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COMPREHENSIVE TEST BAN TREATY: WHAT NOW?

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Transcript by Federal News Service
Washington, D.C.
JOHNSON: So I’d like to welcome you very much. We’ve now got our fourth speaker, so I think we want to get underway. My name is Rebecca Johnson, and I’m the executive director of the Acronym Institute for Disarmament Diplomacy. And I guess I got asked to chair this for my sins because I was in Geneva every day, every minute, every hour of the CTBT negotiations that took place from ’94 to ’96, and reporting on those negotiations on behalf of civil society reports that went kind of all around the world.

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We’ve got a really superb panel, and very much looking forward to getting a real debate going about this issue both in the context of the U.S. and international. It is a very important issue in both political arenas.

I’m going to introduce each of the speakers just before they speak. But just to, you know, give you a sense of it, we have Tim Morrison, who is from Senator Kyl’s office, although emphasizes that he’s here in a personal capacity. We have Dr. Arunachalam, who some of you would have heard already speak this morning, from India. And we have Andreas Persbo, who is a Swede, but kind of from London. So you know, we allow him to be here. (Chuckles.)

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And so we’re going to be – I’ve asked all the speakers to stick to 12 minutes for their initial presentations. I’ll hear from all of them first. And then we’ll open the floor to questions and comments and debates. And I would ask you to be as crisp as possible, and to identify yourself by name and any affiliation, if relevant.

Now, I’m actually going to kick off just by giving a very, very brief overview of kind of where we are with the – with the CTBT because we have the title of “Comprehensive Test Ban Treaty: What Now?” But to understand that, we need to think about where we are now, and also think about why now.

Now, the CTBT is one of the most well-supported treaties in the world, far more universally supported than many treaties that have entered into force. There’s 182 countries have signed; 153 of those have ratified. But as many of you know, for entry into force, there needed to be the very specific ratifications of 44 named countries with nuclear capabilities, not nuclear weapon capabilities specifically, nuclear capabilities as determined by the IAEA. And of those, we’re still missing nine.

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So 35 of those – including Russia, Britain and France, the NPT nuclear weapons states – have ratified, but nine of those have not. And those include three – India, Pakistan and North Korea – that have not yet even signed. And the others that have signed, and so in effect bound by the treaty through their signature, but have not yet ratified, we have the United States and China, we have Egypt, Iran and Israel, and then we have Indonesia.

Now, the CTBT, once it was open for signature, also established the CTBT Organization in Vienna, which has been setting up and establishing the verification regime as mandated under the treaty.

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And it’s been very interesting. We’ve had a couple of really key events I just want to draw your attention to that have shown the kind of capabilities of the verification regime that actually go beyond the technical baseline that
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was negotiated during the – during the actual CTBT negotiations. Because during the negotiations, you had the scientists who have to work out a kind of tradeoff between your technical capabilities and politically relevant potential levels in order to get the most cost-effective verification regime that would do the job that was being required of it.

But it’s been very interesting that the North Korea nuclear tests, which have been relatively small, demonstrated very clearly they were picked up by the CTBTO. The seismic signal was picked up, but also radionuclides were picked up that allowed for identification and – for detection and identification, and showed that the verification regime would really work.

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There have been a lot of onsite inspections exercises. And Andreas, in fact, had the privilege of being invited to participate as observers and sort of writers of a very detailed onsite inspections exercise at the former Soviet test site in Kazakhstan near Semipalatinsk to see all these technologies put into practice with inspectors who were part of the trained cadre of inspectors. I see (Idefti ?) is here too. He was also one of the people who was part of the team that was evaluating how those exercises were going.

And this is, you know, a verification regime that in my view, I think, is really tried and tested even though the treaty has not fully and legally entered into force. And in fact, there’s 35 U.S. stations that were established during the administration of George W. Bush which have been very useful and have contributed to this, as indeed have stations in several of the other countries that have not yet ratified.

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Now, the other event that perhaps is very much to the forefront of a lot of people’s minds, where, again, the CTBTO has been able to really play a very important role, has been the earthquake and tsunami devastation in Japan. After the 2004 tsunami following the Indonesian earthquake, the CTBTO was given the right, and in fact, responsibility to feed its information into civilian networks for the purposes of early warning for disasters such as tsunamis following earthquakes, and also the whole aftershock system, and so on.

And that really showed itself at the time of the Japanese crisis, but also, and I mean very sadly, had to show itself also in terms of tracking the radionuclides that were being emitted from the stricken Fukushima nuclear plant.

So there you have a civilian and a verification regime playing a very important civilian role. And of course, the most important aspect of why the CTBT is important to us, in my view, is it’s a very, very important multilateral treaty that brings a lot of countries together in cooperation. Through confidence-building measures, they’re working together, and so it reduces the incentives for regional and international proliferation, and for arms racing.

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Now, I don’t want to take up very much time. I just wanted to give a brief overview of some of the key issues that I hope will be taken up and taken forward further by our panel of speakers. So without more ado, I’d like to turn to the next speaker who is Timothy Morrison. Now, he’s the national security advisor at the office for U.S. Senator Jon Kyl, who is the Republican senator representing Arizona.
I will let Tim himself give a further description, if he chooses, of the work he does and where he stands. His bio in greater length is in your books. So without further ado, I'd like to turn to you, Tim. And you have your 12 minutes.

MORRISON: Thank you. I just want to say, Rebecca, if your sins brought you here, I’m just kind of curious what my sins were. (Laughter.) But the – as I’ve mentioned, I’m here in a – or as was mentioned, I’m here in a personal capacity. No one’s elected me to anything, so my views are my own. When I’m done, I think you’ll all be quite happy to remember that.

But I think the key thing that I take away from this is to just remember that 10 years ago, the Senate defeated the treaty by an overwhelming margin. There were several reasons: verification enforcement; concerns about maintaining the nuclear deterrent over the long term; and that it was unlikely to ever into force. And Rebecca talked a little bit about the remaining Annex II countries that have yet to ratify.

A decade later, here we are in a new administration that’s pledged to pursue ratification of the treaty. Yet it’s not clear that any of the essential facts has changed. Proponents of the treaty, Rebecca, give a articulate case, say that the treaty is verifiable, that the international monitoring system has improved significantly since 1999. Even if that’s true, I think it’s rather immaterial unless it can detect and deter cheating.

The treaty has an arbitrary, one-kiloton nondiscriminatory floor, “nondiscriminatory” meaning that all states can test under that level, and states with known nuclear weapons programs and ambitions are not subject to greater scrutiny by the IMS. Evasive techniques can aid a cheater, or in concealing the – and I quote – signature of an underground nuclear explosion by a factor of 50 or more. And this is according to the Department of State’s former Assistant Secretary for Treaty Verification Paula DeSutter.

If cheating can’t be detected, the U.S., which does not cheat on its international treaty obligations, will be a disadvantage to those cheats with – those states with motive to cheat and little fear of detection.

And let me just pick up a case study. I guess I have a different lesson from the North Korea test – at least 2009 – which I don’t think proves that the IMS works. Now, unless there’s new information, my information suggested that the IMS did not detect radionuclide information – radionuclide particles or gases.

But the case here is, this is not really an example of cheating. This is a case where North Korea, for political reasons, wanted the world to know it was testing. And it told the world weeks in advance. And even with that notice, and even with U.S. assets on station, the U.S. could only call the 2009 test a “probable” nuclear test – a probable nuclear test. And it based its assumption that it was a probable nuclear test on a largely political hypothesis that North Korea told us they were going to test, so we have to assume they were going to test even in the absence of smoking-gun information.

Researchers at the CTBTO in Vienna, in fact, were said to be – and I quote – “scratching their heads” to explain why the IMS was not able to detect radionuclide gases of the test. Seismic data alone simply cannot differentiate a nuclear explosion from explosive mining, excavation with conventional explosives.
But even if the verification problem didn’t exist, there’s an enforcement question. I would quote Fred Ikle: “After detection, what?” The enforcement provisions have not, and indeed, could not have changed since the treaty was defeated by the Senate in 1999. They are woefully inadequate to enforce the obligations of the treaty.

Just take a look at how the enforcement mechanism works: If something is actually detected, 30 of 51 nations on the Executive Council, whose membership is composed of nations based on a regional apportionment formula, would have to agree that someone cheated, and then order an inspection. This assumes a suspect nation doesn’t use its right to render off-limits to inspection the site of a suspected nuclear test.

Experience over the past 10 years proves that a mechanism like the CTBTO’s – excuse me, the CTBT’s Executive Council doesn’t work. The 15 member nations of the U.N.’s Security Council are all but unable to deal with the nuclear weapons programs of Iran or North Korea, or Chinese or Russian activities in direct support of the nuclear and ballistic missile programs of these rogue nations.

The IAEA, composed of 45 nations, has been unable to even detect – the original detection of illicit behavior by Iran or North Korea or Syria. When their activities were revealed, it has been incapable of doing anything about them to enforce the NPT. Like the U.N. Security Council and the IAEA, the U.S. isn’t even unlike – excuse me – unlike the U.N. Security Council or the IAEA, the U.S. isn’t even guaranteed a seat on the council, which is overwhelmingly composed of states that are not our allies.

In terms of long-term concerns, there’s the health of the U.S. nuclear deterrent without testing, which the Perry-Schlesinger commission said, maintaining the reliability of the warheads as they age is an increasing challenge. Stockpile stewardship, to be sure, has taught us a lot. But one thing it has taught us is that there is still much we do not understand and can’t predict. This will only get worse with age.

We’ve never designed a new warhead or bomb without testing, and we’ve never gone this long without testing. The JASONs even raise questions about whether the RRW could be done without testing.

START, as you all know, was only passed, albeit narrowly, because of a requirement that the president pledge to support the long-term modernization of the U.S. deterrent. However, modernization will take 15 to 20 years at least. Our production complex won’t be modernized until 2024. We haven’t even planned for the life extension of important categories of our weapons, meaning we won’t know if they can be modernized without testing until near the end of the next decade.

There never was – let me turn to another issue. There never was – there never has been, and there is now no proof, that giving up testing would persuade others, namely Iran and North Korea, to give up their illegal weapons programs or to get all the remaining Annex II states to ratify. The president has stated, and I quote, “it is naïve for us to think that we can grow our nuclear stockpiles, the Russians continue to grow their nuclear stockpiles, and our
allies grow their nuclear stockpiles, and that in that environment, we’re going to be able to pressure countries like Iran and North Korea not to pursue nuclear weapons themselves.”

Of course, this premise is twice-flawed, as alone among the nuclear weapons powers, the U.S. is neither growing nor modernizing its stockpile, yet our actions haven’t positively influenced Iran or North Korea, or those countries that can help most in dealing with those rogue regimes: Russia and China.

Our lead START negotiator, Ms. Gottemoeller, said that, and I quote, “there is no step that we could take that would more effectively restore our moral leadership and improve our ability to re-energize the international nonproliferation consensus than to ratify the CTBT,” end quote. Of course, the evidence actually disproves the assertion: The U.S. has not conducted a nuclear weapons test since 1992; it has not designed a new warhead since the ’80s, nor built one since the 1990s; it has reduced its nuclear weapons stockpile by 75 percent since the end of the Cold War, and 90 percent since the height of the Cold War.

It has spent more than $7 billion on the Nunn-Lugar program to deal with the loose nukes threat, and will spend more than $2 billion a year on nonproliferation generally. And what has it gotten us? Has it impressed Iran or North Korea? Has it kept Russia and China and France and Great Britain and India and Pakistan from modernizing, and in some cases, growing their nuclear weapons stockpiles? Did South Africa abandon its nuclear weapons program because of this, or because of the fall of the apartheid regime? Did Libya end its program because we opted not to go ahead with RNEP or the Reliable Replacement Warhead? Of course not.

So what has been gained? Nothing. And what has been lost? The Perry-Schlesinger commission, which documented the sorry state of our nuclear deterrent, says that it contains proliferation for now through the nuclear umbrella. The Clinton administration, which bore the burden of proof to advocate a positive case for the treaty, failed to do so in 1999. And the Obama administration, if it is intent on seeking ratification, now bears the burden.

This burden entails laying out precisely what it is that ratification will accomplish. It can’t be some airy, and frankly offensive, rhetoric about a deficiency in U.S. moral leadership. They need to explain what is it that Russia and China aren’t willing to say to Iran because the U.S. hasn’t ratified the CTBT.

In fact, since New START has passed, the Russians and the Chinese have been so impressed by our disarmament example that they have announced that they will not support further sanctions against Iran just as the IAEA lays out new concerns with – excuse me, with Iran’s militarization and uranium enrichment. And China was so impressed that it announced a multibillion-dollar deal to further support the North Korean economy. If the Obama administration cannot articulate a positive case, then it is conducting foreign policy based solely on hope, and a naïve and dangerous one at that.

I would just look back to the Perry-Schlesinger commission, which I have twice referenced, to show that opinion on the treaty is as divided as ever. The commission agreed on over 100 issues; only the CTBT divided it. The commission agreed, however, that there should be a net assessment of the, quote, “benefits, costs and risks.” It said that we should secure a P5 agreement on banned and permitted test activity. It must talk about issue about the
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treaty’s lack of a definition of what it seeks to prohibit. It calls for a diplomatic strategy for entry into force and a budget that adequately funds the safeguards program.

There needs to be an understanding among the P5 as to the prohibition required by the treaty. The fatal flaw, as I reference, is that there is no definition of prohibited activity in the treaty.

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And don’t take my word for it. Senator Glenn, in his testimony before the Senate Armed Services Committee in 2009, said, and I quote, “Right now, the Russians do not have an agreement with us, as far as I know, on exactly what it is we’re agreeing to. They for instance have said that as long as they can test to smaller levels as I understand it, they can test to smaller levels as long as it’s not detectable. Well, to me, that’s like saying it’s OK to rob the bank so long as nobody catches me.” “It just doesn’t fit right.”

I think Senator Glenn is talking to the dangerous risk of strategic asymmetry whereby Russia or another country develops more advanced nuclear capabilities which the IMS will not be able to detect.

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All the administration, however, appears interested in doing is supporting its own position in favor of ratification. Witness the National Academies of Science review of CTBT, which is so stacked with CTBT proponents it is clear at the outset of the review what the ultimate conclusions will be.

I think the summation, as I said – if anything, in my opinion, the case for CTBT proponents is worse 10 years later. The benefits are hypothetical, wishful thinking of feel-good policymaking. The treaty is simply not designed to deal with the threat of nuclear terrorism, and it will not be effective at dealing with the threat of nuclear proliferation as represented by North Korea and Iran, and even countries like Syria and Burma who have witnessed the failure of the world to uphold the NPT. All it does is satisfy the arms control community.

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The question should be asked, why scratch at this old scab? Why not seek more support for additional sanctions to deal with Iran and North Korea and Syria, and those who support those regimes like China? Why not build support for securing loose nuclear weapons? CTBT will be defeated again on its merits, but there is every willingness to work together to find solutions to the security cuts facing the United States. Thank you.

JOHNSON: Thank you very much, Tim. And you set us a very, very good example. I want to give my appreciation that you kept well within the time.

So I’d now like to turn to our next speaker who is Dr. Vallampadugai Arunachalam – fortunately, he said I can call him “Arun” – (chuckles) – who is chairman of the Center for the Study of Science, Technology and Policy, which is a Bangalore-based think tank. He was also previously the senior advisor to prime ministers and the defense ministers for India, and has led the country’s consortium of defense laboratories and programs, including on strategic systems.

So we’re very interested to hear from you, Arun, about where you think the debate is in India, and how this can be moved forward. Thank you.
ARUNACHALAM: Thank you very much, Rebecca. Fifty years ago, one of my predecessors wrote a book on nuclear explosions and their effect. I don’t know what made him send a draft copy to the prime minister. And he sent that; the prime minister read it like a novel, except, I’m sure, skipping the mathematical side of it because he was a historian.

And he insisted on writing the preface. In the preface, he argued, saying country like India should be a model leader on the elimination of nuclear weapons from the face of the Earth. That prime minister was Jawaharlal Nehru. Until he died, India had no plans of any nuclear weapon. They had tremendous plans for nuclear power, including the use of thorium, but India had no plans for this.

But all this changed in the '70s. They changed in the '70s because you had – we were warned of nuclear weapons in an aircraft carrier that steamed into Bay of Bengal; we were warned of nuclear weapons by China testing their weapons; we were also warned of nuclear weapons with the all-weather friendship between China and Pakistan, showed that what they could.

It’s said that the United States has no problem with borders: Two sides are good friends, and two sides are filled with fish. But in India, we suddenly found that both the north as well as the west, as well as the northeast, everything went wrong, this one. So in a sense, India was a very, very reluctant nuclear weapon-maker.

But what has happened is, that has made the whole Indian public, especially the electronic press, especially the newspapers, so sensitive to this nuclear proliferation and nuclear weapons. I think that it’s almost impossible for the public to understand the importance and the model dimension of CTBT. I don’t think we can today write anything about nuclear without invoking kind of hostile reaction.

Even the recent agreement we had with the United States that kind of released from India all the kind of embargo problems, most of the people objected, saying once again, the Americans will push you. It is in this context I think the first problem arises, saying, if CTBT is this good, how am I going to persuade my country and my people to say that we shall sign and we shall ratify it?

The first question they will turn around and ask is, why hasn’t China ratified it? China is our border country; China hasn’t. And why hasn’t United States, after 1,000 tests – not just 20, not just 40, not just 100, after 1,000 tests – still finds it reluctant to ratify that treaty?

When we start looking at this, we have a very difficult argument to sell. Moral values is one thing; the practical defenses are another. And this is where I think we are running into difficulties. So I think this was the one that made, then, our representative during the CTBT negotiations, Arundhati Ghose, to say, not now, not ever.

I think it’s – what would we like to now see is, what is it we can do to persuade a country that it is in its interest, it’s in global interest, to walk out of this nuclear weapons testing? And the problem about nuclear weapons testing is the following, that you have all the data you require – one can say is – or we can do that by simulation. In
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fact, simulation has become a powerful tool. And there was also one substantive simulation, the so-called serious gaming, that you can see this modeling very effectively.

But simulation also demands what’s called a “mission learning”: telling the machine how did it work before so that the machine learns and performs. And it is there the United States is a clear winner of – (inaudible) – test data for over 1,000 tests feeding – and you have this simulation. The Indian tests are so few – few numbers. So how can I say that the simulation is going to tell us, unless there are – either that we go for the machine learning in a much more complex way, or to say that, well, these things don’t matter; we feel that we go on the feeling that we should avoid it?

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It is in this context we do not understand – China has tested more than 40. And not only that, China has – at least we understand that China has been a good friend of some other countries for testing their weapons, too. But we have – we do not know why China is refusing to do that. And when we have this kind of a thing – well, the Indians are asking in the CTBT negotiations only one question. The question is relevant. The question they ask is, please tell us where are the road map for the abolishment of the nuclear weapons?

If you have the road map saying that ultimately this is the sub-kiloton, lower than 100 tons if you like, and then we go down, well, we are ready. We are ready when you say the global – the ultimate aim of this CTBT is an elimination of nuclear weapons from the face of this Earth. This, we don’t hear from this country or from the other countries.

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From here on only, the question is, how safe are my materials? And how safe are my laboratories? How do I ensure that generations after generations after generations of nuclear scientists and weapon-makers will come to enrich this country? Is that all the solution that you can offer? Then they expect a country that had tested two, three measly tests to come and sign is something we do not understand.

If – (inaudible) – comes along and say that, look, sometime, perhaps 20 years, 50 years later, the object of CTBT, not through the NPT – I mean, there is always an excuse to say the NPT talks about it, but the NPT had been talking about this for years. And what progress we have made? We would like CTBT to say that by some years, we will – the object – I’m not even saying that you will guarantee – the object is to eliminate the nuclear weapons. Then, I think India will – I don’t think Indians will hesitate in doing it. They’re not going to talk about – saying that the missiles are not guaranteed, or the weapons are not guaranteed.

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And the third is the issues on technology. If we say that we have to see the weapons, how we can carry out the right test, how can we remove the cavity and the rest of the things to carry out the test, we also would like to see that. Other techniques that we can do – for instance, we believe the isotopic concentration is more or less safe over a period. We also see the aging characteristics of plutonium is not something to worry about – not fully, but there are some concerns.

I don’t want to discuss the technical details, but suffice it to say that if we have a number of countries willing to sign, willing to write off this – ratify this one, there is a need for technological collaboration. The collaboration through the confidence levels should rise to an extent that we might be able to say, OK, we can do this subcritical
test and see whether the material is sustainable for some more time, whether the materials could be used. If not, that is a problem.

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And other thing that bothers us enormously is the exchange of lots of nuclear materials through our neighborhood – not only the nuclear materials but also the reactors. And it is in this context we feel that our people will object or hesitate in doing this kind of a test, in signing this kind of an agreement.

But our one feeling is, we shall be there with you if you decide to ratify the treaty. I’m confident India will do that. It took a long time even to sign this nuclear cooperation agreement with the United States: so many objections, so many questions, so many court cases. The parliament just about few votes, I think, had voted for it. And it was the only achievement the prime minister claimed of his first tenure as the prime minister. He is to build this relationship with the United States and with the rest of the countries. But we are hopeful that that kind of a relationship will once again emerge so that when you ratify it, you will not find us wanting. Thank you.

JOHNSON: Thank you very much, Arun. This really reminds me of the ways in which debates that may have a purpose of reassuring a domestic audience can have the opposite effect of not just running past the necessary messages and steps to get other countries to ratify but can actually collide with that, where, in the U.S. for example, it’s familiar to see the debate being around reassuring people such as Senator Kyl and others that the CTBT is not going to have a very significant impact on the existing arsenals and modernization.

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But of course, we’ve heard from Dr. Arun that the impact of that on the Indians who were being asked also to sign is, well, you know, we’ve hardly done any tests. And you know, if you go down the track of nuclear disarmament, we might be interested. So these are some of the things that we’re going to need to discuss.

And I’m now going to turn to the fourth speaker and see if he’s going to pick up on any of those themes, or if you in the audience can. And our next speaker is Andreas Persbo, who is the executive director of VERTIC, the Verification Research, Training and Information Center, which has been going along just slightly longer than the Acronym Institute. And in fact, it was one of the organizations that actually formed together to make the initial Acronym consortium out of which the Acronym Institute grew.

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So Andreas is an international lawyer by training, but has been participating in a number of these verification exercises, and also with the Norwegian government on exercises connected with verification of warhead dismantlement. You can see his bio in the book. Without further ado, I turn to Andreas.

PERSBO: Thank you very much, Rebecca. It’s interesting to be introduced as a Swede from London. VERTIC was once known by our friends in the atomic weapons establishment as the grocery shop because the deputy director is from New Zealand – she is a Kiwi – and I’m a Swede. They found that very amusing. (Laughter.) You know, I don’t know what to say about this. But (London-integrated ?) and I consider myself to be a Londoner, but perhaps not British. (Laughter.) I don’t know.

So first of all, let me thank the organizers for the kind invitation today to speak here. This is my first time in this gathering. And it’s a rare privilege for me, at least, to be here today.
I think it’s important to start out by considering that in most countries, banning all nuclear test explosions in all environments for all time is an ambition of the political mainstream, and that this movement started more than half-a-decade ago. The 1963 Partial Test Ban Treaty was instrumental in driving testing underground, but the depository governments – the Soviet Union, the United States and the United Kingdom – they wanted more. They sought a discontinuance of all test explosions of nuclear weapons for all time.

And they did not seek this as a nonproliferation measure. A comprehensive ban on nuclear testing will not fully address nuclear proliferation. It will not abolish war. It will not abolish conflict or the felt need to preserve nuclear arsenals. This is very clear. And this is as true today as it was in July 1963 when in a television address to the American people, President John F. Kennedy said of the partial test ban, and I quote – and I’m sorry that I’m Swede-ifying him – “This treaty is not the millennium. It will not resolve all conflicts or cause the communists to forego their ambitions, or eliminate the dangers of war. It will not reduce our need for arms or allies or programs of assistance to others,” end of quote.

The same message could be delivered today. In his speech, President Kennedy specifically referred to the treaty’s importance for controlling and countering the spread of nuclear weaponry in general. And you know what? History proved him right. Less than a decade later, the Nuclear Non-Proliferation Treaty was in force. In addition, the safeguards system, which is a fundamentally important verification tool, was being put in place.

Today, some opponents of the CTBT say the treaty has no relevance for nonproliferation. I think Tim might be one of them. (Laughter.) Personally, I’m not convinced that this is true. The treaty is, of course, chiefly directed at the nuclear weapons states. Non-nuclear weapons states will have breached the Non-Proliferation Treaty long before they lower a nuclear explosive device into the shaft. Legally speaking, the test ban treaty just adds one violation on top of another. This is also clear.

That said, the treaty itself may bring many benefits on the margin. It may open up new opportunities to strengthen the nonproliferation regime. And I think this in itself is enough to reiterate President Kennedy’s position that, and I quote again, “The difficulty of predicting the next step is no reason to be reluctant about this step,” end of quote. And again, the same message could be delivered today. In fact, just read his televised speech. It’s fantastic.

I would now like to turn to the issue of verification. It was touched upon. Today, most would say that the verification regime is performing better than the negotiators of the treaty foresaw some 15 years ago. And it is performing better than expected, despite not yet being fully completed, despite not yet being fully tested and despite being operated in provisional mode.

And you know what? There is time to improve this regime further. I disagree with those who say that the main treaty prohibition is too vague to be meaningful. In fact, the ambiguity was put in there for a reason. The
treaty does not ban nuclear tests; it bans nuclear explosions, the violent, uncontrolled release of energy. And any nuclear explosion that produces any yield, no matter how small, will violate this treaty. Have no doubt about that.

But the experienced nuclear weapon states would find very little use in further testing. We heard this also – they have a long series of test data to fall back on. And from that perspective, the scientific gains of illegal testing would be slight compared to the political costs incurred by such an action.

Because consider this: For cheating to occur, a state would need to calculate that it needs a nuclear test. But it doesn’t need it badly enough for it to exercise its right to withdraw under the treaty. I ask you, what kind of conditions would that be?

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At the same time, they would calculate that the political cost of being caught is likely to be high. And this means, and any insurance agent will tell you this, that even a small detection likelihood may therefore serve as a capable deterrence.

And the detection likelihood is by no means small. Today, the seismic component of the CTBT’s International Monitoring System can confidently detect tests below magnitude 3.6 worldwide. That’s roughly 0.07 kilotons in hard rock – coupled hard rock. In most of the Western hemisphere, the sensitivity drops to about magnitude 3.4, which corresponds to about 0.05 kilotons in hard rock. This surpasses design expectations about 20 times over – 20 times over.

[00:38:54]

The world’s oceans are now covered by the hydro-acoustic component of the IMS. And as sound spreads well through water, it will be exceedingly difficult to conduct an explosion in the seas without being detected. The infra-sound system is also surpassing design expectations, and especially so on the northern hemisphere.

We heard about the radionuclide system. For its part, I think it proved its usefulness during the first North Korean test in 2006 when it detected activity levels equivalent to 400 atoms in Canada – a considerable distance.

What’s more, the envisioned on-site inspection regime is credible. Work to iron out the details of this regime is now well underway in Vienna. And this work has made important progress in recent years.

[00:39:47]

Together, these verification tools together will form an impressive obstacle to noncompliance. Is it foolproof? No, of course it is not. No verification regime has ever been composed that provides absolute confidence that all instances of noncompliance will be detected. It is a fool’s errand to try to build one. It simply cannot be done. I leave it to you to decide whether or not it’s a fool’s errand to insist on one also.

And it’s also not important as long as the regime can guarantee a solid, statistical probability of detection. Testing on the high seas or in space – i.e., making sure that you cannot be attributed to the test – is, of course, a possibility. But I wonder how any state considering doing this would intend to collect data from the test. We heard that data is very important.
You want to prepare for it. You want to carry it out under scientific conditions. You want to extract data from this test, and this will be difficult to do, especially in orbit or behind the moon. Also, consider the costs involved for any states considering such an evasion scenario.

I'm not going to go into more about that, but I can only recall that the same arguments were presented against the Partial Test Ban Treaty in the 1960s, and the same arguments were defeated in the 1960s.

As for entry-into-force, we're all aware of the hurdle that this clause represents, and how challenging it will be to get all Annex II countries on board. At some stage in the future, it may be prudent to think about ways to get around this clause. And this can be done in two principal ways: The first route around the entry-into-force clause is to provisionally apply the treaty – Rebecca has written a lot about this – but that may be technically difficult, and could theoretically lead to several complications. And I think we're all aware of these.

The second alternative is to amend the treaty before it enters into force. This has been done before in respect to the 1982 U.N. Convention on the Law of the Sea. What’s happened here was that states reached a separate agreement on how to implement a certain part of the convention. In the CTBT context, the separate agreement would replace the entry-into-force article and the second annex to the treaty. It would not touch the rest of the treaty, avoiding any risk that other articles could be reopened for discussions.

In fact, I would argue that the problem is not so much how to do it but when to do it: You outflank the problem; you bypass it. Some would argue, of course, that it’s not necessary to think in these terms at all. They argue that the norm against nuclear testing is now so strong that it’s become customary in nature. I don’t agree with that proposition.

For this to happen, the convention must be of a fundamentally norm-creating character, so fundamental indeed that it would be considered as a basis of general rule of law. I don’t think this is the case; if it were, states would not persistently call on the treaty to enter into force. And many states do – the vast majority.

Why call for a norm to enter into force if it already is? This is the question. But it also emphasizes the importance to bring this treaty into law, to ratify it, and to – if there are Annex II countries out there that doesn’t want to play along, bypass them.

The time has come to make the push for this when two conditions have been fulfilled. First, when the treaty enjoys widespread and representative participation – I believe this condition is already fulfilled; and Rebecca told you how many countries have already signed up and ratified it. Second, the treaty must enjoy the participation of those states whose interests are specifically affected.

Now, this is a tricky one because this means of course, most, but perhaps not all, states with nuclear weapons. Consider when the treaty was negotiated: Who had nuclear weapons? Who had not? Who were important back then in 1996? Why has that changed? I’m going to leave it at that. I’m going to let you draw your own conclusions about that.
In closing, the CTBT and its supporting structures comprise a functional regime. Besides its well-funded and well-equipped secretariat, it enjoys broad political support; it manages a capable verification system which is now nearing completion. And according to researchers at the Center for Nonproliferation Studies, the total capital investment in the CTBT so far has surpassed 1 billion U.S. dollars.

Yet all this money has been invested into a treaty with a very uncertain future, and we heard this today. Without entry-into-force, the CTBTO and its extensive verification network of sensors will be confined to a state of long-term rehearsal. While the treaty membership of over 150 countries wait for the handful of hold-out states to join, there remains a risk that the CTBT and the CTBTO will become an organization in the search of a mission. I think we already tendencies of this.

It will slowly lose its relevance. And this will make the establishment of a legally binding, verified ban on nuclear testing even less likely. And I would want you to consider that. I thank you for your attention.

JOHNSON: Thank you very much. Just in time before you got – please finish now. So we’ve heard from all of our speakers. And it’s now your turn. And because we only have one microphone here, I’m going to ask if you wouldn’t mind actually lining up to stand behind the microphone in the center of the aisle there.

And while people are getting ready to do that, I’d just like to do a little plug, actually, and just draw your attention to this book which – copies are available on the table outside, or if they’ve gone from there, they’re available in the hall. The U.N. has kindly made them available free of charge for those who can pick them up.

And just want to relate one small anecdote. When we had the launch for this book during the NPT PrepCom at the U.N. in 2009, I had the very eminent former U.S. ambassador, Steve Ledogar, who many of you I know will remember, on one side of me, and the Chinese ambassador, Sha Zukang, on the other side. Both of them had been heading their respective delegations at this meeting.

And anyway, we presented a case; we spoke. And a question did come up that related to the one that Tim Morrison gave, which is that the treaty doesn’t appear to have a specific definition of what is being banned. But we all know that it was – that there was a big debate around activities not prohibited, and that this debate was ended by decisions that were spearheaded by the U.S. and France, in fact, to go to, I think, called zero yield.

And there were a lot of debates then within the P5 about this. And Russia was very grumpy. And I gave this response about how grumpy Russia was, in fact, about this, that they felt it had been taken over their heads. But the point at which the Russian ambassador finally in the CD came publicly and said that they accepted zero yield – he did it by emphasizing the same six conditions that the U.S., and subsequently Britain and France, had made. And he also made clear that he accepted the understanding of zero yield that was understood by the U.S. and the other P5.

And I was very – (chuckles) – pleased when Steve Ledogar, responding after that, said, yes, and Rebecca has got it exactly right on page 88 and 89 of her book – (chuckles) – because then I knew, A, he’d read the book, and
he’d been very complimentary about it, B, that I had got it right, and C, that this question of definition is a red
herring. All concerned know, as Andreas said, what zero yield means. It means any nuclear explosion that has a
fission yield. And that’s very clear. So I just wanted to give that anecdote while we were allowing people to come up
to the mic.

So I’m going to take probably the first three or four, and then turn back to the panel. So Paul, you’re the
first. Don’t forget to say who you are, and your affiliation.

[00:48:26]

Q: Thank you, Rebecca. Paul Meyer, former Canadian ambassador for disarmament, currently with Simon
Fraser University and the Simons Foundation. I have to differentiate between the nationals on the panel that are
NPT-state parties and the individual from a non-NPT-state party, and ask him my question. So I will do so.

And for the three that are nationals of NPT-state parties, the significance that they would ascribe to the fact
that there’s been a political commitment to bring the treaty into force expressed in the 2000 – and again reaffirmed
in the 2010 NPT review conference – and I’m wondering the failure to deliver on that commitment, how it is
perceived in terms of the credibility of most political engagements in the broader viability of the nonproliferation
regime.

[00:49:22]

And for Dr. Arunachalam, I suppose the question that relates to – India likes to stylize itself as a responsible
nuclear power. And in that regard, I wonder how you’d comment on the fact that all the other NPT nuclear
weapons states have at least signed the CTBT. And I wonder what you think the prospects may be for India
following suit. Thank you.

JOHNSON: Thanks, Paul. And I should mention, Paul is a former CD ambassador, Canadian ambassador
to the conference on disarmament. Thank you. Please go ahead.

Q: My name is Li Bin. I’m from Tsinghua University and the Carnegie Endowment. I was on the Chinese
team on CTBT negotiations, so I’m very loyal to the treaty. I want to make a couple comments. The first comment
is about the verification system. I think it is all right that the radioactive detection system did not detect radioactive
release from the second North Korean nuclear test.

But that is not a problem at all because the verification system includes several elements: International
Monitoring System, on-site inspection, and the confidence-building measures. The radioactive system did not detect
anything, but the seismic system did detect something from North Korea. And we are not sure whether or not that
is a nuclear test or something else.

[00:51:11]

We have on-site inspections. The problem that we cannot use on-site inspections is because we do not yet
have the treaty. The treaty is not yet entry-into-force, so we cannot use on-site inspections. If we believe that we
want to make sure that the verification is effective, I think we should make the treaty enter into force – my first
comment.
My second comment is to support Mr. – I’m sorry, Persbo. I’m sorry – (chuckles). I agree with you that the treaty has a very accurate definition about nuclear explosion. The scientists of the five nuclear weapons states had close discussion among each other. I was a part of that. I believe that the understanding that, you know, whether or not the process is supercritical or subcritical, that was the understanding. I don’t think that the scientists from the P5 would have any worry about the definition.

We are sure that all our (worlds ?) understand what is a nuclear explosion, and what is not. So I should probably – thank you.

[00:52:52]

JOHNSON: Thanks. And as Li Bin said, he was actually part of the Chinese delegation at that time. And if Steve Ledogar and Sha Zukang, say – the diplomats know and have that debate, and we’re hearing the scientists who are no under illusion what the distinction was, where the line was drawn between the subcritical which were not covered by the treaty, and the supercritical, including hydro-nuclear experiments that were covered by the treaty. Next speaker.

[00:53:17]

Q: David Culp with the Friends Committee on National Legislation. A question for Tim: Back in 1992, your boss also opposed the U.S. nuclear testing moratorium when he was a member of the House. And I’m just wondering if you or he today support the U.S. moratorium, or whether you think the U.S. should be testing nuclear weapons today.

JOHNSON: Thank you. I’m going to take one more of the questions and comments, and then I’ll turn back to the panel. And then I’ll come back to the rest of you.

Q: Yes, Arian Pregenzer from Sandia National Labs. My question concerns unintended consequences of the effort by those who are in favor of the CTBT in pushing for ratification. And the question is, it seems to me that during the – so this question is relevant to Andreas’ statement about, should we just leave this as a norm, treat it as a norm, or should we press for ratification.

It seems to me that when the desire to ratify comes up, at least from a U.S. perspective, this raises a lot of domestic political issues, and it almost has the impact of increasing the attachment or the concern about this – the attachment to nuclear weapons and concern about the state of nuclear weapons and their ability – in their deterrence capabilities.

Even though the labs are not clamoring for nuclear tests – I’m not aware of any major sort of movement to resume nuclear testing – it still has this effect of a lot of discussion about the importance of nuclear weapons to national security. That, in turn, sends a particular message to countries that we are trying to get to sign the CTBT, as evidenced by the comments from Mr. Arunachalam.

[00:55:24]

So you take all of these things into account. And I’m just wondering how you do the calculation of the balance of should we just let this stay a norm. Twenty years from now, we’ll be much farther down the road. What are sort of the pros and cons of those approaches?
JOHNSON: Thank you very much. So we’ve had four very interesting comments and questions. And panel, you can take some or all of them. Don’t feel you need to take all of them. But I’ll turn first – I’ll take in the order this time of when you spoke, so I’ll turn first to Tim – and there was a specific one to you – (inaudible, cross talk).

[00:56:02]

MORRISON: Yes. And David, I think you’re right. I think we did oppose it. And I don’t think Senator Kyl – although I’m speaking here for myself today – I don’t think he would say we need to have tests today. That’s not to say that he would be comfortable, because he’s not, in permanently surrendering the right to test should the need arise.

I guess – let me just talk, maybe, a couple, quick points. Again, to quote the Perry-Schlesinger commission on the so-called red herring issue, the Perry-Schlesinger commission – six Democrats, six Republicans – said that if the administration wants to send the CTBT to the Senate again – or I should be clear, it’s already in the Senate – if they want to push for its ratification, they should seek a clear and precise definition of what’s prohibited, leaving some to infer that there is not presently a clear and precise definition of what’s prohibited. If it’s a red herring, it should be very easy for them to do. If there’s something more to it, then we’ll see that.

[00:57:00]

On the question of the on-site inspections, the Chinese delegate – the idea that we would easily use on-site inspections, I find difficult to countenance. Again, point to the difficulties getting the IAEA to do things like order special investigations in Syria; I would point to the difficulty in getting the nations on the IAEA to take concerted action with regard to Iran and North Korea. It just doesn’t seem to me that it’s going to be as easy as you might suggest.

I, for one, would be interested to know what China would do if somebody asked for a special investigation in North Korea. I don’t the Chinese would support it. And I would point to their role in supporting the Kim Jong Il regime. That’s all I have.

JOHNSON: Thank you. Arun?

ARUNACHALAM: Yeah. I think there is no great difference for us. When once we agree, we will sign as well as ratify it. But I think it’s going to be dependent on how the countries that have signed but not ratified react to the possibilities of ratification.

JOHNSON: Andreas?

[00:58:23]

PERSBO: Thank you very much. First of all, to my Chinese colleague, I’m very pleased to have China’s support coming from VERTIC in the early 1990s, we had a bit of an experiment where we tried to prove how effective seismic testing was. And we used Lop Nur as an example. So we monitored your test site from our London office with the help of IRIS and states here in the United States.
And we actually broke the news of the Chinese test series in the early 1990s within an hour. The White House knew about it before their advisors could come into the Oval Office. But I’ll tell you that the Chinese government has never quite forgotten – (chuckles) – us. So I’m very pleased that we’re now friends. (Chuckles.)

[00:59:17]

I think – and of course, I agree with you completely about the importance of on-site inspections. There is one point about on-site inspections that is rarely raised, and that is the importance of having one of these on-site inspections to actually confirm compliance. So it’s not about proving noncompliance, it’s about confirming compliance. And this will be a very likely inspection fight.

You have a suspicious event, say, in Russia. The United States says, and perhaps China says, you have – you have cheated. You are cheaters. And Russia goes, no, we are not. Come and look for yourself. This is very important. This is when the onsite inspection regime will be deployed, in all likelihood.

Of course, it’s not going to work when the state has something to hide. It will have no incentive to cooperate with you. And it’s going to make its damndest to over – to make sure, in fact, that you are not coming into the country to begin with. I mean, this is – we see this all the time. But noncooperation raises quite a lot of concerns in the international community, and we see this all the time also.

Enforcement in CTBT – in the test-ban treaty is a bit of a red herring also, because they have tested a nuclear device. How are you going to enforce your will against a nuclear-weapon state? You are not going to invade them – or are you? I’m going to leave it at that.

I think this question is very, very good – unintended consequences of pushing for ratification. I think there are – obviously, life is not black and white. It’s a gray scale. You just have to put yourself at one point of the scale and stick to your guns. The positive thing is that I don’t think the established nuclear-weapon states have appetite for testing. I don’t think that they are planning to do this, I don’t think that they need to do this.

And of course, the longer the moratorium holds, the stronger the norm becomes. You know, the longer – as Tibor Toth once said, the “silence” of the tests. I’m not quite sure what that means, but as long as that holds, the stronger the – (inaudible) – will become. And that is, of course, a good thing.

[01:01:53]

But I’m a bit worried about the funding for this system that we have set up and all this investment that we’ve done, because if there is no norm to verify compliance with, if there is nothing there to conduct an on-site inspection, again, it’s because you’re not going to go into North Korea. They’re not part of this. They’re not – you have nothing to verify compliance against. Then you know, I think the state’s parties may think that after a while, we would want to withdraw that funding. And that is perhaps my biggest concern about this.

JOHNSON: Thanks. I’m going to take all of those who are currently standing behind the mic now, but that’s going to be the line closed. So I’m going to take all of you and then turn back to the panel for final remarks. If there’s any more time after that, which I suspect probably there won’t be, we can have another round. But I’ll turn to you to be the next.

Q: Thank you, Rebecca. I’m Pierce Corden from the American Association for the Advancement of Science. But I spent a good bit of time, starting in the ’70s, working on the test ban through 2007. I’d like to just...
react a little bit on these questions of scope, which I think has put into context the apparent low-yield testing and the statements that perhaps testing at an undetectable level lends some real threshold to the scope.

Well, I think it’s important to sort of look at from where the scope provision in the treaty arose, and it actually arises from the Limited Test Ban Treaty scope. It’s an almost one-for-one clone, minus the references to the environments, because the treaty does prohibit any nuclear explosion, however low.

And indeed, if there has been low-yield testing going on, that it’s either something that governments are not particularly concerned about, unless they have had official dealings with it that are not in the public domain, but also, if it’s very low-yield, our verification capabilities must be pretty good.

That gets to my second point, which is, at least in terms of the United States’ interests, I don’t think that the IMS will be the predominant issue, whatever its capabilities are, whatever they were, whatever they are now. The predominant question which will need to be answered is, is our net-verification capabilities, primarily those from our own national technical needs, sufficient to deter, to ensure that no military or significant explosion has taken place that would put our national security at risk?

And in that respect, one can sort of single out evasion scenarios and assign a number to them, holding everything else equal. But you can’t hold everything else equal. There’s a whole series of possibilities for coming up with evidence that somebody has tested. And I think it’s reasonable to say that the probability of detecting an explosion, however small, is never zero.

As far as the stockpile goes, it seems to me that we’ve got plenty of assurance that we can continue to rely upon existing weapons indefinitely. And indeed, the purpose of the CTBT is to prohibit advances in nuclear technology globally – nuclear-weapons technology.

And finally, I think it’s been made clear in the testimony that was given in 1999 that the U.S. is assured to have a seat on the executive council because of the way the negotiating record shows that the text was constructed to ensure that the state in a given region with the most nuclear capability writ large would have that seat. So maybe these are some issues that the panel would want to react on. Thank you.

Q: Hi, good afternoon. Good job, Rebecca, of taking over the chair this time. I had done this the previous meeting. It’s not an easy task. I’m Daryl Kimball with the Arms Control Association. And my colleague David Culp asked more or less the question that I wanted to ask Tim, but I wanted to see if we could, just in the spirit of understanding your position, and by extension, your boss’s, if I could just kind of follow up a little bit.

I’m glad to hear that Senator Kyl, you don’t believe we need to resume nuclear testing, but if you can elaborate why specifically you would not want to give up, as you say, or surrender the right to resume nuclear testing. Is it because you believe that there is an interest in developing a new warhead type that requires testing? Is it because you believe that the stockpile cannot be maintained effectively or reliably without a resumption of testing? Is it for some other reason?
And then second, in the spirit of trying to, here in Washington, get to some of the things that we can agree on so we can move ahead and build up U.S. security, would you, Tim, agree that – with the assertion that nuclear testing can, has in the past and can in the future, advance – help states improve their nuclear arsenals? And if you agree with that, I mean, what is your alternative to helping the United States reduce the chance that another state – Pakistan, India, China, Iran – conducts a nuclear-test explosion in the future that could possible undermine U.S. security? Thanks.

[01:07:50]

JOHNSON: Thank you. Steve?

Q: Stephen Young with the Union of Concerned Scientists. I’ve got a question for Tim. I was disappointed in your attack on the National – (inaudible) – study that’s forthcoming, particularly as you haven’t seen the study yet. How can you do a – (inaudible) – you haven’t seen yet? But I guess you’re comfortable doing that.

But my question is, how can you do so? Basically, the report is being authored by people like Dick Garwin, who designed the first hydrogen bomb, served on the missile commission and has been the best in this country for decades on security issues. Would he undermine science – (inaudible) – test-ban treaty, which he may or may not share, because he wants to hurt American security?

Would Linton Brooks, who served under administrations for years honorably, undermine American security by supporting the test-ban treaty because it would be good for the Russians? I mean, how can you attack – (inaudible) – peoples’ motives when they have served this country honorably for decades and are reporting on the science of the test-ban treaty, not on the politics?

JOHNSON: Okay, thank you. Yeah, go ahead.

[01:08:54]

Q: Jessica Varnum from the Monterey Institute’s Center for Nonproliferation Studies. Mr. Morrison, I have a question for you, actually. You might be surprised to find that I agree with you on one of the points you made, which is that the United States should not sign onto treaties that are against its national interests. And so I, for example, would not support the United States deciding tomorrow to sign onto some kind of convention that required it to eliminate its nuclear weapons, because I don’t think that we can verify that the other countries would not cheat. And I think the costs of other countries cheating would be exceedingly high.

However, I guess the question that I have for you is that in making the argument that a CTBT, for example – we might have an instance where a country would cheat and that cheating could go undetected – leaving aside what I think are some decent scientific arguments that that’s unlikely, I guess the question for you becomes, why would it matter if another country cheated and that cheating went undetected?

Because frankly, we have a level, I think, of superiority with our arsenal based on many, many tests in the past where we don’t need to automatically respond by other country’s tests by testing ourselves. And in fact, we have not done so in response, for example, to the Pakistan and India tests in the late ’90s, in response to the North Korea test. To suggest that we would have to respond by testing ourselves I think is making it the wrong issue.

[01:10:16]
Since we have basically chosen – and in my mind, will choose to do so for the foreseeable future – to not test ourselves, what would we lose by signing onto a CTBT? Thank you.

Q: Hi. Timothy Westmyer, a master’s student here at Georgetown University. This question is not directed to Mr. Morrison – (laughter) – but I certainly would like the comment on it. Real quickly, I guess the history of the NPT has shown that the CTBT and some form of fissile material cutoff treaty has been historically linked, as – seen as twin gulls.

I would like to know, given the history collected in this room by people who have been involved in the CTBT negotiation, what sort of lessons you can have for those negotiators once that – if it happens to ever be on the agenda, whether it be for verification or enforcement or any of those other means. Thank you.

JOHNSON: Thank you. Okay, well several of the questions in that last grouping were for Tim, so I’m going to ask you to respond to those, but also to any other issues that came up from any of the other questions.

MORRISON: Yup, sounds good. Let me see here. So Mr. Corben, I guess I think you’re right. We would most likely be relying on our NTM, and that’s, I think, in fact an implicit criticism of what the IMS provides us. But we would also have a problem, in that we’re not always going to want to reveal what our NTM says. And so what, then, do we do if we have information of cheating but we’re not willing to divulge the sources and methods?

I would also point out, again, 2009 North Korea test, they gave us about two weeks’ notice, we had our own assets on station – we still couldn’t find the smoking-gun evidence. The probability of detecting explosion is never zero. I think that’s right.

Relying on existing weapons is definitely – this is going to lump together a couple people – if it is the objective to stop vertical proliferation, I think you can already say that that’s failing. If we’re right now living under a moratorium, then it’s disturbing to hear Secretary Gates say, “China and Russia have embarked on an ambitious path to design and field new weapons.” So that defeats your vertical-proliferation argument.

Horizontal proliferation – we didn’t need a test to field our first nuclear weapon. So if it doesn’t defeat vertical proliferation, it doesn’t defeat horizontal proliferation, again, what are we getting? The U.S. would be assured a seat – I’m glad to hear that. That is in the legislative history. It’s not in the treaty, which is my point.

On Daryl, let’s see. In terms of – yeah, I think stockpile reliability is certainly the biggest problem. And again, I would just point out that in terms of a new weapon, I’m not aware right now of a need to build a new weapon. I’m aware that the Joint Chiefs of Staff felt in the last administration we needed to build RNEP, but that need seems to have gone away. But I guess it would be – seem to be height of hubris to say that we’re never going to need a new weapon.

I don’t feel that comfortable about my ability to predict the future. Stephen, I wasn’t impugning anybody’s motives. I was merely saying that the study is full of CTBT proponents.

And Jessica, I guess again, why would it matter if a state cheats? As I said, because a state could, if it cheated, develop a new military capability. And I don’t know how that’s going to affect the balance, but I don’t want to be
permanently denied the right to do that – to counter, if need be. And I thought I was going to get the entire panel directed to me, but apparently not. (Laughter.) So I'll just leave there, and if anybody wants to respond –

JOHNSON: Thanks. Dr. Arunachalam?

ARUNACHALAM: I don’t have – (inaudible).

JOHNSON: Okay. I’m sure you will, Andreas.

[01:14:02]

PERSBO: I only have a comment for the last question. I mean, what’s the lesson learned? I would say, don’t be too clever when it comes to the entry into force clause.

JOHNSON: Well, since I was being carefully very quiet in the previous and I’m a panelist as well as a chair, let me – I’d like to just comment on a couple of things, because again, I’m just really struck by how much I miss Steve Ledogar. You know, he was a very, very gruff, very hard-headed, hardnosed diplomat. He was actually kept on by the Clinton administration. He’d been appointed under George Bush Sr. to see through the CWC negotiations to conclusion and then was kept on.

But I remember him some years later in a public meeting very clearly saying that one of the things he was proud of was that the U.S. had achieved every single one of its key objectives with regard to the verification regime in those negotiations, including the right to include data from the so-called NTM, the National Technical Means, which had been really controversial at the time because some countries saw that as being a kind of charter to allow – to permit espionage and so on. But the United States got in it that that data – it was legitimate to use that data as part of the verification regime.

[01:15:29]

And the composition of the executive council for the CTBTO was also part of that, because not just the U.S. but other of the NPT nuclear-weapon states wanted to make sure that they wouldn’t basically be off that. So there were these complicated formulae that had to do with regions, had to do with nuclear capabilities, had a number of elements to it. But the upshot of it – and no, it’s not written in the treaty, the U.S. has a permanent seat on this because nobody wanted to write that kind of explicitness into a multilateral treaty, particularly given some of the concerns about the P5 in the context of the Security Council.

But it was negotiated into the treaty nonetheless. And that’s – it’s basically the same about the scope, that although the specific definition of a nuclear explosion was not written into the treaty, it was negotiated. We heard from Li Bin. We’ve heard – not in this session, but in other sessions – from the diplomats who were part particularly of those P5 negotiations how important that was, that they did – they were on the same page by the time they all agreed it.

And so this leads to the one question that I think came in that second batch towards me, which related to the “fis-ban”, or the fissile material treaty, or the Fissile Material Cut-off Treaty and the lessons to be learned. And it seems to me that – you know, I originally trained as a physicist.

So when I was writing my Ph.D. on the treaty, I actually ended up in the conclusion doing an equation of the conditions that would have to be met for multilateral negotiations to work. And I was persuaded not to actually
include it in the final thesis. But essentially, a treaty – those that want the treaty have to have both stronger motivation – it has to have more in it and stronger motivation than those that want to prevent the treaty happening.

[01:17:41]

And then there’s also – part of the equation was relating to, in a sense, the level of interest, the level of active engagement of civil society for this, and that one of the lessons to be learned is the problem for the Fissile Material Cut-off Treaty, as defined purely in terms of a cutoff, is, and I’ve written this years ago in the Bulletin of Atomic Scientists, it’s kind of an orphan because it’s a very first step. But it’s a very first step at a point in which four of the five already have declared moratoria. The others probably stopped.

And it’s really aimed at the three outside the NPT. And so it becomes caught up in politics without enough overwhelming strength of support to get that particular element done. And I think that this may well – this realization may well be behind some more recent moves by the U.S. and France and others to say, look, if we want to get this treaty as a treaty, as a negotiated treaty, maybe the five need to go off. We can invite others to be part of it.

We need to take it out of the CD that is blocked by the consensus rule which allows countries like Pakistan to play politics over even getting the agenda or the program of work and negotiate this treaty. And that would free up the CD, potentially for negotiating measures that maybe there would be a much stronger overwhelming support from a broader community.

[01:19:09]

Or else, the other way round is the kind of demand that was coming up from other states, which is, the treaty needs to deal with stocks. It needs to deal with the fissile-material stocks and not just a cut-off of future production, but dealing with reducing and ultimately eliminating the current stock, which would make it far more useful as a measure for – as a step towards disarmament, towards that agenda rather than purely trying to deal with the three outside the NPT.

Now, you can go one of those two different ways, really, to be able to move forward on this. You either bypass the obstacle by dealing with it among the key states that actually need to deal with it or, if you wanted to keep it multilaterally, you have to put a greater political incentive in there for the wider community to say, this is worth our time and energy to be negotiating it.

And I think that that’s one reason why that one is stuck. And it’s also one reason, I think, why you are getting more cause for a broader approach, such as Dr. Arun talked about. We would get India on some of these – on the steps towards some of these – towards ratifying the CTBT and towards the fissile-materials treaty if they saw it much more clearly as steps leading in a more clear direction towards nuclear disarmament.

And that would be a different context that has to be built – partly built or at least, I think, President Obama’s Prague speech gave that context. But it hasn’t been seen on the ground.

[1:20:47]

So that’s the broader context within which a treaty like the CTBT, a treaty like the fissile-materials treaty, and indeed those other kinds of measures like UN Security Council Resolution 1540 and other parts of the
nonproliferation regime, interact and mesh to allow us internationally and multilaterally to go forward to deal with the questions of nuclear security, nuclear nonproliferation and nuclear disarmament and non-acquisition.

So we’ve heard a lot of very different views about this. We’ve heard some very, very good comments and questions from the audience, which I would like to thank you for, and I’d like you to join me in thanking our distinguished panel for their contributions. Thank you very much. (Applause.)

So I hope you enjoy your breaks and the next sessions.

(END)