

Transcript of Interview with George Bunn
Conducted by Thomas Shea and Danielle Peterson
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Tom: Hello, my name is Tom Shea of Pacific Northwest National Laboratory. We're here today as a part of a project that is being carried out by the National Nuclear Security Administration on the foundations on international safeguards. To my mind there are two fundamental miracles that exist when we look at how the problems of today are being addressed. The first of those is that there is a nuclear nonproliferation regime, which is centered upon the NPT, which is the Treaty for the nonproliferation of nuclear weapons. How that treaty came about is part of our discussion today. Another part of that is that the Treaty calls for the activities in the safeguards areas to be implemented by the international Atomic Energy Agency. Over the years that organization has performed remarkably well.

Danielle: How all of this came about is the topic of our discussion today. My name is Danielle Peterson, also of Pacific Northwest National Laboratory and it is my distinct pleasure to introduce George Bunn, our distinguished guest here today. George, if you could be so kind as to give a short introduction of yourself and give a little bit of your own history and how it is that you came to be involved with the nuclear nonproliferation treaty.

George: Okay, thank you, Danielle. I got involved historically as a reaction to my being saved by the nuclear weapons used in World War II. I was in the Navy in WWII I would have been on a attack transport ship which carried troops to battles. The one I came, got on, at the end of the war, the war having been stopped by the two bombs, would have been involved in the battle of Japan. That would have been an invasion of Japan in which ships such as mine carried troops to near the shore and they were put in smaller boats to go ashore. Well those ships were the ones that the suicidal dive bombers from Japan aimed at. The kamikazi dive bombers they were called. And when I learned this instead of carrying troops to Japan my ship ended up carrying troops back from the Philippines to the west coast when the war was over. And when I got home, feeling guilty about this, I was sent by my father, who had been at the State Department during WWII. The proposal from Acheson and Lilienthal for controlling nuclear weapons in the world. A monopoly, there would be an international monopoly on nuclear weapons. They would only be used subject to the decision of the Security Council. And, this had been prepared part, I suppose, as feelings of guilt by the United States. Certainly feelings like mine that we ought to do something about this problem. And as a result of this plan President Truman appointed Bernard Baruch to represent he United States in a proceeding at the United Nations to deal with how to control nuclear weapons. Baruch changed the plan significantly from what Acheson and Lilienthal had proposed. But it wasn't planned to give the UN a monopoly on nuclear weapons or monopoly control over nuclear weapons. And I read about this, that contributed to my concern I guess, or my worries about the bomb, and I was then had gone back to school under the GI bill and was in the physics

department at the University of Wisconsin. I went off to law school to help to do work on international negotiations, or at least I hoped that's what I would learn about. It turned out that the guy who taught international negotiations at Columbia has gone to Washington to work on at the State Department. Anyway, I, when I got through law school my first job was at the U.S. Atomic Energy Agency. And later on at the beginning of the Kennedy administration I became involved in this efforts of the Kennedy administration to control nuclear weapons. And Kennedy appointed a special assistance named John McCloy to deal with arms and disarmament and I went to work for McCloy. And one the things I did first after helping to draft legislation to create a new agency to deal with this issue of arms control and disarmament, one of the things I did to work on nuclear nonproliferation and indeed to draft a proposed treaty on general and complete disarmament in a peaceful world which had in it vision for preventing the proliferation of nuclear weapons from one country to another. And at the conference at which that treaty was proposed, it was 1962, the Geneva 18 nation disarmament conference, the then secretary of state Dean Rusk talked the then Soviet foreign minister Gromyko about nuclear nonproliferation. Rusk proposed a very simple agreement, U.S.-Soviet agreement, to start with, which would prohibit each side from transferring nuclear weapons to the other side, to another country, excuse me. And Gromyko's response to that was, will it require the, that is to take states to take the nuclear weapons that are deployed in Germany, owned by the United States, back to the United States, number one. Number two, would it preclude what was then called Multilateral Nuclear Force. This was an idea that had come out of the Eisenhower administration to have a force, Naval force, of allied ships, originally they wanted them to be nuclear submarines, and which would have missiles with nuclear warheads on them. So that all the allies could feel that they were contributing, that they were part of this nuclear defense of NATO. That was anathema to the Soviet Union. So that was the other condition that Gromyko said would preclude any agreement with the United States. The United States would agree not to do that in order for there to be any agreement.

Tom: George. So we are seeing that in the times during the Cold War the possibilities for creating the Treaty for nonproliferation were in part in the discussions that were between the superpowers but the actual treaty for nonproliferation originated with an Irish proposal. Perhaps you could go back and say how that came about and how that finally led to making progress toward the commencement of negotiations.

George: Good. Right. The Irish proposal came at the UN General Assembly from the Prime Minister of Ireland and there were several variations of it. The one that was finally most successful in 1961, the first year of the Kennedy administration, and the U.S. was a little more cooperative with the Soviet Union in terms of drafting I think, that was adopted unanimously and that called for a treaty which would prevent the spread of nuclear weapons from one country to another, which would prohibit the countries that had nuclear weapons, and by then that was the U.S. and Britain, and the Soviet Union, prevent those countries from transferring their nuclear weapons to any other country. It was focused on countries though it did say something about, or other, I've forgotten the language, but it did say prohibit transfer of nuclear weapons to any other facility, any other entity, which would have included terrorists.

Tom: When does the actual beginning of the actual NPT negotiations begin, then? This was at the 18-nation disarmament commission?

George: Yes, at that committee, in Geneva. And that started in 1962. And that's where Rusk and Gromyko spoke at the beginning of that conference. And there was no prospect of an agreement between the two at that time. We did talk about a proposal for general and complete disarmament, which had nonproliferation provisions in it, but the nonproliferation treaty idea, the idea of having a treaty that prevented countries from giving up their nuclear weapons or other countries from acquiring nuclear weapons didn't get very far for a while and that was because of the United States and others continued to support the idea of a multilateral nuclear force. That was the primary reason. Another from the Soviet point of view was the stationing of U.S. nuclear weapons in Germany particularly, and some other NATO countries, but Germany was the concern of the Soviets.

Danielle: So, George, what was responsible for moving the disarmament treaty or text of a treaty looking specifically at disarmament and moving it into a larger field which became the nuclear nonproliferation treaty?

George: Well, it was moved into the nonproliferation treaty. Oh, I see what you mean. That comes later. Okay. The treaty, the nonproliferation treaty has a provision, Article 6, calling for general and complete disarmament, and that's what you are referring to I think.

Danielle: Perhaps I should rephrase my question. And that is, how did this initial meeting in 1962 in Geneva...what changes occurred or what was happening to move those negotiations more closely to what would then become the NPT? How did that process evolve?

George: It took a long time. Because as long as the United States and its, some of its, European allies were supporting the idea of a multilateral force, the Soviet's weren't interested. They were even still insisting on Gromyko's point about stationing, you couldn't station nuclear weapons, U.S. nuclear weapons, in Germany, even though they were controlled by U.S. troops and not under the supervision of the Germans at all. That he found intolerable, or the Soviets found intolerable. Well, what happened is that for several years we were able to get nowhere. Until, finally, there were elections in two of the NATO countries that had wanted to have this multilateral force. One was Germany and the result was to put Willy Brandt as the foreign minister of Germany and he was much more interested in the nonproliferation treaty than the conservatives who had been in sole control in Germany, the FRG. No, I've forgotten what the name of the conservative party was. Anyway, when that election in Germany produced Willie Braunt as foreign minister the Germans became much more cooperative and interested in this project and less interested in the multilateral force. They had been one of the strong proponents of the multilateral force. And an election took place in Britain too and again the conservatives were replaced by the labor party it's called in Britain and the new labor

party was also more interested in nonproliferation than in a multilateral force. And it was in our government it took a while to change views also because there has been strong proponents of the multilateral force in the State Department and they had convinced Secretary of State Rusk and President Johnson that this was a good thing, this force. But as these two changes in government occurred in Britain and in Germany the President began to see that it didn't make much sense to support the multilateral force if that was precluding a nonproliferation treaty, which he put second but he still supported a nonproliferation treaty. So, finally, in 1964 I think it was, 1965, the U.S. supported a nonproliferation treaty, supported the idea of a nonproliferation treaty and gave up on the multilateral force. So the treaty could prohibit anything like a multilateral force. And that was the beginning of serious negotiations at Geneva on the NPT.

Tom: That was the time at which the United States and the Soviet Union, at the height of the Cold War found common cause in effect. They had different reasons perhaps for wanting this. One was the Soviet preoccupation with Germany and its potential acquisition of control over or even possession of nuclear weapons, against the larger context proliferation run amuck, shall we say.

George: Yeah, yeah. This result of this change was that we could, were able to, negotiate Articles 1 and 2 of the treaty. Article 1 says that the nuclear weapons states, those with nuclear weapons, will not transfer them to anyone, any state, any recipient whatsoever is the language, which would include terrorists today. And Article 2 was the promise of the non-nuclear weapons states who signed the treaty not to acquire nuclear weapons. When those two articles were pretty well resolved, and that took several years, back and forth and disagreement and agreement, the attention turned to what's called Article 3 of the treaty, its verification, safeguards. How do you determine that a non-nuclear weapon state is not acquiring nuclear weapons? What inspections do you have to determine that that's true? You could also say, well, the treaty prohibits nuclear weapons states from transferring nuclear weapons to non-nuclear weapons states. How do you verify that? I mean that can be done secretly so easily there was no prospect –

Tom: There is some suspicion that that may have happened on more than one occasion.

George: That's true, that's true. But that was something that was not verified and we didn't even try but then most of the negotiations were Americans talking to Soviets, Russians. So neither one of them wanted to deal with that unless they could see an easy way to do it.

Tom: The treaty itself under the principles that were agreed early on that would guide the negotiation of the treaty one of the principles, Principle D as it was, says that "there should be acceptable and workable provisions to ensure the effectiveness of the treaty." That's a rather general kind of statement that doesn't suggest inspections or on-site verification. How was that, how did this transition come to being something as rigorous as is in the current language of the treaty?

George: It's a long story. When we had gotten agreement on the first two articles we really thought about how we do this and the American and Soviet governments and their negotiators in Geneva knew about the International Atomic Energy Agency, call it the IAEA. The safeguards system was the only international nuclear inspection system that both countries had participated in creating, in its creation. The American officials also knew about Euratom, that's European Atomic Energy Agency, in short, Euratom. That was joined, a treaty joined by 6 European countries, then called the common market. And they had created, actually, during the Eisenhower administration part of the Atoms for Peace program was to provide, to help the Europeans to acquire nuclear reactors and a lot of effort was, the European did much of this themselves of course, the French were pretty well along and the British were pretty well along. But the United States helped a lot in creating Euratom. But it was an agency which inspected the reactors of the countries that had nuclear reactors and of course that included France in those days, and the Netherlands and Belgium.

Danielle: George, were these inspection for safety purposes or were they to protect against diversion of material which in later years the idea of an inspection became to define?

George: I don't know that, I think that Euratom inspections may have been in part for safety purposes but the problem for us was not with that particular requirement as far as it was important but the problem for us was, what are you going to do about inspection to see, to make sure they're not using the nuclear material to make bombs. And if Euratom's doing that, fine, but Euratom won't satisfy that Soviet Union. Now I'll tell you a little bit about how that happened, how that was resolved finally. It was very difficult. The U.S. government had been in touch with Euratom members about the inspection safeguards problem but had been unable to achieve any consensus among them on what NPT inspection provisions, what this provision should say. By that time the Belgian and Netherlands representative at Geneva supported the negotiation of an NPT and the Italian and German representatives (Italy had a representative at the Conference; the Germans had a representative but not at the Conference) were very doubtful about any ban on nuclear weapons – they both had ambitions to have nuclear weapons themselves someday, I think. And France under General DeGaulle stayed aloof of all of these negotiations. So it was, in Euratom it was a tie. Two against the two opposed and Luxembourg didn't participate as far as I recall. And we had, we tried to draft inspection provisions calling for inspections in the territories of non-nuclear weapon countries but we couldn't get any consensus with the Euratom countries. They were adamantly, well some of them were opposed and they couldn't achieve a consensus themselves. As a result, I'll read the first U.S. draft on inspections, which was submitted by the U.S. representative: "Each of the States party to this treaty undertakes to cooperate in facilitating the application of International Atomic Energy Agency or equivalent international safeguards on all peaceful nuclear activities." Note that doesn't require any safeguards, it only says to undertake to facilitate to undertake the application. And it doesn't even limit it to IAEA safeguards when it doesn't require it. It's IAEA or equivalent international safeguards. The best we could get cleared with our Euratom allies. We couldn't make a proposal at Geneva on something like this that effected

Euratom allies without some kind of agreement from them or a majority of them or some way of resolving the crisis with them. So it wasn't clear, they were still debating, they couldn't achieve a consensus, so we had to put forward a statement like that and in explaining this draft to the Geneva conference the head of the U.S. delegation apologized for it. He said, "Unlike other provisions of this draft this article does not set forth precise or completely formulated obligations. It does not clearly indicate a line of policy which all parties undertake to implement. Namely, that they will help bring about the application of such safeguards to their own peaceful nuclear activities and to those of other countries. It would do that much. It does clearly indicate that much. He then pointed out that the number of countries that had begun to accept safeguards (he didn't say if they were IAEA or Euratom safeguards) on their own peaceful reactors. So we were very neutral, the United States was very neutral as between these two kinds of safeguards and Euratom couldn't take on the whole world, it was, it's membership only included the European six they called them, the common market six –

Tom: Parties to the Treaty of Rome –

George: Parties to the Treaty of Rome, yes.

Tom: So this, saying that the recognition, that there needed to be some sort of method for assuring compliance with this treaty, or actually making the nonproliferation dimensions function were widely recognized but it didn't go anywhere until the multilateral nuclear force issue had been put to bed in effect –

George: Right –

Tom: -and that came along and now the concerns were how to accommodate this regional arrangement established in Western Europe following the entry into force of the Treaty of Rome, which was 1955 or so. This was predating this period that you're talking about –

George: Right –

Tom: - and that progress over the years on the other articles was getting to the point that what was left was Article 3 and the big issue then was how this would come about. And given that this text that was offered was not even supported strongly by the United States that was putting it forward there was clearly a sort of a, in hindsight perhaps something of a signal that there was help needed here to try and resolve what this critical part of the Treaty would be. And the progress that was made after that I know that you had, that you were in the driving seat in that and I would really like you to talk about how did Article 3 come about – how did you pull this off George?

George: I wouldn't say that I was solely responsible by any means. In Geneva where the conference was and where we were talking to the Soviets on other important provisions of the Treaty, the draft Treaty, the lack of agreement on inspections produced informal technical talks on safeguards, that is inspections, between the two delegations. We had achieved quite a bit on the rest of the Treaty. We couldn't propose anything with respect

to the inspections provisions in Article 3, formally, because the Euratom countries were still in disagreement, they hadn't reached a consensus between themselves and our instructions from Washington were to not make any proposals or changes in the draft that had been submitted to the Euratom countries.

Tom: You explained that this was largely due to the fact that parts of our government were more concerned about relations with Western European countries that would be under scrutiny or would take offense at a proposal, rather than the need to move ahead on a, towards finding a common ground.

George: Yes. As I said earlier there were two very important Euratom countries that were much opposed to having IAEA inspections in Euratom territory – Germany and Italy, West Germany-

Tom: - and so the instructions from Washington were largely to protect that relationship rather than to try and draw it into question –

George: Well I think so, yes. The people in Washington had less interest – some of the people in Washington had less interest – in the nonproliferation treaty and at that time the President hadn't really come around firmly in support of the nonproliferation treaty. He was still, he had really supported the multilateral force earlier and not this treaty. And he hadn't gone far enough in support, and he was totally preoccupied with the war in Vietnam anyway. So it was very hard to get his attention.

Danielle: How much later was it that the United States came out with what is now considered the Voluntary Offer, where the United States offered to put its own peaceful nuclear facilities under safeguards, and was that strategic in terms of opening up negotiations with Euratom countries?

George: No. It came after. And it was Johnson's doing with our suggestion – that was when the Treaty was pretty well advanced and we wanted to, I think it wasn't the last word but it we had resolved pretty much the Article 3 negotiation.

Let me talk about that a little bit. Because I thought that was interesting in response to a question I got earlier. Because of the stalemate and inability of Euratom to resolve their disagreement, we decided at Geneva to see if at the lower level we could work out something. And this - the people in Washington would not have wanted this to happen particularly - but we felt we just explore this without instructions, saying that we didn't have instructions, and there were two members on each side, that is on the Soviet side two and the American side two, and I was the leader on the American side. We had gotten to know each other through originally just working on the two delegations but times had gotten better, relations had gotten better, at least at the delegation level, and we often hiked in the mountains – went together on the weekends – and talked about this. And one of the solutions, what became the language of the NPT came out of those discussions. When our director, our chief negotiator, had permitted the two of us who were members of the delegation to talk to two on the soviet delegation I developed a new

draft of Article 3, the safeguards provision, which had in it some recently negotiated language from the new nuclear weapons free zone treaty in South America, and some stuff from earlier U.S. drafts that had been suggested, and some ideas that came out the perception that - a comparison that we made - between the IAEA and Euratom, one the one hand, and certified public accountants and corporation bookkeepers on the other hand. In other words, the certified public accountants come to the corporation every year, every six months, depends on the arrangement, and check the work of the corporation bookkeepers. And we thought that something like that, why couldn't something like that work here. The IAEA wouldn't do all the inspections but it would come to Euratom countries periodically and check the results of the inspections. That was the concept anyway. And it sounded more reasonable than just having Euratom put out of business, which the European countries certainly didn't want. This appealed to a number of the Euratom countries. And so we - the two from the U.S. delegation and the two from the Soviet delegation - sat down and talked about this. We couldn't check out our draft with Washington first because we were prohibited from having any new draft, because of what was going on in Euratom countries. But we had gotten to know the two guys on the other side, on the Soviet side, pretty well. Eventually our working group came up with a draft of Article 3 - that is the verification provision, the inspection provision - of the nonproliferation treaty.

Tom: This draft, this working group, was Roland Timerbaev, and another American and another Soviet -

George: Roland had been on the walks in the mountains; he had been sent back to Moscow, maybe to report on this - I don't know. It was another Soviet, not as well known as Roland Timerbaev.

Well, we reported all this every day to the head of the delegations as the negotiations went on, and then when we got a tentative agreement - but it was at the working level between the two groups - two on one side, two on the other side - the question was what do we do with it now. We talked to the two guys on the soviet side and we said, we'll report this back as the Soviet delegation text - your text, and you can report it back and an American delegation text - our text. And that's what happened. Then the head of the delegation called Secretary of State Dean Rusk and explained exactly what had happened. And Rusk was sympathetic. And that was the beginning, well it was nine tenths of Article 3. Article 3 had to go through a mill with the Euratom countries again, and there were lots of minor things done. But this conception that Euratom would still be in existence as an inspection agency - that it would conduct most of the inspections but would be periodically checked by the IAEA inspectors, both at the office and at particular sites that needed to be inspected - that was much more tolerable to the Euratom countries. And then there was an agreement which the Euratom countries insisted on - or negotiated, arranged, thought of - which was good for them. It was that they could sign the Treaty - if we agreed and they agreed to this text and everybody else did - but they wouldn't ratify the Treaty until it worked out an arrangement between Euratom and the International atomic Energy Agency - the IAEA. So there were a lot of countries signing the Treaty in July 1st of 1968 - and a lot of Euratom countries signed - some but not all,

but - were signing on that day, but didn't ratify the Treaty, it didn't begin into effect for them until Euratom had had a long negotiation with the IAEA about what the safeguards would be in Euratom countries.

Tom: Before we get into that, George, I'm still in the negotiating period. The United States and the Soviet Union were obviously still – it was necessary to have agreement between the two superpowers at that time before anything would go forward. And then there wa several Europeans but there were also non-aligned countries that were involved in this 18-nation disarmament committee. Can you describe what they're interests were and their particular concerns in relations to this Article 3. I know they were obviously concerned with Article 4 – about the inalienable rights that they would have under this – but if you could talk a little bit about where were they on Article 3?

Who were they and where were they?

George: There were eight – let's see if I can remember them all. India and Egypt, Nigeria, in Latin America there was Mexico and Argentina, South Africa, Nigeria – that's all I remember at the moment. They were not as much interested in Article 3 by any means, as the Euratom countries. Few of them had reactors. Those that did had received their reactor under the United States' Atoms for Peace program. They were being inspected by United States inspectors and the United States was saying, well, when this all goes into effect we won't inspect anymore, the IAEA will do that. But it wasn't a big change for them. So I don't remember any of them objecting specifically to the Article 3, the inspection provisions. They participated in the debates but I don't remember any real objections to those provisions. And four of the other member of the 18-nation disarmament conference were East European that were part of the Warsaw Pact, allied with the Soviet Union, and under the control pretty much of the Soviet Union. None of them objected. They didn't speak differently from what the Soviet Union spoke.

Tom: I'm recalling reading that Argentina in particular was interested to see the inspections go beyond the non-nuclear weapons states to the weapons states, even to address questions of weapon production capabilities.

George: Right. Brazil I think it was. Yeah, I think that's right. I think Brazil was there instead of Argentina. There was an interest in a number of them to have inspections everywhere and it was clear, however, that the Soviet Union wouldn't permit any inspections on its territory. And the non-aligned countries saw that. At the same time President Johnson offered American reactors for IAEA inspections. The peaceful nuclear power producing reactors were offered – one right away and others later on – to show – and the British did that too – in order to show that they were willing to have inspections of their peaceful nuclear facilities, but not inspections of their weapons. And why that satisfied the non-aligned I don't know but I think the basic reason was that the only nuclear interest they had had come from the United States and the Atoms for Peace program. And they had already were subject to inspections and didn't find it onerous.

Tom: They were not close to having weapons capabilities themselves. It was more the question of industrialized states like Sweden and Switzerland, for example.

George: And Sweden was one of the countries, one of the 8 non-aligned, I'm remembering. And Sweden was concerned and made a special inquiry about what these inspections would consist of. And actually, the meetings were going on in Switzerland, in Geneva. Geneva was not a member of the UN, was not a member of the Conference, but made a special inquiry to the members of the Conference, which was like Sweden's. You know, what are these inspections for, if we don't join the Treaty what will that mean, and what will the inspections consist of. So that was, Sweden and Switzerland were the two, were the most pointed in terms of what the inspections would consist of. And Argentina was already involved and as you mentioned in some interest in nuclear activities by then. So those were the countries that were sufficiently advance and not totally reliant on U.S. research reactors.

Danielle: George, you also mentioned India as part of the non-aligned group. And India did not in fact sign or has ever become a member of the NPT. Can you elaborate a little bit on that relationship at the time of the Treaty?

George: Oh, sure. During the negotiations India was active. Triveti, Ambassador Triveti, was the leader of the non-aligned, in so much as they admitted there was any leader. He was one of the leaders anyway, of the 8 non-aligned countries. And a number of provisions of the Treaty are Triveti's authorship and some provisions like how you designate who's a nuclear weapons state from nations that are not. I remember Triveti playing a role in that. And India didn't oppose the Treaty then – didn't say it was going to go looking for nuclear weapons, and seemed prepared to sign the Treaty as long as it came out reasonably. Six months or a year before the end of negotiations at Geneva, Triveti went back home, somebody else came. And he was pretty silent after that. I don't remember him saying very much. I think India was already beginning - had not made a decision yet maybe - but was already beginning to think about going towards nuclear weapons. Of course India had a test, it's first test – so called peaceful nuclear explosion – was 1974. And at that time it insisted that this was for peaceful uses. And it had used a reactor – used to make the plutonium that was used for the explosion – a reactor supplied by Canada strictly for peaceful uses and it had used uranium – enriched uranium – and other things from the United States, which we provided strictly for peaceful uses.

Tom: Actually the reactor was CIRUS, C-I-R-U-S. the Cir stands for Canada- India reactor. The U.S. provided heavy water and insisted that the name of the reactor be by CIRUS. So the US on the end of it is that way. We were complicit –

George: It was heavy water, not the uranium – they used their own uranium –

Tom: It is natural uranium fueled, but heavy water moderated. And the heavy water in apt at any rate came from the United States, so we had a hand in this and I often wondered what sort of agreement – there weren't safeguards agreements in place – the

transaction took place in the 1950s, the sale – the reactor was built in the 60s and was operating during the time that negotiations were going on. So they weren't ready to test yet – had they been they might have been a sixth nuclear weapons state party to the Treaty – that's just a speculation.

George: Yeah. I know that in the United States there was tremendous anger in 1974 and that anger ultimately produced a long debate and an investigatory committee under Senator Church investigated all this and finally this produced 1978 legislation – which will have to be modified I think to permit President Bush wants it to do, if that happens.

Tom: The Nuclear Nonproliferation Act of 1978.

George: Right.

Tom: I think that at this point it would be interesting for us to look at the language of Article 3. And if you'll allow I'll read the first paragraph and then we'll talk a little bit about it. I'm reading it for the benefit of our viewers at this point. The set that we're producing will have a reference compact disc as part of it, which will include the Treaty of the text and various other documents of interest.

So Article 3 in the text of the Treaty contains four paragraphs and I'm going to read the first one and we'll talk about that and then go through the others.

(NPT Article 3, Paragraph 1 text, read verbatim)

So that's quite a substantial breakthrough in the sense of the first time a treaty had ever been put forward which included such a sweeping requirement. That a state would be obligated to put everything under this kind of a control. I would ask that, there was one thing that I know from – a you talked a little bit about it – that the Euratom states in effect signed but hesitated on ratification until they worked out the arrangement. So the provision in here that says that the Agency safeguards system up until that time was based upon documents, the latest of which was INFCIRC 66 which had been revised a couple of times and the last time in 1968. but this arrangement was suited for transfer arrangements or for voluntary submittals that a state might decide to make, but it wasn't at all picked up as part of the NPT. In effect after the Treaty was opened for signature the IAEA then went on to create a model for safeguards implementation under the NPT. And so, here is this Treaty, sort of buying the future in effect, saying countries are signing on without knowing specifically what they're going to get into. This to me is a kind of dramatic thing. Maybe you could comment on what was it, what was the sense during the negotiation in Geneva regarding this particular point?

George: Well, I think we learned through the Euratom discussions that if we didn't already know that a country could sign the Treaty without obligating itself to the Treaty. The signature under the Law of Treaties, you sign a treaty and you're supposed to have the intention of ratifying it but you're not required to ratify it. And that's what the Euratom countries were saying. That is, we will sign, but we won't ratify until there's a

satisfactory agreement between us, between Euratom, and the IAEA as to what the safeguards, the inspections, would be from the IAEA in Euratom countries.

Tom: So a state is not actually party to a treaty until it concludes its ratification under procedures according to its constitution.

George: That's right. The United States still hasn't ratified the [IAEA] Information Circular, what is it, 640 –

Tom: 540

George: 540.

Tom: It has ratified –

George: No it hasn't –

Tom: Let's see, the Senate gave it's consent –

George: It there hasn't been –

Tom: It hasn't been brought into force yet.

George: Well, it hasn't been ratified. The Senate under the constitution gives its consent to ratification. Ratification is up to the President.

Tom: Ok, that's what it takes to bring it into force then.

George: Yes. And I think the problem has been – a problem has been – that it wasn't clear exactly what facilities would be - of the Department of Energy – would be subject to inspections.

Tom: I think there's some access arrangements, rights of privacy of American citizens. There also has to be some legislation that needs to be put into place –

George: Yes, further legislation is needed. So it hasn't been ratified.

Tom: So it hasn't been ratified but it's interesting to note that the process is signature, which was easy to do, like President Clinton signed the CTBT but the ratification has never taken place. And the next step is the constitutional process of ratification which in our case in the United States the Senate has the constitutional requirement for offering advice and consent on treaties, and that process has been completed, was completed on the treaty on our voluntary safeguards agreement but – and the advice and consent was given on the Additional Protocol, the INFCIRC 540 but as yet that hasn't been brought into force. The question of what constitutes the Agency safeguards system though was clearly something which – there was an Agency safeguards system at the time the Treaty

was negotiated – but the parties coming on felt the necessity to make a special arrangement for the safeguards system that would apply under the Treaty. And so following the opening for signature in July of 1968 the Committee 23, I believe it was, of the IAEA started to meet, and met for 50 countries involved and it met on three occasions over the next year roughly before it concluded what's come to be called the blue book, INFCIRC 153. So that's a substantial base for how all of this came about.

George: Yeah and I think that was probably begun in part by the Euratom countries, they made such a point of this –

Tom: They made such a point of it. I think in another part of our project we were interviewing Myron Kratzer. His impression was, he didn't feel there was a need to have any agreement, that the Agency through its statutory rights had sufficient authority to carry out the kind of verification that was in the minds of at least some Americans that were prominent in that era. And clearly not everyone was buying into that – they wanted for things to be spelled out.

George: Yeah, the Euratom countries made it clear that it was a condition for them. They weren't going to join the Treaty unless they got a chance to negotiate with the IAEA what official inspections in Euratom countries would be.

Tom: I started my introduction saying that I thought one of the miracles of our age is that we have a nonproliferation regime and that it's based upon this Treaty and that the IAEA has done a remarkable job of implementing. I don't think the Treaty is perfect and I don't think the IAEA is perfect but it is a situation where we have something which is very substantive and allows us to cope with in some way problems that keep occurring. Not everything could be predicted 40 years ago and the remarkable thing is that the robustness of this regime has survived different periods. The end of the Cold War as a case and point. The different expectations that arise.

George: We didn't expect really more than 25 years when we negotiated the Treaty. We hoped that it would live to be 25 years. There was a provision for extension as you know. At that time we really had doubt whether it would last 25 years.

Danielle: So you didn't have high hopes for indefinite extension which indeed happened in 1995.

George: That's right. And as a matter of fact Roland Timerbaev and I took the view that it should only be extended for 25 years but with a similar provision that it could be extend again for 25 years. Because we thought that having that kind of extension provision or action would put more pressure on the nuclear weapons states to do what they were supposed to do under Article 6. And if you just made it indefinite forever that would reduce the pressure.

Tom: I think that some countries that signed on to the extension in '95 regret having done so for that very reason perhaps.

Danielle: May I return to the language of the idea of a safeguards system that occurs in Article 3 and ask, was there a relationship between that wording and Article 4, and its granting of an inalienable right for countries to develop a full fuel cycle.

George: I don't remember such a connection. Article 3 really came from U.S.-Soviet negotiations. Article 4 mostly came from non-aligned countries. And they talked to each other, I mean the two groups, but Article 4 was 'alright you guys, you want us to join this Treaty here's what you gotta do for us.' And I don't think there really was a connection.

Tom: There will be a little bit of a connection coming up later on. And I wonder if you'd do the paragraph number two on the Treaty itself and read through that and we'll talk about it.

Danielle: (Treaty Article 3, Paragraph 2, read verbatim)

Tom: Here we have a special situation where there's concern about things like dual use equipment for example that is clearly not mentioned in here because it says equipment or material specially designed for the processing, etc., of special fissionable material. Nor does it relate to anything to do with weaponization and the material aspects of making centrifuges or making reentry vehicles on weapons or things of that sort. So we have a Treaty which was pragmatic – and again it's not a criticism, it's wonderful that it exists in its present form – as we understand the language here there's a question of it relates to not supply source of special fissionable material. We know now that that language was I believe taken from the definition of the materials in the IAEA statute. So there was no effort to define within the Treaty what this material would be. And the equipment or material especially designed or prepared for the processing, use, or production is now a question of Trigger list, for example, or the various control regimes. And so the Treaty itself kept at the altitude of principals to make general statements which again I think can be interpreted in the light of current needs. That in my mind makes it remarkable prescient that it was allowed to go forward that way.

George: It's interesting looking at the UN Charter how much of the language is even more general, and leaving it to future generations to decide what does this mean.

Tom: Well, INFCIRC 153 was that way also and there was a – the use of – language like 'timely detection.' What does timely mean, what does detection mean. Of 'diversion,' what does diversion mean. And 'significant quantities'. What's significant and significant in what sense. And of 'nuclear material,' or 'for the purposes of nuclear weapons', or 'other nuclear explosive devices,' or for purposes unknown. So enough of generality was left but in terms of structuring an institution with a need for funding and a need to report its activities in a way that continued to warrant the support and encouragement of the international community required that those quantities be interpreted in a much more mechanistic way for a long time. Now there's a concern about countries that didn't quite follow suit of reporting all of their nuclear materials for example, clandestine kinds of activities. How do you cope with that?

The third paragraph, (Treaty Article 3, Paragraph 3 read verbatim)

A fundamental concern that is current in our time is, ‘what constitute a peaceful nuclear activity.’ When is an activity that looks peaceful not peaceful? We know that the establishment of, particularly what’s called ‘sensitive nuclear technologies,’ enrichment and reprocessing, that those can be justified by a country with a robust peaceful nuclear activity but it can also be a step towards acquiring those capabilities for subsequent use for nuclear weapons for example. So if you were looking back at the Treaty now, would you have wanted to include a definition of what, when is peaceful not peaceful? Or to make some special arrangement for enrichment and reprocessing?

George: The issues that we see today weren’t so evident back then. I don’t remember this problem arising. It may have and I just have forgotten. But the avoiding the hampering of the technological development of the parties, that was clearly from our allies and from the non-aligned – that sort of language, that sort of whole subparagraph three I think was not of original U.S.-Soviet drafting.

Tom: They had an interest that they were trying to protect. And in the times of – and it is a miracle that we have a Treaty that is a phenomenal as it is. The fact that it doesn’t include crisp restrictions or something – it probably wouldn’t have gained acceptance if it were more evident, more apparent on what it was attempting to prevent –

George: It’s also true that when you get a lot of different people involved in a negotiation that sometimes you gotta satisfy this guy, you gotta satisfy this guy.

Tom: The give and take comes at the end.

Now that we have initiative that try and curtail the spread of sensitive nuclear technologies, the Bush Doctrine shall we call it, that was promulgated in a speech he gave in February of 2004, talking about restraining this sensitive technologies to countries that currently possess full functional capabilities rather than trying to see additional things come along. Or the effort undertaken by the Director General of the International atomic Energy Agency to look toward multi-nationalizing these capabilities. Both have in mind an idea of making possible the benefits of nuclear power, which are after all electricity - real viable electricity that doesn’t contribute to global warming - or potable water or district heating or perhaps hydrogen production in the future, without the side effect of providing a mechanism through which those countries would be positioned for what some people call a latent proliferation capability. I’ll ask if you’ll do the fourth paragraph.

Danielle: (Treaty Article 3, Paragraph 4, read verbatim)

So George I understand that the language in this paragraph stating that States either individually or together with other States was part of the Euratom accommodation. And

was so that the Euratom states could come together and negotiate as a group with the IAEA.

George: Yes, that's where that came from. Timerbaev and Willot, the Belgian, drew that language.

Tom: Well, again I don't know the language of other treaties, I'm not a lawyer, and I've read other treaties but it's not coming to mind whether there's an obligation that an action take place on completing the requirements for signature. This only applies to non-nuclear weapons states not to the nuclear weapons states, but here the first step is signature, the second is ratification, now at ratification this kicks in. And we have today, I think the number is somewhere around 36 states that have still yet to conclude the safeguards agreements required. 36 states that have completed the ratification of the Treaty and have benefits of technical cooperation and other activities – it was 54 a couple years ago so some progress has been made.

George: Saudi Arabia now has some kind of –

Tom: They've just recently concluded a safeguards agreement last June, which included the famous, what's called the Small Quantities Protocol, which was kind of a big mistake in the eyes of many people that it doesn't really keep in tune for today's concerns about black market transactions and things of that nature. And so Saudi Arabia has a safeguards agreement in force as of June 2005. The Additional Protocol, excuse me, the Small Quantities Protocol is being modified now as a result of an intervention through the [IAEA] Board of Governors to try and address the deficiencies as particular limitation takes effect. So again it's part of the safeguards system that was created. In part it's viewed now as unfortunate – it's now on the number of 90 countries that have Small Quantities Protocols – so any change in the agreements for 90 countries is obviously a rather substantial undertaking. In any case we have in the past had problems with countries like North Korea for example that delayed its entry into force, brought its entry into force, but didn't conclude a safeguards agreement for 5 years instead of the time required and then when they did there was immediate suspicion about whether their declarations were complete and accurate –

George: And it was shown later that an enrichment facility had not been included –

Tom: A waste facility. Now more recently they talk about the possibility that they have enrichment that may have gone on after the Agreed Framework that was supposed to bring this thing to a halt.

Danielle: So given all of these cases in which all of these countries had not concluded their safeguards agreements within a given time, what brought about this actual time period, what put that into the Treaty?

George: Well we thought there ought to be a requirement.

Danielle: And you thought that 180 days was a reasonable requirement?

George: Yeah. Maybe it should have been six months but I don't think that would have made any difference in terms of what's happened.

Tom: I don't either. It's interesting that you were talking about the fact that there were a lot of hesitations in the beginning as to what this Treaty was actually going to mean and Japan I know deferred signing for some years, it wasn't one of the first parties, recognizing that it really wanted to clarify what would go on.

George: I remember being at the signing in the White House when Lyndon Johnson was present – he didn't sign, Secretary Rusk did – and I was surprised at how many countries signed that day.

Tom: On the opening day.

George: On the opening day. And they were three countries in which they could sign. One was the U.S. of course but also the Soviet Union and the United Kingdom.

Danielle: You mentioned earlier that it was difficult to bring together all of the negotiating parties, which were not nearly as many as all of the states that signed. During the negotiation did you have any concept of the Treaty being virtually universal in the end?

George: We wanted to get every country that could potentially in the near future make a bomb. I don't think we thought about universality as at least in terms of that day as being essential. I don't really remember but we wanted to get as many as we could. But it was the countries like Sweden, which did have a nuclear weapons program. And Switzerland, which was certainly was doing some experimenting that related to nuclear weapons.

Tom: Actually I think, my understanding is that Sweden has a moth-balled production reactor under a mountain and when it signed the Additional Protocol it declared this and inspectors were allowed to come and visit it. And in Switzerland there was a program that carried on – if my memory serves me correctly – until 1987 in which they were still doing investigations – how much of this was hardware rather than calculations and studies was something that I don't have knowledge of. Many countries in addition to those carried out programs to look at the practicality and so here we have this situation where we have in a point in time in the Cold War the two superpowers managed to find common ground and to work through a negotiation which led to something which is rather remarkable – a sort of miracle. In the last Presidential election in the United States both of the candidates agreed that proliferation of nuclear weapons and particularly the acquisition of a nuclear weapon by a terrorist organization constituted the greatest threats to American national security. And so the problems haven't gone away. They've changed in character. And miracle number one is that we have this regime in place which almost every country – only four countries are outside at this point and for one of those, North Korea, it isn't clear whether they are really out of it or not because, whether

or not they met the requirements under the Article 10 provision which addresses withdrawal from the Treaty.

George: I've taken a position in legal analysis that they did not.

Tom: I would fully support your legal analysis. Not being a lawyer maybe it's wishful thinking on my part. I do know one of the provisions for withdrawal is that they are to provide an explanation, a report, to the Security Council and all other parties. I don't know that that was ever done.

George: They gave an explanation in the first withdrawal, which was 1993 if I recall correctly. And you could debate whether it was valid. But, you know, at least it was an explanation of some relevance. And then when they withdrew again they relied on the old statement, which was out of date, irrelevant, to what had happened. And the result of that from their point of view was that they only gave one-day notice. And I certainly think that's invalid. I don't think it had any relation to what was intended by the Treaty.

Tom: I wonder also, though, if you look at it from the standpoint of... This report comes and it's supposed to define this action that this state is taking –

George: The notice of withdrawal –

Tom: That's correct. There's supposed to be a report that gives the reasons why this state feels compelled to take this step in the interest of its supreme national interest. And the question in my mind would be, there's nothing in the Treaty that says what happens then but under Chapter 7 of the UN Charter the Security Council should have some kind of a proceeding which would review and either accept or reject such an arrangement. It seems to me that that would be something – maybe I'm wishful thinking at this point.

George: No, I don't think you are. The withdrawal provision came about in a way which suggests something like what you just talked about. The earlier version of the withdrawal provision was in the nuclear test ban of 1963 – the Limited Nuclear Test Ban of 1963 – that Kennedy wanted. And that one did not have notice to the Security Council and it did not require any statement of reasons. And the idea at the time was – from the U.S. point of view, I know I've seen the records – Kennedy wanted to be sure that he could withdraw easily if need be. He didn't think he could get the Treaty through the Senate – he needed a two-thirds vote – unless it was easy to get out if they really needed –

Tom: So it was looking at American interests.

George: Looking at American interests. Clearly. And though the Russians, the Soviets, and the Americans, looking at that it was, they both agreed to that and didn't want to go too far from that but they didn't want to have it be a free-for-all – anybody, anytime. And so they put in the two changes. You were required to state a statement of reasons and you were required to submit that statement of reasons to the Security Council.

Tom: And all other parties –

George: Yeah, but that was in it earlier. The changes were the two that I've designated. And it had it clear – actually I found some language in the records of the Geneva Disarmament Conference from the Soviet delegation and from the American delegation – suggesting that the reason for this was because the Security Council could do something about it. So the Security Council never has. In the case of North Korea the first time, the United States tried hard to get the Security Council to do something and finally they negotiated a resolution with China, other too, but China was the problem, which was, said, in a sense, please come back. It said, it didn't propose referring to the Security Council again it just said consider the peaceful uses of nuclear energy and withdraw your withdrawal. It was a very general statement. I've forgotten exactly what it said. But then when North Korea ignored that, China refused to permit a stronger statement that would really condemn North Korea or punish North Korea, or whatever, withdraw support, preventing people from exporting to North Korea, various things like that, without using military force. They could have used military force too but that wasn't in the cards I don't think. That was never adopted and a negotiation and the Chinese refused.

Tom: Well, we live in an imperfect but in effect over a longer time horizon in my own sense progress has been made in the direction of peace. And in particular with the record of warfare in the 20th century leading to more and more engagement of civil populations rather than combatants, and the weaponry becoming increasingly destructive and in the hands of the technological powers. Now we have a situation in which conflict between the technological powers, industrialized states, seems less and less possible and hopefully that will remain the case. But that doesn't mean that the problems have gone away. In fact the challenges are different and from the countries that are raising the concern or the sub-national organizations – terrorist organizations in particular. So I'm wondering that if we might look for, in our final concluding remarks of our interview today, where do you think the future is going. In the year 2005 we had an NPT Review Conference which failed to reach a conclusion. There are challenges that related to progress under Article 6 toward nuclear disarmament, the questions of the misuse of the inalienable right, whether certain actions are related more to preparation of latent proliferation capabilities rather than truly peaceful activities. From your longtime involvement with this I'd be very interested to hear your speculations on where the future might –

George: Well it awfully hard to say. At the moment Iran is the biggest problem I think, in terms of the future of the NPT. Because a great deal has been done with respect to Iran, in terms of negotiations, trying to implement the NPT, giving suggested benefits to Iran complying with the NPT. And more than that if Iran withdraws from the Treaty and is successful with that – the Security Council doesn't stop it as the Security Council could – it's very hard for me to see that there wouldn't be other countries in the Middle East that would withdraw, instead of having a Middle East Nuclear Weapons Free Zone and them agreeing to join. You could have a lot of nuclear weapon countries in the Middle East. Saudi Arabia certainly has the capability and maybe not tomorrow but in a couple of years. I don't know about Syria but I think they've been thinking about his for quite a

while. And going in the other direction, of course we already have Pakistan. It's hard to know how many countries – Egypt I think would certainly be one of them. Certainly in that Gulf Middle Eastern area, how far away. Turkey, ultimately – at various times there's been some question about that. Maybe NATO is strong enough to keep Turkey out.

Tom: It's a precarious balance at best. A tinderbox from North Africa all the way around to North Korea.

George: Right. And in North Korea's case, I mean if nothing gets, if we can't any better with North Korea than we have done, South Korea's going to withdraw. Japan will make a bomb. Taiwan, which was inhibited in the 1970s with a lot of negotiations, will feel uninhibited. And if there are enough countries like this, that thumb their nose at the Treaty, and nothing is done about it, if the Security Council retreats, I don't see how it could last long.

Tom: May ask if you have any final thoughts or questions that you would like to offer.

Danielle: Yes, you finished your last statement saying that, about looking at problems with the Treaty and it seems that one of the key words in the last couple of years has been to identify loopholes in the Treaty. And in the written narrative that you gave us about the negotiation of Article 3 you mention that there was a resolution at Geneva in 1965 that called for an NPT "void of loopholes." And I wonder if since that time and perhaps around the time of ratification and maybe within the last ten or fifteen years have you reflected on that resolution and how it has developed. Or how the NPT has developed since then.

George: Well, I regret some of the loopholes, no question about that, I wish it were stronger. But there's a limit to what we could do, I think, back then. There's a limit. If the Security Council were working as it had been hoped that it would work, if we didn't have this threat of China's veto over and over and over again, I think the Treaty could be made to work. I don't have any doubts about the purpose of the withdrawal clause, the provisions, dealing with Security Council participation in dealing with a country that's withdrawing. And I think the Security Council accepts that because they tried in the case of North Korea. I don't know if all the members do but at least there was an effort made. Not a strong enough effort but an effort. Where do we go from here, I don't know. It's really hard to say. If people get worked up enough something may happen with respect to Iran. And it's certainly true I think that more countries are concerned about Iran than were about North Korea and it's –the combination of the two –we've got countries in two very important parts of the world, very much worried about this proliferation that's happening. So it ain't too late to give it up.

Tom: George, I'd like to thank you ever so much for agreeing to this interview today and it's been a great pleasure to meet with you this afternoon and look forward to further contacts in the future. Thank you for your remarks.

George: Well thank you. It's been an interesting engagement and I'm glad you've started on it. I'd like to see the finished product.

Tom: We'll do that, thank you.

Danielle: Thank you, George.

Tom: Cut. We're done.