**Canadian Nuclear Safety Commission**

**Commission canadienne de sûreté nucléaire**

**Public meeting**

**Réunion publique**

**June 23rd, 2016**

**Le 23 juin 2016**

Public Hearing Room
14th floor
280 Slater Street
Ottawa, Ontario

Salle des audiences publiques
14e étage
280, rue Slater
Ottawa (Ontario)

**Commission Members present**

Dr. Michael Binder
Dr. Sandy McEwan
Mr. Dan Tolgyesi
Dr. Sandy McEwan
Ms Rumina Velshi

**Commissaires présents**

M. Michael Binder
Dr Sandy McEwan
M. Dan Tolgyesi
Dr Sandy McEwan
Mme Rumina Velshi

**Secretary:**

Mr. Marc Leblanc

**Secrétaire:**

M. Marc Leblanc

**Senior Counsel:**

Mr. Denis Saumure

**Avocat principal :**

Me Denis Saumure

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Ottawa, Ontario / Ottawa (Ontario)

--- Upon resuming on Thursday, June 23, 2016 at 9:02 a.m. /
La séance reprend le jeudi 23 juin 2016 à 9 h 02

**CMD 16-M19**

**Ouverture de la séance**

**M. LEBLANC :** Bonjour, Mesdames et Messieurs. Bienvenue à la continuation de la réunion publique de la Commission canadienne de sûreté nucléaire.

We have simultaneous interpretation. Please keep the pace of speech relatively slow so that the interpreters have a chance to keep up.

Des appareils de traduction sont disponibles à la réception. La version française est au poste 2 and the English version is on channel 1.

I would ask that you please identify yourself before speaking so that the transcripts are as complete and clear as possible.

La transcription sera disponible sur le site Web de la Commission d'ici 10 jours ouvrables.

I would also like to note that this proceeding is being video webcast live and that archives of these proceedings will be available on our website for a

three-month period after the close of the proceedings.

Please silence your cell phones and other electronic devices.

Monsieur Binder, président et premier dirigeant de la CCSN, va présider la réunion publique d'aujourd'hui.

President Binder...?

**LE PRÉSIDENT :** Merci, Marc.

Good morning and welcome to the continuation of the meeting of the Canadian Nuclear Safety Commission.

Mon nom est Michael Binder. Je suis le président de la Commission canadienne de sûreté nucléaire.

Je vous souhaite la bienvenue and welcome to all of you joining us via our webcast.

I would like to start by introducing the Members of the Commission.

On my right is Monsieur Dan Tolgyesi; on my left are Dr. Sandy McEwan, Ms Rumina Velshi and Monsieur André Harvey.

We have already heard from our Commission Secretary, Monsieur Marc Leblanc, and we also have with us Monsieur Denis Saumure, our Senior Counsel to the Commission.

**MR. LEBLANC:** The *Nuclear Safety and*

*Control Act* authorizes the Commission to hold meetings for the conduct of its business.

The agenda was approved yesterday. Please refer to Agenda 16-M20.A for the complete list of items to be presented today.

Mr. President...?

**CMD 16-M26**

**Written submission from CNSC staff**

**THE PRESIDENT:** So the first item on the agenda is the Event Initial Report regarding the transport accident that occurred on April 17, 2016, involving uranium concentrate, near Massey, Ontario, as outlined in CMD 16-M26.

I understand that we have somebody from -- we have a Mr. Charette from Cameco who is joining us via teleconference.

Let me check the technology.

Mr. Charette, can you hear us?

**MR. CHARETTE:** Yes, I can, thank you very much.

**THE PRESIDENT:** Thank you.

I will turn to CNSC and I understand that Mr. Moses will make the presentation.

Over to you.

**MR. MOSES:** Thank you, Mr. President, Members of the Commission.

We don't have a presentation today but I do have a few short words to say about the accident and the details are in the Event Initial Report that was submitted to the Commission.

As mentioned, I am Colin Moses, I am the Director General of Nuclear Substances Regulation.

With me here today are Mr. Sylvain Faille, Director of the Transport Licensing and Strategic Support Division, as well as staff involved in the response to the event.

On April 17th, 2016, the CNSC was informed of a motor vehicle accident involving a truck operated by LA Trucking Limited that was transporting uranium concentrate originating from Cameco Corporation's Blind River Refinery and destined for Cameco's Port Hope Conversion Facility.

While the trailer sustained some minor damage as a result of the accident, there was no damage to the transport packages and therefore there was no radiological impact to members of the public or the environment as a result of the event.

However, because this event did receive

some media coverage and therefore had public visibility, an Event Initial Report, CMD 16-M26, was submitted to the Commission.

Staff remain available should you have any further questions on this event.

**THE PRESIDENT:** Thank you.

Mr. Charette, would you like to make any comments?

**MR. CHARETTE:** It's Mr. Charette here with Cameco. We also have Liam Mooney who is joining us and he will be making some initial comments.

**THE PRESIDENT:** Mr. Mooney, go ahead.

**MR. MOONEY:** Liam Mooney via webcast.

Just a few short words before turning it over for any specific questions to Mr. Charette.

Our products are safely transported all over the world in compliance with regulatory requirements. The people in the environment were protected in this circumstance. There was no release of the material being transported, as indicated by CNSC staff.

The experienced and qualified trucking company carry out this activity and responded appropriately to the event and in the circumstances the response was expedient, thorough and coordinated.

That's all we have with respect to any

opening remarks with respect to this matter.

**THE PRESIDENT:** Thank you.

So let's jump into the question session avec Monsieur Harvey.

**MEMBRE HARVEY :** Merci, Monsieur le Président.

Just one question. Once some such accident or incident occurs, is there any obligation and delay to report to contact the Commission, I mean by the transporter or by Cameco in that case?

**MR. FAILLE:** Sylvain Faille for the record.

Actually in the Regulations they have to report immediately any accidents that are involving vehicles and those are specified in the Transport Regulations, *Packaging and Transport of Nuclear Substances Regulations,* and the report has to be made immediately to the CNSC. There is a prescribed list of events and this one falls into the list.

**MEMBER HARVEY:** And this has been made immediately, you mean in one hour or such a lapse of time?

**MR. FAILLE:** Yes. Sylvain Faille.

I think in this case it was about an hour after the event when the CNSC got notification of that event on the Sunday morning.

**MEMBER HARVEY:** Okay.

Thank you.

**THE PRESIDENT:** So just to follow up, it says local police and first responders were called. Who made the first call? Is it the driver who makes the call? Who makes the call?

**MR. MOSES:** Colin Moses for the record.

Typically in any accident it would be the driver or witnesses who will call first responders. For example, in this case, the vehicle travelling in the opposite direction impacted the trailer and there were some injuries as a result of that and so first responders were called to respond to the scene.

**THE PRESIDENT:** But all the drivers that are using uranium and product like that, are they trained as to what needs to be done in case of an emergency?

**MR. FAILLE:** Sylvain Faille.

As part of the Regulations they have to -- each carrier has to implement some work procedures and emergency response. And in this case, like all the drivers are supposed to be trained for that and all companies would have an emergency response appropriate for their company. It could be just calling in the dispatcher where he is going to make the call, but the driver has some responsibilities and that's valid for all shipments, it's

not just for radioactive material, that would be for any product and their general emergency response.

**THE PRESIDENT:** Ms Velshi...?

**MEMBER VELSHI:** Thank you.

I'm glad to note that Cameco did report this incident on its website. I don't have questions on this particular incident but maybe a general question to Cameco because we have heard of other accidents this year.

In a typical year, how many uranium transportation accidents are there?

**MR. CHARETTE:** Hi. It's Marc-André Charette here for the record.

Transport accidents, in a typical year it might be one or two. It varies depending on the year. Some years there is none, this year there has been a couple, but there are just a few on a yearly basis and most of them are single vehicle accidents where the truck usually ends up in the ditch or the snow or something like that.

**MEMBER VELSHI:** Thank you.

**THE PRESIDENT:** Do you have kind of one or two, maybe a high percentage? What's the volume? Do you have any handle on how many shipments a year do you do?

**MR. CHARETTE:** It's Marc-André Charette here for the record.

I don't have exact numbers for volumes of shipments we do on a yearly basis, so I don't have a percentage on how much accidents versus the volume of shipments we do.

**MR. MOONEY:** It's Liam Mooney for the record.

I would just add that these incidents are very rare and in the circumstances, yes, we have had a couple this year, but we can go, as Mr. Charette indicated, several years without an incident. And our drivers -- sorry, our contractors who provide those trucking services are regularly audited for their compliance with the TDG Regulation requirements as well as our own programs.

**THE PRESIDENT:** Thank you.

Monsieur Tolgyesi...?

**MEMBRE TOLGYESI :** Merci, Monsieur le Président.

I have just two questions. One is that you were saying that there are no life-threatening injuries reported. Were there any injuries?

**MR. MOSES:** Colin Moses for the record.

Maybe we can leave Cameco to provide specific details, but we understand that the passenger and the driver in the incoming vehicle were injured. The extent of their injuries, we understand they weren't

life-threatening, but they weren't -- we weren't given specific information on the nature of their injuries.

**MR. CHARETTE:** Marc-André Charette for the record.

I would echo the comment. There was an ambulance that was at the scene and did treat the passengers of the other vehicle. Medical information is private and was not shared with Cameco, the extent of their injuries.

**MEMBER TOLGYESI:** And my second is to Cameco. You do these transportations. Do you have preselected transporters or do you do verifications or specific requirements and training when the radioactive material destined to or from your facilities is done or do you take any transporter and you don't check if there is some knowledge or training done to transport radioactive material?

**MR. CHARETTE:** Marc-André Charette for the record.

No, we do have selection criteria. In this case, LA Trucking has been working with Cameco for the past 34 years or so, since the Blind River Refinery has been opened. Cameco does, on a three-year basis, training exercises with LA Trucking and on an annual basis we do refresher training. That includes training on how to

respond to an emergency, how to activate the emergency response, who to call, what they need to do at the scene of an incident.

**THE PRESIDENT:** Thank you.

Dr. McEwan...?

**MEMBER McEWAN:** Thank you, Mr. President.

Presumably the driver would have had the standard drug and alcohol testing and you would get the results and report those to staff?

**MR. CHARETTE:** It's Marc-André Charette for the record.

LA Trucking does have a drug and alcohol policy in place. Since the driver was not at fault, there was no drug or alcohol testing done in this particular event.

**THE PRESIDENT:** Okay. Any other questions?

Okay, thank you. Thank you very much.

The next item is the Event Initial Report regarding a worker injured on May 31, 2016, at Cameco Corporation’s Rabbit Lake Operation.

Mr. Mooney, I see, is still with us on this and I understand that Mr. Harriman from the Rabbit Lake Operation will join us.

Mr. Harriman, can you hear us?

**MR. HARRIMAN:** Yes. It's Shawn Harriman from Rabbit Lake, for the record.

**THE PRESIDENT:** And we also have Mr. Kaskiw?

**MR. KASKIW:** Yes. It's Len Kaskiw, Chief Mines Inspector for Saskatchewan, for the record.

**THE PRESIDENT:** Okay, thank you.

**CMD 16-M33**

**Written submission from CNSC staff**

**THE PRESIDENT:** Staff, I understand, Ms Tadros, you are going to make some comments here. Go ahead, please.

**MS TADROS:** Yes, thank you.

Good morning, Mr. President, Members of the Commission.

For the record, my name is Haidy Tadros, I am the Director General of the Directorate of Nuclear Cycle and Facilities Regulation.

Joining me today are colleagues from the Uranium Mines and Mills Division: Mr. Bob Lojk, the Director of that Division; and by videoconference, our colleague Mark Langdon, the Supervisor at the Regional office in Saskatoon.

Beyond what is in our EIR for this event, we are available to take any questions that you may have.

**THE PRESIDENT:** Okay, so let's start with Ms Velshi.

**MEMBER VELSHI:** Thank you, Mr. President.

A couple of questions around the nature of the injury. So we do hear that there is some head injury and bruising to the leg. So has the worker come back to work? What was the severity of the injury?

**MR. LOJK:** Bob Lojk for the record.

The worker was airlifted to a hospital and he was back at work the next day.

**MEMBER VELSHI:** Thank you.

And it says he was extricated from the tank. So I guess he couldn't move on his own, this was a confined space?

**MR. LOJK:** Exactly right. There was a spotter outside, there was another colleague inside, and they essentially took him out of the tank with proven procedures that they have for extricating people from tanks. So they wanted to make sure that -- probably he was dizzy and they strapped him up and they pulled him out, and Cameco can provide more details to that since they had people there.

**MR. MOONEY:** It's Liam Mooney for the

record.

I have Kevin Nagy with me here as well, the Director of Compliance and Licensing for Saskatchewan operations, and perhaps he could add a little bit more in relation to the CCD and the scaffolding.

**MR. NAGY:** Good morning. Kevin Nagy for the record.

Just to confirm, the Site Emergency Response Team did respond to this event and due to the nature of the injury and an abundance of precaution around head injuries they did extricate the individual from a tank. What they wound up doing was they attached him to a backboard and then hoisted him up and out of the tank using some ropes and some hoist. They then took him to the Site Medical Centre at the Mill Facility at Rabbit Lake.

**MEMBER VELSHI:** Thank you.

**LE PRÉSIDENT :** Monsieur Tolgyesi...?

**MEMBRE TOLGYESI :** Merci, Monsieur le Président.

You were saying that this is a contract worker, which means it was not Cameco's employee; am I right?

**MR. LOJK:** Bob Lojk for the record.

Yes. These are specialized people that have been trained to build scaffolding and therefore they

are brought in on a contract basis as required while they are doing refurbishment. Thank you.

**MEMBER TOLGYESI:** So you expect that he received the training, appropriate training, and he has appropriate experience, and at Cameco you have working procedures to assemble/disassemble scaffolding in special cases, special conditions like in this case, a confined space. Did you check from a Cameco standpoint where his experience was standing?

**THE PRESIDENT:** To whom?

**MEMBER TOLGYESI:** To Cameco.

**MR. NAGY:** Thank you. Can you hear me now?

**THE PRESIDENT:** Yes, go ahead.

**MR. NAGY:** Thank you. Kevin Nagy for the record.

That's correct. The employee or the contractor in question was a contract employee. He was qualified and competent to do scaffolding. This particular individual had a number of years of experience and our understanding is he had recently written the exam to get his certification as a ticketed scaffolder.

As far as written procedures or work instructions go, as with other trades, such as carpentry, plumbing, electrical, we rely on the skills of the

qualified and competent people in those fields.

Particular to this job there had been a job hazard analysis done ahead of time on the overall work involved in cleaning the launder around the thickener tank. That's what this scaffold was required for.

Following the event we did do another job hazard analysis particular to the assembly and disassembly of wheeled scaffolding and did not resume similar work until that was completed and we had additional controls put in place.

**MEMBER TOLGYESI:** According to the report, the employee or contractor was removing the upper support connecting the scaffolding to the wall and I am surprised he was not secured while working on a potential moving device in a confined space. He didn't have a lifeline. Usually when you work in confined spaces you have some securities that you don't fall. I don't know how high this tank was, but I suppose it was maybe 10 to 15 feet or maybe a little bit higher. So he was not attached by a lifeline to make sure that he will not fall all that distance, because potentially it could be a fatal accident.

**MR. NAGY:** Kevin Nagy for the record.

Just to clarify, the thickener that the individual was working in, we do classify that as a confined space, but an unrestricted confined space. So it

is a round thickener or a round tank. It's approximately 100 feet across and about 10 feet high at the wall. However, it is open. It's not closed in on top. So we do regard that as a confined space because there isn't a means of egress. So we do permit that work and one of the controls we have in place was the spotter who was working above.

The scaffold, the working platform was approximately 7 feet off the floor of the tank. It was situated along the inside of the wall of the tank. It was being used to clean a launder that extends around the perimeter of the tank.

The support arms that had been in place while people were working and cleaning the launder, those were attached to the scaffolding. They extend over the wall of the tank and down the outside and those are meant to brace the scaffolding and prevent -- as a control against any lateral movement while work is being done on the scaffolding.

The particular work this individual was doing at that time was to prepare the scaffold to move underneath a set of pipes. So normally for this work they would just be able to come down and just roll the scaffold to its next position without any disassembly.

In this particular case they had to

disassemble the upper portions to move it under a pipe that was in their way. So he had taken off the support arms that I mentioned and had just completed removing the upper portions of the scaffolding. There are locks on the castor wheels at the base of the scaffold. The contractor had checked to make sure those were engaged before he went up.

He also had a spotter at the bottom that was on one of the legs to make sure there was no lateral movement while he was doing the work. However that did not seem to be an adequate control because when he was in the process of descending the scaffolding, one of the wheels -- one of the castors did rotate. The wheels themselves didn't turn but the castor did rotate and that caused the scaffold to start to skid down the slope within the tank and ultimately the worker fell off the scaffolding and it overturned.

**THE PRESIDENT:** Okay, thank you.

Dr. McEwan...?

**MEMBER McEWAN:** Okay, thank you.

So just out of the event description, the second bullet, so this is a question raised out of that last answer -- so did the worker fall two feet or did he fall from seven feet and impacts at two feet?

**MS TADROS:** The worker -- Haidy Tadros, for the record.

The worker fell two feet.

**MEMBER McEWAN:** So presumably he was wearing a hard hat?

**THE PRESIDENT:** Cameco?

**MR. NAGY:** Kevin Nagy for the record.

My understanding is the contractor had the appropriate PPE for the work and that would have included a hard hat, yes.

**MEMBER McEWAN:** Okay, thank you.

**THE PRESIDENT:** Thank you.

Monsieur Harvey...?

**MEMBER HARVEY:** In the actions taken or in progress -- further action plan or in progress -- you are supposed to -- Cameco is conducting an investigation of the event and you are supposed to receive this investigation and follow-up reports, so it was supposed to be provided in 21 days.

So have you received the -- it's on page 2 under "license actions"?

**MR. LOJK:** Thank you for the question. Yes, the report was received way before the time that it was due. Thank you.

**MEMBER HARVEY:** So everything is completed?

**MR. LOJK:** Everything is completed, yes,

sir.

**MEMBER HARVEY:** Everything is completed then.

And at the bottom, the action plan, CNSC staff would ensure that Cameco communicates the event to other licenced uranium mines et cetera.

So has that been done? How are you going to do that to ensure that Cameco communicates the event to others?

**MR. LOJK:** Bob Lojk, for the record.

Normally this will be communicated in due time, I would suspect. And I would ask Mr. Mark Langdon in our Saskatoon office to confirm that they were awaiting the results of this meeting in order -- should further information or questions come up so that we could share the complete file on them. Therefore, I will ask Mr. Mark Langdon to confirm his plan for communicating that information.

**MR. LANGDON:** Mark Langdon for the record.

Cameco has already informed all the other operating sites about what's happened. They will continue as they -- they have a number of corrective actions that they have taken and we will continue inspections to check to make sure that they are following all the corrective actions that they have. We have an inspection going at

Rabbit Lake this week and the person has gone to the tank and looked at some of the modifications that they made to the scaffolding already. And I believe SASK Labour has already had somebody up there and looked at similar things.

But we will continue further inspections to check all the corrective actions that they put in place to make sure they have implemented them properly.

**MEMBER HARVEY:** Thank you.

**THE PRESIDENT**: Thank you.

Any other, anybody else? Monsieur Tolgyesi...?

**MEMBER TOLGYESI**: Two short ones.

Cameco, you did mention the lifeline. So do your procedures -- do your procedures require wearing the lifeline when an employee or worker is working at that height from the floor? And in this case this tank's floor was inclined so he could just fall and slip right down also.

**MR. NAGY:** Kevin Nagy for the record.

The floor was inclined approximately a 10-10.5° pitch from the outside wall down towards the centre of the tank. The legs of the scaffolding are adjustable. So that was done so the work platform was level and the castors again were locked.

One of the controls that we have put in

place as a result of the job hazard analysis that we did following the event was to provide additional support to those castors to ensure that they remain stable when in use. So we did not resume this job or similar scaffolding work until that was done.

Oh, and provincial regulations with respect to fall control or fall arrest are generally required if you are working at a height above 3 metres, approximately 10 feet. In this case, the individual -- the work platform was approximately 7 feet off the floor of the tank so he wasn't wearing fall arrest.

That said, we are conducting a root cause investigation into this event and we will be looking at, in addition to the controls we have already put in place, we would be looking at other corrective actions that we could employ to prevent a similar event in future.

**THE PRESIDENT:** Okay. Anything else?

I just have a quick question. So these are contractors coming in to use space. In case something serious happens who -- do they bring their own insurance or are you liable to anything; Cameco?

**MR. MOONEY:** It's Liam Mooney for the record.

We have a similar system to Ontario at WSIB/WCB. So there is a workers' insurance system that's

in place for all our employees and contractors on site such that the liability issues are addressed to that workers' compensation mechanism.

**THE PRESIDENT:** So they can then apply to that particular body to get a ruling on whether further actions are required?

**MR. MOONEY:** It's Liam Mooney for the record.

If this individual did have to miss time due to the injury which is not the case in these circumstances, yes, they can apply to the provincial Workers Compensation Board for compensation in that regard.

**THE PRESIDENT:** Okay. Dr. McEwan.

**MEMBER McEWAN:** Sorry. Just a follow-up to that, so under the conventional health and safety SCA if this had resulted in a loss time injury, would this be reported in Cameco's statistics or as a contractor would it be excluded from Cameco's statistics?

**MR. MOONEY:** It's Liam Mooney for the record.

Our safety performance is for the licence site which includes Cameco employees as well as contractor so the incident and if it was a loss time incident would be reported in our safety statistics as a whole.

**MEMBER McEWAN:** Thank you.

**THE PRESIDENT:** Thank you. Any final comment here?

Okay, thank you. Thank you very much.

I would like to move on to the next item which is the event initial -- oh, sorry.

--- Pause

**THE PRESIDENT:** I am just doing what I am told.

Before moving on to the next initial report event -- let me start again.

Before moving on to the Event Initial Report regarding the Canadian Nuclear Laboratories I understand that CNSC staff will inform us of an event that occurred last weekend at the Key Lake Operation, while we still have Mr. Mooney -- I hope Mr. Mooney is still online with us -- and Mr. Nagy from Cameco on the videoconference.

So Ms Tadros, the floor is yours.

**MS TADROS:** Thank you, Mr. President. Yes, for the record, Haidy Tadros speaking.

On June 19th, 2016 the CNSC was informed by Cameco in accordance with the Regulations and their licence condition that a contract worker was found deceased within his living quarters at the Key Lake Mill operations. Preliminary reports on this tragic event indicate the individual died of natural causes. The case is currently

with the provincial coroner.

We would like to add that Cameco has posted information of this event on their website and the CNSC has done the same as well. We are available if you have any questions.

**THE PRESIDENT:** Okay. Anybody has a particular question?

When is results expected to be known?

**MS TADROS:** Haidy Tadros. Because it is with the provincial coroner, it will be up to them to determine if anything further needs to be done in this case.

**THE PRESIDENT**: But we are not expecting this to be related to kind of work in that sense?

Cameco...?

**MR. MOONEY:** It's Liam Mooney for the record.

No. We are not expecting it to be work related. We might receive confirmation from the provincial coroner that it's not work related. There is no assurance that we would receive that information, again because we are in a contracting relationship with the employer of the said individual and his personal health information involved, if it's a personal health issue as we expect, we might not hear anything further in that regard.

**CMD 16-M27/16-M27.A**

**Written submission from CNSC staff**

**THE PRESIDENT:** Okay. Thank you.

So now I would like to move to the next item, is the Event Initial Report regarding an incident on April 19 at the Chalk River Laboratories, as outlined in CMD 16-M27 and 16-M27A.

I understand that we will have a representative from CNL and I understand it's going to be Mr. Pilkington.

Mr. Pilkington, can you hear us?

**MR. PILKINGTON:** Yes. It's Bill Pilkington for the record, and I am on the line with Dave Cox, our General Manager for the National Research Universal Reactor and also with Mr. Shaun Cotnam, our Chief Regulatory Officer.

**THE PRESIDENT:** Thank you.

**MR. PILKINGTON:** We are here this morning to answer any questions that Commission members might have.

**THE PRESIDENT:** Thank you.

Ms Tadros, the floor is yours.

**MS TADROS:** Thank you, Mr. President.

For the record Haidy Tadros speaking.

For this item I am joined by my colleague, Mr. Jean LeClair. He is the Director of the Nuclear Laboratories and Research Reactors Division.

Again, beyond what you have in front of you in the Event Initial Report, staff are available to take any questions or comments on this EIR and on the supplementary information that was provided.

**THE PRESIDENT:** Thank you. So let's jump right into it.

Oh, sorry. Did CNL want to say anything before we get into the question session?

**MR. PILKINGTON:** Bill Pilkington for the record.

And no; Dr. Binder, we will respond to any questions the Commission members might have.

**THE PRESIDENT:** Okay, thank you. Mr. Tolgyesi...?

**MEMBER TOLGYESI:** Merci, Monsieur le Président.

My understanding is that this grapple is located underwater and that the basket did not latch -- fully latch into a flask. It is because of positioning of the baskets and/or flask or because of grapple positioning which could be the operator's error?

**MR. LeCLAIR:** Jean LeClair for the record.

CNL has conducted an investigation of the event and there is a number of possible causes with regards to the grapple releasing the basket.

So just to go over the incident again, the grapple grasped the basket and while raising the basket into the flask the basket then dropped. All this happened underwater which is obviously done to ensure protection from a radiation protection point of view and environmental point of view so there can't be any releases to the environment and the radiation doses are going to be very, very low.

So in this situation CNL actually did an investigation and the corrective actions thereafter, taking into account the various possibilities to ensure that the incident can't occur, including the use of a camera to verify that in fact the grappling of the basket and the positioning is correct. Independent verification by the employee as well as review of the procedures that were being done to ensure that going forward as they do it again, that they can ensure the basket is properly engaged before bringing it forward.

Perhaps CNL would like to add further to it.

I should add that CNSC staff did -- the

next day went in, investigated it and reviewed it and ensured that the basket that there was no damage, that things were stable. I, myself, personally actually went to the rod bays last week and got to see where the incident occurred and verified and CNL went through and explained to me the corrective measures they have put in place.

And I think they have done a fairly thorough investigation. We have got a detailed event report that we have reviewed and we are satisfied with the measures they have taken.

**MEMBER TOLGYESI:** My last one is that considering that it's underwater, how you do -- probably it's maybe for Chalk River -- how you do maintenance and verification that these latches and mechanical parts are fully operational and they work? Could you check that and how you do that?

**MR. PILKINGTON:** So it's Bill Pilkington for the record.

And yes, we do have checks in place. And I would ask Mr. Dave Cox to elaborate on that.

**MR. COX:** Dave Cox for the record. General Manager of the NRU reactor.

Yes, the grapple mechanism it's an integral part of the flask itself. When it latches onto the basket it is underwater but we do maintenance and

functional testing on the grapple and other components of the flask when it's removed from the water. So that's performed in a dry environment where workers can access all of the components and confirm their functionality.

**THE PRESIDENT:** Go ahead.

**MR. LeCLAIR:** Perhaps just to add to perhaps help the Commission a bit further, so the flask itself comes and is brought into the rod bays in which the grappling hook is part of the flask. So it comes from the outside and then is brought into the bay, lowered into the bay and the grapple comes in.

So the actual work on the flask and the grappling hook obviously can all be done outside of the rod bays. I think that perhaps is why they can do all the checks, all the verifications and all the maintenance can be done outside of the rod bay because it's actually not an actual integral part of the bay itself.

**THE PRESIDENT:** To staff, you know, a picture is worth a thousand -- I don't know what a grapple looks like if it came right in front of me in this room. It would be nice if wherever you have photos if they are available or diagrams and to explain to us. Even for the previous incident, what's the tank we are discovering?

I have a vivid imagination but I can get it completely wrong unless somebody gives us some

schematics.

**MS TADROS:** Understood. Thank you.

**THE PRESIDENT:** Thank you.

Dr. McEwan...?

**MEMBER McEWAN:** Thank you.

So this is presumably a procedure that has taken place thousands of times over the years?

**MR. LeCLAIR:** This is a routine procedure with regards to moving fuel. It should be noted that in this particular case, though, it's the part of the repatriation program that is currently underway.

Perhaps CNL can elaborate further.

**MR. PILKINGTON:** It's Bill Pilkington for the record.

And so this is an operation that has been performed a number of times but it is not -- I wouldn't say many times.

So I would ask Mr. Cox to elaborate on that.

**MR. COX:** Dave Cox for the record.

This incident occurred -- this basket dropped on the fifth operation. We completed it four times previously successfully and it was on the fifth occurrence that this event happened. So it's -- we expect to be completing this roughly on a monthly basis, going forward,

to give you a feel for the frequency of the activity.

**MEMBER McEWAN:** So these would have been new procedures that have been put in place to do this specific activity?

**MR. COX:** Dave Cox for the record.

Yes, there was a new procedure developed last year and there were four successful applications of the procedure in 2015. This was the first occurrence of the procedure this year. And it is a special procedure specifically for this unique equipment and this operation.

Part of our corrective actions driven through the investigation were to, as Mr. LeClair, said to improve the procedure and provide positive verification that the basket is latched on all four fingers and to record that with an underwater video record and to ensure supervisory review of that prior to commencing the basket list.

**MEMBER McEWAN:** So as you developed the procedure had you identified the possibility that the grapple would not be fully attached? Because it seems a fairly -- a fairly obvious potential risk as you build the process.

**MR. COX:** Dave Cox for the record.

Yes, that was part of the design review on this equipment before we develop the procedures. There was

guidance from a human factor evaluation which indicated that it was not possible to incompletely latch the grapple onto the basket. And so that flavoured the steps in the procedure that existed prior to this event.

So part of the investigation uncovered this weakness. And so the improvements that have been made to the procedure and additional testing have confirmed that we have got steps in place to ensure that the grapple is positively latched on all four fingers prior to lift.

**THE PRESIDENT:** Thank you.

Monsieur Harvey...?

**MEMBER HARVEY:** You mentioned that this new procedure has been there for a few years but the NRU has been operated for many, many years, so was there a need to change the procedure or what was the objective to change it?

**MR. COX:** Dave Cox for the record.

Indeed, NRU has been operating for many years, nearly six decades, but this activity of repatriating fuel to the United States is part of an international program that just commenced last year. So this operation is a new activity that supports this fuel repatriation project.

**MEMBER HARVEY:** Okay, thank you.

**THE PRESIDENT:** Ms Velshi...?

**MEMBER VELSHI:** Thank you.

A question for staff. Are there any OPEX implications of this, say for NPPs who do use fuel manoeuvring in the fuel bay and do they use underwater cameras?

**MR. ELDER:** Good morning. Peter Elder, for the record.

Yes, there is a use of underwater cameras in terms of fuel bays which are common in NPPs. What is unique on this one is that this is placing into a particular flask.

So there's a transport flask, so this is how you get the particular fuel into a very specific flask that is for shipping to the United States. So while we would look at it in terms of we would expect CNL to look at the advantage and see if there was OPEX that they can share with the wider industry, and to my knowledge, CNL is part of the team that does share OPEX with CANDU operators.

**MEMBER VELSHI:** Thank you.

CNL, do you want to comment on that?

**MR. PILKINGTON**: Yes. It's Bill Pilkington, for the record.

And as a part of the investigation into this event, we had the manufacturer of the equipment involved in the investigation, and so they were aware of

everything that occurred. And also, this equipment is relatively unique. It is used, however, at the Savannah River site in the U.S., and we did specifically inform them of the event.

They suspended operations until we completed our investigation, and we informed them of the outcome.

**MEMBER VELSHI:** Thank you.

Next question. And this is to CNL. I know in this particular case there was no damage to the fuel bundles, but could they -- was there a potential for fuel damage if the fall had been higher or different angle or in different circumstances?

**MR. PILKINGTON**: It's Bill Pilkington, for the record.

And I would suggest that the potential is low because the basket is being drawn into the transport cask, and at the point that it is fully in the cask, the assembly is still -- or at least the only exit for the fuel is still underwater and the base of the cask is closed for shipping.

So the event that we had was likely the only type of event that could occur during this operation.

**MEMBER VELSHI:** Thank you.

**THE PRESIDENT:** Okay. Any further

questions?

Okay. Thank you. Thank you very much.

The next item is the Event Initial Report regarding the heavy water release on April 26, 2016 at the ZED-2 research reactor at Chalk River Laboratories as outlined in CMD 16-M28 and 16-M28A.

Ms Tadros, you still have the floor.

**CMD 16-M28**

**Written submission from CNSC staff**

**MS TADROS:** Thank you, sir. So yes, Haidy Tadros, for the record.

I am with Mr. Jean LeClair, and we are available to take any questions you may have on this particular event.

**THE PRESIDENT:** Dr. McEwan.

**MEMBER McEWAN:** Thank you.

So I guess one of the things that wasn't entirely clear to me in your CMD 28A is you haven’t really answered the question that was in the EIR, a possible gap in CNL’s human performance management.

So was that, in fact, the case in this? Because it certainly looks as if there would be an issue in individual performance.

**MR. LeCLAIR:** Jean LeClair, for the record.

So with regards to human performance, I think the -- not I think. The issue we're dealing with here is actually the work instructions needing to be put in place to have clarity with regards to those final steps when they're dumping the heavy water from the reactor, so in this particular incident, we have three isolation valves that were closed too early in the process.

This is a fairly routine activity. It's -- as it's noted, it's a fairly low-risk facility. There's three or four operators. It's a research reactor so, historically, it's been operated by the trained operators who just routinely do this on a regular basis.

So in this particular case, the one step was done too early, so part of the things that CNL has been focusing on, actually, is putting in place an operator manual and actual written instructions to ensure that those steps are followed. So that's the human performance element in this case, is to ensure clarity on the steps that needed to be followed and when they need to be completed.

**MEMBER McEWAN:** So the obvious question is this facility's, we've just heard, 60 years old. We haven't had that type of SOP in place until now?

**MR. LeCLAIR:** Perhaps I can get CNL to answer with regards to their procedures and their operating manual.

**MR. PILKINGTON**: It's Bill Pilkington, for the record.

And to address this question, I have with me Mr. Brock Sanderson, who is the facility authority for the ZED-2 reactor, so I'd ask Brock to answer the question.

**MR. SANDERSON**: Brock Sanderson, for the record.

So yes, the ZED-2 reactor has been in operation for roughly 60 years. We do have an operating manual that is in place, and a full suite of operations as well as operating procedures. The gap that we identified here was that the-- we did not have specific valving instructions for the operation of these three isolation valves associated with the three dump tanks, and it has been -- the operation of those valves has been done by skilled-at-the-craft operator knowledge instead of specific operating instructions.

That was deemed as a weakness, and we have since corrected that weakness in the facility.

**THE PRESIDENT:** Thank you.

Monsieur Harvey.

**MEMBER HARVEY:** Merci, monsieur le

Président.

What is the -- at the moment, there is some heavy water in the dump tank ventilation duct work. What is the nature of the risk?

In that case, I think there's no effect, but could -- if the amount of water had been higher, then the -- could it -- well, what could have been the nature of the risk?

**MR. LeCLAIR**: Thank you. Jean LeClair, for the record.

The risk is actually very, very low. Because of the nature of this sub-critical assembly, this reactor -- the energy level is very, very low. The tritium concentrations in the heavy water are very low and will remain very low by the very nature of the experiments that are being conducted and the operation itself.

So the releases into the environment, releases into the work environment from tritium would be very low as noted by CNSC staff, so even if you had a significantly more heavy water released, still the consequences and the overall risk would still remain quite low.

**MEMBER HARVEY:** Even if a significant amount of water is there for a long period of time.

**MR. LeCLAIR**: That would be correct.

**THE PRESIDENT:** Thank you.

Mr. Tolgyesi.

**MEMBER TOLGYESI:** I have two. In one -- you have two different figures. In the Event Initial Report, you are talking about the 1.2 percent evaporation, which is 320 litres, and on CMD 16-M28A you are talking about just a half, so what's the difference?

And when you are considering 20 litres evaporation per month, this was discovered in quarterly report, which is three months. The three months times 20 is 60 litres, and you lost 160, at least. So it's something which doesn't match.

**MR. LeCLAIR**: So just to clarify, the total amount released relative to the total amount that's in inventory is fairly small. The other thing, the difference between the initial report and the supplementary report we provided to the Commission is they were actually able to recover a fair amount of the heavy water that they found in the ventilation system, so they recovered a fairly significant portion of it. And the end result was that the total amount that they now estimated as being lost was a fraction of what they originally estimated.

**MEMBER TOLGYESI:** And my second question is --

**THE PRESIDENT:** Before you leave that

question, how do you recover heavy water from ventilation? I'm curious about this.

Anybody can give us a 10-second clip on that?

**MEMBER TOLGYESI:** It's a liquid. It's a liquid in duct.

**MR. LeCLAIR**: So I would ask -- CNL should probably answer that question.

**MR. SANDERSON**: It's Brock Sanderson, for the record.

Yes, the liquid itself is in the ventilation system for the dump tank, and once we noted that there was an unexpected shortfall in our inventories, we used a borescope to go into the ventilation ducting and noted the water. We then have a couple of low points that we then open up, and drain points. And you noticed in the -- we had two different timings of recovery.

The first one was in the easily-accessible ventilation, and then the second part, roughly a month later, was in a low point that was not easy to access and we had to do some investigative techniques with regards to how to get to the water.

And in that interim, we had collected the totals that are in the EIR.

**THE PRESIDENT:** Thank you.

**MEMBER TOLGYESI:** So this is my question. You know, the ventilation is made to remove the air, suck it, move it, recirculate, whatever. Now, it's not for liquid.

So how come the ventilation system was located in a position that the flow-through was getting into which is -- from engineering point of view, I don't understand that because it's supposed to make sure that the vent air is moving, not the liquid in the ventilation tanks -- ventilation ducts.

**MR. SANDERSON**: Brock Sanderson, for the record.

This ventilation system is purely there for venting out the three dump tanks because in the event of tripping the reactor, you open up three 46-centimetre vent lines and you basically have a very large slug flow going into these dump tanks and, therefore, you need the air to come out of the tanks.

In the early days of the facility, recognizing this is roughly 60 years ago, heavy water was extremely precious, not only due to cost, but also due to availability, so in the design of this vent system, they also, in the day, had a heavy water recovery system which consisted of a chiller. And so in the early days, they would take the normal evaporation that came out of the dump

tanks, condense it and collect it, and then that collected water would go into feed stock to get purified heavy water at a later date.

That activity stopped roughly 25, 30 years ago due to the availability of heavy water and then the cost of operations versus the cost of buying.

So the ventilation system for the dump tanks was made watertight for that purpose.

**MEMBER TOLGYESI:** And is located on the -- not on the floor level, but kind of quite much lower level.

**MR. LeCLAIR**: Jean LeClair --

**MR. SANDERSON**: Brock Sanderson, for the record.

That is correct. The vent system is located above the dump tanks and basically at the basement level, and the dump tanks themselves are in a sub-basement.

**MR. LeCLAIR**: Jean LeClair, for the record.

So I'll echo the President's comments earlier. Perhaps next time we'll have a picture and that'll speak 1,000 words.

So -- because I did, in fact, again, see the installation and the duct work is just immediately above the dump tanks, and the three isolation valves are easy to see. So I'll keep that in mind for future dates

for the Commission.

**THE PRESIDENT:** Okay, thank you.

Ms Velshi.

**MEMBER VELSHI:** Is there any emission monitoring and, if so, I know these levels are extremely low, would it have picked up that something abnormal was going on?

**MR. SANDERSON**: Brock Sanderson, for the record.

No, there are no emission measurements coming out of the facility. There has been, in the past, an assessment with regards to the requirements associated with it.

We are using primarily virgin heavy water and, as noted earlier by Mr. LeClair, the tritium concentration in our heavy water actually decreases over time due to the decay of the tritium. And our facility staff or operations in the facility are not on routine tritium bio assay. However, we do have two individuals working in the facility that, for other activities, are on routine tritium bio assay and their bio assays have not shown detectable uptakes of tritium in the history of operations of ZED-2.

**MEMBER VELSHI:** Thank you.

**THE PRESIDENT:** So just to follow up on

this, I was -- I was intrigued the way the report has mentioned doing a quarterly heavy water checks, CNL staff noted a discrepancy.

Is that -- do they do this calculation routinely on every quarter, and is that the first time that a discrepancy was observed, or there may have been discrepancies historically which was never being paid attention to?

**MR. LeCLAIR**: Jean LeClair, for the record.

So they're checking their inventories quarterly. I think, again, we -- as Mr. Sanderson mentioned, the issue around the heavy water and this particular incident, a lot of it has to do with the value of the heavy water itself and not the risks associated with it. But they do do quarterly verifications, and perhaps I can ask Mr. Sanderson if he can elaborate further.

**MR. SANDERSON**: Brock Sanderson, for the record.

Yes, historically, we do do quarterly inventories and we report those inventories to our nuclear materials accountability individuals, and so they keep a running total of heavy water inventory in ZED-2 over time since its inception.

**THE PRESIDENT:** So historically, you never

detected those discrepancies.

**MR. SANDERSON**: Historically, we do detect losses due to evaporation during normal operations, and those numbers, historically, are roughly 20 kilograms per month that we lose due to evaporation. The number changes anywhere from 15 to 30 kilograms per month, depending on the amount of operations, time of year and absolute humidity in the air.

**THE PRESIDENT:** So this time, it was way above that particular threshold. Is that what we observe?

**MR. SANDERSON**: Brock Sanderson, for the record.

Yes, that is correct.

**THE PRESIDENT:** Okay. Thank you.

Anybody -- anything else?

Okay. Thank you very much.

The next item is the Event Initial Report regarding a fire near Denison Mines property and Quirke Lake as outlined in CMD 16-M36. And I understand that we have Mr. Ludgate from Denison Mines who is joining us via teleconference.

Mr. Ludgate, can you hear us?

**MR. LUDGATE**: Yes, I can. And it's Ian Ludgate.

**THE PRESIDENT:** Ludgate, sorry.

**MR. LUDGATE**: No problem.

**THE PRESIDENT:** So now CNSC staff will make a short presentation or speak to the -- make some comments. And I understand, Ms. Glenn, you're going to do it.

Over to you.

**CMD 16-M36**

**Written submission from CNSC staff**

**MS GLENN:** Good morning. My name is Karine Glenn, and I am the Director of the Wastes and Decommissioning Division here at the CNSC.

I'm here today along with CNSC staff to answer any questions that you may have on the May 24th fire that took place in the vicinity of Denison Mines in the Elliot Lake area as described in CMD 16-M36.

Before answering any questions, I would like to provide a brief update on the event.

CNSC staff have received the report from the Elliot Lake Fire Service. Their investigation has determined that the cause of the fire was a result of a tree that had fallen onto a power line just offside of the CNSC-licensed property.

The licensee, Denison Mine, has undertaken

a review of the event and this -- their report is expected to be completed by June 30th.

We are now available to answer any questions that you may have.

**THE PRESIDENT:** Thank you.

We'll start with Monsieur Harvey.

**MEMBER HARVEY:** What could have been the effect or impact of a fire over the tailing?

**MR. LUDGATE**: It's Ian Ludgate here. Is that question for me?

**MEMBER HARVEY:** Anybody that -- yes.

**MR. LUDGATE**: There would be no impact on the tailings management area because the tailings management area is decommissioned, and it has a one-metre water cover over the tailings.

**MEMBER HARVEY:** Thank you.

Well, I don't have any other questions except to say that the job has been well done. The fire extinguished quite quickly.

**MR. LUDGATE**: Yes.

**THE PRESIDENT:** Thank you. Ms Velshi.

**MEMBER VELSHI:** Yes, and I just actually have a very short question.

There is somewhere in the report that says that the fire department contacted the MNR to clarify

responsibilities. I was a little surprised why there would be a need to clarify responsibilities.

Do you want to comment on that? And Denison Mines, question to you.

**MR. LUDGATE**: Ian Ludgate at Denison.

I think there was initially some doubt as to whether the fire was in the jurisdiction of the Elliot Lake Fire Department or whether it was outside of the jurisdiction. It did occur very quickly following a conversation between the Elliot Lake Fire Department and the Ministry of Natural Resources that support was immediately needed, and the MNR very cooperatively dispatched manpower and equipment very quickly.

**MEMBER VELSHI:** Thank you.

**THE PRESIDENT:** Monsieur Tolgyesi.

**MEMBER TOLGYESI:** I have just one.

You were saying that the tree fall on the power line. Usually, hydro, they have a preventive power line maintenance which calls for tree cutting or debranching to make sure that the tree doesn’t fall on the power line.

So this power line was coming from the top to the property. Who was responsible for maintenance of this power line?

**MS GLENN:** Karine Glenn, for the record.

The area where the tree fell on the line was not on the Denison property, and the -- it was a Hydro One power line. They have a right-of-way and they are responsible for tree clearing around the power lines. And this right-of-way had been cleared as recently as 2013.

**MEMBER TOLGYESI:** Which means that 2013 to -- is three years, and it's -- the bush was growing really fast.

So should they call -- Denison should call to -- hydro to clean those things, or what's the consequence for what hydro's position was following this incident?

**MS GLENN:** Karine Glenn for the record.

Once again, the area where the tree fell was not on the Denison property, therefore it was on property that was, I believe, Crown land outside of the Denison site. Therefore, it was not Denison's responsibility to monitor the hydro and power lines outside of their facility.

The report was only obtained late last week. Maybe Mr. Ludgate has an update regarding whether or not Hydro One has responded to this, but CNSC staff do not.

**MR. LUDGATE:** Ian Ludgate, for the record.

Hydro One has responded and replaced the pole -- or a pole near the area where the tree had

apparently fallen onto the power line. This is one of the questions that we will be trying to answer in the next couple of days while we prepare our final report and lessons learned for the CNSC.

**THE PRESIDENT:** Thank you.

Dr. McEwan.

**MEMBER McEWAN:** So do you plan to give us an update on that final report?

**MR. LUDGATE:** Ian Ludgate, for the record.

Yes, I've committed to have the report to the project officer's hands by the end of this month.

**MS GLENN:** Karine Glenn, for the record.

CNSC staff will report on this event, as is the current practice in our Regulatory Oversight Report.

**THE PRESIDENT:** Thank you.

Any other comment?

I think the licensee and staff did real good work here. Any particular lesson that you would do otherwise, improve on? That's good test drive to a potential disaster, right? We have two of then now, in Fort McMurray and this one. Any lessons from your side?

By the way, did you get a lot of hits on both the licensee website and the CNSC website when we posted this information?

**MS GLENN:** Karine Glenn, for the record.

No, there was very little interest that was generated from this event. It was responded to very quickly. CNSC staff is pleased with the licensee's response in this case. They collaborated fully with the first responders, were very proactive in their actions, and the fire was extinguished within three hours.

The local media did have it on their Facebook page, and, again, it generated very little interest. We had no inquiries from the media at the CNSC regarding this event.

As for any lessons learned, we have already, as a result of the fires last year in Saskatchewan, taken a look at emergency response for remote sites and we are following up with licensees to ensure that their emergency managements programs on site are adequate and effective specifically for sites where there is staff located in remote areas for evacuation and that area of response.

But with a site, for instance like the Denison Mines site, where there's no staff on site, we're very satisfied with the licensee's response.

**THE PRESIDENT:** Thank you.

Are there any other event initial reports?

Okay, so I'll move on.

The next item on the agenda is an

information item to provide us with an update on the Fitness for Service for the Chalk River Laboratories, as outlined in CMD 16-M32. This was a request from the Commission made during the April 6th, 2016 public hearing.

I hope that Mr. Pilkington is still online, and I will return the floor back to Ms Tadros.

**CMD 16-M32**

**Written submission from CNSC staff**

**MS TADROS:** Thank you, Mr. President.

You are correct, CNSC staff do not have a presentation. We are providing this first --

**THE PRESIDENT:** Sorry to interrupt, but, Mr. Pilkington, are you still with us?

**MR. PILKINGTON:** It's Bill Pilkington for the record.

I am still with you, and also I have with me Neil Mantifel, our Director of Equipment Reliability, to answer any questions that the Commission members might have.

**THE PRESIDENT:** Thank you.

Please go ahead.

**MS TADROS:** For the record, my name is Haidy Tadros.

We are providing this very first status update as a written submission on the Fitness for Service for the Chalk River Laboratories.

As this is staff's first update to the Commission, we welcome your feedback on the information that you see before you in hopes of improving the information as we come before you regularly during these Commission meetings.

With that, I'd like to reintroduce Mr. John LeClair, Director of the Nuclear Laboratories and Research Reactors Division, and also Mr. John Jin, Director of the Operational Engineering and Assessment Division, and other colleagues who are familiar with this file.

We are here to take any questions that you may have.

**THE PRESIDENT:** Okay, let's get into the questions session with Ms Velshi.

**MEMBER VELSHI:** Thank you, Mr. President.

Again, recognizing that this is the first such report, I personally found it of very limited use, other than the reassurance that, at least according to staff, things are moving as expected. So I'd like a little more specificity in future updates, when we expect CNL to meet the requirements and be at the satisfactory level, and if there is any kind of, I don't know if it's a work done

curve or -- well, something, percentage complete, or whatever, that can allow us to monitor more closely how things are coming along, and specifically what's been done, and, if there are any challenges, that those get identified.

Again, at the big-picture level, you gave us the assurance, but more specificity would be very helpful.

**MS TADROS:** Thank you. We will do that for the next meeting.

**THE PRESIDENT:** But in the meantime, I would like to hear from CNL.

Is there a deadline for achieving a "Satisfactory" rating from CNSC?

**MR. PILKINGTON:** It's Bill Pilkington for the record.

We would like to achieve a "Satisfactory" rating as early as possible, and we're working aggressively towards continued improvements in Fitness for Service.

I would point out that the NRU reactor continues to operate safely, that the Performance Improvement Program continues aggressively, where we've invested more than $300 million since 2011, and we're investing more than $25 million in this year to move towards improved equipment performance, improved safety

performance overall.

We take this very seriously. We're working very hard. We are looking at what gaps still exist that need to be closed, and we look forward to meeting with CNSC staff to determine what are the criteria that will bring us to a satisfactory rating.

**THE PRESIDENT:** That all sounds very good, but I was looking for a calendar date, because this has been going on for a significant amount of time. So I would have liked to have seen a target date from both CNSC and CNL.

Can somebody give me a clue? Is it going to be in my lifetime?

**MR. LeCLAIR:** Mr. President, the target date at this time would be at or before the next licence renewal. We still need to work out details, as Mr. Pilkington mentioned. We need an absolute clarity on the remaining gap and the close-out criteria to achieve that.

But if you want a date right now, I would say the target right now would be at or before the next licence renewal.

**THE PRESIDENT:** Which is? Remind everybody.

**MR. LeCLAIR:** Assuming we have a positive decision by the Commission that would be March 2018.

**THE PRESIDENT:** That sounds like a long time to me for something that's been in action for -- how many years were they rated below --

**MS TADROS:** Two thousand and six.

**THE PRESIDENT:** Five years?

**MR. LeCLAIR:** Ten.

**THE PRESIDENT:** Ten years.

**MR. LeCLAIR:** Jean LeClair, for the record.

It's been certainly a long period of time. As a director who's been on the job for two weeks, I can assure you that I will be focusing a lot of my energy in this particular area, and we will work very, very closely with CNL. Unfortunately, I can't give you an earlier date at this time because we need to do a bit more work with CNL, again to get that clarity, to make sure that we're both very clear on what the remaining gap is and what the close-out criteria will be, and we'll come back to the Commission with further updates. If we can get that date sooner, certainly I think it's all in everyone's best interest.

**THE PRESIDENT:** Well, you know, in every meeting -- right now, in every meeting, there will be a standing requirement for you to report back. I'd like to see a little bit more definitive plans, with action and

dates, by the next report.

**MR. LeCLAIR:** Understood.

**THE PRESIDENT:** Okay, thank you.

Mr. Tolgyesi.

**MEMBER TOLGYESI:** I'm a little bit surprised with the answer of CNL when you are saying, "satisfactory as soon as possible." "As soon as possible" is so wide that it could be 2018, 2025. You don't have any kind of inside progress and time frame which is telling you that, how you progress, and do you see them -- staff, do you see this progressing, because there's nothing about that?

**MR. LeCLAIR:** Jean LeClair, for the record.

CNL provides us quarterly updates of their IIP program that goes through exhaustive level of details with regards to all the changes that are made in these three areas.

Again, I'll take the feedback from the Commission that in the next status update we'll provide more level of detail, but they're reporting to us quite regularly. We independently verify our inspections are done to check on progress as well.

So, again, I'll say that in the next report we'll make sure that we provide more details.

If you want something a little bit further immediately, as Ms Tadros mentioned, we have Dr. John Jin here, who can touch on the periodic inspection program, perhaps, and elaborate a bit further in that area, for the Commission's interest.

**MR. JIN:** John Jin, for the record.

I'm the Director of the Operational Engineering Assessment Division at the CNSC.

The specialist in my division has been looking after the structural integrity in particular of the NRU facility after the incident back in 2010. After the incident, the staff has reported on a regular basis about the Fitness of Service Assessment Report and staff has been satisfied with the condition of the structural integrity of the NRU facility.

In addition to that, we confirmed that the Periodic Inspection Program at the NRU has been improved in terms of the rigorousness and in terms of the inspection score.

Staff also confirmed that the preventive -- so the reason for the leak event in 2010 was that the licensees are not aware of the corrosion going on in that area, so staff confirmed that the licensee have in place two preventive measures to prevent any leak from the same location, and also are already going on.

So there are many elements that are giving the specialist confidence that the integrity of the NRU has been maintained on a satisfactory matter. So I'm in a position to tell you, assure you, that the integrity of the NRU has been maintained in a satisfactory manner.

**THE PRESIDENT:** I'm trying to understand what we are really talking about.

The NRU will be shut down this year, October if memory serves right, and then it's on standby only, and going to be permanently shut down by 2018. So what improvement are we going to make them do to get satisfactory? We sure as hell don't want them to spend -- to refurbish the whole NRU if it's not going to be in operation. We've got to come up with a scheme where everybody is happy, from CNL's side and from the CNSC side, about what does it make -- what does "satisfactory" mean for a reactor that's going to be shut down this year? What am I not getting?

**MR. LeCLAIR:** Jean LeClair, for the record.

So, in fact, when I said they're looking at the remaining gap, and looking at what steps need to be taken, is, in fact, taking into account these plans with regards to it -- Moly production to be stopping in October and the eventual shutdown of the reactor, which is planned

in 2018. And part of what we're looking at, in fact, is the whole Fitness for Service for the remainder of the site, taking into consideration all the risks.

So we're in the process of doing that. Part of that is relooking, in fact. There are changes happening on the plans even right now on the IIP because of the decisions that have been made with regards to NRU, so those all need to be factored in --

**THE PRESIDENT:** I know. I just want to make sure that, at the eleventh hour, when you come to us for a licence renewal, that we don't get still into this debate about what Fitness for Service means in an operation about to be shut down.

**MR. LeCLAIR:** Mr. President, that's fully understood: that we need to achieve clarity, and this will not happen the month before the hearing. We're working on it right now.

**THE PRESIDENT:** Okay.

Dr. McEwan.

**MEMBER McEWAN:** So, again, it just comes back to detail, and also this issue. I mean we tend to focus on the NRU, but this is a big site, and the Fitness for Service is, again, reflecting new buildings, old buildings, all the structures. It might be helpful to us to have some sort of table of where the issues are. I

think what's worried me over this standby for the NRU, in a facility which is below expectations already, is how can we be assured that if it is suddenly required to go back into service for moly production, recognizing that it will continue operations, that there hasn't been further degradation of the processing facility, for example, that takes it below expectations. So I think that would be part of the detail that would be very helpful as we go forward.

**THE PRESIDENT:** CNL, do you want to comment on all of those things?

**MR. PILKINGTON:** It's Bill Pilkington for the record.

I would just clarify that although the isotope mission will move to standby as of the end of October of this year, we will be continuing to operate the NRU reactor at high power. In addition to molybdenum-99, we do produce other isotopes and we will be using the NRU to progress science for the remainder of its life.

That said, we're in agreement with staff on the general path forward to address this issue.

**THE PRESIDENT:** Okay, thank you.

Monsieur Harvey.

**MEMBER HARVEY:** Mr. Pilkington just mentioned at the beginning that he will talk to the staff to get the criteria to get to that satisfaction point. So

my questions is: Do you know exactly those criteria if tomorrow they come to see you, and say, "This is what you have to do, one, two, three, four things"?

**MR. LeCLAIR:** Jean LeClair, for the record.

Progress has been made. A number of the criteria are met. That's why we're in the process of finalizing it. So when you say "exactly the criteria," the answer would be no. That's why we're getting in those final discussions right now.

But I want to reiterate that progress is being made, the clear evidence of progress that we've been monitoring and verifying regularly. So the short answer is we have criteria right now, we have subareas that we look at within the Fitness for Service area, but we still need to get some finalization.

Also, again taking into account that part of that rating needs to take into account the plans for the site itself. So if I can just touch on a certain area to provide of that, the condition of the vessel, as we all know, is not perfect. It's far from perfect. There's a number of measures they need to have in place in order to ensure that the vessel is being inspected regularly, and they're verifying it, and they have a number of measures that are in place.

Ideally, the solution would be to replace the vessel. Clearly, that's not something that we would expect. But we want to look at the vessel, and the vessel integrity, and how does that -- the measures that have been taken, how does that fit in now with regards to looking forward now?

So that's part of the criteria that we're trying to get refined. We have them, but we need something a little more exact so that we can get that clarity with CNL and within ourselves to make sure we can move this to closure.

**MEMBER HARVEY:** Because the problem I have is to have an idea of the importance of that Fitness for Service in that case. What is the weight of that Fitness for Service, you know, expectation, when you say that everything is satisfactory, we can continue to operate? So what is the weight of that Fitness for Service? Is it something important or not?

**MR. LeCLAIR:** So the first thing I should say is all the safety control areas are important. If they weren't important, we wouldn't be measuring them, we wouldn't be verifying, we wouldn't be inspecting and doing all the work that we do. So it's clearly important. But that being said we look at Fitness for Service. In this particular situation CNL has a number of other measures

that are in place to make up for the fact that this area is not as strong as it can be. I also want to remind the Commission that the below expectation is not unsatisfactory. It does not mean that it's below a threshold that we now would deem unsafe.

So below expectation does not translate to unsafe conditions. If it was, we certainly would not recommend them to continue to operate. So it is below expectations, but -- so we are working on it, and we're continuing to make progress in that way.

**THE PRESIDENT:** Mr. Jammal.

**MR. JAMMAL:** It's Ramzi Jammal for the record.

I would just like to reiterate the fact that any safety significant issues have been resolved and been addressed. What we're talking about is progress associated with the Fitness for Service. So I confirmed the fact that we have discrepancies between us as a regulator and CNL as the implementer or the licensee with respect to the implementation to the satisfaction of the CNSC.

As you recall, the Commission approved the Integrated Improvement Plan of the AECL at the time, and CNL right now. CNL has accepted and adopted all of the program requirements that the Commission approved. So the

elements that are not of immediate safety significance, that's what we're talking about with respect to Fitness for Service.

And your question, Mr. Harvey, is very valid: What is the safety risk's significance? No Fitness for Service element that is associated with the immediate safety of the NRU is left unattended, nor no regulatory oversight was being applied. What we're talking about is fitness-for-service, as Mr. LeClair said, is associated with the NRU and the site itself because CNL adopted the programs or previous programs that they had deficiencies in them.

But we still have issues where we call it criteria for closure that CNL at times cannot meet, but we are going to take now into consideration the condition of the site and the operations associated with the site itself, from the standby of Moly production to the NRU continued operation for the production of other elements, as Mr. Pilkington has mentioned.

So we will come back to you with much more detailed elements.

And we already have that experience. When the NRU was undergoing repairs, we were coming before the Commission on a standing business at every Commission meeting, giving you the data that Ms Velshi has requested.

So we started with so many items to be done and then we were providing you with the progress.

In this case, we will be providing you with the data with respect to what was accepted as a program by CNSC staff and how it's being implemented by CNL. But we need to come to clarity with respect to what is required for closure and come to agreement what closure looks like, because we do not want to relive the fact that what we consider not closed where in fact the licensee thinks it is closed and that is the work that is being put in place right now.

And Mr. LeClair is giving you an extreme deadline, but most likely we will be meeting and coming to a conclusion way before the Commission renewal or the CMD being produced before the licence renewal.

**THE PRESIDENT:** Okay.

Any other questions?

Just, you know, we have 14 safety and control areas and plus other issues that we assess together to give a bottom-line rating to a facility. However, fitness-for-service is a connotation that if it's below expectation it's definitely not fit for service. So we have a PR issue here about how do you justify -- allow operation when it's not fit for service, okay?

I'm paraphrasing but you can see how

people, at least a lay person will believe that this particular SCA has a high weight on risk assessment and that's why we are all very concerned to bring this to some sort of a resolution one way or another. And it shouldn't be during the licence renewal, it should be way, way before, please.

So we are looking forward to the next report to give us a lot more details and a lot more definitive closure dates. Okay?

So thank you for that and we will take a 10-minute break, returning at 10 to 11:00. Thank you.

--- Upon recessing at 10:39 a.m. /
Suspension à 10 h 39
--- Upon resuming at 11:07 a.m. /
Reprise à 11 h 07

**THE PRESIDENT:** So let me start again by apologizing for being late. We had some issues, so I apologize for that.

**CMD 16-M25/16-M25.A**

**Oral presentation by CNSC staff**

**THE PRESIDENT:** I would like to move on to the next item on the agenda, which is a decision item on the Regulatory Document 2.13.2, Import and Export, as outlined in CMD 16-M25 and 16-M25.A

I understand that Ms Owen-Whitred will make the presentation. Over to you.

**MME OWEN-WHITRED :** Bonjour, Monsieur le Président, membres de la Commission.

My name is Karen Owen-Whitred, Director of the Regulatory Framework Division.

With me today are:

- Claire Pike, Senior Advisor, Non-Proliferation and Export Control Division;

- Susan Fundarek, Regulatory Framework Officer;

- Kathleen Heppell-Masys, Director General, Directorate of Security and Safeguards; and

- Brian Torrie, Director General, Regulatory Policy Directorate.

Before proceeding, I would like to note one correction to CMD 16-M25.

In the Executive Summary of this CMD --

that's on page 1 -- within the fourth paragraph, the text reads:

> "...CNSC received 47 comments from six respondents: ..."

This is a typo and should read:

> "...36 comments from six respondents: ..."

We are here today to request that REGDOC-2.13.2, Import and Export, be approved for publication and for use by CNSC staff in assessing the acceptability of licensees' import and export activities.

Before turning the presentation to Ms Pike, who will discuss the document in detail, I will briefly review where REGDOC-2.13.2 is situated within the CNSC’s regulatory document framework.

To enhance accessibility of our regulatory expectations, the CNSC structures our regulatory documents according to the framework shown here.

This slide shows where REGDOC-2.13.2 fits into the CNSC’s broader document framework.

It is situated within section 2.13: Safeguards and non-proliferation. This section also includes regulatory requirements and guidance for accounting and reporting of nuclear material.

I would now like to turn the presentation

over to Ms Pike.

**MS PIKE:** Good morning. My name is Claire Pike and I am speaking to you today in my capacity as the technical lead for this document.

During today’s presentation, I will identify the goal of this REGDOC, provide you with some general context of the licensing program and discuss the benefits of the REGDOC.

I will also identify some of the topics addressed and the consultation process that was followed.

The presentation will close with staff's conclusion and our recommendation to the Commission to approve the Import and Export REGDOC for publication.

This document sets out the CNSC's guidance for current and prospective licensees who intend to import or export nuclear and nuclear-related dual-use items -- also known as controlled nuclear substances, equipment and information.

During the presentation, these terms will be used interchangeably.

The REGDOC represents a significant milestone: codifying the CNSC's existing practices and procedures in one document developed specifically for an external audience.

In terms of context, each year the CNSC,

through a Designated Officer, issues between 500 to 700 import and export licences for nuclear and nuclear-related dual-use items. Eighty percent of these licences issued are export licences.

Our licensees range from larger companies that are well known within the CNSC and the nuclear industry writ large, to smaller less known companies with only a handful of employees.

The next slide provides an overview of the import/export Regulatory Document.

In terms of content, the REGDOC outlines the basis for import and export controls implemented by the CNSC for controlled nuclear substances, equipment and information. It also explains the domestic and international aspects of the licensing program.

The REGDOC provides practical information, such as:

- how to apply for a CNSC import or export licence;

- what is authorized by these licences; and

- the processing time and service standards.

The REGDOC also describes how the CNSC evaluates import and export licence applications and how we

verify compliance with regulatory requirements.

Everything noted so far describes current practice and, as such, the REGDOC is essentially a guidance document.

There is one exception, however, and that is the final paragraph in section 4.2 of the REGDOC on foreign-origin uranium. This paragraph identifies a departure from current practice that is being proposed by the CNSC in order to strengthen nuclear non-proliferation controls.

The next slide provides some background on the type of items controlled under this licensing program.

So just what are controlled nuclear substances, equipment and information?

They are those items listed in the *Nuclear Non-proliferation Import and Export Control Regulations* and represent the items of most concern from a nuclear proliferation point of view.

The NNIECR are based on lists of nuclear and nuclear-related dual-use items agreed by the Nuclear Suppliers Group, a multilateral export control regime of which Canada is a member.

The Regulations are comprised of two parts, Part A and B.

Items listed in Part A of the Regulations

are those controlled nuclear substances, equipment and information that are especially designed or prepared for nuclear use. They represent about 70 percent of the licences issued under these Regulations.

Examples of the types of items listed in Part A include uranium, plutonium, reactor equipment and related technology.

Items listed in Part B of the Regulations are those that have legitimate non-nuclear applications but can also make a significant contribution to an unsafeguarded nuclear fuel cycle or nuclear explosive activity. They represent about 30 percent of licences issued under these Regulations.

Examples of the types of items listed in Part B include high purity nickel powder, certain types of machine tools, high explosives and related technology.

The next slide will outline the benefits of this Regulatory Document.

This REGDOC is essential to communicating the regulatory program for import and export controls. Staff already do this through the CNSC website and by being accessible to existing and prospective licensees -- for example on other end of the telephone, onsite meetings with companies -- in order to address any questions that they might have.

All of this is important. However, it's also necessary to have a reference document that exporters and importers can use as a "go to" resource to better understand the context of the program as well as the specific regulatory requirements that are placed on them.

Finally, the REGDOC can be an important outreach tool where dual-use exporters are concerned.

Their product lines are those that have legitimate commercial applications but could also -- in the wrong hands -- make a significant contribution to an unsafeguarded nuclear fuel cycle.

Given the nature of their business, they may not be aware that their products are controlled for export.

This can have serious repercussions from a non-proliferation point of view. Nobody wants to have Canadian exporters -- unwittingly or knowingly -- supplying nuclear weapons programs.

Now that some of the benefits of this REGDOC have been identified, we will look at the consultation process that was followed by staff.

The REGDOC was sent to subscribers of the CNSC's INFO email account as well as to current and past importers and exporters of items listed in the Regulations. The 60-day consultation period began in February 2014 and

the feedback on comments received occurred between May and June 2014.

In total, staff received seven submissions and dispositioned 37 comments. All of the comments submitted and the CNSC's responses to those comments are detailed in a 21-page consultation table that was included as part of the CMD package.

I would like to note that a number of revisions were made to the REGDOC based on the comments received. The revised REGDOC and the disposition table -- sorry.

The first was from Bruce Power with two comments related to a typo and a copy/paste error -- I'm sorry, I have missed a bullet, so I'm just going to go back.

So I was finishing up with that we had made a number of revisions to the REGDOC based on the comments received, and what I should have said next was the revised REGDOC and the disposition table were emailed in April of this year to all who submitted comments.

Two additional submissions were received after that. The first was from Bruce Power, with two comments related to a typo and a copy/paste error in the dispositioning table. Both of these were addressed.

The second comment received was from

Cameco and registered their continued concern with the change being proposed by the CNSC in section 4.2 of the REGDOC with respect to exports of foreign-origin uranium. This will be addressed in greater detail later in the presentation.

The next part of the presentation examines the three key comments raised during the public consultation. For each key comment, staff will provide the relevant background and how the CNSC addressed the concern.

The first key area of comment was with respect to intangible technology transfers and how to comply with section 18 of the *General Nuclear Safety and Control Regulations*.

Section 18 of the General Regs is an example of one tool that the CNSC uses to verify compliance for the export and import of items listed in the *Nuclear Non-proliferation Import and Export Control Regulations*.

Section 18 requires a licensee, on importing or exporting a nuclear substance, prescribed equipment or prescribed information, to present their import or export licence to a customs officer.

It's important to note that all controlled nuclear information is prescribed information for the purposes of the Act, with respect to the import and export of that information. The NNIECR define controlled nuclear

information in sections A.4 and B.3 of those Regulations.

By way of background, it is technical data for the design, production, construction, operation or maintenance of any item listed in the Regulations -- except when that information is publically available. For example, the Regulations control the export and import of fueling machines. Therefore, any technical data related to the design, production, construction, operation or maintenance of a fueling machine would be considered controlled nuclear information.

Now, back to the section 18 requirement saying that an exporter must present their authorization to a Customs Officer.

In most cases, this is done by citing the licence in the documentation provided to Canada Border Services Agency prior to import or export.

However, this is not so straightforward when a licensee imports or exports prescribed information through intangible means. Examples of intangible transfers include exchanging information through emails, downloads, telephone conversations or training.

In these cases, it's difficult to present the CNSC licence because the information does not physically cross the border. Moreover, Canada Border Services Agency does not require an export or import

declaration in such circumstances.

In response to licensee concerns, the CNSC has proposed that section 18 of the General Regs be amended to remove the requirement to present an import or export licence to a customs officer for prescribed information.

In the interim, stakeholders have been advised to consult with the CNSC when submitting a licence application that involves intangible transfers of technology to discuss how they can remain compliant with section 18 until the proposed amendment takes effect.

The second key area of comment was regarding a preference for a single export authorization process in Canada for nuclear and nuclear-related dual-use items.

Presently, both the CNSC and Global Affairs Canada control the export of these items. The CNSC issues licences through its *Nuclear Non-proliferation Import and Export Control Regulations* and Global Affairs Canada issues permits through its *Export Control List*.

While the preference of licensees for a single authority in this area is understandable, it's not feasible at this moment given that there are two separate Acts involved -- the *Nuclear Safety and Control Act* and the *Export and Import Permits Act* -- and each of these Acts has their own statutory requirements.

Additionally, making such a change is well beyond the scope of this REGDOC.

Finally, it's important to note that, in recognition of this overlap, Global Affairs Canada introduced general export permits for nuclear and nuclear related dual-use items when certain criteria are met, and one of these is a CNSC export licence.

The final key area of comment was with respect to using section 4.2 of the REGDOC to change how the CNSC implements Canada's nuclear non-proliferation policy where exports of foreign-origin uranium for nuclear use are concerned.

During the 2014 consultation period, the REGDOC stated that all exports of foreign-origin uranium for nuclear use would be made subject to a Nuclear Cooperation Agreement between Canada and the recipient country at the time of export.

A Nuclear Cooperation Agreement is a treaty-level agreement that establishes reciprocal obligations between Canada and the partner country. These obligations are designed to minimize the risk of proliferation associated with the international transfer of major nuclear items.

It's important to emphasize that the obligations are on the recipient country, not on the

exporter.

Cameco, the only stakeholder affected by this change, registered significant concerns with the proposed approach.

Presently, Canada's nuclear non-proliferation policy requires that only exports of Canadian-origin uranium are subject to a Nuclear Cooperation Agreement between Canada and the recipient country.

In response to the concerns raised, the CNSC held a meeting in January 2015 with interested stakeholders to discuss the proposed change in approach.

During the meeting, Cameco stated that there should have been earlier engagement on this policy change, for example, a discussion paper on the issue.

They also expressed the concern that the proposed change could result in commercial uncertainty. They stated that placing Canadian obligations on foreign-origin uranium that has been processed in Canada could result in customers choosing conversion services from other countries.

At this juncture, I would like to use the diagram on the next slide to outline the CNSC's approach to exports of foreign-origin uranium for nuclear use.

So this slide will unfold in three phases:

- to explain what is presently being done;

- what was initially proposed in the draft REGDOC that went out for public consultation in 2014; and

- finally, the revised language that is now being proposed as a result of the concerns expressed by Cameco.

The first row that we see, which is presently up for you, represents what is happening currently.

Before getting started, however, I would like to start with a small roadmap for this slide.

The cylinders on the slide represent uranium and you will see that within each cylinder there is the name of a country. So, for example, on the left of the slide we start with Canadian uranium as well as uranium from Australia and Namibia.

The uranium from Australia and Namibia are examples of foreign-origin uranium imported to Canada for processing -- for example, conversion -- prior to being exported to another country for further use in the civilian nuclear fuel cycle.

The flags represent uranium that is subject to a Nuclear Cooperation Agreement -- this uranium is said to be obligated. In other words, it is subject to the non-proliferation provisions contained in the Nuclear

Cooperation Agreement.

The arrows depict the processing of the uranium in Canada and its subsequent export from Canada.

The right side of the diagram shows whether or not an obligation is placed on the uranium upon export. Cylinders with a flag are obligated.

As I mentioned earlier, the first row, entitled "Now," shows the current practice.

On the left side, we see foreign uranium that has been imported for processing in Canada. The flag on the Australian uranium shows that Australia has made that uranium subject to its Nuclear Cooperation Agreement with Canada. Therefore, it carries an Australian obligation as shown by the Australian flag.

Still on the left side, we see that the other foreign-origin uranium -- from Namibia -- does not have an obligation attached to it and, therefore, there is no flag. It is unobligated.

At some point after the uranium has been processed, the CNSC receives an export licence application.

So what happens to each of these cylinders on the left side?

Well, for the Canadian uranium, the CNSC exchanges bilateral notifications with the recipient country and the uranium is made subject to a Nuclear

Cooperation Agreement between Canada and the receiving country. It's, therefore, Canadian obligated, and that's why we see a Canadian flag.

Why do we do this?

As mentioned earlier, Canada's nuclear non-proliferation policy requires that Canadian uranium is made subject to a bilateral treaty-level Nuclear Cooperation Agreement between Canada and the recipient country.

What is the current practice with the foreign-origin uranium?

When the CNSC receives an export licence application to export foreign-origin uranium, it does not exchange bilateral notifications with the recipient country. Canadian policy does not require foreign-origin uranium to be made subject to a Nuclear Cooperation Agreement between Canada and the receiving country.

This is because in the late seventies the ministers responsible for Canada's policy decided that foreign-origin uranium processed in Canada could be exported for nuclear use to countries with whom Canada did not have a Nuclear Cooperation Agreement so long as these countries had signed and ratified the Treaty on the Non-Proliferation of Nuclear Weapons and were members of the Nuclear Suppliers Group. This decision was taken at

that time so as not to unduly restrict legitimate trade and fuel services provided by Canadian industry.

As a result, foreign-origin uranium processed in Canada is not made subject to an NCA between Canada and the recipient country. In the diagram, this is shown by the fact that there is no Canadian flag on the Australian or the Namibian uranium in the first row.

Moving to the middle row, entitled "Original Proposal."

In 2014, the CNSC proposed, via the draft REGDOC, to make all exports of foreign-origin uranium subject to a Nuclear Cooperation Agreement between Canada and the receiving country at the time of export in order to strengthen nuclear non-proliferation controls. Implicit in this approach was the recognition that Canada now has more Nuclear Cooperation Agreements than it did in the late seventies.

Therefore, the original proposal (in the middle row) saw all of the foreign-origin uranium picking up a Canadian obligation upon export. This is denoted on the right side by the Canadian flags on both the Australian and the Namibian uranium.

In terms of the Australian uranium, it would have a double obligation, meaning it's subject to a Nuclear Cooperation Agreement between Canada and the

recipient country as well as a Nuclear Cooperation Agreement between Australia and the recipient country.

As noted earlier, Cameco, the only stakeholder affected by the change proposed, raised concerns with this approach.

This brings us to the bottom row, "Revised Proposal."

In response to the concerns raised by Cameco, the text in section 4.2 of the REGDOC was modified so that foreign-origin uranium that already has a foreign obligation will not be captured by the CNSC's proposed approach.

Therefore, looking to the right side of the bottom row, we see that under the revised proposal only the Namibian uranium in our example would be made subject to a Nuclear Cooperation Agreement and therefore carry a Canadian obligation.

To summarize, as a result of Cameco's concerns, the CNSC revised the original proposal so that only foreign-origin uranium that is not already subject to a bilateral agreement with Canada -- in other words, it is unobligated -- will be made subject to the terms and conditions of a bilateral agreement between Canada and the recipient country at the time of export.

This change would come into place with

your approval to publish this REGDOC.

As noted on slide 9 of this presentation, Cameco continues to have some concern with the change being proposed by the CNSC, even in this revised form.

CNSC staff, however, note that the revised approach avoids a situation where Canada would be responsible for placing a double obligation on foreign-origin uranium exported from Canada. More importantly though, under the revised approach, nuclear non-proliferation controls continue to be strengthened since it ensures that all exports from Canada of foreign-origin uranium for nuclear use are subject to legally binding, treaty-level Nuclear Cooperation Agreements, be it Canada’s or another country's.

If approved, REGDOC-2.13.2, Import and Export, will be immediately published on the CNSC's website following the Commission’s decision.

There will be a six-month transition period for placing Canadian obligations on exports of foreign-origin uranium that was originally imported to Canada without a foreign obligation.

This will allow the CNSC to outreach with our foreign partners with whom we implement these agreements. The CNSC will formally notify them of the change regarding exports of foreign-origin uranium from

Canada. Priority will be placed on those partners whose countries receive significant exports from Canada of foreign-origin uranium for nuclear use.

In conclusion, it is CNSC staff's opinion that REGDOC-2.13.2, Import and Export, is essential to communicating the regulatory program for import and export controls related to controlled nuclear substances, equipment and information to existing and prospective licensees. Quite simply, it assists exporters and importers in understanding regulatory requirements. As such, CNSC staff believe that this REGDOC is ready for final approval and publication.

Thank you for your attention and we remain available for any questions that you may have.

**THE PRESIDENT:** Thank you.

So I would like to start the question session with Monsieur Tolgyesi.

**MEMBRE TOLGYESI :** Merci, Monsieur le Président.

On page 1, import/export, you are saying in number 2, Scope, the last paragraph:

> "This document does not apply to risk-significant radioactive sources ... and lower risk nuclear substances ... as set out in IAEA RS-G-1.9 ..."

Could you be more explicit and clarify what is covered, what is not covered?

**MS PIKE:** Claire Pike for the record.

We decided at the front of the REGDOC to ensure that there was no confusion. The CNSC implements export and import controls in several different areas. This REGDOC only deals with nuclear and nuclear-related dual-use items, as described in the presentation. Therefore, we wanted to make sure that within the opening of the REGDOC there was no confusion to think that other aspects of the import and export control program implemented by the CNSC were affected.

**MEMBER TOLGYESI:** And my second question. You were talking about that Cameco still has some concerns. Could you tell us what is their position, what are they defending, what do they expect?

**MS PIKE:** Claire Pike for the record.

Cameco, in their follow-up communication that they submitted after receiving the revised REGDOC, along with all of the other respondents, continued to voice the same concerns in terms of the consultation as well as the potential impact on their commercial operations.

**THE PRESIDENT:** So why are they not here?

**MR. TORRIE:** Brian Torrie for the record.

I had discussions with Cameco during the

past week about being here and essentially what they said was they felt that the information they provided during the consultation was adequate and that they had no further clarification they could provide by being here in person. So that was their decision not to come.

**THE PRESIDENT:** So they are *de facto* accepting your REGDOC?

**MR. TORRIE:** Well, I think, as we said in the presentation, they still have concerns but they didn't feel that they could add any more by being here to convince you otherwise, I guess.

**THE PRESIDENT:** Dr. McEwan...?

**MEMBER McEWAN:** Thank you, Mr. President.

I guess this really relates to Bruce's comments on cloud computing and page 10 where you discuss intangible technology transfers. The one thing that struck me in this is there is really no guidance around that. You say talk to us, but as Bruce pointed out, given the ubiquitous nature now of the cloud and data stored on the cloud, there are obviously security implications around that as well.

But does this actually provide enough guidance to somebody who is trying to transfer data? I mean if I'm reading this I would have no idea what I was allowed to do and what I wasn't allowed to do, what was

included, what wasn't included in that realm. That seems to me to be a gap in what you think is a comprehensive REGDOC.

**MS PIKE:** Claire Pike for the record.

We have to keep in mind that there are several items that run through this REGDOC which one could spend pages describing the actual process. The intent of the REGDOC was to consolidate what was largely existing practice and to make people aware of different items.

Staff recognize that cloud computing, cloud technology is a new area, but it is not somewhere where we are alone. A lot of our partners, international partners, are also working to deal with how to address this challenge.

In terms of exporters and what they would need to be aware of, that information is in the REGDOC in the sense that -- as well as the Regulations -- if you are exporting or importing controlled nuclear information, so something that would go into cloud technology or a cloud, that is controlled regardless of the means, whether it's physical, tangible, something I can touch, or it's intangible.

We had a lot of discussions on this section of the REGDOC and at the end of the day it was decided that the most prudent approach was to, first of

all, make exporters aware of the fact that -- or remind them that controlled nuclear information is controlled nuclear information. It doesn't matter if it's tangibly exported or by intangible means.

So that section of the REGDOC is solely to make people aware of that and we have asked people to follow up with us in those cases because, as I mentioned earlier, it is still a place that, internationally, countries are considering how best to deal with it.

In the last year we have consulted closely with our colleagues in legal services and we have held about three or four different meetings with exporters who are considering taking advantage of this area in order to provide guidance to their specific situation, because it may change depending on -- or it may be different depending on who the exporter is and what they intend to do with that cloud technology.

**MEMBER McEWAN:** So again, let me just broaden it a little bit. I think it was last year or the year before there was a lot of discussion around a virology issue where there was the request not to publish because of potential terrorist applications of what was described in the manuscript.

Is that type of information covered under this, i.e. an academic publication, an academic

presentation or a consultant expert report?

It's not clear to me that it would be. It's equally clear to me that there could well be in the fairly near future an area where this may become something of an issue and I really think that we need to be ahead of this curve and not trying to play catch-up.

**MS PIKE:** Claire Pike for the record.

If I have understood the question correctly, the first part of your question is with respect to what types of information may be captured. So in your question you had cited an expert report or a presentation. In terms of the presentation, generally speaking, that would not be captured. An expert report perhaps.

It all comes down to whether or not the information in there is considered controlled nuclear information and that goes back to the Regulations, which list both nuclear and dual-use items, and anything, as was mentioned earlier in the presentation, that deals with the construction, design, et cetera of those items would be considered controlled for export.

The second part of your question in terms of being ahead of this curve, staff has been extremely responsive to our licensees as they have come to us during the last two years on this issue. As I had mentioned, we have held several meetings with them. We have discussed

this internationally. Last year we made a presentation during the Nuclear Supplier Group meeting on this issue to get feedback from other countries as to where they are.

Currently, what we do with an exporter who is thinking about moving to the cloud, so moving their information to that system we have meetings with them and we have had one earlier this year to discuss exactly what is going to be moved.

And during that meeting we really tried to get the applicant to get to the root of separating their information, so understanding which parts of the information are actually controlled nuclear information and which aren't.

Then we have discussions with them as well in terms of the security of the cloud provider: Do they know where the cloud provider is listed? Is it in the United States or is it a provider that uses services from other countries?

And that's where we have been so far with the exporters that are coming to us. We have had at least three separate meetings with three different companies considering this issue and, as of yet, as far as I am aware there has been no application to export that technology that they have to a cloud as they continue to look into different aspects related to security as well as how to

identify as best as they can for their own staff which tranches of information on their systems are controlled nuclear information versus other information that is not captured for export controls.

**MEMBER McEWAN:** So let me just reframe it a little because I think it may be the word export because as soon as you move to the cloud, the definition of export, it seems to me, changes. So let me go back to one of my examples. Could an academic break these regulations by uploading a paper to the cloud that was available to everybody, no intention to export for a profit but it is information that could be useful, conceivably, in the wrong hands? And do you need to actually --

--- Technical difficulties / Problèmes techniques

**MS PIKE:** Claire Pike for the record.

So with respect to that specific example, it could be possible. However, I don't think that it's plausible.

Many times when we are talking about controlled nuclear information it already, separate from how it's treated from a regulatory point of view, it's often proprietary to a certain company or to a university. And in those cases we see there is definitely a high level of prudence on the part of the individual or corporation holding that information in making it publicly-available.

So if there was a paper that had controlled nuclear information in it, to use your example, and it was uploaded to a cloud, for the purposes of your example, if that cloud was outside of Canada then, yes, that would be an export control issue. That's not a situation, though that has arisen to this point and I don't think, for the reasons that I stated earlier, that it is one that is likely to occur.

**THE PRESIDENT:** I thought you mentioned that you are working on some amendment to section 18 that will deal with these kinds of issues so without -- you are still working on it but what's the proposed solution?

Because you know, one of the issues, forget about nuclear, there is a document on how to construct a nuclear bomb on the web. You can go in there and in fact all the security people were really upset with all of this stuff. There is all kinds of stuff in there that you are talking about exporters we know.

You know, people can describe how to build centrifuge and sell it around the world and they won't know about this until it's too late.

So there is lots of issues and what are you proposing to suggest as an amendment to that particular section?

**MS OWEN-WHITRED:** Karen Owen-Whitred for

the record.

So as you noted, the CNSC staff is in the process of preparing the necessary documents to amend the general regs around section 18.

I will just remind you that when we are talking about that particular section it touches quite specifically -- and Ms Pike can provide the further details on this, but it touches quite specifically on providing a copy of the licence, of the export licence to a Canada Border Services agent at the time of export. So it's a very specific issue within the entire realm of intangible transfers and cloud computing and some of the larger issues that we are talking about here, so in terms of how we are going to deal with that.

And then I will turn it over to Ms Pike for more details.

**THE PRESIDENT:** No, but it's back to Dr. McEwen saying, what is an export? So if send my friend in, I don't know, in China, "Here is what I am playing with" you know, kind of expert to expert, do I have to tell somebody that I should have got a licence for this?

And that's really the big issue that I don't know what the answer is.

**MS PIKE:** Claire Pike for the record.

With respect to the question that you have

just posed, if you are emailing your friend in China controlled nuclear information, then that requires a licence under our Act and Regulations.

**THE PRESIDENT:** Right. So the onus is on all Canadians to know that. I just wonder whether -- how does -- how do people know that, not to mention those who knowingly will bypass the system? You are talking about honourable exporters. There are some of the other kind around too.

**MEMBER McEWAN:** Which again, I think, goes back to my point that it is really not clear on the REGDOC the breadth of the import of that intangible technology section.

**MS OWEN-WHITRED:** Karen Owen-Whitred for the record.

So first of all, I think that one of the real -- the value of this REGDOC, as Ms Pike said throughout her presentation, is getting this information out to, as you called them, honourable exporters across Canada to make sure that they are informed in this area.

Secondly, with respect to specifically if you are seeing a gap in terms of the amount of guidance that we currently have in the REGDOC related to intangible transfers specifically, that's something that we can look at enhancing prior to publication of this draft.

**MS PIKE:** Claire Pike for the record.

I would just like to add to what Ms Owen-Whitred has said in terms of the important thing to remember at the end of the day, is that our licensees and prospective licensees understand that there are certain types of information that are controlled for export regardless of whether that information is sent through tangible means or intangible means.

It has been my experience during 11 years at the CNSC that the majority of our licensees as well as those new ones that come and reach out to us are already well aware of their responsibility in this regard. And I think it's also important to recognize that controlled nuclear information is not information that just anybody has to begin with.

So more often than not, the people holding that information are already well aware of the regulations and the practices that they have to follow when dealing with that type of information.

**THE PRESIDENT:** And again, not to belabour this, but it's not the current licensees I am worried about. I am worried about the dual use people that do not get captured by our licensing process. They will absolutely not even be aware that they are breaking the law, if you like.

**MS PIKE:** Claire Pike for the record.

Yes, I hear your concern there. And I would like to note that in the past when we have been made aware of certain areas in the dual use community where there might be some risks in terms of a specific product, because let's remember that list includes over 67 different items, that we have been proactive in outreaching to those industries in order to make sure that they are aware of the regulatory requirements on their products.

**THE PRESIDENT:** Thank you.

Monsieur Harvey...?

**MEMBER HARVEY:** Merci, Monsieur le Président.

On Slide 16, exports of foreign-origin uranium for nuclear use, if I understand well, the first barrel on the left is the Canadian uranium; is it? So it's not foreign origin.

So my question is are the Australian and -- the only country actually sending uranium in transit in Canada for processing or there is many other countries?

**MS PIKE:** Claire Pike for the record.

There are many other countries that send their uranium to Canada for further processing. For the purposes of illustration, we just used two different countries given the real estate on this slide. But, yes,

there are.

**MEMBER HARVEY:** Okay. What is the importance of what is this Canadian uranium and other countries? What is the sharing?

**MS PIKE:** Claire Pike for the record.

Do you mean in terms of exports what is the proportion of Canadian versus what is the proportion of foreign?

**MEMBER HARVEY:** Yes, once processed; yeah.

**MS PIKE:** Okay. It depends on any given year but, for example, in 2015 in terms of exports of Canadian origin uranium that was about 70 percent of uranium exports for nuclear use and the remaining 30 was about foreign origin uranium. Some of that was obligated to another country. Some of it was unobligated.

**MEMBER HARVEY:** Okay. So my other question is linked to that. On Slide 17 you mention that uranium coming from other countries will be subject to the terms and conditions of bilateral agreement between Canada and the recipient country at the time of the export.

What is the nature of such agreement? Who is making that agreement and is it something very important? Then what is the reiteration of such agreement and things like that? Could you just elaborate on the nature of this agreement, this type of agreement?

**MS PIKE:** Claire Pike for the record.

Certainly. The Nuclear Cooperation Agreements Canada presently has 30 of them. They are bilateral treaty-level agreements. So that means that it is Global Affairs Canada who is responsible for negotiating and setting up these agreements. The CNSC works very closely with Global Affairs Canada on this, given our central role in implementing these agreements.

These treaties have come about in order to minimize the proliferation risk associated with the transfer of major nuclear items. Therefore at a treaty level they contain several nuclear non-proliferation provisions, so provisions that are intended to ensure that the recipient country is using whatever is transferred for peaceful non-explosive purposes, so in their civilian nuclear fuel cycle program.

Some of the provisions which are known as obligations include any item transferred has to be for peaceful uses.

Canada has control on the retransfer of that item; in the case of uranium that Canadian consent is required in terms of high enrichment of that uranium or reprocessing of irradiated fuel.

Other provisions, obligations include that there has to be sufficient physical protection of the items

and it is these nuclear cooperation agreements that the two partner countries come together and negotiate in order to ensure that those transfers because, as we see throughout the world, they have legitimate commercial applications in civilian reactors throughout the world and the international community wants to make sure that that stays like that and that there is no diversion of these items into other areas.

Therefore to answer part of the end of your question, yes, these agreements are extremely important in that they allow Canada and Canadians to be assured of the fact that when major nuclear items are going for export that they will be used for peaceful purposes.

**MEMBER HARVEY:** My only preoccupation was at the time of the export. So if it is important, if it's a treaty, it takes time to agree to all the conditions and to have the treaty completed.

So is this to say there is many countries having such treaty and those countries are able to manage their things but at the time of the export this is to say that one country or another country, a new country will like to do this? You have to sign the treaty before that? Can we say that it's at that time --

**THE PRESIDENT:** It's more complicated than this. Not only you have to sign the treaty. Then you have

to have an arrangement in which we, the CNSC, get involved to execute the treaty and nothing moves until those two arrangements are in place. It doesn't matter. It can be one minute -- nobody will submit an exporting licence unless those agreements are in place.

**MEMBER HARVEY:** Well, maybe it's my English is not correct, but when I said the time of the export so did the treaty has been negotiated.

**THE PRESIDENT:** And there are --

**MEMBER HARVEY:** It could have been years and years and years and then when you have got the treaty you can export.

**THE PRESIDENT:** When it's tabled in the House of Commons this is serious stuff.

**MEMBER HARVEY:** Okay, thank you. **THE PRESIDENT:** Ms Velshi...?

**MEMBER VELSHI:** Thank you. So I would like to compliment you on this REGDOC. I thought it was an excellent document. I also liked how you presented the comments and their disposition. So well done.

My questions are also around section 4.2 and it is extremely unfortunate that Cameco is not here to present their side of things because I think it leaves a big hole for us as Commission members to really understand what their concerns are and what the implications of these

new requirements are and their submissions as presented in the comment section are just not detailed enough to get that appreciation.

So maybe I can get a better understanding on what's driving this new requirement for a -- so again getting back to Slide 16. Are there any international requirements that require uranium to be obligated for use?

Why don't I list my questions and then maybe -- because they are all be interconnected.

Does the agreement, say example with Australia and the bilateral agreement between Canada and Australia, require Australia if it's exporting somewhere else that uranium that they have a bilateral agreement with that other recipient country?

And maybe you can give more details on what exactly would the implications be of that revised proposal say on Cameco when this impacts their commercial interests?

And fourth, I think you started off by talking about this 1970s policy around nuclear non-proliferation and is there movement afoot to change that policy to reflect what the current situation is and where does Global Affairs Canada stand on all of this?

**MS PIKE:** Claire Pike for the record.

I think I have noted all your questions.

I'll take them one by one but I may come back to you just to make sure I have got them all.

In terms of your first question which was what's driving this? What's driving this is the CNSC wanted to strengthen non-proliferation controls when it comes to exports of foreign origin uranium for nuclear use.

It's rather timely in the sense that the policy that we talked about earlier, the reference to the 1970s, at that point Canada didn’t have a lot of nuclear cooperation agreements. This was an area in that period of time where these types of treaties were still coming into play. Forty years later we are in a completely different situation. As I mentioned, we have 30 NCAs now with various countries and with one international organization, Euratom, which is essentially all of the European Union countries and there is wide coverage.

Therefore, the concerns that government may have had earlier on in terms of impeding commercial growth or opportunities, in staff's opinion they don't really come into play now in 2016 because of the wide breadth of coverage of these types of treaties. And therefore, staff feels that it is better in terms of exports of foreign origin uranium to have those exports go under the provisions of a bilateral treaty and we are in the position now where that can happen given the wide

coverage.

In terms of your second question regarding the Australia-Canada Nuclear Cooperation Agreement, I believe your question there -- okay, so if I have understood the question correctly, when Australia sends their uranium to Canada because of their own domestic policy, just like our own domestic policy, that uranium has to be made subject to one of these treaties.

That means that when we receive that Australian-obligated uranium, before we can retransfer it outside of Canada, we need to exchange notifications or need to be in touch with the Australians to let them know that this is happening because this allows them to exchange notifications or make sure the correct conditions are in place when that uranium goes to the third-party country so that it can then go under an agreement between that third-party country and Australia.

**MEMBER VELSHI:** But that was my question. Is that a requirement that Australia have an agreement with a third-party country?

**MS PIKE:** Claire Pike for the record.

As far as I am aware under Australia's domestic policy, that is a requirement that they have just like it is a requirement that Canada has.

**MEMBER VELSHI:** So leave aside Australia.

Of the 30 agreements that we have, is there a requirement that, if they were going to send uranium that's processed in Canada to a third country, that they actually have a bilateral agreement with that third country?

**MS PIKE:** Claire Pike, for the record.

In terms of any foreign-origin uranium that is sent to Canada under a bilateral treaty, the mere fact that country has made their uranium subject to that treaty means that it follows that when it goes to the third-party country that third-party country needs to also have a treaty with that country.

**MEMBER VELSHI:** Okay.

**THE PRESIDENT:** I'd just like to add that this is a government policy. It's not a CNSC policy, by the way. It was discussed by Cabinet when they became aware that unobligated material comes -- so all uranium originating from Canada has to be obligated to make sure that it's going to go for a peaceful application. If something comes from a country which doesn't have this state is not obligated, and you can see --

**MEMBER VELSHI:** So if it's a government --

**THE PRESIDENT:** -- you can see the loophole.

**MEMBER VELSHI:** If it's a government policy, I'm just, then, wondering why Cameco is all bent

and twisted about it.

**THE PRESIDENT:** The answer to this, to be absolutely transparent, is because nobody was paying attention to this. This is one very complicated subject. It was kind of managed from the seventies on. And while Canada has been very, very proactive on making sure they'll be NCAs and, you know, we've been aggressively promoting this, there were a couple of newbie countries that came up with uranium which were not under this arrangement and it just became a nice thing to do.

It's not a perfect system still. There is the Nuclear Suppliers Group, that has its own kind of challenges, so making sure that it doesn't get -- nothing gets leaked out. So it's a work in progress. But since Canada has a very definitive domestic policy, we couldn't find a loophole where people can come through and not being obligated.

I'm not saying it as elegantly as you've said it before.

**MS PIKE:** Claire Pike, for the record.

I think, then, I will continue with your last two questions.

The third question was in terms of Cameco's concerns.

As I understand them, from the submissions

that they have made -- and, again, I do not wish to speak on their behalf -- their concern was about a potential commercial impact. They were concerned that if -- it could be for some customers that having this uranium carry that non-proliferation obligation that might be a deterrent for using their fuel services.

Staff would just like to note that in 2015, for example, 30 per cent of exports of uranium were foreign origin, and a little over half of that, so maybe about 18 per cent, was of unobligated foreign-origin uranium.

I think, though, it's important to note that these bilateral treaties, now in 2016, they have been around for a very long time. The impediment, if any, to trade, in terms of that uranium leaving Canada and going on to be further processed in their fuel cycle, all of the countries to whom it is going are well versed in these areas. They, themselves, have similar policies in terms of requiring these treaty-level agreements. So it's not something that's out of the ordinary in terms of international transfers of uranium for civilian nuclear fuel cycles.

In terms of your fourth question: Where does Global Affairs stand?, early on, even before the public consultation in 2014, staff reached out to

colleagues at Global Affairs Canada to let them know that this was being considered. We included them in the public consultation, and we did not receive any comments back from them.

**MEMBER VELSHI:** Thank you very much.

So of that 18 per cent that's unobligated, how many countries would those be coming from, the uranium?

**MS PIKE:** Claire Pike, for the record.

It would be probably between three to five countries, so it definitely would be -- for example, on slide 16, we used Namibia, and we did that intentionally because it is a good example of foreign-origin uranium that does not carry an obligation. This is because Namibia does not have a domestic policy that requires that they enter into these bilateral-level treaties.

**MEMBER VELSHI:** Would this requirement in any way restrict Namibia in managing their resource?

**MS PIKE:** Claire Pike, for the record.

No.

**MEMBER VELSHI:** So did you consider -- and I don't even know if it makes sense -- that any import into Canada for processing requires a bilateral agreement, so that Canada has to have a bilateral agreement with Namibia before we can process it?

**MS PIKE:** Claire Pike, for the record.

No, and that is because, at the heart of it, it is for each country, under their own sovereignty, to decide what their policies will be in any area, including the transfer of uranium. So as long as a country is in keeping with whatever international treaties that it has ratified, it's really left for the country itself to determine whether or not it requires a nuclear co-operation agreement with the receiving country.

**THE PRESIDENT:** But that will be even more constraining, because now, if you are getting the import -- so Namibia is sending it over, they'll have to sign a deal with us --

**MS PIKE:** That's what I'm --

**THE PRESIDENT:** -- while right now it's coming over here, it's becoming Canadian, period. The only thing we cannot do is send it back to them processed, but we can send it to everybody because we're Canadian.

**MEMBER VELSHI:** Oh, sorry, so I misunderstood that. The bottom right, where it says "Namibia," it's got a Canadian flag on it, but I thought it just goes back to them processed. No, it doesn't, okay.

**THE PRESIDENT:** No. Now everything that came from there --

**MEMBER VELSHI:** Thank you very much.

**THE PRESIDENT:** Questions? We're back on

the top here.

Mr. Tolgyesi.

**MEMBER TOLGYESI:** Two quick ones.

When you're talking --

**THE PRESIDENT:** Sorry to interrupt, but still on slide 16 -- which, by the way, I love this slide.

--- Laughter / Rires

**THE PRESIDENT:** It's as clear as you'll probably ever have the occasion to explain flags and obligations.

On the last outcome -- this is a theoretical question. I like to ask theoretical questions -- Australia, coming to Canada, what happens if Australia said, "You know what, why don't you take it over," and it'll become a Canadian obligated, would we have problems with that?

--- Pause

**THE PRESIDENT:** You know? Because if I was Australian or whatever, it would reduce the paperwork. You know, let Canada handle it from here on. It's coming in for processing, why would I want to continue to monitor it to a third party?

**MS PIKE:** Claire Pike, for the record.

In terms of Australia doing that -- I understand it's a theoretical question -- it would present

a really strange set of circumstances that we would find ourselves in. First of all, we would have Australia basically giving up its sovereignty on what is considered a rather proliferation-significant item for export.

But let's follow it through and say that they did do that, then the other area that we would be looking at is, I think, you would have to be going back up to ministers to revisit Canada's nuclear non-proliferation policy because, as it currently stands, the real impetus for that is in terms of Canadian exports.

**THE PRESIDENT:** I'm not sure. We'll have to think about this. Because, I mean, you don't give up, because Canada's regime is just as robust as the Australian, and the moment we put our flag on it we have to maintain our own non-proliferation control on that. So that's paperwork. In fact, in some of the arrangements there is a provision for transfers, as long as you report them back to the Australians. So we take it on there and maybe we'll have to transfer it to whom we sent it, but after that it's our own.

Anyhow, I think it's too complicated to arrange here, but you may want to think about this. Because in all the combinations and permutations for all the players, I can see that this is a more efficient way of doing business.

Mr. Tolgyesi, sorry I interrupted you.

**MEMBER TOLGYESI:** Tell me, does intangible technology cover also intellectual property, and how you control it if somebody's going abroad and gives his knowledge to the Chinese or whoever?

**MS PIKE:** Claire Pike, for the record.

**MEMBER TOLGYESI:** No, it's a transfer.

--- Laughter / Rires

**MS. PIKE:** Yes, this is an area that is quite interesting, and can be somewhat of a challenge. Because, of course, if you are an individual who is going to give training, for example, in another country that deals with controlled nuclear information, then what you're carrying in your head, in terms of when you get on that plane, that's essentially an export. We can't, clearly -- it's difficult to track, though, in terms of one can't stamp "An export licence" on someone's head and off they go.

So what we do in those cases is we have -- it's usually -- the small handful of times that it has happened, a company will come to us and let us know what the particular situation is, what they intend to be discussing, and if it turns out that it actually would be something that we would control as controlled nuclear information, then we will issue a licence that at least

just describes what is happening.

We don't have it so much going out of the country, but, for example, we do have situations where we will have international visitors to a particular company, and they will come to see a certain process being done, and the Canadian company will come to us and put in an export licence application, because, at the end of the day, it still is controlled nuclear information, and that way it allows staff to be aware of who's coming into the country, what is it that they're going to be seeing at the particular company, and it's an extra level of control that we have. But, as you've correctly pointed out, it is a bit of a challenging area.

**MEMBER TOLGYESI:** You know, how you could control that when the persons are discussing where to stop, you cannot say in a middle of a phrase, "Gee, I'm sorry, I don't talk about this anymore," so it's a little bit difficult. So that's -- my question was on that side.

The other one is quick. Items listed in Part B are those that could make a significant contribution to a nuclear explosive activity, and you are mentioning examples like nickel powder and machine tools.

Have you determined which machine tool may be used to a nuclear explosive activity? Do you know how you find that it could be used?

**MS PIKE:** Claire Pike, for the record.

So the items listed in the regulations are based in large part on control lists that were devised by the Nuclear Suppliers Group. So that's a multilateral export control regime. Those lists, including the dual-use items, such as machine tools, have experts that over the years have determined what are the technical specifications of interest for using a machine tool in, for example, a clandestine nuclear weapons program, so what level of accuracy or precision does a machine tool need to have for it to come into that area where it could be used to machine sensitive pieces of equipment?

It is through that forum that all members of the Nuclear Suppliers Group incorporate those types of technical specifications into their regulations. As you're aware, there are many different types of machine tools, for example, and the nuclear non-proliferation regulations just capture those that start to get into that area in terms of their precisions levels, where they would be capable of machining parts of proliferation sensitivity.

**MEMBER TOLGYESI:** So if there is a exporter who is exporting equipment or machines, and it's -- really him, he's not related to a nuclear, but it eventually could be used somewhere, he do not have to -- he is not applying for a licence or export, but it could be

used, so how you could control that?

**MS PIKE:** Claire Pike, for the record.

If the machine tool would have the specifications that are identified in the non-proliferation regulations, then they are required to come and get a licence. That machine tool cannot be exported from Canada without authorization from the CNSC.

**THE PRESIDENT:** Okay, Dr. McEwan.

**MEMBER McEWAN:** Thank you, Mr. President.

If I can go back to my previous question a little bit, I'm still very concerned about the sort of broader soft information piece. In particular, universities and research institutes are now required to identify individuals who are working with, for example, cell irradiators -- students who are working with cell irradiators. It seems to me that there is a lot of similarity with controlled nuclear information, if I can call it that.

As you proselytized this REGDOC, I think it really is very important that you actually go beyond your standard importer/exporter and make universities aware that there are obligations in this implicit for information, and therefore, again, I go back to the writing of the document. I think you need in three or four sections to be a little more specific about that

import/export is a term that actually probably you mean more broadly than the general public would understand import and export to mean.

Just one of those examples is on page 3, number 19(c), where you say:

> "Import controlled information that relates to..."

-- or, by implication, I'm guessing "export" --

> "...also controlled nuclear information that relates to a controlled nuclear substance, controlled nuclear equipment." (As read)

I really think you should be much more specific and identify process in there as well, because that brings in that informational and IP trade secret aspect that I think is within the intent of the REGDOC.

**MS PIKE:** Claire Pike, for the record.

In terms of the last comment, I just want to point out that, if I've heard correctly, if you're referring to 19, on page 3, that section identifies within the *Nuclear Non-Proliferation Import and Export Control Regulation* the types of things that a person can do without a CNSC licence. That is a carveout of certain things for

which Canadians or exporters would not need a licence. However, in terms of --

**MEMBER McEWAN:** But we still have the issue of the processes as well --

**MS PIKE:** Yes.

**MEMBER McEWAN:** -- so do you understand what I mean? There is terminology through the document that I think is unclear with respect to this. I picked that section because processes were not in there, and I'm sure processes would fit within that definition, as well as within the export limitation definition.

It's some of these definitional things, I think, that need cleaning up through the whole document.

**MS PIKE:** Claire Pike, for the record.

Thank you for the clarification.

In terms of your earlier comment in terms of the soft transfers, and the reference to universities and research institutes, and making them more aware, I think staff finds that an excellent suggestion, and we will look at ways when the REGDOC, should it be rolled out and published, how to target some of those areas more effectively.

**THE PRESIDENT:** I'm not -- I know this REGDOC will be very good for the licensees and people who are really getting into the exporting. I think to

university, academia, et cetera, you'll need another vehicle. I think you'll need a little bit more of a targeted communication.

I don't think -- the academia professor will not sit down and read this REGDOC. I think you need to give a little -- find a different way.

And some of the regs, I mean if you thought the REGDOC is complicated try to read the regs. The regs are legally kind of binding and we cannot change the text until we go in to get a GIC and get some approval for change of terminology.

So you've got some work to do. And I'm very leery about extensive changes. I don't mind language changes, et cetera, because it'll force you to redo all the consultation process, rather than getting it out, and get some feedback and continue to improve.

Everybody should understand if we send up a REGDOC, we're still open to suggestions for improvement all the time. So I would go through a public campaign of outreach, maybe using kind of a little bit simpler language, and then react to whatever comes out. because this is not going to go away. The whole cyber world, cyber universe, is something we don't know how to deal with yet, but there's going to be a lot of angst in the coming years on this.

Do you want to follow up on anything else?

**MEMBER McEWAN:** No.

**THE PRESIDENT:** Monsieur Harvey?

--- Off microphone / Sans microphone

**THE PRESIDENT:** Ms Velshi?

**MEMBER VELSHI:** No, thank you.

**THE PRESIDENT:** I've got a couple of technical things.

You told us that GAC is now so understanding and they came up with this generic licence. How many people are taking advantage of that?

**MS PIKE:** Claire Pike, for the record.

In terms of Global Affairs Canada, and the general export permits that they've put into place under certain conditions, I'm not aware, in terms of the actual numbers, of who's taking advantage of that. But for nuclear and nuclear-related dual-use items, those general export permits can be used only under certain situations. The country has to be what is called a "eligible destination" under their legislation, and that simply means that the country has to be part of all four multilateral export control regimes.

And then they have specific items within their export control list to which these general export permits can apply. And then as well, as mentioned during

the presentation, the exporter must be in possession of a CNSC export licence as well.

**THE PRESIDENT:** Did they ever turn down something we approved?

**MS PIKE:** In terms of things for which exporters could apply the general export permit, not that I'm aware of.

**THE PRESIDENT:** Okay. I'm very sympathetic to reducing duplication amongst departments. For the people outside, it's one government, not two departments, but maybe for the next round.

You tried to explain quite well the end-use control. My question is, how do you ever verify end use? We don't send inspectors overseas to do end-use inspection, do we?

**MS PIKE:** Claire Pike for the record.

In terms of the end-use control, that of course is the control that was added to the Regulations during the 2010 amendments and that basically allows the CNSC to make licensable an item that is not in the Regulations when there are concerns that the item may be used in an unsafeguarded nuclear fuel cycle or as part of a weapons program or be diverted to that use.

So since 2010 the CNSC has invoked the end-use control eight times and in all of those situations

we have become aware of concerns with the end use, be it diversion or the end users themselves, through detentions that were made at the border, so Canada Border Services Agency stopping an item usually going to a country of concern or a transit country and referring it to their government partners, including the CNSC, to look at if there are concerns that this item could be used as part of a weapons program or to support the infrastructure therefor.

In six of those cases where we invoked the end-use control, the exporters put in a licence application and that is what is at the heart of this control, is it gives the government an opportunity to further assess the information provided, because in many of these situations the exporter can be unwitting and not aware of what may actually be happening.

And in all of those cases, of those six, further assessment confirmed that the end user was problematic. So, for example, it was going to a company who really did not have a need to use that item and it could easily be diverted elsewhere to other countries of concern.

In one case though -- and that's I think interesting to mention in terms of your question -- is that we got the application, we looked at it, and we decided

there still wasn't enough information for us to assess either way whether this item would be diverted.

So in that particular instance, we took advantage of the services offered by Canadian officials in that country who were able to, after we explained the case to them, the application, were able to meet with the end user in that particular country and check things out for us.

And the way that they do that is they simply show up at that company and indicated who they were and why they were there and they were able to meet with the various levels of management in that company, look at where that item would be used, and then they sent a report back to us. So in that case, we were able to verify and we did issue a licence in that particular case.

**THE PRESIDENT:** And that's really good that you do due diligence while it's still here in Canada. What happens to all the so-called approved licences, do you ever worry about whether what they told you was the end result? I mean we take for granted they don't lie but, you know, you have to trust but verify concept. So do we ever go and verify on all the licences you did approve?

**MS PIKE:** Claire Pike for the record.

I think it's important to emphasize that within the items exported there is a real variance in what

those items are. So there is a tranche of those items that are significant enough that they are made subject to those treaty-level agreements. So in those cases the country is giving or is subject to an obligation under an international treaty and there is reporting that happens on those items in that country.

For other items such as the nuclear-related dual-use items that aren't sent subject to those Nuclear Cooperation Agreements, I would also like to emphasize that staff during their assessment of these applications spend a lot of time looking into the end users. They are aware of the countries to where these items are going. So there is already a risk assessment that happens at that stage to make sure that the information that we were provided with is truthful, is plausible and that there is not a risk that it will be diverted to another end use.

**THE PRESIDENT:** But we definitely -- we do not verify?

**MS PIKE:** No. In terms of the nuclear-related dual-use items, there is no verification by Canada.

**THE PRESIDENT:** So we really rely on the at-home analysis for all of this?

**MS PIKE:** Claire Pike for the record.

That is correct.

**THE PRESIDENT:** Okay. My last question. I'm just intrigued.

Appendix B: Disclosure of Non-Compliance, I really tried to understand who would actually sign such a thing and why.

**MS PIKE:** Claire Pike for the record.

You will be happy to know that we have received several of these in this type of format. So exporters are -- or importers are finding it a useful format to present information.

And when this does occur, which is not very often I have to say, it is simply because the exporter has realized or it has been brought to their attention, because maybe they are a new or prospective licensee for us, that there are regulatory requirements on that specific item that they are exporting or importing.

So this allows them to be proactive in disclosing what they have done without a licence, and in the majority of cases it has really been with respect to the items of much lesser proliferation significance.

So this has provided an excellent opportunity for staff to engage with the individual or the company that has disclosed the non-compliance and bring them up to speed on what the regulatory requirements are so

that they can meet those going forward.

**THE PRESIDENT:** I'm just surprised. I thought they would phone up and say, okay, we screwed up, or something along that line, but you are making them sign a form and trying to explain these, I understand, and all this stuff. So anyhow, if they use it and find it useful, so be it.

Okay, that's mine.

Does anybody want to jump in?

Okay, so thank you. Thank you very much for this not only Regulatory Document but the education part that came with it. Thank you.

--- Pause

**THE PRESIDENT:** So this concludes the public meeting of the Commission. Thank you all who are here and those who are listening to us through our webcast.

Marc...?

**MR. LEBLANC:** I don't think anybody has interpretation devices. If you do, please don't forget to remit them and get your ID card back. Thank you.

--- Whereupon the meeting concluded at 12:47 p.m. /

La réunion s'est terminée à 12 h 47