.-Russian

nuclear exchange is going forward. I think I agree with those that have concluded that it's not very likely at all. The real problem is the spread of nuclear weapons in the 21st Century and the problem of proliferation. And, so, any new bold arms control initiative will have to really, in our view, focus on the problem of proliferation and not so much on what has been the past preoccupation of arms controllers, U.S.-Russia relationship.

The second point that I think is embedded in our approach and just really repeating is we don't believe that incrementalism will get us where we want to go. There are a score of different arms control initiatives underway currently not only say U.S.-Russia initiatives, but more importantly in the proliferation area, you can run down a long list of people's efforts to finally get the U.S. Senate to ratify the CTBT interest in trying to get fissile materials cut off and finally negotiated.

I think well-meaning and from a Global Zero standpoint, we support it very much what Rose Gottemoeller, what Steve mentioned, the efforts to try to multilateralize thinking about nuclear weapons reductions from just the U.S.-Russia focused to finding ways to bring in other nuclear powers like China, the Indians, and others. But we don't think that there is a lot of political energy behind a lot of these efforts and simply kind of moving this large number of initiatives forward won't be enough. So, it is time, in our view, for a certain amount of boldness in not only thinking about these issues, but actually trying to come forward with ideas that would kind of transform the debate and this is what we tried to do with the nuclear control regime.

And then a third and final point before I turn the floor over to Jan, our approach really is behind it is the idea of a grand bargain. On the one hand, one of the basic problems that have persisted since the negotiation of the Nuclear Nonproliferation Treaty in the late 1960s has been the distinction made between the nuclear haves and the nuclear have-nots and the way those countries and their governments are treated

under that agreement. It has arguably become a more difficult distinction as time has gone by as you get a new tier of rising powers. That is one central reason, of course, that the Indians themselves never agreed to enter the treaty and we are suggesting here that as part of a grand bargain that under a nuclear control regime, existing nuclear powers would have to take on new commitments of openness and transparency that would not only extend into their civilian nuclear activities but actually into their existing and future nuclear weapons programs.

We recognize that that is a big step to take. It would be an easier step for say the United States, where there is by definition more transparency, where this administration has released an enormous amount of information about the status of its nuclear forces and its nuclear weapons complex. It would be easier for the U.K. to take similar steps and even the French. It would be far more difficult in the case of countries like China, India, or Pakistan, but to the extent that you are going to get the kinds of commitments to openness, to rigorous verification and to enforcement from the international community, we think it's necessary for the existing nuclear states to agree to such a regime.

And on behalf of the non-nuclear powers, they, too, have to take a big step forward, particularly countries that want to acquire a latent nuclear capability, who want to acquire the ability not to necessarily develop and deploy nuclear weapons, but want the ability to move quickly in that direction under certain circumstances. They, too, are going to have to commit themselves to a degree of openness, transparency, inspection, and an enforcement regime that would end that option, effectively end that option for them to go nuclear.

So, if you follow our train of reasoning, we are saying that the key problem today is the problem of proliferation, that existing measures while well-meaning,

are not strong enough and not likely to develop the kind of political support that's necessary to push them across the goal line, that only a comprehensive, bold approach where both nuclear and non-nuclear countries are prepared to agree to this grand bargain that Jan will spell out in some detail. Are we likely to really get a handle on this preeminent problem of security in the 21st Century?

Finally, I will just simply say and I'll get back to this in my concluding remarks, in any arms control approach, desirability has to be traded off against feasibility and I think that we see, of course, a lot of desirable attributes to this kind of regime as most people, I think, would in the arms control world, but we recognize that there are some real political obstacles. We don't think they're insurmountable, but we recognize and will discuss some of those political obstacles at the end of our presentation.

And now I'll turn the floor over to Jan.

MR. LODAL: I'm going to pose a few slides on you, but before I do that, let me just offer some thoughts that are motivated by a very interesting session I participated in last night with General Cartwright, who was most recently vice chairman of the Joint Chiefs and before that the commander of Strategic Command, and we were supposed to discuss all sorts of things related to nuclear stuff, and the first thing we were going to talk about was what's the purpose of nuclear weapons? And the whole evening went by and we didn't get off that.

And the reason I mention that is because whenever you're thinking about how do you stop proliferators, how do you stop people from getting nuclear weapons that don't have them, what do you do about the states that do have them? You really have to keep in the forefront of your mind this question of the purpose of nuclear weapons and you have to begin to break it down or you can't get anywhere to think about this problem because the purpose is different for a state that is concerned about other states that have

nuclear weapons or a state that's concerned about another state that doesn't have nuclear weapons. It's different about a state that has a very small arsenal and a big arsenal.

Are nuclear weapons there to ensure the sovereignty of a state? If so, do they do that very well? Are nuclear weapons completely neutralized against any other state that has nuclear weapons? Does mutual assured destruction work in every two-pair arrangement? If so, well, what's the difference? If you took them away from everyone, maybe you're back to where you were if they neutralize each other.

So, there's a lot of these questions about the purpose of nuclear weapons and this is very relevant to what we proposed here because I'll speak for myself, I don't think this issue of purpose will get settled rapidly. I think it's a question that diplomats should put forward on the table as we look for better solutions.

Rick and I have both written about and supported the concept of zero, of eventual elimination of nuclear weapons, as called for in the NPT, but a serious effort, but I think we both realize that you've got to get this purpose question settled. So, what we proposed here is a regime that we believe would solve the most immediate problems, keep terrorists from getting their hands on the material they need to make a nuclear weapon or getting their hands on a loose nuclear weapon and allow a verification regime to develop that could be used for moving to very low levels and then to zero later on as we deal with questions of the purpose of nuclear weapons. And one way we avoid the purpose problem and the purpose trap, and you'll see this as I quickly present the concepts here, is that what we're suggesting does not put any restraint on any state's nuclear programs. They can do anything they want under this regime. They could become nuclear; they could proliferate under this regime in principle.

Now, as the world stands right now, every state in the world that doesn't

have nuclear weapons has signed up to the NPT and said they won't get them. So, they have a legal obligation not to get nuclear weapons. So, there are other regimes that would keep them from getting nuclear weapons, but not this regime. It doesn't put any constraints on their nuclear power programs; it doesn't put any constraints on their uranium enrichment programs, on their nuclear fuel cycle programs. There are, again, other agreements and other regimes that deal with those issues and we're not suggesting that they be superseded by this, but we're suggesting that this is needed on top of those other regimes and that one of the ways you make it feasible is by making it clear that it doesn't put any constraints on the programs of the states other than the requirements to make sure that all of the nuclear materials safe and secure.

So, let me go through briefly a few key points. This chart here, which we call our spaghetti chart, tries to make a complex point and I don't even want you to try to read it all, but the idea here is that there is a chain reaction that causes nuclear proliferation and the chain reaction has two aspects to it: it has an aspect of threats that are foreseen, it has an aspect of trying to deter the threats, and it also has an aspect of transfer of technology. So, you start with the United States being the first nuclear power. The Soviet Union almost certainly felt that they needed a deterrent against the United States at that point. They also needed the United States' technology. So, they stole the technology and built their own deterrent.

The U.S. transferred some technology to the U.K., even to Canada. We forget about that. We transferred some to France. China, of course, was worried about both the United States and the U.S.S.R., so, it felt it needed nuclear weapons to deter the nuclear threat of these powers. Pakistan, of course, got technology from China, but felt a threat from India and was pushed in that direction. North Korea probably felt threats from a lot of people and it got a lot of technology and then transferred it back and a lot of other

places.

There are other things on the chart, as well, but the point is that this process continues apace and there's nothing inherent in the current situation to change any of the dynamics of this process. The only thing that's changed is that the technology is widely understood. The materials themselves are what are left to control. People can't easily get the materials they need to make a nuclear weapon, but they can pretty easily get the technology they need to make a basic nuclear weapon, not a sophisticated one that you can put on top of a missile and send ICBM range necessarily, but a basic nuclear weapon.

There's a lot of stuff around. I'm stealing some things from Joan here because some of these charts come from her organization's publications. This, the two types of materials that can be used to make nuclear weapons, highly-enriched uranium, this chart shows where it is, the darker areas are where there's more of it and that's reflected down here and how it's grown for plutonium.

Altogether, there's two numbers that you should try to remember about nuclear materials. Those two numbers are 4 million and 40. Four million is roughly the number of pounds of nuclear weapons capable material there is in the world today. Separated, ready to go, packaged up, things that you could with machining make a nuclear weapon, 4 million pounds. Forty is on the average about the number of pounds you need to make a weapon. So, that's the nature of the problem because we all know that one weapon successfully made, put in the hands of a terrorist which can't be deterred, blown up in some harbor somewhere would cause damage beyond anything that we have seen since World War II.

This chart shows for plutonium that - where is the plutonium? As you can see, most of it is in states that are not subject to any kind of safeguards, any kind of

international control right now, which is to say the nuclear weapon states. Japan has some and Germany has some. These two smaller bars right here. Now, they are subject to a lot of multinational agreements, but none of the others are, so, most of this stuff is not controlled. The same thing is even more true with regard to highly-enriched uranium. Here are the nuclear weapon states, here's the stuff they've got, and here's everybody else.

So, when you hear the IAEA talking about all the work it does and its safeguards and its controls of all the nuclear weapons material and they do absolutely amazing work, we're great fans of the IAEA. We think it should be the basis for any future efforts, but this is what they got to deal with right here and all the rest of this stuff, they don't have any say over. Not quite right, they have a little bit of say in some cases, but basically, they don't have any say over all the rest of it.

This is the Nuclear Threat Initiatives' index of the security of global weapons usable materials and Joan is a better person to speak to this than me, but by country, as you can see, there are some problems here. Not very many countries -- Australia is up here getting close to 100 percent in terms of what it should be doing to make sure that its materials are secure, but even the states that are under international control, even the states that care a lot about the problem came out wanting when the NTI did this very impressive study of the present situation. Rick has already made this point.

There's a whole lot of stuff on the arms control agenda and most of you in this room are familiar with all of these things and I'm not going to read them off to you. I'll just reiterate the point that even if all of these things are successful and many of them are very far from being successful, and even if they were successful -- and when I say "successful," I mean got negotiated and came into force, a lot of them are not officially enforced, but then you have the problem of getting them actually implemented and

enforced and some of these don't have any enforcement at all built into them. They're voluntary in effect, even once they're agreed. You still have most of the problem that I've described on the previous charts.

So, what do we need? A successful approach, Rick and I have said has to be comprehensive, universal, and enforceable. What do we mean by that? By "comprehensive," what we mean is that all highly-enriched uranium and all weapons, usable plutonium, without exceptions, have to be covered by comprehensive approach.

And as you saw in the charts, a very small fraction of it is covered today. This means that we have to include the material that's in military use because that's where most of the stuff is that's not covered today. This is going to be hard to do and we suggest an inventory control scheme will challenge inspections for nuclear warheads to deal with the material, a lot of which is actually in nuclear warheads, but the majority is not in nuclear warheads to control this. Details about how to do it, we believe it's feasible, but we're absolutely certain that it has to be comprehensive because if there's leakage out of this system, as you saw from the other chart, little bitty small amount is all you're controlling if you leave this out.

Universal. Why does every state have to be involved? Well, there are the obvious reasons that if there's some states that aren't covered, well, you don't know about their stuff and you don't know if it's leaking out. But there's another point that often gets overlooked and that's the logic of nuclear deterrence which is that nuclear deterrence is most effective when it's used against other nuclear weapons. The one purpose of nuclear weapons that is hard to argue with is to deter the use of nuclear weapons by others. And, so, if you have states where you don't know what they're doing with their nuclear program, you don't know what they're doing with their nuclear materials, you don't know how close they're getting to be able to develop a weapon with it, you get

worried if you're a state that feels some threat from that other state. And that's what that first chart was all about.

We believe that this kind of threat and reaction has driven proliferation and it will continue to drive proliferation and you not only have to get people to agree not to do it, but you need some kind of control regime that will give people confidence that they know what's going on and that the states from whom they feel some threat are not moving toward a nuclear program.

We see this in spades with the arguments about Iran today, and, of course, Iran is obviously much, much closer to a nuclear weapon than they had been. They're moving in this direction continuously, and, of course, they keep trying to say no, we're not and the IAEA has said well, we're no longer able to certify that. They are subject to a control regime, but they're not allowing the inspectors to fully implement the controls that they have.

There are other reasons for universality. Selective obligations make for difficult diplomacy. We know how hard it has been for the United States to try to get other states to agree with these kinds of measures when we refuse to accept them ourselves on our own territory and the same is true for the other nuclear powers, as well. As the leaders in the effort to try to get this improved, it falls on us a little more heavily.

Enforceable. Well, we both believe that regimes are not effective without any consequences for the rule-breakers. The problem we have with the international system today, of course, is that enforcement of international multilateral agreements, generally speaking, is supposed to go through the United Nations' Security Council, but any one of the permanent five members of the United Nations' Security Council can veto actions and if they don't veto them, they can use their threat of veto to water them down.

So, what we believe is needed is a veto-free U.N. authorization or

authority to do. So, we have proposed a scheme whereby enforcement would occur in four stages. There would be international monitoring similar to what's done by the IAEA today but only today for a small fraction of the total material, there would be determination of a violation has occurred and that would be at a higher level within the IAEA. Today, it's done by their board of directors. That might be a perfectly good way to keep doing that. Today, if that happens, at that point, it gets submitted to the Security Council, where the problem of the veto arises.

In our proposal, there would be a new agency which would get involved at that point that would be similar to the board set up by the Comprehensive Test Ban Treaty of 51 states that has a two-thirds vote required to declare a state not in compliance and we propose that that kind of a scheme be used here. If that board were to certify that a violation has occurred, then a coalition of the willing would have been preauthorized by Security Council resolution to take all necessary measures to address the violation. This kind of a Security Council resolution is identical to the resolution that was passed for the Libya situation, where this authorization was given before the particular coalition was formed and that's what we're suggesting be done here.

So, this chart summarizes how we see this coming together. You start with the International Atomic Energy Agency and the Nonproliferation Treaty, you package it up with a bunch of things that are partially implemented and ought to be completed and they'll help, all of these things here, and you add the enforcement and the verification of the military-related material, which really aren't underway anywhere today with regard to the various diplomatic efforts that are needed.

We had the Nuclear Security Summit in Seoul. There's a picture of it, but it had modest voluntary commitments and it did call for one of those key points in the previous chart to be implemented by 2014, this one on the bottom here, which is a key

one, the Convention for the Physical Protection of Nuclear Materials. And we'll see, maybe that'll finally happen. But there was a lot not controlled, not covered.

Again, to emphasize why it's necessary, if we don't do this, I don't know if it's 10 years or 100 years, but terrorists are going to be around, they know how to make a crude weapon if they had the material, and the chances are high that they can get their hands on the material with the way the world handles this material today. We also know that entities like the AQKhan Network from Pakistan, which transferred nuclear technology and maybe some material to proliferators will continue to exist in the world. You have to have a regime like this if you're serious about global zero because you're not going to get to global zero unless you have a regime that can verify zero and you can't verify zero if you can't even verify what's there to begin with and you can't even verify the reductions down to zero.

And if you're looking at what do you need to do that, it's a regime like this that you need to get on the track to zero. We think that this kind of a regime would create a framework and a motivation for a lot of the other initiatives which people have put on the table, but aren't really going very far. Once you have this kind of regime in place, things like this of material cutoffs, reductions in the amount of fissile material, all of which would help and make verification easier become a lot more logical.

And, finally, we think that this kind of approach that gets away from a two-tiered system and treats all states on an equal basis removes a lot of diplomatic barriers to progress.

So, the current efforts are inadequate, they're not comprehensive, they're not universal, they're not enforceable. This regime would not constraint any state's nuclear programs. The basis for verification of this regime and enforcement is in place, but the U.S. is going to have to lead by accepting the rules and Rick will talk about the

politics of this a bit, but we believe that as states exceed the pressure on the outliers, can be increased, and they can be brought into the regime, and the alternative is ultimately a terrorist bomb.

So, I'll stop here and turn this back over to Rick.

MR. BURT: Okay, thanks, Jan. I'm going to be very brief here because I want to hear from Joan and then we hopefully can stimulate some questions and discussion.

One of the reasons that Jan and I came up with this approach is that it was clear to us, as I was suggesting in my early remarks, is that we sort of hit a roadblock in the kind of existing panoply of arms controls processes. And this goes to the heart, I think, of what Jan was talking about, about the role of nuclear weapons.

I think the fact of the matter is, and here, I'm really just quoting one of my favorite foreign policy realists, John Mearsheimer from the University of Chicago, and I think one reason that some countries' governments like nuclear weapons is that it kind of confirms their perceived great power status. Though it's not a matter so much of kind of very detailed deterrence theory as much as the sort of notion that you're a big time player in international politics if you've got nukes and I think we see that very much.

You saw that, I think, in the New START debate that took place in this country. There's clearly a sizeable faction of people who really couldn't envisage the United States without being a nuclear power. That's even more the case, I would argue, in the Russian Federation, where despite the crying need for really conventional modernization in terms of Russian armed forces and the kind of contingencies that Russia is likely to face in the next 10, 20, 30 years, they've launched their own nuclear modernization process and it's probably even more the case with newer nuclear states who believe that acquiring nuclear weapons capability has given them a new status in

terms of international politics.

Jan and I believe we have to take that into account. We don't think it's going to be the case necessarily into the future, but for now, I think is the kind of political reality was have to address. At the same time, we do want to come to grips with the problem of proliferation, and as Jan said, I think very clearly, while we both endorse the long-term goal of global zero and efforts to get us there, which I'll address in just a moment, we think the neat thing about the approach we're outlining here is that while you would need a regime like the one we've spelled out here with the comprehensive nature, with the very intrusive verification with an enforcement mechanism to get to global zero and make it actually work, you don't have to accept or adopt the notion of the total elimination of nuclear weapons to support a regime like this.

You could put it into force with existing levels and more importantly, it would be consistent and supportive of other efforts to reduce nuke levels of nuclear weapons, whether it's a new phase of U.S.-Russian negotiations to get down to say 1,000 or 900 warheads. It would be totally consistent with a new multilateral negotiation that brought in other nuclear powers together with the U.S. and Russians to reduce and it would support it and complement it, but nuclear reductions are not a necessary part of this effort.

And, so, what is the likelihood that we could make some early progress in this area? Well, as again Jan said, I think for a lot of reasons it's kind of a cliché in this town to say American leadership is necessary, but specifically on this issue, I think that is the case. Nothing like this is going to happen unless the United States adopts it and supports it.

And I think the building blocks for it, and as I suggesting before, we are best positioned to do that given the relative degree of transparency that exists in what

we're doing given the position that the Obama Administration has taken on the whole issue of nuclear security, but and I think that could be leveraged with our European allies, particularly the British and then we think the French. Again, this doesn't threaten the special French status that comes with possessing nuclear weapons. It asks them to take on some commitments together with other nuclear powers.

And I think there would be an important element of the U.S.-Russia relationship that would have to be put into place here and I can say this as a former arms control negotiator, I mean, and I think sometimes we've taken this for granted, what we've achieved over the last 30 years of so with the Russians in terms of achieving greater access, information, and transparency in the START process is really quite remarkable.

When I began the START negotiations, the idea of onsite inspections or say Russian ICBM basis was just not taken at all seriously not only by the Russians, but I think by many on the U.S. side. But we made some substantial headway in that treaty, and now with New START, you're actually talking about not just access to missile silos, but actually counting numbers of deployed warheads on missiles. So, I think the Russians have already gone down the road on this issue to a degree that, again, as I would emphasize we tend to take for granted and if we could get the Russians onboard, then I think the next objective is working with the Chinese and if you're going to get anywhere with the Chinese in this area, that means bringing the Indians onboard. And I think there are a lot of reasons in terms of discussions that we've had with Indians and others to believe that I think they would be prepared to be forthcoming in the kind of spaghetti chart way that Jan was suggesting, if there was a way to include the Pakistanis.

Now, Israel is a big problem in this equation, but I think the fact of the matter is Israel is in the process, in my view, of inevitably kind of coming out of the closet

in terms of its nuclear forces. And I can't see the Israelis wanting to be an outlier in terms of this overall process.

I have to tell you I don't worry about the North Koreans. I think this regime works, although we say it has to be universal. And as we argue in our article, the North Koreans can be an outlier here. I think the problem of North Korea is going to be solved in one way or the other I think over the next decade or so, but they are not, in my view, a necessary component to this overall regime.

Iran is obviously a problem here, but it's interesting what the P5-plus-one are trying to achieve with the Iranians includes really elements of what we're talking about here. And I think that if there is an agreement to be achieved with Iran, it will necessarily have to include the kind of transparency, the kind of inspection regime, and perhaps even the enforcement that would be part of the kind of more comprehensive agreement that we're discussing.

I'll just stop here to say just the following. I happen to believe that while achieving this would be difficult, it's not impossible in the current situation. I also don't believe that if there is a nuclear event, Jan talks about possible nuclear terrorism, could be other situations, if a nuclear weapon were used or threatened to be used in the next five years or so, I think it would almost be a clarifying event in the sense of I think forcing people to take an approach like the one we've outlined here very, very seriously. Needless to say, we'd like to avoid that happening. We'd like to avoid the use of a nuclear weapon either by terrorists or by accident or through miscalculation so that a regime could be put into place that would really in a sense facilitate the kind of reductions process that Jan and I support.

MR. PIFER: Okay, well, Rick, Jan, thank you very much for the description.

Joan, let me turn to you now for some comments on what you've just heard, but also comments on how things that NTI is doing are working to address these problems.

MS. ROHLFING: Great, thank you. Thanks a lot, Steve, for the invitation to be here today. I appreciate sharing a panel with these two very senior folks and thanks also to Jan and Rick Burt for this really thoughtful, provocative, and innovative piece. It's great to have such credible voices bringing attention to this issue and it's a critical issue.

The issue of nuclear materials security and the threat of nuclear terrorism are central to what the Nuclear Threat Initiative was actually founded to take on. And, so, we've been actually working different aspects of this problem for the last 11 years, and that's maybe one of the reasons I was so enthused when I saw this piece. It's because I think the fundamental premise of the piece that we need to develop a comprehensive, universal, and ultimately enforceable materials control system is right on the mark.

Today, we do have a patchwork quilt of international mechanisms and agreements in place that guide how nuclear material security is implemented at sites around the world. But it's just that, it's a patchwork quilt. It's full of gaps, it's incomplete, it's not comprehensive, as Jan pointed out. It doesn't cover all material. Not all states participate, certainly not in a consistent way, and there's no enforcement mechanism today. So, it's critical that we begin to engage in a global discussion about how do we strengthen a system for controlling nuclear materials? We're all hostage to each other's material security performance.

So, that said, let me now go into -- I'd like to highlight a few aspects of the proposal that I think are particularly challenging and want to pose some questions

both for our panelists and also for the audience as we get into a broader discussion here. And let me start by talking about civil materials and then I'll go onto challenges of nuclear materials before talking about the universality principle.

So, as Jan pointed out, the nuclear material stockpiles around the world are continuing to grow primarily because of nuclear power programs around the world, though not only. There are still countries that are producing weapons usable materials for weapons programs, Pakistan and India, in particular, and I also agree with Jan and Rick's suggestion that increasing the increasing quantities of materials increases our global risk. This is something we ought to be concerned about.

So, I was actually surprised that your regime does not in any way contemplate or encourage any kind of limits on the expansion or the growth of material and would suggest that this is something going forward you ought to consider incorporating in some way. Maybe there should be a rule that states that all states should produce only what they need to consume for their power reactors in a given year. With HEU, there's already a global initiative to reduce and eliminate its use in the civil sector entirely and great progress has been made with HEU in the civil sector over the last several decades. There is a norm that's developing against the use of it at all.

So, this is really the first point, we should talk about whether there should be some kind of a limit enacted around control of material. Arguably, as long as it keeps growing, the risk keeps growing, it makes it harder to achieve an effective security regime and I would argue I was actually, Rick, surprised to hear you say that this is about constraining proliferation and I agree with you completely we need to tackle the proliferation problem and I do agree with you that if such an ambitious verification regime were to be created, it would serve as a foundation for elimination, it would serve as a foundation for zero. But I find it surprising that a regime that's only about putting security

around the materials in any way in your view assists with tackling the proliferation problem because it's doing nothing to prevent states from proliferating by your own admission.

One other point on the civil side, your regime assumes that an inspection and control regime largely already exists for civil materials. You talk about the IAEA safeguards program being nearly universal in the non-nuclear weapon states and I would just point out that while it does provide very important basis for counting material, it really does nothing to guard it or protect it. It's not a physical protection system. Safeguarding is one of the biggest misnomers in terms of the title because it's neither about safety nor is it about guarding. It was a system established to basically account for and count material within a given state so that when inspectors went back intermittently, they could check whether the count still matched what was declared. This was to determine whether a state was trying to illicitly divert material to a weapons program.

So, the point here is not that your principle of relying on the IAEA and existing mechanisms is bad. I think you're right on target with that, but that it would need to be complemented with a physical security regime, as well.

Let me turn now to an observation about controlling the military material. My basic point here, and you mentioned this, you appreciate that this is a nontrivial problem. It's a big challenge. I would say that the first big challenge is to get states over the political hurdle of being willing to subject their weapons to any kind of an inspection system, but even assuming we could get over that hurdle, there are some significant technical hurdles associated with how would you actually build a verification or inspection system that doesn't compromise what we currently classify as sensitive information about the isotopics, the quantity of the material, the shape of the item that's being declared. This is all information that could reveal aspects of warhead design, it's classified for good

reason, and the NPT actually prohibits states from sharing that type of information with other states. So, that is a nontrivial problem and that assumes, again, that you've gotten over the major political hurdle.

A few words about universality. I certainly appreciate the desire for universality. Clearly, having a universal system would be the most effective system. For that reason, I'm really surprised that you say you're not worried about DPRK and that it could be an outlier. I wonder whether you really mean that, if you believe that every gram counts.

And then another thought on universality is do you start with universality or do you build toward universality? My own assumption is that a regime this ambitious is going to take many years to negotiate and to bring states to adopt and meanwhile, the threat is urgent and it demands action in real-time, in the current time. So, maybe we should be striving in the first instance for as universal as possible and doing as you say, let's work on building a system of strong practices, let's create norms about those practices and work on bringing people along, put pressure on the outliers.

Enforcement, on your enforcement mechanism, I would say I thought that was one of the most innovative, thoughtful areas of the article. I thought it was great work and very interesting ideas. So, I appreciate that. Thank you.

Let me just leave you with one thought so we can open it up to a broader discussion. I'll say a little bit about a couple of projects that the Nuclear Threat Initiative has underway in this space and Jan is familiar with one of them because he's participating with us in a track one-and-a-half process that we are launching called the Global Dialogue. This is a process that brings together global experts, experts from government, from industry, from the non-governmental community to talk about what would a strengthened system for global nuclear materials look like? Where are the gaps

in the present system? What do we need to do to close those gaps? Can we build consensus around the vision of global system, as well as the specific steps needed to bring it into effect? And this is a process that we hope yields some recommendations that will feed directly into the Nuclear Security Summit in 2014 in the Netherlands and will be ongoing over the course of the next year.

And one other because I see Burgess in the audience who's a participant in another process that we have underway, and that is to do the kind of work that you suggest which is to figure out even with the classification barriers how do you establish a baseline inventory of your nuclear weapons? We've never had to do that before in arms control. What counts? How do you count weapons? Is it only deployed weapons? For the weapons that are not deployed or are in various stages of dismantlement, do you count individual components? Do you count them even if they're no longer operational? And how do you do it in a way that a non-nuclear weapon state would have confidence in what you're disclosing, even if you can't disclose or share classified information.

So, those are two highlights. A lot of other things that I won't go into here, but look forward to comments and questions.

MR. PIFER: Joan, thank you.

Actually, Rick, Jan, do you want to respond to Joan's questions before we open it up to the audience?

MR. LODAL: Do you want me to knock off the easy ones?

MR. BURT: Yes, go ahead, but let's try to be brief so they can participate?

MR. LODAL: Number one, we don't have a lot of stuff in here on purpose because we wanted to be able to say that this doesn't constrain any programs. So, that's why we considered it a framework for other initiatives, not because we don't

think those other initiatives need to be there. Some of them are underway, some of them aren't, but we think that it's better to separate this big, complicated, universal thing and try to minimize the amount of stuff that you have to make universal to make it --

MS. ROHLFING: Yes.

MR. LODAL: Because that's going to very hard to do and we felt that unless we were able to make this pledge that look, this is going to do something which is in everybody's interest and nobody can really say it's not in their interest to have this stuff safe and secure. Let's just focus on that and we'll have in that framework able to do these other things that you wanted to do. And including keeping states from proliferation.

For example, every state that's not already proliferated has agreed not to proliferate in the NPT. So, they're under treaty obligation to do that. So, there is a framework there for that that is universal, lots of details have to be worked out within that.

You're exactly right about IAEA limits so far and we should have been more clear to emphasize that, obviously, while we say the IAEA is the right foundation, you've got to expand it to deal with physical security, as well.

The military material, we have in the article, and by the way, we posted the article online and at the end here, I'll give people a way to get into that if you want. There's a more detailed description of the inventory control approach that we believe can be used for military material without comprising any of the essential security aspects.

There are a few things that people who agonize about would have to quit agonizing about, but we don't think that these are any longer real secrets. Stuff that's inside a weapon, if you know for sure that that weapon is accounted for and under control, you don't really need to know any further characteristics about it. I'm not even sure you need to know exactly how much nuclear material is in it while it's actually encapsulated in the weapon. Once somebody starts to take it apart, then you need to

know and that's where in my opinion the most difficult aspect comes is when you start taking weapons apart for either maintenance or for dismantlement. But we have a few things to say there. We believe there's a lot of work to be done, but we think it's solvable.

The DPRK thing, I'm going to let Rick talk about and the baseline inventory of weapons, you're right, we have to do that, although, I think that the system that the United States uses is pretty close to the right answer. If we could everybody to adopt it.

MS. ROHLFING: Yes.

MR. LODAL: We've been at it and it's rigorously controlled inside our government at various levels for decades.

MS. ROHLFING: Yes.

MR. BURT: Well, just very quickly on two points, Joan's point about the possibility of proliferation under this regime, I mean, Jan has, I think, answered part of it, which is that would-be proliferators are signatories to the NPT and one thing to think of this or at least facets of our effort is this is the NPT on steroids. So, I think you would head off the kind of cat and mouse you've seen with the Iranians and the IAEA over the last 10, 15 years, where there's been all this ambiguity about what the Iranians were doing, what the IAEA thought about what the Iranians were doing, whether they cheated and if they cheated, how did they cheat because you would have not just the kind of additional protocol, but beyond the additional protocol in terms of obligations of the signatories to the NPT and the nuclear control regime.

So, a country would have to really take a very difficult decision under this control regime if they decided they were going to acquire a nuclear weapon. They would essentially almost have to make a public announcement to that effect and deal with the political backlash not only of being NPT signatories, but having been members of this

broader and deeper nuclear control regime. That in itself we think would have a very strong deterrent impact on further proliferation.

On the issue of North Korea, here I think we have to balance feasibility off against desirability and I don't see a way to get the North Koreans onboard an approach like this, but I believe a nuclear control regime that covered everybody else, in other words everybody else but North Korea might sell knowhow technology materials, you name it. We think we could cover. So, the problem is you've got this little outpost that's nuclear-armed and not participating as long as you could be fairly certainly you had insulated that from playing a more dangerous, mischievous role in terms of being an aider and abettor of proliferation, I think you could live with it.

And then, finally, I just have some real doubts about the long-term survival of this regime. It's one or the other, I think this thing's going to come to an end and it could be sooner rather than later in my view.

MR. LODAL: On this question of universality and how you get to universality, I don't have the exact details. Of course, you have to build. You start with one state, you add more, you add more. We didn't define okay, exactly when does it enter into force?

MR. BURT: Yes, that's a good point.

MR. LODAL: Does it have to be everybody but North Korea for it to enter into force? We put that at one extreme to say we think it should enter into force before it's 100 percent, but what we believe is that the regime should be negotiated and the treaty should be written so that the member states when it is in force have an obligation to use all efforts to be written, whatever these words are, to get the non-member states in.

This was a failure in the NPT. The NPT, everybody said okay, this is as

good as we're going to get and we'll work on the Indians and Pakistanis and the Israelis later and actually our leverage went down from that point on in terms of trying to get a reasonable accommodation with those states and we would have been better off figuring out some compromise approach to get them inside the regime from the beginning and we're trying to avoid that here, but at the same time being realistic, that you're not going to have 100 percent for it to enter into force.

MR. BURT: Yes, I just thought of this now, but, Joan, to answer your question, because it's a good question, I think I would probably be prepared to get this thing up and running once you got the support of the permanent members of the U.N. Security Council. Maybe that would be enough from a governance standpoint to go forward.

MR. PIFER: Okay, let's go ahead and open it up to questions. If I could ask first wait for the microphone. If you can state a name and affiliation and then pose a question. Back here.

MR. FLETCHER: Hi, Kenny Fletcher with Nuclear Weapons and Materials Monitor.

I know this idea of the regime you both first proposed this about six months ago, am I correct?

MR. BURT: Right.

MR. FLETCHER: And at that time, you said you hoped it would come up at the Nuclear Security Summit.

MR. BURT: We debated that, whether --

MR. FLETCHER: I think I went to a talk at GW with you, Mr. Lodal, and you had mentioned that.

MR. LODAL: Yes, it actually mentioned that in the article a little bit, too.

MR. BURT: Yes.

MR. FLETCHER: Okay, and, so, since you first came up with the idea, what kind of feedback have you gotten from those in the administration and in Congress and had it, to your knowledge, come up at the Security Summit at all?

MR. BURT: It didn't come up. We're disappointed at that. There's some interest within the administration. I think it got caught up with the election-year politics is my own view.

MS. ROHLFING: I would say it came up in a way in the Nuclear Security Summit though, not in the exact form that you proposed it, but there is a growing global debate about the need to strengthen and build a global system for nuclear materials security and within the context of the summit, they were talking about the need to put greater emphasis on nuclear materials governance and I think we're going to see that conversation continue and hopefully build as we move into 2014.

MR. FLETCHER: But you haven't had discussions with some of the administration or in Congress --

MR. BURT: Yes, we have and let me just say I want to pierce the veil here without being too indiscrete. We discussed this amongst ourselves when we knew what the date of publication was of the original article and survival and we asked ourselves does it make sense to sort of say something about the material summit, given the fact that by the time it was published, hit the streets, came to the attention of anybody in the administration, there wouldn't be a lot of time to really think it through and we kind of went back and forth on it, but we decided that we ought to stick it in there even though we knew it was a little late for the government to get its arms around the issue.

But that said, we have had some conversations and with not only people in some of the departments, but with people with responsibility at the White House.

Whether it had any impact on the summit thinking, I would say probably not, but I think they are intrigued with the idea and I would say are kind of thinking about it.

MR. FLETCHER: Good, thank you.

MR. PIFER: Back here.

MR. COCHRAN: Tom Cochran. As I understand it, your proposal is layered on the existing regime. I think the first observation I'd make is you should acknowledge that even if your proposals were adopted, it does not solve the problems due to loopholes in the current regime that you don't address. For example, breakout.

MR. BURT: For example?

MR. COCHRAN: Breakout. The breakout issue.

MR. BURT: Oh, breakout.

MR. COCHRAN: Now, of the issues you presented, the ones that were intriguing to me are the safeguards, the universality, and the enforcement, and I just want to briefly comment on those three.

On the enforcement, I just wish you all the best and luck in the world in getting the Russians and Chinese to give up their veto rights in the Security Council. Or even the United States.

On the universality, I think you underestimate even in the U.S. the problems that the United States Navy will impose due to the secrecy surrounding their NATO propulsion fuel. And I don't think you address the fact that many countries, in fact essentially all of them, but particularly countries like China, Pakistan rely on the security of the secrecy surrounding where their warheads are located as part of their underlying deterrent capability and your proposal has to break through that and reveal the locations of Israeli warheads, Chinese warheads, and materials. And that's a big problem.

Now, on the safeguards issue, you don't address, I think, two things.

One is inventories, the inventory system of the IAEA as it applies to bulk handling materials, loose MOX and so forth are inadequate in that the uncertainties, the inventory differences are larger than the amounts needed to make a nuclear weapon.

And the second problem is that you don't address a real problem which is the timeliness of detection, which is a fundamental weakness in the current IAEA system. I just remind you that the time between the production of the last HEU at Y-12 and its insertion into Little Boy antenna was about two weeks or less. So, it's not just inventories, it's timeliness of the detection in order to bring about the diplomatic process and the enforcement that you would need.

MR. BURT: I'll make a couple comments and those were all interesting and good points. A broad statement, I mean, I'd like to be able to say that we can solve every problem and we can't and there are some kind of inherent problems with any control regime. There are always going to be issues that are not going to be soluble, but that said, I mean, just on the issue of let's call it governance; I think that working with -- you mentioned Russia and China. Working with them on any problem is by definition kind of complex, but where the three countries share a very powerful interest, and I think they do in the case of nonproliferation, you should think about our proposal here as really a modernized effort to not question Russia or China's nuclear status, while at the same time erecting some much stronger barriers to third countries acquiring nuclear weapons. I think that's an area where United States, Russia, and China can cooperate and I think you're going to find if they believe it's in their national interest to do so on this set of issues, they will do so, even though they may very well disagree with the United States on other areas.

I mean, one of the problems that I think we have in thinking about working with both Russia and China is to recognize that in certain areas, say Syria with

the Russians now, their interest may, in fact, be different than ours and we're going to have to take those interests and recognize those differences while we cooperate in other areas. I would argue on the nonproliferation issue there's a lot of commonality and we could overcome that with the kind of enforcement that we're talking about here.

On the location of nuclear weapons, I'll only say that, and here you mentioned Israel and China. On China, I was suggesting as I was suggesting earlier in the case of Russia, there is going to have to be, in my view, a kind of strategic cultural shift in China, as China has to come up against the idea of multilateralization and participating in any kind of arms reduction regime. I think they are moving very gradually, very slowly in this direction and I think that just as it was impossible to conceive of the Russians in the 1960s and end of the 70s of agreeing to the sort of verification requirements we have now and start a New START, I can envisage the Chinese as they modernize their own forces being prepared to go down that road.

In the case of Israel there, yes, I think there will have to be transparency in terms of weapons depots and other infrastructure, but as you know, the Israeli deterrent is a sea-based deterrent and there would be no requirement, if you will, under this regime to know where their submarines were at any time. They could maintain invulnerability with their sea-based force and still live up to the terms or the kind of guidelines that we're talking about here.

MR. LODAL: Yes, first of all, let me say to those of you in the audience who don't know, Tom is if not the premiere expert on this in our nation, one of them, and I appreciate your coming and your comments are well-taken.

MR. BURT: I do, too.

MR. LODAL: We didn't mean to imply that the IAEA does everything that needs to be done or that even everything that it does is perfect. We just simply said that

it does an awful lot that's very good. It found the Iraqi program. It found the Libya program. It found the Iranian program with its crummy little budget and without a lot of things being fixed. So, we think it's a good basis for building these other things, but one of the reasons we called it a "regime" as opposed to just a treaty or just a particular agreement is that we think it has to build over time and things have to get fixed as you go through it, but the principles need to be set from the beginning.

With regard to the location question, I'll add that we actually have some precedence here, for example, the New START treaty, which monitors ballistic missiles by having tags on them and challenge inspections that allow you to say I want to see this one and the other side being required to produce it in a very short period of time, but without disclosing where it came from or where it's going back to. And we think that things like that with much elaboration and much more detail worked out can solve most of this problem, number one.

Number two, the real concern about location is in a crisis and nothing that we're proposing here for this regime would get in the way of moving things around and creating PLU, as we used to call it in the mobile missile world, Position Location Uncertainty in a crisis and, therefore, making sure that your forces are survivable.

So, yes, there's some transparency required that isn't there today, but we think it's pretty minimal and states ought to be willing to give it up for that minimal amount of transparency for the benefits of this kind of a treaty.

MR. PIFER: Okay, let's go here.

MR. KRAMER: Good morning. I'm Jay Kramer. I'm a lawyer. I practiced in the field of nuclear export controls for my career. And I guess in full disclosure, I should say also that I practiced at Fried, Frank, which means my ideas on this have been formed by Max Kampelman in great degree.

I have a two-part question. The first, with respect to the grand bargain that you have in mind, with respect to non-nuclear weapon states, do you contemplate universality of the application of the additional protocol or measures in addition to the additional protocol? And, secondly, with respect to implementing all of this, and, Jan, you referred to the "crummy little budget" of the IAEA, which the last I read, I think it's about the size of the police department of the City of Vienna.

MR. LODAL: Yes.

MR. KRAMER: If we're going to expand its monitoring responsibilities, are there mechanisms designed as part of your regime to expand the resources available to the agency and sort of get past the logjam within the U.N. with the non-aligned countries regarding safeguards as really an intrusion of their sovereignty?

MR. BURT: I'll just say on that second point that since the P5 have to agree to this thing in the first place or else it doesn't work, presumably, you can talk about the money, but we haven't figured out the details beyond that. By the way, that's also the answer to the question of how in the world would you think the P5 might give up their veto since the regime requires that for it to work? If they agree to the regime, then they've already agreed to do that. So, that additional resolution shouldn't be too hard to get done.

At that point, the real question is: Will they agree to the regime and can you convince them that's in their interest to have the regime? We believe you can, and, therefore, we think you can convince the P5 to do this. But I think that's where you get the money.

MS. ROHLFING: Can I just build on the IAEA point, as well? Resources are certainly one part of the challenge. The other part of the challenge is a political one. The IAEA is a member institution, it's comprised of and is really a slave to its member

states and as with many international institutions, you often see a lowest common denominator kind of results when hard issues are deliberated on in the board of governors, and, so, this is worth some additional thought, too.

I mean, my own bias is that it's better to build off of the existing institution that has the expertise to deal with this kind of a mission, but it's a nontrivial problem how we grow it and expand it and overcome the political hurdles that it has right now.

MR. BURT: And we did propose in the final determination that you go to a CTBT-type institution without vetoes and with super majority rules, but to get around some of the structural issues that exists with the IAEA.

MR. LODAL: And just a final point on your question about the resistance of the non-aligned movement to intrusive methods, and that is part of this grand bargain. I mean, if the existing nuclear states are going to say look, we're not going to put ourselves in a special category anymore, we are going to accept this kind of intrusive verification, then we think it's going to be much easier to ask non-nuclear countries, including your nonaligned countries, to accept this.

MR. PIFER: We have time for one last question.

(No response)

MR. PIFER: Okay, then let me take it. The question would be if you had agreement by the United States, say the Russians, Chinese, British, and French to go ahead and at least explore something like this, how would you actually approach the negotiation of this kind of regime? Do you start it working out at five and then you broaden it out? Do you invite 190 countries into the room? I mean, what would be the mechanism that you would see to actually bring this kind of arrangement into reality?

MR. BURT: Well, I'll give you my own thoughts on that. I mean, I think the idea of bringing 190 countries into a room early on in that process would be the kiss

of death. So, certainly, you wouldn't want to do that. I mean, you've got to work out this big sort of idea of a grand bargain and I think what you've got to do is work within a kind of ever-widening circle of countries and that you'd begin with the nuclear powers, beginning with the members of the Security Council and you would also bring in the countries who you would identify it seems to me as supporters of this concept, countries that may be non-nuclear, but who you believe would be supportive and you would have to, I think, kind of step-by-step build up an informal consensus on the approach and probably fine-tuning it. At some stage, you are going to have to convene a more formal process. But I think there would have to be a step-by-step effort beginning with the key nuclear states.

MR. LODAL: I might just add that I think three stages maybe. Stage one, negotiate with ourselves. Let's figure out are we willing to do the things that we're going to have to do to make this happen. We're not there yet. And even if the president said tomorrow that we have to do that, he's got to have a reasonable belief that he could achieve a congressional consensus on this at some point. So, he's got to deal with some of the leadership and so forth.

Stage two, deal one-by-one with the other members of the P5. The Brits are pretty easy. French aren't so easy. French have issues there we have to deal with. Different issues with the Chinese.

Different issues with the Russians. Russians are interesting in this respect because, again, I think they might actually be receptive to something that, for the moment, let them continue with their misguided views about the purpose of nuclear weapons and the size of their force and all that sort of thing which have bedeviled our efforts to get the kind of deeper reductions that I think this administration had hoped it could get. So, I think you maybe even get somewhere with the Russians.

And then step three would be if you've gotten some of that bilateral work behind you, make some decisions on how to proceed beyond that and I think it depends quite heavily on how that stage two turns out.

MR. PIFER: Okay. Joan, NTI has done a lot of work multilaterally. Would you have a view on this?

MS. ROHLFING: I actually agree with Jan's approach to work on a bilateral basis and try and develop as much common purpose as possible. The only addition I would add is that in our experience, we've encountered within the government of Pakistan and India a sense that if you want us together with you on the landing, we ought to be with you on the takeoff. And, so, for example, the P5 process that's happening today with P5 governments in town is something that they very much feel excluded from that dialogue and it's time to start thinking about how we engage them early.

MR. BURT: I think that's a good amendment to --

MR. LODAL: I think, yes this is --

MR. BURT: I'd put them on the list. All the nuclear powers.

MR. LODAL: This is going to be a three-ring circus and I agree with Joan's point that the Indians obviously are going to have to be brought into this and the pacts are a special case and it's going to require special treatment and I've talked about the Israelis and they're going to go ballistic on this. And, so, they're going to be --

MS. ROHLFING: No pun intended, I hope. (Laughter)

MR. LODAL: No, but so, the special nuclear states are going to need to be consulted and not part of the formal process, but still feel like they're involved and then you got, and I just want to emphasize this, you got a bunch of big group of countries that not only are very interested and would be supportive of this, but could also play a

useful role *vis-à-vis* the other nuclear states. There are Asian countries, the Japanese, obviously, that could play a very helpful role in Asia *vis-à-vis* China and others. The Europeans, the Germans could play a very helpful role *vis-à-vis* the Russians. So, those countries also, the kind of supporters, the supporting cast also needs to be informally brought into the process.

MR. PIFER: Great. Well, thank you very much for the presentation and the discussion and let me ask the audience to joining me in thanking the panel.

(Applause)

MR. BURT: Thank you very much.

* * * * *

CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

Carleton J. Anderson, III

(Signature and Seal on File)

Notary Public in and for the Commonwealth of Virginia

Commission No. 351998

Expires: November 30, 2012