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Transcript

CTBT: WHAT'S NEW AND WHAT'S NEXT?

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BRIAN FINLAY

Thank you very much James. So that is very good news, free Ipads are available in the lobby. Is that right? No that's not right. Thank you all for being here at the end of a long day. Two years from now when we reconvene on this stage the CTBT will be celebrating its 20th anniversary. While 20 years may seem like an excessively and frustratingly long time to be entering into force. In fact, if we look at the long arc of history that has led us to this point; it in fact, is just a blimp in time I would submit.

It was 51 years ago this year that we celebrated; some of us in this room even may have celebrated the entry into force of the limited Test Ban Treaty. It was 57 years ago that the United States, the United Kingdom and then Soviet Union implemented their first long standing testing moratorium and it was 61 years ago, almost to the day that then Prime Minister, Nehru of India, called for the first standstill agreement on testing. While interestingly, he called for the United Nations to complete its work on complete disarmament.

So, those visions of disarmament in 1954 may have been a little overly aggressive, but critics of the comprehensive Test Ban Treaty would say that similarly, the Test Ban, we have not had a successful one at the Test Ban either. This is not to say that it is all bad news. A 163 states I believe Dr. Zerbo have now ratified the comprehensive Test Ban Treaty. All but 8 of the 44 ANNEX 2 countries have ratified the Test Ban and there is I think an undeniable norm of non-testing that has resulted from this protracted period of moving towards the Test Ban.

Of course, the sceptics remain and the sceptics concerns really revolve around I would suggest four central issues. The verifiability of the treaty itself. Many lament the negative impact on safety and reliability of existing arsoms. They lament the potentially negative impact on innovation and many also claim that the CTBT would potentially lock us out of meeting potential future security contingencies, and so we will get to all of those issues with this very distinguished panel that the Carnegie Endowment has assembled for us all.

I would like to very briefly introduce them to you now. No stranger to this stage, the honourable Rose Gottemoeller, is Under Secretary of Arms Control and International Security of the US Department of State. Madam Under Secretary welcome.

ROSE GOTTEMOELLER

Thank you.

BRIAN FINLAY

Ambassador Merav Zafary-Odiz, is the permanent representative of Israel to the IAEA and the CTBTO prep com ambassador. Welcome.

MERAV ZAFARY-ODIZ

Thank you.

BRIAN FINLAY

To her right is Dr. Lassina Zerbo is Executive Director of the CTBTO in Vienna and last but certainly not least is General Frank Klotz is Under Secretary for Nuclear Security at the Department of Energy and Administrator for the National Nuclear Security Administration. Gentleman, welcome to you both.

So they all have much longer and much more impressive bio's that you can find in the docket. But let us just to, I propose, the matter at hand and Madam Under Secretary I would like to start with you. President Obama, your boss, has since the very earliest days of the administration linked global efforts to prevent proliferation with the passage of the comprehensive Test Ban Treaty. But as you are certainly aware not everyone is convinced on that linkage. So I was wondering if you could speak a little bit to the real, what is the real basis of this assertion that the President has made. And secondly, how has the failure to pass the CTBT by the US Senate and others negatively impacted international security?

ROSE GOTTEMOELLER

Well first and foremost I wanted to say thank you to you Brian for organising this panel, to Carnegie Endowment and to say hello to many friends and colleagues around the room, including some old colleagues from my DOE days who I haven't seen for a while, so thank you very much for staying after a long day.

The second thing I wanted to say, was that I hope that you will come away from this panel. Brian gave I would say a fair introduction but with a very sense that things have not stood still over the past 20 years and in fact, there has been an enormous amount of progress towards entry into force of the comprehensive Test Ban Treaty. Measured not only in the number of states who have actually ratified the treaty but also in the many significant technical steps that had to be accomplished before the treat would be ready for entry into force.

So to your first question about whether or not this really is a non- proliferation treaty. Whether it is important for non-proliferation. We believe and I think for the community as a whole the notion of halting the nuclear arms race has always been at the heart of goals that we pursue in the non-proliferation arena. Now all of the goals that we pursue in the non-proliferation arena have a role in halting proliferation.

However, none of them is absolute. None of them achieves it perfectly and I would say the same about the comprehensive Test Ban Treaty. When we look at a total ban on nuclear testing I think about it as placing significant barriers in the way of proliferation. Significant barriers particularly in the way of nuclear testing for states that may be aspirants but they have not actually acquired any nuclear weapons. But are looking at acquiring some simple primitive nuclear weapons.

Of course, they can do so without nuclear testing but their confidence in whether those weapons would ever work would be low or if they took the choice to test against this norm that has now been established. Even as the comprehensive Test Ban Treaty has not entered into force, they would face international condemnation and international pressures and some measures as we have seen in this intervening several decades. I think that for those at the earlier stage and that want to acquire a simple capability there is a significant barrier that a Test Ban places in their way.

For states that are more advanced that already have a nuclear weapons capability, perhaps have tested in the past but wish to acquire more advanced nuclear weapons. The comprehensive Test Ban Treaty, a ban on testing places also a significant barrier in their way in just the same way they would never be confident in the capability of boosted weapon for example that had not been tested.

The way I talk about it and think about it is significance speed bumps in the way of acquiring nuclear weapons. Again this is not an absolute, it is not a perfect answer but that is why we

layer multiple non-proliferation measures and steps, norms, treaties and agreements together to achieve the goal that we seek.

BRIAN FINLAY

Rose, there has been I think it is fair to say, no more [unclear] advocate for the Test Ban, than Rose Gottemoeller over the past ...

ROSE GOTTEMOELLER

Well I wouldn't say that. There are a number of them across the audience as well as here on the stage, but thank you.

BRIAN FINLAY

No doubt. Beyond education we have been engaged in this, as you point out, many in this auditorium, many within the administration have been reaching out to the United States Senate for many year trying to persuade, gajol and educate the United State Senate to the potential upside that this and you just quite eloquently again reiterated again many of those points.

Beyond education how do we pragmatically move forward with the United States Senate?

ROSE GOTTEMOELLER

You know I wouldn't write at this very instant place the full emphasis on the United States Senate and I again draw my experience very much from the experience that we had achieving the ratification of the new Stark Treaty. It is important and particularly with this treaty that has not been before the Senate for 15 years at this point, since 1999. It is very important that we reawaken the importance of this treaty for the American public and first and foremost go out to the States and work at the grassroots. And that is why I say the education is in the end game about working with the Senate and we need to do that anyway.

We need to keep up the interaction and I welcome those among those in the audience who have been talking to the Senate about this matter. But I think most important we need to get the grassroots fired up and interested in pushing for ratification of the treaty. Particularly in those states where nuclear testing has been a particular concern, a particular issue, a particular problem. And I do think, I've seen evidence already that we can develop grassroots support at the level of the public for bringing the treaty forward. So that is why people say she is still talking about educating the Senate.

I am talking about a lot more than that. I am talking about a grassroots effort now to train and develop the support we need among the public to then come back to the Senate and say look this is a matter of support among the people of the United States of America. You know in 1999, some of you will remember this poll, 85% of the American public supported the treaty back in 1999 when it failed to gain the advice and consent of the Senate.

Today, I think if you went out and ask the public about the treaty they would say huh because they don't remember what it is. And that is what we need to do; we need to bring it back before the American public.

BRIAN FINLAY

Ambassador, if I may, if you would allow me for a moment here with you. The gentleman sitting directly to your right. After visiting your country just last year left reporting that he was

“extremely optimistic” saying that Israel “could be the next ANNEX 2 country to ratify the comprehensive Test Ban”. Your Prime Minister has said on a number of occasions that he is proud of Israel’s signature on the comprehensive Test Ban Treaty and is noted that he has “never had a problem with the Test Ban”. Now at the same time, we will of course allow for the fact that there are several rather complicating developments in your neighbourhood. So, a question to you, will Israel be the next ANNEX 2 country to ratify the comprehensive Test Ban or is Dr. Zerbo just an eternal optimist?

MERAV ZAFARY-ODIZ

Thank you Brian. First of all I think that Dr. Zerbo’s optimism is an asset to the CTBTO and I think that helps him to be so successful in his job. Generally speaking I think that optimism and hope are both essentials when it comes to the very trouble region of the Middle East. Second it is very important for me to stress that Israel signed a treaty in 1996 with a clear intention to ratify it and it has been committed to the treaty ever since. This is a clear testament of our long standing commitment and non-proliferation and our policy to support and wherever possible to join global arms control regime and arrangements. Hence, I think it is not a question of if Israel will ratify this CTBT but rather a question of when the time will be right for that.

Israel’s ratification is not linked to the ratification of any other state. Rather we have our long standing consistent and substantive considerations for ratification and I want to mention all three of those considerations. First of all, Israel addresses its ratification like all other security-related issues. Mainly in the original context. Non-proliferation and Arms Control Treaties may sound promising but this consult has failed in the Middle East. Four states in the Middle East join the NPT but violated their commitments and developed [unclear 00:14:08] nuclear weapons programs.

Iran for one thing has been in violation of its treaty obligations and has concealed its program for two decades and is still not cooperating with the I investigation on PMD. The I investigation in Syria is also stalled. Syria used chemical weapons against its own civilians including reportedly most recently. So without further elaborating on the regional complexities I think it is very clear to everyone that the region currently is boiling and states are falling apart. So I would say regarding this first consideration that Israel’s wider calculus is directly linked to regional political realities, which in turn raise questions about the faith of Arms Control Treaties in regimes like those that exist in the Middle East.

The second consideration for Israel is the completion of the treaties verification regime. Including three primary [unclear] stations in the Middle East. Which have either not been built at all or are not transferring data to the International Data Centre. So this is something that needs to be resolved. Another related matter is the completeness and the readiness of the [unclear] element of the verification regime which is very important to Israel and especially its immunity to abuse.

I don’t know how many of you know but often times when there are major earthquakes in the Middle East; Israel is being falsely accused of having conducted a nuclear test. So we have to be prepared for when the treaty is enforced to live with an outside inspection to protect our national interests in case of a false accusation.

Lastly, and the third consideration in Israel’s equal status in the policy making organs of the organisation. Israel by treaty definition is a member of a regional group called MESA – Middle East and South Asia. However, the group has been paralysed for nearly 19 years because some members of this group who do not recognise the existence of the State of Israel block it from functioning.

Again, this is a matter that needs to be resolved because we want to make sure that we can be represented in the future executive council. So to conclude my answer I will say that Israel is indeed proud of its signature and its active involvement with the CTBTO since 1996. Our considerations are not linked to the decisions of other countries but as you rightly said Brian there are complicating developments in the region, most of which are purely political. In the meantime, we remain committed to the treaty and the organisation and we will continue to engage in a manner that will contribute to addressing our considerations and our concerns.

BRIAN FINLAY

So Ambassador, just to follow-up. Can you describe for us what you view as the downside implications of our failure to bring the treaty to [unclear]? What would be the downside implications for regional security in the Middle East?

MERAV ZAFARY-ODIZ

I would say that the CTBT has not played a major role in the region unfortunately. There are still two countries in the region who have not signed the treaty at all and except for Israel, three others who have not ratified the treaty. Unfortunately, we are faced with challengers in the region regardless of the CTBT and its faith. I would say thought that I would expect that when outside powers are negotiating with regional parties on matters related to non-proliferation they will remember the CTBT.

I would have expected that those who negotiated with Syria on its succession to the CWC to remember the CTBT and I expect now that those who negotiate with Iran will remember that Iran has not ratified a treaty and this is high time when you have the leverage to secure that from Iran.

BRIAN FINLAY

Thank you. So, Dr. Zerbo, our optimist on the panel. To date, the much I think celebrated detection of nuclear tests to the DPRK have all announced or at least widely anticipated. So convince me, a sceptical parliamentarian, a sceptical United States Senator that this treaty is today truly verifiable even at low yields.

DR. LASSINA ZERBO

Okay, first of all thank you for having me here and thank you for having your passwords including FMCTM. At least that gives me hope to start with. That is a good start. Look when you talk about the verifiability of the CTBT and why North Korea having announced the test and whether for instance it if was clandestine tests if we would detect it. That is basically the substance of your question.

Let me tell you that the CTBT was designed to compliment national technical means at the beginning. When it was designed no one expected it to be at this level of sophistication if I could say that. Sophistication meaning basically going far beyond what people have anticipated. The reason why I am saying this is the following: We have 90% of the station that are in place, we have as well more than 92% of the country that I've said notably testing. And with 90% our detection threshold and the level of the detection capability of our system. You take the four technologies, are going far below what anyone could think of and on top of that we are today working with scientific community more than nobody ever thinks.

We have our Science and Technology Conference that is coming. That is open to everybody. People were asking today, should we be nominated by our country to come? No we have

scientists from India, Pakistan who are a non-signatory of the CTBT who are coming to the Science and Technology. The reason that I'm saying this is that we are developing ourselves continuously and today we are even better than what was anticipated. So it means that the CTBT international monitoring system, its verification regime can only go better and better.

To compliment national technical means. To finish let me tell you that today at this point in time there is very little chance that any violator of this treaty will go undetected. At least anyone who is trying to build any relevant nuclear weapon would go undetected.

BRIAN FINLAY

So let me try to goad you into an answer, just to follow-up on that. Who are the laggards? Where are the gaps in the system?

DR. LASSINA ZERBO

Gaps in the system. I mean look, to be honest I hate the word gap because we searching globally and we are not focussing on the region and this is the nature of the CTBT International Monitoring System. What we doing is basically to cover the globe equally. It is true Ambassador Merav just mentioned some of the stations that are missing and that is why we are doing testing. Okay, we today at the point of development of the CTBT and its International Monitoring System where we ready to full scale testing.

To do that there are some requirements that are going in line with the treaty operation manual, the onsite inspection, the international data centre, the international monitory system, the global communication infrastructure. If we reach the point where we could do full scale testing of those elements its means that we reach the level of the operational manual and the technical specification of where we are pretty confident that we are covering the globe equally. It is true that there are stations that are missing, stations that are not sending data. Iran is one of them. China is sending data since last year. We are on contractual negotiation to continue that transmission.

We are working closely with countries within that region to try and cover what is perceived as a gap. But we don't work off single station we work off three stations at the time for [unclear] and then if you take the our detection capabilities are much better than the seismic. I do acoustic. We have all our stations that are in place. So I think all along all the technology complement each other. So today I don't like talking about the word gap even if I believe that we should complete the system to 100% and have all the stations in place. And we are working towards that. And the Galapagos Islands is one of the last example, it is quite a success. I mean 15 years we have been negotiating to having two stations built in the equatorial region. It is now a reality.

We are starting those stations and I have promised to build at least one in 2015 and then the second one in 2016.

BRIAN FINLAY

Thank you. So, General you have the unenviable task of managing the Department of Energy's complex as it fulfils US arms control and obligations and CTBT obligations and so forth. Let me ask you is there anything involved from a technical stand point that stands in the way of the United States ratifying the comprehensive Test Ban Treaty?

FRANK KLOTZ

Thank you Brian. The short answer to your question is no. Recall in 1999 when the treaty was taken up in the Senate there were essentially two objections that were raised by opponents this ratification. One was that the system for monitoring compliance was still immature and undeveloped. Dr. Zerbo has just given an excellent answer to explain what has happened since 1999 with the putting in place of the international monitoring system.

The other objection that was raised that was a concern on the part of some about the ability of the United States which was going to maintain its strategic deterrent to insure the safety, the security and the effectiveness of the stockpile without the ability to test. And I suspect at the time that might have been you know a debatable point. But shortly after the United States voluntarily decided that it would no longer conduct nuclear testing in 1992 there were a group of innovative visionary scientists, engineer, policy makers who conceived of the notion of a scientifically based stockpile stewardship program in which you could use the tools of science and engineering, diagnostic experiments, surveillance of the existing stockpile for signs of aging using high performance computers to run models that would predict what was likely going on in terms of the health of the stockpile. Secretary [name 00:26:21] indicated this morning in his remarks this has been in my view and I think in the view of the entire department a spectacular success. Especially now that we have put in place the tools that allow us, as long as we have nuclear weapons and want to maintain them in a safe, secure and effective state that we can do that through those means. Now I would add just one caveat and perhaps it would sound a little self-serving. This is an enterprise that continues to need to be funded and quite frankly, one of the parts of our budget, particularly in periods of budget constraints that tends to be cut is research and development and science and technology.

It is important for us as the United States as we continue to monitor our existing and the stockpile is getting smaller and smaller and also older and older to invest in the human capital, the facilities and the scientific and technical equipment that we need to carry out task.

BRIAN FINLAY

So in a few short years General it is anticipated that the United States will not have a scientist working in the nuclear enterprise that has had experience with other designing or testing nuclear weapons. Now as part of a task force a number of years ago I had the great pleasure of interviewing the younger cohort in the three weapons labs here in the United States and almost universally none of those younger cohorts of scientists viewed a long-term trajectory within the nuclear enterprise within the United States. So a two part question. One, how does that fact affect confidence in the national stockpile of the United States and the credibility of the American nuclear deterrent? And a second part question, how do we in scent a younger generation of scientists to remain activate in the nuclear enterprise?

FRANK KLOTZ

Well this is Brian an issue that we give a great deal of thought to in the Department of Energy and in the NNSA. You are right there is a – if you take a look at our laboratories and look at the demographics of the scientists and technicians and engineers that work in the laboratories and production plants, you will notice that many of them are of the same generation that I am. And in fact, in some of our facilities we have people where more than 50% of them are retirement eligible. They don't plan to retire, they like what they are doing. They have other commitments that motivates them to continue to work but they are eligible for retirement. I have heard a lot about the initial premise of your question that we have a lot of scientists who have never been involved in a test and how do you motivate them.

First of all let me say, it has been over 20 years since we have conducted a test so we almost have now a full generation of scientists in the nuclear enterprise who have never tested. But

have been schooled and experienced on the scientific based stockpile stewardship program and the very complex and diverse scientific fields that need to be brought to bear to make that program a success. As I go around and visit our laboratories and our production facilities I make a point of talking to a lot of our newer, younger generation of employees. And I must say that what I come away impressed with is their enthusiasm, their excitement at working at sort of the leading edges of physics, the leading edges of chemistry, of engineering and being able to conduct the type of activities we are asking them to do under the approach that we are using now to guarantee effectiveness in the safety and security of the stockpile.

But again, it requires investment. One of the most important investments we make in the next generation is bringing in interns from colleges and universities providing opportunities for post-docs to come work in our laboratories and our production plants and that in turn requires giving them some very interesting and challenging scientific work to do that will allow them to keep pace with their peers outside the enterprise. To publish and scholarly journals in the field in which they have chosen to do.

A very important vehicle for doing that is something that we call laboratory directed, research and development. Or plant directed, research and development. This is something that has come under a lot of budgetary pressure over the years and there is always those who want to lower the amount of money that we can put into this particular program. I must tell you that there is a lot of interesting scientific and engineering developments that have come out of lab directive research and developments and I must also tell you it is one of the great incentives for our younger generation of scientists and engineers to continue working.

We find that once we recruit them and they have an opportunity to work in this field and in some of the national security ward we do not just in the nuclear enterprise but across the entire national security space many of them will stay. We also, however, have to deal with a lot of the changes that have taken place in the industry and government for that matter. Retirement systems are much more portable than they used to be a decade or two ago. So those are challengers that we have to deal with so at the end of the day giving our scientists and engineers and technicians challenging interesting work that allows them to use what they learnt as an under graduate and as a graduate student is the best way to retain people within the enterprise.

BRIAN FINLAY

Thank you, so I would like to turn to questions in just a few minutes but not before we enter the lightening round here with the panel.

ROSE GOTTEMOELLER

I thought that was going to come at the end.

BRIAN FINLAY

I would like to ask each of our – we will just ran down the panel again. And I would like you to answer this very simple question. When will the CTBT enter into force? And as a second part of the question, what is the single most important thing that we need to do to achieve that?

Madam Under Secretary you are sitting closest to me so unfortunately, so I am going to start with you.

ROSE GOTTEMOELLER

That is Washington's favourite game. Prognostication and I am not going to play that game again because of the New Start experience. You know less than a week before New Start was ratified people, not people, plenty of people on the outside too but plenty of people on the inside

of our government had come staggering back from the hill after a day briefing, answering questions, discussing, briefing some more and they would say you are never going to get that thing across the finish line. Forgot about it Rose. This is up to two days before New Start was ratified and that is why we have to do the hard work, we have to be up on Capitol Hill. We have to also be working out in the states. But once we get it back for hearings we have to give the Senators adequate time so they can ask however many questions they have, and there were over a 1000 for New Start, questions asked for the record. We did 22 briefings and hearings for the treaty. We have to do repeated rounds and we have to go and talk to them individually and really do a lot of hard work.

So I'm not going to tell you exactly when I think it's going to happen but I do want to tell you that I am looking at the next two years and saying hey we got a real opportunity here, let's go for it.

BRIAN FINLAY

Thank you Rose. In the green room Rose did tell me it would be a Thursday that it would be ratified. She told me that much.

ROSE GOTTEMOELLER

It depends on what the Senate calendar is.

BRIAN FINLAY

Ambassador, the same question. When will this treaty enter the force and what is the single most important thing that we need to be doing?

MERAV ZAFARY ODIZ

Frankly Brian I think that the question of the entry into force of the CTBT has become an article faith rather than an article of the treaty. Personally, I am not a big believer in the domino effect theory. Which is often mentioned as something that will happen. I think it will take serious work with every single remaining country to address its concerns and its needs and to convince it that it will serve its national security to ratify the treaty.

I do want to say I mentioned earlier that Israel did not link its certification to that of any other country and this view is unfortunately not shared by everyone in our region. And many states in the region link their ratification of the CTBT to Israel becoming a member of the NPT. And I think that certainly abandoning this position will demonstrate a pragmatic and practical approach to business security in the Middle East and will contribute as well to confidence building which is so lacking in the region.

BRIAN FINLAY

Thank you.

FRANK KLOTZ

Could I dive in just for one second? Because I wanted to say that as well for all you Annex 2 States out in the audience who are waiting for the United States to ratify I say to you get on with it. And will be cheering you on as you go.

BRIAN FINLAY

Dr. Zerbo?

DR. LASSINA ZERBO

Look I think the answer to those two questions, what's new and what's next will be when the CTBT will enter into force. What's new? We said the CTBT today is far more different than what was anticipated during the negotiation. We have proven again that the treaty is verifiable. What next is what the international community wants to do with this treaty? You tell us? If we are serious about it, let's find the means to move on it. We have reached a level of maturity for this organisation for its international monitoring system in a way that no one could even think of. The Secretary [name 00:37:22] and I quote him that the CTBT and its international monitoring system is one of the greatest achievements of the modern world.

If we said so let's make it a reality. If we answered those two questions I think the treaty will enter into force. But I had a dream; I shared it with Anita Freed. For some reason my optimism pushed me to a dream whereby I woke up one morning and said that I was called by Rose and said that the US will ratify on the 26th of the March, 2016.

BRAIN FINLAY

Write that down. March 26, 2016.

DR. LASSINA ZERBO

And apparently that is Anita's father's birthday. What a coincidence. So let's hope?

BRIAN FINLAY

General will it be a Thursday.

FRANK KLOTZ

I hope your dream comes true. It is very difficult to predict when it will enter into force. It should have already entered into force a long time ago. What will it take? Quite a part of what Rose said and I fully support the notion that the other ANNEX 2 states shouldn't wait for us but the reality is the United States is going to have to step up to ratify this treaty and that won't happen until 67 Senators are convinced that it is in not only our national interest but in the interest of international stability that this treaty enters into force.

They should have come to that decision a long time ago. Hopefully with the education effort we can take and as others show good example they will come around to that.

BRAIN FINLAY

Okay thank you. So I would like to turn to the audience for questions as well. I do have two requests to anyone that does ask a question. One I would like you to for the benefit of our panellists please do identify yourself and your affiliation and also please do keep your questions in the form of the questions. If your question lasts longer than 20 seconds I will interrupt you. So with that Vicki [name 00:39:32].

VICKI

Thank you. Executive Secretary Zerbo I want to ask you a question about these other ANNEX 2 states. I think we have all heard this so-called conventional wisdom that until the United States ratifies we are not going to unlock progress with the others. And we have also heard now in controversy that if fact progress is occurring. Can you talk about what are the other steps states can take that are ANNEX 2 states that are remaining that are before signature even on the treaty? Are there other ways of engaging and getting to know today's CTBT that is before signature.

DR. LASSINA ZERBO

Thank you. I mean I think you have heard already it is not about the US. Because I take the eight remaining countries the same way. There is no 800 lbs goodie line or 250 lbs goodie line because the ratification of the each of the eight remaining countries necessary for the enforce of the CTBT. When the US will ratify, apart from my dream, I think Rose and her team are doing a fantastic job in educating. And the only thing we can do is to provide whatever they need to help the education progress in the US. And eventually proceed to the ratification when the situation is ready because there is one mistake we shouldn't do, if you rush and then we fail we put the treaty 60 years back. And we don't want that so we have to make sure we get this treaty ratification in the way where we sure that we are getting it and we have to put all needs to that effect.

With Israel I remain optimistic. Because Ambassador Merav talked about the three points, when I met the foreign minister last year, the Minister of Intelligence those were the three points that they were talking about. Mind you those three points are probably the same in the region. If you go to Egypt they will talk about the same three points. What we have to do is to work to deal with concern related to those three points and this is what I have been doing. I will give you an example. We talk about coverage; we have reached a level where we have to test the system to do the full scale testing. And then we talk about turning for a period of the test some of the axillary sized station into primary meaning. We have stations that are not sending data continuously.

But we can turn them for the purpose of the test in a way where cover reason why we don't have primary seismic station. This is an exercise that we are ready to do during the full scale testing. Second, she talked about I mean the perception of isolation that one can talk. I don't believe in isolation. We are organising a workshop in Israel as part of the lesson learned of the integrated field exercise in Jordan. That seems to have been a success. We are doing this because we believe that if after an exercise in Jordan we can do a lesson learned in Israel we are sending a message to this region and this is what we have to do to engage everyone in that region. We are dealing with that isolation issue. The executive council issue, I will turn to Merav and say, but let's get the treaty into force and then we can deal with the executive council because there has been a simulation on this issue.

And I share that I have been working very closely with Merav and then they have been very constructive in their discussion with me. And it is true my optimist still leads me to believe that they might be one of the first countries of the ANNEX 2. I could be wrong but I'm allowed to dream. So we talk about India, Pakistan for instance. Pakistan is an observer to the CTBT. I mean many people don't know that. An observer to the status gives you already the first step to understanding what we do prior to even thinking about signing and/or ratifying the CTBT. And we have been working closely with a scientist expert from Pakistan and then come to us, a series of science and technology conferences. I was fortunate to meet half a dozen of Pakistan journalists two weeks ago in my office.

It was an informal discussion for more than an hour. I think it was a way to talk to each other. I was joking about it. I said I didn't hear anybody sneezing, so meaning you don't have to be

allergic to the CTBT. And this is what I am going to tell others as well. India, one of my assistants visited India. It is still my intention to see how I can engage telling them look I took over this wonderful organisation and its international monitoring system and I want to brief you guys on what it is. Where it came from and then where we are going.

We have to be able to find a platform where we can discuss those issues without forcing anybody into his own domestic issue and I'm ready to do that with India. North Korea, I met them last year in Russia. Foreign Minister Lavrov, while confirming to me Russia's commitment to the CTBT did tell me that he is ready to engage North Korea in this issue. My discussion with them, I mean it took half-an-hour, but half-an-hour that was very constructive and let's hope that one day in the near future North Korea will understand where we come from and join the CTBT. But if they could observe a monitorial that will be a good start.

Iran is a certified station. Iran is participating in our working and I agree with Merav I would have loved to see the Iran ratification of the CTBT be part of the negotiation. The five plus one. Because I don't believe that we should continue missing opportunities. Syria was the case and I hope it's true if there is a deal. It will help the CTBT, but if Iran wants to prove to the international community that its program is truly for peaceful reasons, what an opportunity to ratify the CTBT. And give this as an assurance of peace. That is what I will say about the eight remaining countries. Thank you.

BRIAN FINLAY

Thank you sir. I'd like to come back to you on both DPRK and Iran but why don't we go over here first.

ANDRIES

Executive director of Bertec. Rose I must say you reminded me of Nelson Mandela when he said everything seems impossible until it is done. And it is good to see that someone else is adhering to that principal. Now my questions are to Lassina. Number one the CTBTO is in provisional application, provisional stages at the moment. Being built up. If the decision were to move to full scale operations tomorrow, would you be ready? And if not how much time would you actually need to make treaty operational? The second question is if we are not seeing entry into force in the foreseeable future, what steps are being taken at the moment to safeguard this valuable investment that members of states have already made into the international monitoring system. Thank you.

BRIAN FINLAY

Thank you. Rose there can be worse analogies' to Nelson Mandela, you should take that as a compliment. Put it on your résumé.

ROSE GOTTEMOELLER

No I am deeply moved by that. Thank you.

DR. LASSINA ZERBO

Provisional, let me first say that we anything today than provisional. Because the provision nature say that we should not work 24/7 but I challenge anybody in this room. For us to be able to give a briefing 10:00 o'clock in the morning after a test that happened overnight, somebody must have worked okay. So we are in effect doing that work silently to show the operation nature of the CTBT of today. It is true we talk about provisional operation, full scale testing

meaning testing 24/7. 24/7 does not mean answering to force. Answering to force means 24/7. So there is a game and a chicken in that situation where people say hey guys, you might be ready to test fully the system but you not into force yet. But Keagan and I were joking; he was using the analogy of a racing car because that is his generation. I was using an analogy of aircraft. You design an aircraft, you build it and then before you even send it commercial you have to test it. And to test it you have to fly a bit, even if you won't fly commercially.

And this is where the CTBT is today, we have reached a level of the progressive commissioning plan of the CTBT and its international monitoring system where we go to do 24/7. We have got to test the system. To test it there were some technical specifications that led us to reach that level and this answers your question. We are ready because we now need the implantation of that progressive plan to be able to test the system fully by 2016, 2017. And we are ready for that provided that our State signatory give us the political mandate. In fact, the political mandate is there but it is all about how people perceive the word provisional and how we move onto the full scale testing and I'll call upon some leadership there to let us move in on that.

Step towards that, we have that because we are the medium term strategy that laid out how we will move from the progressive commissioning plant to achieving 24/7 and then to be ready to validate the system because that is the key point. We have to validate the system after testing before we can say yes the requirement for answering to force are fully in place. It took us 15 years to reach that level. A level that was anticipated to be reached in six months. That tell you how the work has gone in the CTBT.

BRIAN FINLAY

Okay, thank you sir. We will go from the far side.

JEFF NOBES

At the recently renamed Middleberry Institute of International studies. But still in California. I really agree with something that Rose said and it prompts a question. Rose you observed that getting the CTBT ratified and entered into force by ratifications in all the holdout states would probably take a lot of public support and I might add to that maybe even some active grassroots mobilization and campaigning to put pressure on legislators.

Thinking historically that the context today is very different from earlier realms of Test Ban Consideration. When this issue first came onto the agenda it was 1950s, it was atmospheric testing, it was a public health scare because of radio activity and fallout. Very easy to mobilise people to protest that. The issue came back in the 1980s and it was really the tail end of the nuclear freeze movement where there was the big fear of the – when the Cold War between the US and the Soviet Union, you had the nuclear freeze proposal and when that sort of failed to go, the idea that well maybe we can still get a CTBT was sort of the last piece of that that people tried to push through. And that was picked up positively by Migal Gorbachev who offered a very lengthy nuclear testing moratorium.

So historically the grassroots for the Test Ban has come around spheres of global nuclear war and things that were part of the US – Soviet relationship and we don't live in that world anymore. So my question is really for all the panellists and our moderator too if you want to weight in. But what would you suggest is talking points today that are arguments that might get the public to see real stakes in this and to be positively supportive of why we need to ratify the CBTB?

ROSE GOTTEMOELLER

Maybe I'll start. Because honestly I agree with you that the legacy of nuclear testing for many people is not vivid. But in certain states of our union where nuclear testing occurred, and by the way did you know that, some of you know quite surely that places like Mississippi were sites of nuclear tests. Sites or states where nuclear testing occurred or that were downwind of the nuclear test site. These issues are still quite vivid to the populations there and including generations in some cases you remember grandfather's flock of sheep being lost because their faces developed blisters one day and they all died. You know those memories are still very vivid and so to begin with we need to call forth at the grassroots the memories that are out there and then build on that legacy to develop a wider awareness among the US public as to what the issues are with nuclear testing and to develop support. I think that obviously we were in some of those cases talking about the downsides of atmospheric testing and you are quite right, the [unclear 00:52:53] and milk you know getting into babies bones. Those were issues that were extraordinarily vivid for mothers and families in the 50s and 60s and obviously it has been years since we have had atmospheric testing to be concerned about.

So there are some nuances there but nevertheless I think there is enough of a vivid picture there that we can develop grassroots support on that basis. So that is the set of building blocks that we are working on right now.

JEFF NOBES

So Ambassador, how do you talk about the Test Ban to your domestic institutes?

MERAV ZAFARY-ODIZ

Well, I guess my talking points are basically directed at middle eastern countries and there is essentially two. One is to say don't link the CTBT to the NPT. These are two very different treaties. I think we can go ahead and advance CTBT entry into force regardless of what happens on the MPT front and certainly you don't link it to Israel becoming a member of the MPT. I think that is not constructive or helpful and the second talking point goes mainly to Iran to say that it will be a part of your attempt to convince the international community that your program is strictly for peaceful purposes. We doubt it. I think it will be lacking.

BRIAN FINLAY

Unless you gentleman are desperate to weight in I'm going to go and take the next question.

FRANK KLOTZ

I am going to say one thing if I could Brian. I think part of it again is we talked about it earlier, is making sure that everyone, both in decision-making circles but also in the public clearly understands the enormous success of our stockpile stewardship program. You have heard Secretary [name 00:54:37], you have heard us a NNSA talk a lot about that in the last several months. I think you will hear us talk about it even more in the months to come.

BRIAN FINLAY

Thanks General. Sir?

JOEL FORRESTER

Good afternoon, Specific North West National Laboratory. Currently on assignment at NNSA. There is certainly in the US at least an acknowledged age gap, both on the designer side and the researcher side. And we have heard a lot about recruitment and we have talked about that for

many years. I'm wondering if, especially General Klotz and Ambassador Gottemoeller if you can address, or speak to what has planned, if anything, to address specifically succession planning. Young folks moving up into international diplomacy and representation positions.

BRIAN FINLAY

General, why don't we start with you?

FRANK KLOTZ

That is a very good question and my response to Brian's question earlier had to do with largely with our laboratories and production facilities but I think you touched on a very important point. There also needs to be an education of the successor generation in terms of policy. For those of us who came of age in the Cold War, you know there were leading universities in this country and overseas, in the UK where I went to school. There were very strong programs on strategic studies, military history and the like. And it seems as if at the end of the Cold War we just sort of let that atrophy away and I'm delighted to see in a number of institutions, including some here in Washington DC that strategic studies are coming back in as a discipline. I will let Rose speak as to how you do that for you know officials within the State Department and in the rest of the inner agency. I think that you are hitting on a very important point. It is more than just the science and the engineering it is also an understanding of the policy.

ROSE GOTTEMOELLER

Just very briefly you know I have not found dearth of talent. There are a lot of very talented and knowledgeable young people coming out places like Monterey Institute. I saw Bill Potter somewhere here in the room and George Tec, the school, people are really – it is maybe not as wide spread as it was in the Cold War years but there is some very quality young people coming out. I wish I could hire them all. But what we are facing in government is partially just budgetary issues. But partially also a very sporadic hiring system. And I am very happy to tell you that Secretary Kerry has been very supportive in the Department of State of trying to get our hiring system more flexible so we can deal with a generational change that is occurring. Frank mentioned over 50% eligible for retirement. I'm facing the same thing in many of my bureaus in the Department of State. I am going to need to replace a lot of people in the coming years and so we need to get our system into shape so that we can bring some of this young talent on. Oh there is Bill right there. He is in advertisement.

FRANK KLOTZ

If I could have a two finger. There is a lot of pressure to bring down the number of federal employees. But if you are going to do some succession planning you need some slack in there. because you need to bring on new people which may bump up the total number of federal employees that you have. But you need to have that to have that bump up for however long it takes you know to professionally develop the incoming people there. And that I think is a point that is sometimes lost as we look at sort of the projections of how many federal employees a particular bureau or department can have.

JOEL FORRESTER

Ambassador, Dr. Zerbo to you find, talk about your respective contacts at an international organisations and your domestic contents. It would be the ability to incentivise new generations to enter the spaces of this challenge.

DR. LASSINA ZERBO

I think we are doing a lot through our capacity building and training process. I think one of the successors for us is to bring people from the developing world to get acquainted with the technology for nuclear test monitoring. You will be surprised at the CTBT today we have nearly 20% of Africa. Why? Because they get inspired by some of us who have been there for so long. And then they want to know about the sensitive issue that was perceived to be the issue of the P5. Okay, that is a success already.

If I move to the group of 7 to 7, the developing world we are doing a lot in Latin America. We have a good number. We are doing a lot in South East Asia. We are bringing people from as far as Vanuatu to be part of our working group B which is a technical framework for a CTBT. And then we have a young intern from [name 00:59:56] Institute. I think I see many of them here. They have all been a part of our system. Part of the framework. They come as intern but we can't employ them all. We have to work with them in a way where they get experience within the CTBT and serve better other institutions that are dealing with non-proliferation and disarmament. And to that effect I think we are successful and we are trying to do more and more. But we are doing more with less. I don't want to go into budget. And I am sure you don't want that.

JOEL FORRESTER

Merav do you care to weigh in?

MERAV ZAFARY-ODIZ

No.

BRIAN FINLAY

So let's go over here, Mark.

MARK FITZPATRICK

Thank you, Mark Fitzpatrick from the International Institute for Strategic studies in London. I have a sense sometimes that CTBT discussions place a disproportionately light emphasis on the country that is the biggest problem. The country that has neither signed nor have any national moratorium nor any norm regarding testing. I was pleased Lassina that you had a 30 minute conversation in Moscow about Russian efforts trying to persuade North Korea. But I'm wondering if there is not more to be done to put a focus on this most difficult problem, the country, North Korea that is actually preparing again for another test of this century.

FRANK KLOTZ

It is a bit of an open-ended question. Brian maybe you yourself have some ideas you could share?

BRIAN FINLAY

It is a great question. Why don't we go down the panel? North Korea, where did we start with that? General you have been nominated.

FRANK KLOTZ

It is a policy issue. I will stick to the content.

DR. LASSINA ZERBO

I don't know what to say. North Korea, look I said I am ready to engage North Korea in a discussion of the CTBT, but I think what is more important for us is as Merav pointed out when there are issues or discussions regarding North Korea, the CTBT should be right at the beginning. This is the only country that tested in the 21st century. Sometimes I get shocked to see a debate about what is a nuclear program in North Korea. And I can tell you another story, I was in New York, I think last year sometime when there was a preparatory work for the MPT. And at the same week where we were talking about the possibility of the fourth test by North Korea. We opened a meeting and no one mentioned the CTBT. Those are missed opportunities, because if you don't mention the CTBT in the framework of North Korea carrying the fourth test, it means you are disconnecting the thing completely and that is my problem. I think we should look at issues in an integrated manner.

I hesitate to disagree with my friend, Merav, when she talk about disconnecting the CTBT from the MPT. For me they all go together. We moving on to this review conference that is coming soon. You heard the French president. He said that for France as they move towards the MPT review conference the CTBT is their first priority. Why? I think today the world tends to agree in something, the CTBT. So why don't we use it as a basis to move on the MPT and this is something that I've discussed with the current chair person and it is my hope that in that framework there will be some language that will help this treaty to move forward and get North Korea to at least adhere to a moratorium where they say they agree not to test. And then we could have that process to engage with the CTBT again.

BRAIN FINLAY

Mark, you get a gold star for the question.

ROSE GOTTEMOELLER

Actually could I just add one thing? Because I was very glad that Lassina brought up the necessity of always placing the CTBT on the table so to speak and making sure that people are paying attention to it but I did want to question the premise of your question, which is somehow that nuclear testing if I understood you correctly in North Korea doesn't get adequate attention. It is always the first thing that we talk about is our concern about the testing that is going on in North Korea and that they are the only state in this century that has tested. And so it is front and centre in the concerns that we express about North Korea as we talk about all the concerns that we have with them falling away from the non-proliferation treaty. So I agree with Lassina's point that we have to continue to put CTBT in the frame. But I don't want anyone to go away with the impression that somehow the North Korean test program is not front and centre in the concerns we expressed to and about North Korea.

BRIAN FINLAY

Thank you Rose. Sir?

CHARLES NEWSTEAD

State Department, I work for Rose Gottemoeller many levels down so if I say something wrong she will let me know. This is a question ...

ROSE GOTTEMOELLER

I wouldn't presume Charlie.

CHARLES NEWSTEAD

Oh thank you. I've know Rose for many years. This is actually not a question for you, but for General Klotz. I am recalling your remark about stockpile stewardship. It certainly has been a great success. And the reason, partially, that it was because of the NIF facility, the National Ignition Facility, at Livermore. Now the French are building an equivalent facility called Lazer Mega Jewel - LMJ at Bordor. And the Chinese talk about Divine Light 3 and Divine Light 4.

And are talking about a tremendous amount of money going into that facility or those facilities. Unfortunately in the United States there has been some misunderstanding of where the NIF program is and what its value is and there is a little hiccup that occurred because we were supposed to have reached ignition. But unfortunately you cannot hurry physics so we haven't got there yet but I have every confidence that we will. But because of that, certain people in congress have cut the funding for Livermore and cut the funding for NIF and more importantly have cut the support for scientific research. And it is as General Klotz has said, to interest the young scientist working for him he needs to be able to give them some fundamental research to do and NIF is a very fine facility to do that. It can explore the interior of stars.

It can look into astrophysical phenomena and actually that is what the other countries are intending to do. I am just wondering what the possibilities are Sir, how do you see NIF evolving and how do you see cooperation with the French, which I think we are doing, but also with the Chinese. Since they are coming along. Gangbusters as it appears.

BRIAN FINLAY

Thank you for that. We will determine on the basis of that question. I will report back to everyone if his desk is cleared out tomorrow on the basis of that question Rose, but General please.

FRANK KLOTZ

No with Charlie's excellent explanation of what NIF does and why it is important, if you clear out his desk he is more than welcome to come work with us. Starting tomorrow. No, NIF serves a lot of different purposes and I think you've laid them out. It has a fundamental role in stockpile stewardship but it is also a very important scientific instrument that is used by a lot of different users, both in the Department of Energy, other government departments, but also a university and various [] show that. There has been new leadership placed for the national ignition facility out in Livermore in California. Very impressed with the work they are doing. They are increasing the shot rate, that is the number of experiments which are done in NIF dramatically, essentially doubling it by the way in which they do their work. The way in which they setup, the way which they do maintain. So this is a facility that is going to be extraordinarily important to not only want we do in NNSA, but for a number of different scientific endeavours.

BRIAN FINLAY

Thanks General.

CHARLES NEWSTEAD

Can I just briefly follow-up to say that the new management at NIF and at Livermore is doing a marvellous job and I'm very impressed with it. But the problem is your funding is going to be cut or I think it has been cut. So what are the prospects for continuing this good work?

FRANK KLOTZ

The challenge that we are going to have, the challenge every government department is going to have as we move forward in the next several weeks and months is what is going to happen as far as the Budget Control Act is concerned and sequestration. And quite frankly, I think we have been very open across the executive branches. We have gone up and testified before congress about you know about the very significant cuts that will have to be made across many different programs if indeed this notice of sequestration isn't reworked So I worry about the funding for NIF and I worry about the funding for other programs as well.

MUHAMMED HUSIEN

From College of Canada. Definitely we are very interested with the [unclear] of Middle East from any mass destructive weapons, especially nuclear weapons. So in light of this panel I would like to know how do you see the commitment of the countries in the Middle East with certain commitments and apply the rules and treaties of IAEA? And open the facilities to inspections to all Middle East or the considered country in the Middle East. Thank you.

BRIAN FINLAY

So Madam Ambassador would you care to comment. Rose I wonder if you may also have a stake in this and Dr. Zerbo as well if you might be interested in weighing in. Ambassador?

MERAV ZAFARY-ODIZ

Okay, if I understand the question correctly, it relates to countries in the Middle East following their commitments and they relate to IAEA safeguards. Well I think I mentioned in my remarks earlier that we think that the concept of IAEA safeguard in the Middle East or non-proliferation commitments have failed. Because four cases out of five have recognised nine compliant cases with the safeguards obligations are in the Middle East or have been in the Middle East.

Starting with Iraq and Libya, Syria and Iran. So from our perspective this is a very problematic region in terms of regimes who don't adhere to their own commitments. I mean they sign treaties but under the guise of their membership they do other things. So from our perspective in future when it will be possible to realise the creation of a double free zone. I think we are very far from that but when that happens I think what we envisage, this has been our vision, is to have regional arrangement for verification. To have mutual verification arrangements rather than international verification and this is in light of the bad experience or safeguards implementation in the Middle East.

BRIAN FINLAY

Madam Under Secretary, maybe rather than unless you are burning to jump in on this issue?

ROSE GOTTEMOELLER

I just wanted to say one thing and it is about the role of the additional protocol. I mean clearly after the experiences that we have had some of them have recounted Iraq and so forth. We did, I think, a very good thing as an international community and that was to devise the additional protocol and so we are consistently urging states across all regions of the world but states the Middle East as well to enter into the additional protocol and to continue to energise and reenergise their work with the international atomic energy agency. So bottom line is we don't view this as hopeless but the Ambassador is quite right to point out problems that there have been in the past.

BRIAN FINLAY

So with just two minutes remaining I am going to turn to the last question. Kimble I didn't know you were interested in this issue?

DARRYL KIMBALL

I continue to be interested. Darryl Kimball with the Arms Control Association. Thanks everyone. Thank you everyone for your remarks. A question for Rose Gottemoeller. In London, the P5 meeting, the P5 statement referenced discussions amongst P5 on transparency measures relating to CT verification. I don't have it memorised. But could you elaborate a bit more on the nature of those discussions, the purpose, and also if we might look forward to something in a P5 statement relating to the CTBT ahead of the MPT review conference?

ROSE GOTTEMOELLER

On that matter I dare say yes although the work is still being done on what will be in the P5 statement for the MPT review conference. But we have a very exciting project going on inside the P5 with regard to verification. Our group that meets and in fact just met last week. It meets at the time that working group B meets but it is a very exciting group that is looking at some specific technical matters that the P5 can work on together in order to contribute and further enrich and strengthen the verification regime for the comprehensive Test Ban Treaties. So it is not an accident that it meets around the same time that working group B works because we want them to be really a symbiotic kind of system where the P5 workers contributing to what's going on in working group B. but it is a very exciting effort and is producing good results. And by the way, a small advertisement for our verification initiative that just took off at the end of last week with a launch meeting. Again this is our initiative to get the non-nuclear weapon states and nuclear weapon states working together on verification measures, including technical measures to contribute to disarmament verification.

So I think there is a sort of richness that is coming into the work that is being done internationally now on verification and monitoring including on a technical level and I welcome it very much. But that was the gist or that is what underlay of the statement that was made in London.

BRIAN FINLAY

So, before I invite you to join me in thanking our panellists, I believe Toby has a brief announcement.