Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

Public meeting

Réunion publique

September 21st, 2016

Le 21 septembre 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
Mr. Dan Tolgyesi
Dr. Sandy McEwan
Ms Rumina Velshi
Mr. André Harvey

Commissaires présents

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

Secretary:

Mr. Marc Leblanc

Secrétaire:

M. Marc Leblanc

General Counsel:

Ms Lisa Thiele

Avocate générale :

Me Lisa Thiele

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Ottawa, Ontario / Ottawa (Ontario)

--- Upon commencing on Wednesday, September 21, 2016
at 1:05 p.m. / La réunion débute le mercredi
21 septembre 2016 à 13 h 05

CMD 16-M53

Opening Remarks

M. LEBLANC : Bonjour, Mesdames et Messieurs. Bienvenue à cette 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 pour l'interprétation 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.

The transcript will be available on the CNSC website later next week.

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 closure 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 afternoon and welcome to 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 who are joining us via our webcast.

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

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

We have heard from our Commission Secretary, Marc Leblanc.

And we also have with us here today Ms Lisa Thiele, Senior General Counsel to the Commission.

MR. LEBLANC: The *Nuclear Safety and Control Act* authorizes the Commission to hold meetings for

the conduct of its business.

Please refer to the Agenda published on August 15th for the complete list of items to be presented today.

In addition to the written documents reviewed by the Commission for this meeting, CNSC staff will have an opportunity to make presentations and Commission Members will be afforded an opportunity to ask questions on the items before us from all participants.

Monsieur le Président...?

CMD 16-M54.A

Approval of Agenda

THE PRESIDENT: With this information, I would like to call for the adoption of the Agenda as outlined in CMD 16-M54.A.

Do we have concurrence?

For the record, the Agenda is adopted.

CMD 16-M55

Approval of Minutes of Commission

Meeting held August 17 and 18, 2016

THE PRESIDENT: I would like to call for

the approval of the Minutes of the Commission meeting held on August 17 and 18, 2016, as outlined in CMD 16-M55.

Any comments?

Dr. McEwan...?

MEMBER McEWAN: I just have one question, 94, which is the safety culture within the CNSC. The action item is by August 2017. That's actually a year since the meeting. I think it might be helpful to have an update from staff midpoint just to get some sense of progress in building this framework.

THE PRESIDENT: Anybody want to comment on this?

--- No response / Aucune réponse

THE PRESIDENT: So does that mean yes?

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

We will provide you an update with respect to the progress of the CNSC as a regulator safety culture. Unfortunately, I cannot be much more precise until I review the Minutes and provide you with a commitment. If the Commission requires an update, we will provide you with an update.

THE PRESIDENT: Okay. Thank you.

Ms Velshi...?

MEMBER VELSHI: Thank you, Mr. President.

I have a comment on number 90, paragraph 90, which is requesting staff to engage a third-party expert at a public forum to talk about best international practices on PSAs. I think we need an action and a completion date for that so we can track that.

THE PRESIDENT: Okay. Thank you.

Marc...?

MR. LEBLANC: We will confer with staff to determine what is an appropriate date for delivery of this product.

THE PRESIDENT: Okay. Thank you.

Any other comments?

So for the record, the Minutes are approved.

CMD 16-M56

Status Report on Power Rectors

THE PRESIDENT: So the first item on the Agenda for today is the Status Report on Power Reactors, which is under Commission Member Document CMD 16-M56.

I understand that we have some people via teleconference from the OPG.

OPG, can you hear us?

MR. DEHDASHTIAN: Yes, we can.

THE PRESIDENT: So who is with you? Who is this?

MR. DEHDASHTIAN: For the record, this is Kamyar Dehdashtian, Regulatory Affairs Manager at Pickering. I am accompanied by Stephanie Smith, Director of Maintenance at Pickering as well.

THE PRESIDENT: Thank you.

NB Power, can you hear us?

MR. DEMMONS: Yes, we can, thank you. For the record, Scott Demmons, Regulatory Affairs, Point Lepreau.

THE PRESIDENT: Okay, thank you.

Mr. Frappier, I understand you are going to make the presentation. Over to you.

MR. FRAPPIER: Thank you, Mr. President. Thank you to the Commission.

Good afternoon, Mr. President, Members of the Commission. For the record, my name is Gerry Frappier and I am the Director General of the Directorate of Power Reactor Regulation.

With me today are our Power Reactor Program Division Directors plus technical support who are available to respond to any questions you might have with respect to the Status Report on Power Reactors.

Before we get to the questions, however, I

would like to present a couple of updates to the CMD that we thought were noteworthy. It was submitted on September 16th.

First of all, with respect to Pickering in section 1.4.

Unit 1 is currently derated to 85 percent due to lack of fuelling capability. The fuel handling is unavailable due to a scheduled fuel machine maintenance outage. The planned return to service date for the fuelling machine is September 21st.

As indicated in the CMD, power on Unit 1 is also derated due to a high lake temperature and equipment maintenance issues on Unit 1 low-pressure turbine condenser. Unit 1 will return to full power following resolution of the condenser equipment maintenance issue. September 25th, 2016 remains the projected return to full power.

Unit 8 at Pickering, just to update that, is now at 100 percent full power.

And finally, following a September 16th shift, an OPG employee fell and fractured his knee -- fell in a changing room. The employee subsequently underwent knee surgery. So OPG notified the CNSC Duty Officer and we will follow up on this event upon receipt of the Preliminary Event Report from OPG.

Otherwise, this concludes the presentation on power reactors and we are available to answer any questions you may have. Thank you.

THE PRESIDENT: Thank you.

So let's start with Monsieur Harvey.

MEMBRE HARVEY : Merci, Monsieur le Président.

Just a comment. I think it is the cleanest report I have ever seen since I have been with the Commission for 10 years. I have to congratulate the staff and the licensees to have everything arranged like that. It is pleasing to see that. Thank you.

MR. FRAPPIER: Thank you for the comment.

Just to be clear, of course it is the licensees that are operating their plants, so we are just reporting what we know.

MEMBER HARVEY: Yes, but they know you are there.

THE PRESIDENT: Thank you.

Ms Velshi...?

MEMBER VELSHI: Nothing for me.

THE PRESIDENT: Monsieur Tolgyesi...?

MEMBER TOLGYESI: Just one question. You're saying that Unit 1 was derated due to a combination of high lake temperature and equipment maintenance issues.

How does this happen, because the lake temperature is the same for all eight reactors, so what is the interaction?

MR. FRAPPIER: So I will get OPG to provide you with some more details on it, but generally speaking, of course there is a requirement for a heat sink, and the ultimate heat sink is the lake and so the change in temperature between whatever is coming through the condensers into that lake water, that change of temperature does have an effect on the performance and the amount of heat that can be generated in there for the power of the reactor.

But for the difference between Unit 1 and Unit 2, perhaps our friends at OPG could answer that.

MS SMITH: For the record, this is Stephanie Smith, Director of Maintenance, Pickering Nuclear.

So currently on Unit 1, the lake temperature was high across the station during the summer. Adding to the issues on Unit 1, we had a turbine condenser out of service, which made it difficult to maintain the correct condenser vacuum.

Subsequently, the lake temperature has turned around and we have returned the turbine condenser to service, which means the only issue that we are now facing on Unit 1 is the lack of fuelling due to fuelling machine

outage.

THE PRESIDENT: Just to piggyback on that, so why is it only Unit 1 that is impacted from high lake temperature? And I guess with climate change the expectation is that this is going to be an annual event. So am I right and, if so, are you doing anything about this?

MS SMITH: Stephanie Smith, Pickering Nuclear.

So I agree the lake temperature does run warmer than we have seen in the past. However, the issues around Unit 1 were tied to the fact that our condensers were so fouled that it wasn't giving us the appropriate heat transfer to enable us to maintain the condenser vacuum. So the condensers on the other units are clean. It's just Unit 1, we did have to take the condenser out to clean it.

THE PRESIDENT: So you don't expect the other to be impacted even with a rising temperature?

MS SMITH: Stephanie Smith, Director of Maintenance.

That's correct. The other units have condensers that are operating correctly.

THE PRESIDENT: Okay, thank you.

Anybody else?

MEMBER McEWAN: Mr. President, just one question for a non-engineer.

What is, in Unit 8, a closure plug problem?

MS SMITH: Stephanie Smith, Director of Maintenance, Pickering Nuclear.

So the closure plug is the last plug that goes into the fuel channel. When we take it out to do our fuelling sequence, sometimes they do get sticky. So the fuel stream is returned to service and we have to use another closure plug, a brand-new one to enable us to close up the channel.

MEMBER McEWAN: So it's a simple case of replacement?

MS SMITH: Correct.

THE PRESIDENT: Monsieur Tolgyesi...?

MEMBER TOLGYESI: Regarding this accident, what was the employee doing when the accident happened, his broken knee?

MS SMITH: Again, it's Stephanie Smith, Director of Maintenance.

So the employee was actually in the change room changing out of his radiation clothing into his civil clothing. The employee was wearing shoes that didn't have the best grip. He slipped on his first leg and brought his

weight down completely onto his kneecap. We have checked and ensured that there was no water present, so it was just a matter of improper footwear and situational awareness.

THE PRESIDENT: Anybody else?

Okay, thank you.

CMD 16-M58

Written submission from CNSC staff

THE PRESIDENT: The next item is the Event Initial Report regarding a worker injured due to animal attack at Cigar Lake, as outlined in CMD 16-M58.

I understand that we have people from our Saskatooon office. Can you hear us**?**

MR. LANGDON: Yes, we can.

THE PRESIDENT: Okay. Do you want to tell us who we are seeing? Do you want to introduce the guests?

MR. LANGDON: Okay. My name is Mark Langdon. I am the Supervisor for CNSC in Saskatoon Office.

MR. MOONEY: It's Liam Mooney, the Vice President of Safety, Health, Environment, Quality with Cameco Corporation.

I am joined by Kevin Nagy, who is our Director of Compliance and Licensing for our Saskatchewan Mining Operations.

THE PRESIDENT: Thank you.

MR. SCHRYER: Denis Schryer, Uranium Mines and Mills Specialist, Project Officer for Cigar Lake.

THE PRESIDENT: Thank you.

Ms Tadros, I understand you are going to make the presentation. Over to you.

MS TADROS: Thank you, sir. Good afternoon, 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.

With me today are my colleagues, Mr. Robert Lojk, Director of Uranium Mines and Mills Division, and you have heard from our Site Supervisor Mr. Mark Langdon and Mr. Denis Schryer, who are here to support this presentation.

We are here to answer any questions the Commission may have on this Event Initial Report concerning the worker injury at the Cigar Lake Uranium Mine due to an animal attack, but before we begin on the questions, for the record I would like to correct our EIR.

Under the "Licensee Actions" section, in the second bullet, it was Cameco's environmental personnel who were at the site and aided the Conservation Officers, not the licensee's security personnel. So that is a

correction to the EIR, the second bullet under "Licensee Actions."

THE PRESIDENT: Before we go into the questions, I understand that we also have online Saskatchewan Ministry of Environment; is that correct?

Ministry of Environment, can you hear us?

--- Pause

THE PRESIDENT: I guess not.

Okay, so let's jump into the question session.

Ms Velshi...?

MEMBER VELSHI: Thank you, Mr. President. A couple of short, quick questions.

Has there been a similar incident in the past at any of your camps? A question for Cameco.

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

We did have an attack of one of our employees at a different operation more than 10 years ago, the Key Lake operation specifically.

MEMBER VELSHI: Thank you.

And I see one of your corrective actions is about properly disposing of food. So any better sense on what may have brought the wolf onsite?

MR. MOONEY: It's Liam Mooney for the

record.

I think we are running our root cause investigation to look into the factors that might have contributed to the presence of the wolf in that particular area. It is important to emphasize that we are in a wildlife area, so there are sightings from time to time and we do our best to log and track those and then work with the province to make sure that our wildlife management program can be used to look at graduated enforcement if there are any animals that present an issue.

MEMBER VELSHI: Thank you.

My last question. This immediate walking ban onsite, so what are the implications of that and for how long would you have that ban?

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

We have modified that walking ban based on some of the outcomes so far, working again with the province on dispatching a number of the animals that were not responding to hazing in the area. In that regard, we modified the walking ban so it's a little looser than it was immediately after the event, but it's still more rigorous than had been in place before the attacks.

MEMBER VELSHI: Thank you.

THE PRESIDENT: Monsieur Tolgyesi...?

MEMBRE TOLGYESI : Merci, Monsieur le Président.

Usually when you are looking at camps which are located in the wildlife, there are animals, which is normal, and what you observe in various camps is that also employees are tempted to feed animals, you know, a small fox, so it's nice, he's eating from my hand. So do you have any procedures regarding wildlife feeding? Naturally you have other animals and food storage.

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

We do have a strong wildlife management program in place that is designed to minimize potential encounters with wildlife. In developing that program, we worked with a recognized expert in the field and enhanced the program to minimize those encounters. Feeding animals is actively discouraged onsite and we would expect to hold ourselves accountable for not doing that because of the potential outcomes that you have outlined.

THE PRESIDENT: Thank you.

Dr. McEwan...?

MEMBER McEWAN: Again, a simple question I think which follows on from Ms Velshi's.

So the wolf is onsite. These events happen in 10 yearly cycles, or the last one was 10 years

ago. What would stimulate a wolf to attack in those circumstances on a relatively short stretch of walkway in a relatively built-up area?

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

We do have our corrective action processes root cause investigation underway and we have retained the services of a wildlife expert to come up to site to look at the particular circumstances. We expect that -- you know, his comments were that it is an unusual attack that is similar to the commentary that was provided by the Conservation Officers from the province who came up. They were somewhat puzzled by it. But hopefully, between the root cause investigation and any recommendations from Dr. Paquette we can further minimize the chance of future encounters.

THE PRESIDENT: Thank you.

Monsieur Harvey...?

Ms Velshi...?

MEMBER VELSHI: How is the employee doing? Any further updates?

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

I did want to start by advising that the latest information that we had was the worker is recovering

and in relatively good spirits, although he is still in the hospital as of this weekend.

THE PRESIDENT: Staff, do you want to add anything?

MS TADROS: That would have been our update on the worker. Thank you.

THE PRESIDENT: Okay, thank you. Thank you very much.

MEMBER McEWAN: Can I...?

THE PRESIDENT: Dr. McEwan...?

MEMBER McEWAN: So you note no additional reporting to us would be anticipated. I think it would be helpful just to get a little feedback on the root cause analysis that Cameco have done, please.

MS TADROS: Haidy Tadros for the record. Will do, sir.

MEMBER TOLGYESI: Also, if there is a complication with the Saskatchewan Government and Environment Wildlife, is it a unique case or is it something that happens in Saskatchewan or in other sites?

MS TADROS: So we will be sure to add that to our update and get a background history of what is going on there. Thank you.

THE PRESIDENT: Okay, thank you.

CMD 16-M59

Written submission from CNSC staff

THE PRESIDENT: The next item is the Event Initial Report regarding a fatality at Chalk River Laboratories as outlined in CMD 16-M59.

--- Pause

THE PRESIDENT: It says here Mr. LeClair. Do you wish to supplement the EIR?

MS TADROS: So for the record, Haidy Tadros. I will introduce this subject here.

As rightly noted for this item, I am joined by Jean LeClair, Director of the Nuclear Laboratories and Research Reactors Division.

To briefly summarize the information, on the evening of September 10th, CNL's Emergency Services responded to a medical emergency involving a CNL employee at the Chalk River Laboratories' main campus, which resulted in a fatality.

CNSC staff have confirmed that this unfortunate event was not the result of any nuclear-related activities and is therefore not a regulatory matter.

Employment Social Development Canada, ESDC, is leading the ongoing investigation to this incident, and we are here with CNL to take any questions

you may have.

THE PRESIDENT: Does CNL want to make any comment?

MR. PILKINGTON: It's Bill Pilkington, for the record. I am the Vice President of Operations and Chief Nuclear Officer at Canadian Nuclear Labs.

I have with me today Kevin Daniels, Vice President of HSSE and Quality for the Canadian Nuclear Labs, and we are here to answer any questions that the Commission might have.

THE PRESIDENT: Questions anybody?

Ms Velshi...?

MEMBER VELSHI: You say it wasn't as a result of nuclear-related activities, but was it an industrial accident?

MS TADROS: Haidy Tadros for the record.

At this time we don't believe so. The investigation is ongoing.

THE PRESIDENT: Okay, thank you.

CMD 16-M57

Written submission from CNSC staff

THE PRESIDENT: I would like to move on to the next item on the agenda, which is an information -- is

an update on the Fitness for Service for the Chalk River Laboratories, as outlined in CMD 16-M57.

This was a request the Commission made during the April 6th, 2016 public hearing.

I note that there are CNL representatives here who will reintroduce themselves.

I understand Ms Tadros, you still have the floor. Please go ahead.

MS TADROS: Thank you, Mr. President.

For the record, my name is Haidy Tadros.

Mr. Jean LeClair is again with me for this item. We are also supported by Mr. Nhan Tran, Senior Project Officer on this file.

We are here to present the third status update on the Fitness for Service, Safety and Control Area Chalk River Laboratories, and CNL's progress towards a satisfactory rating.

As per our previous updates, this item is only for information. No decisions are requested of the Commission.

You will note that since the previous update there has been no change in the status of specific areas identified and as a result there is no change in the rating at this time.

The updates presented here reflect the

additional clarification Commission Members had requested of CNSC staff at the August 2016 Commission meeting.

We are available to take any questions you may have.

THE PRESIDENT: CNL, would you like to add any comment?

MR. PILKINGTON: Bill Pilkington for the record.

I have been introduced, but I would also introduce Neil Mantifel, CNL's Director of our Integrated Implementation Program, and we are here to answer any questions on the fitness for service issues.

THE PRESIDENT: Thank you.

Let's start with Monsieur Tolgyesi.

MEMBRE TOLGYESI : Merci, Monsieur le Président.

First, I should say that I like the type of report that you are presenting because it is clearly identified by areas and subjects or issues and the status achieved.

Now, I have only one question. This is regarding the structural integrity on page 4. It's SI-1. When you are talking about inspection, you are saying that the vessel is inspected every five years, individual areas of highest concern are inspected every three to five years,

and the most recent was in July 2016. So you do that every five years and also the highest concern is every five years. That means that there will be no further inspections since operations will end in 2018. How do you make sure that the security and physical state of a vessel is responding correctly to the operations?

THE PRESIDENT: Who do you want to answer the question?

MEMBER TOLGYESI: This is in --

THE PRESIDENT: Staff?

MEMBER TOLGYESI: -- the staff report.

MS TADROS: Haidy Tadros for the record.

The staff report indicates CNL's actions and activities with regards to the criteria that have been established, so I would ask Mr. Bill Pilkington to take that question.

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

The intervals that are given represent a program that is spread over the outages that occur over the years with the NRU. So although the intervals may not require a complete inspection before end of life, the program will continue to carry on with the planned inspections up to the end of life of NRU.

MEMBER TOLGYESI: But, you know, highest

concern parts of the vessel will be inspected every three to five years, the most recent was done in July, which means that there will be no further -- because three to five years, three years from now is 2019, so the operations will be over.

MR. PILKINGTON: It's Bill Pilkington for the record and I would ask Neil Mantifel to add to my previous answer.

MR. MANTIFEL: Neil Mantifel for the record, Director, IIP.

The three-to-five-year cycle is an integrated inspection program where, over a five-year period, every area of the vessel that is listed to be inspected is inspected. Every year, we issue an annual fitness for service report. The next one is due October 16th.

So we have completed all the inspections required for this year, they have been assessed and the report is in draft, ready for issue, with no new indications that are unacceptable and corrosion is within the corrosion tolerance of 1 mm.

So yes, some of the areas of the vessel that were inspected at the beginning of the five years may not be inspected again until 2018, March 31st, but we follow a planned cycle of inspecting the areas around the

vessel, so some areas will not be looked at because we only have a year and a half of operation left.

THE PRESIDENT: Dr. McEwan...?

MEMBER McEWAN: Thank you, Mr. President.

So if I look at M5 on page 4, the preventive maintenance backlog, you have a target completion date of December 31st, but there's actually no data set in M5 which gives a sense of if there a reduction, is there a reduction in critical preventative maintenance or, as implied from the last paragraph in M5, that you're simply having discussions to talk about ways in which you may be able to plan to bring the backlog down.

MR. LeCLAIR: So on this -- Jean LeClair, for the record.

So for this update, we focused on those areas at the last meeting in August. The questions were raised with regards to where we had rated things as satisfactory, and the question was asked, what was some of the details to substantiate that change in ratings, which is where we focused in this particular update.

So we -- for all of these, we have quite substantial volumes of data, but we've always come here with the intent of providing the summary statements that provide information to the Commission.

So in this particular one, as we did at

the request of the Commission, we focused on those satisfactory ratings to provide a bit more data behind that so that you can see that.

MEMBER McEWAN: So do you have confidence that the target completion date will be met?

MR. LeCLAIR: At this time, we have confidence that completion date should be met, but I believe CNL can respond to that as well since they're the ones that need to meet it.

MR. MANTIFEL: Neil Mantifel, for the record.

Yes, we have been monitoring our overdue PMs. Each month, we have an average of 68. The target is 75 over the last 18 months, so we fully expect we'll be able to meet that target come December 31st.

THE PRESIDENT: I just want to add, we love data, and don't be afraid to give us data. I love -- whether it's relevant or not, I like the graph you have here on mean time. Whether it means anything or else, some of the specialists can tell us, but at least it shows a trend in maintenance, reducing of maintenance backlog. I know that you keep track of some indicators about the -- once you put those things in also and show improvements.

So don't be afraid to give us data, please.

Monsieur Harvey.

MEMBER HARVEY: Marci, monsieur le president.

On page 2 for the indicator, over the last three years, the mean time between trips and unplanned shut down went from 150-something, and so it doubles. I mean, it's an indicator that there has been more work done, and it's significant.

But what is the -- for the future, what is the objective about that indicator? The -- because it's always working ongoing, remains below expectation.

So what has to be done, what will be the effect on the indicator? Are they remain to double it, to -- what would be the objective?

Staff.

MR. LeCLAIR: Jean LeClair, for the record.

Actually, my colleague here to my left just actually pointed out that we have a mistake in the -- in that table.

If you look on the second column, so I'm going to point out, actually, what you just read "Work ongoing remains below expectation" is actually -- is intended to be the overall rating for that.

Actually, that's correct. I stand

corrected.

That rating is correct because it’s the rating for the entire area, but what you’re referring to here specifically, we’ve rated it as satisfactory, as you’ll see on the right column.

So on the right column, it says that we deem this is as satisfactory. So we’re calling this EFFS1 is satisfactory as stated in the status.

What is on the second column is, in fact, the overall rating for the entire area called equipment fitness for service, so takes into account the other items that are on page 3.

MR. PILKINGTON: I would only offer the comments -- Bill Pilkington, for the record.

I’d offer the comment that we always strive to increase the mean time between trips on the reactor, so we continue to put in place improvements to be able to increase that time.

MEMBER HARVEY: But to have, let's say, 350 hours between unplanned shutdown, is there something in that business which is normal or correct? Do you expect to extend that?

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

And you know, unlike a power reactor, the

NRU is somewhat unique, and so the trip coverage, the modes in which we operate are, I think, unique to the NRU.

It's difficult to find benchmarks even in research reactors that are similarly designed and operated, so for the NRU, our target is simply to reduce the trip frequency.

MEMBER HARVEY: And you are satisfied now with the -- this 350 hours.

It seems to you that -- I understand that there is no comparables, and -- but you're feeling it's -- this level is correct.

MR. PILKINGTON: So we will -- Bill Pilkington, for the record.

We will continue to strive to reduce the frequency of unplanned trips and shutdowns. However, I'm confident that the NRU is currently and will continue to operate safely.

MEMBER HARVEY: In other word, saying -- will it be very difficult to go over that number?

Staff, maybe.

MS TADROS: So Haidy Tadros, for the record.

From staff's perspective, the intent of the graph was really to show the trending that is happening in terms of the accumulation of time, of hours over time,

and to give confidence that the current operability of the facility or of the plant right now is such that we can look to a steady upward trend for the difference between the trip and unplanned shutdown.

So that is being explained.

Monsieur Harvey, your question is, what number is a good number. At this point, I think it's a reflection that the trend is increasing, it's going in a positive direction, and this is yet just one element of a series of other elements that we as staff are keeping an eye on to ensure that operability and maintenance remain in a trend that moves towards improvements.

MEMBER HARVEY: But it's better now than it was three years ago, so okay.

THE PRESIDENT: So just to make sure, 2016 is almost over. If the trend still continues?

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

That's a good question, and I did not come with the data today.

THE PRESIDENT: Okay. This kind of a thing should have been easily measurable, right.

Okay. Well, let us know if all of a sudden the trend fail, defeat the whole message here.

Ms Velshi.

MEMBER VELSHI: Again, I want to echo what's already been said. I like the report. More a comment.

Is there any changes to the target completion date? You know, it would be helpful if you just put a revision in so we can know whether it's been delayed or not. I know there hasn't been any change from the last update.

MR. LeCLAIR: Jean LeClair, for the record.

Yes. Certainly if we identify a need to update those targets, we certainly will. But as we mentioned on this one, there's no change, so we'll certainly keep that in mind going forward.

THE PRESIDENT: Anybody else?

So just, again, a comment, I just want to make sure -- this is a CMD written by staff, but I assume that CNL blessed it because I want to hear again that you are committed to meeting all of this.

It's almost reading that you still have this faint that you're going to work beyond 2018 because you are doing some major improvements here.

Am I reading it right, and are you committed to this?

MR. PILKINGTON: It's Bill Pilkington, for

the record.

And so we have reviewed what staff put forward in terms of the requirements in order to achieve an acceptable fitness for service, and we have looked at the information that was provided for this CMD. And we do not take exception to it.

We believe it's thoughtful, and we are continuing to implement improvements. However, they are not being done with the intention of operating past March 31st, 2018. That is the date that we are currently planning to retire the NRU, and we continue to work towards that date and continue to make improvements.

THE PRESIDENT: Thank you.

Last question.

MEMBER TOLGYESI: There were some articles about potential shortage of isotopes, one (indiscernible) will eventually close. And up to now, it's not necessarily on the market and not necessarily replacement sources.

So what you are saying in your approach for maintenance and operations, you see that, if necessary, you could -- you will be in a good shape, reactor will be in a good shape to extent operations if necessary.

I don't say that it will be the case, but if it happens.

MR. PILKINGTON: It's Bill Pilkington, for

the record.

The trend in orders for isotopes has been continuing as was expected. Our current production levels are very low, very small percent of the market. And as you're aware, at the end of October of this year, we will cease the regular production of molybdenum-99.

However, we will continue to operate the NRU to carry out scientific irradiations, and we will operate it on the same schedule that we're currently operating. And we'll be available if required to provide molybdenum-99 to market if requested by the government of Canada.

And so that mode of operation will continue until the end of March of 2018. However, our plan is to permanently retire the NRU at that time.

THE PRESIDENT: Thank you. Thank you very much.

I'd like to move on to the next item, which is also CNL, and it has to do with integrated strategy for decommissioning and waste management as outlined in CMD 16-M52.

And I understand that Mr. Kehler will make the presentation.

CMD 16-M52

Oral presentation by

Canadian Nuclear Laboratories Limited

MR. KEHLER: Good afternoon, Mr. President and members of the Commission. My name is Kurt Kehler, Vice-President for Decommissioning and Waste Management.

With me on my left today are Pat Daly, Head of the Nuclear Power Demonstration Closure Project, and Dan Coyne on my right, Head of the Whiteshell Laboratories Closure Project.

Behind me is Tim Buckley, Director of the Near Surface Disposal Facility.

This presentation is a follow-up to a commitment made to the Commission during our April appearance, where we committed to provide a broad overview of the decommissioning and waste management program at CNL. We appreciate the Commission scheduling the time for us to be here today.

As you may recall, we have a new mandate associated with a transition to a government-owned, contractor-operated, or GoCo, model at CNL.

First and foremost, our mission is to modernize the infrastructure, capabilities and approach to deliver science and technology to the government and to

third party customers.

To support this we need to accelerate the decommissioning, environmental remediation, and establish long-term waste management solutions while reducing costs and the financial risk to the Canadian taxpayer.

This presentation is to update the Commission on how the decommissioning and waste management organization can safely meet these objectives.

We are engaged in many activities that will bring us before the Commission over the next few years, so today’s meeting is to provide the big picture prior to any specific licensing hearings.

The outline for this section of the presentation is to refresh the Commission on the government-owned, contractor-operated model at CNL, describe the scope of decommissioning and waste management within the context of a new mission, cover the visioning and strategy to safely perform the work, and provide plans and progress at Chalk River.

After I finish my portion of the presentation, I’ll turn over to Pat Daly to review the Nuclear Power Demonstration Project and to Dan Coyne to provide an update on Whiteshell closure project.

In the GoCo structure, CNL is the licensee. We operate the facilities, we undertake

activities under the authority of the licences issued by the CNSC.

CNL's shareholder is Canadian National Energy Alliance, who holds the contract with AECL. AECL oversees the contract and CNL's performance on behalf of the government of Canada.

AECL also retains ownership of the site, facilities, assets, intellectual property and the decommissioning liabilities.

AECL takes policy direction from the federal government through Natural Resources Canada.

I'd like to point out that the slide states agreements, plural, between AECL and CNL. While there is a site operating contract for CNL in general, there are also two separate target cost contracts for Whiteshell and for the power -- Nuclear Power Demonstration projects.

I want to ensure the Commission that, as a licensee, we understand our responsibilities for safety and protection of the environment, and that these are our highest priorities. I can also assure the Commission that our contracts with AECL are aligned with these priorities.

The DWM organization at CNL has a broad scope both in terms of physical geography and the nature of the work. We are actively decommissioning Chalk River site

facilities that are no longer needed for operation. We are decommissioning Whiteshell lab's site in Manitoba.

We are responsible for the prototype power reactors at Douglas Point, Gentilly-1 and the Nuclear Power Demonstration reactor near Chalk River.

The Nuclear Power Demonstration reactor is the first of the prototype reactors to undergo complete decommissioning.

We're responsible for environmental remediation at the CNL sites and for managing CNL's radioactive and hazardous wastes, including wastes arising from both past and current operations as well as from some commercial sources.

We are also responsible for the clean-up of historical low level radiological waste sites at Port Hope and Port Granby. Our Low Level Radioactive Waste Management Office is responsible for monitoring historical waste facilities in numerous locations along the Northern Transportation Route and the Greater Toronto Area.

As an example, our staff also travelled to Fort McMurray after the devastating fire there to check on the Beacon Hill long-term waste management facility. As was CNSC's determination, our organization confirmed there are no safety concerns with this site as a result of the fire.

The nuclear liabilities being addressed by the GoCo contract have not changed from previously, but the schedule has been accelerated with the implementation of the new model.

Decommissioning and waste management's emphasis is on early reduction and elimination of hazards and liabilities. With safety as the highest priority, we will accelerate decommissioning and site remediation at Chalk River, Nuclear Power Demonstration, and at Whiteshell sites, and we will clean up historical low level waste sites.

We fully understand the licensing and approvals required to support this work, and we are engaged with CNSC staff to support the multiple concurrent licensing efforts are under way.

The vision of a revitalized Chalk River laboratory has been coined Vision 2026, which is now being incorporated into our five and 10-year plans. These plans include both revitalization and the elimination of legacy liabilities.

The key DWM activities and the ones we'll talk about more in detail today are shown on the slide. As you can see from the table, we are advancing the schedule across the board, in some cases by decades.

This will support revitalization and

renewal of the lab, and eliminate hazards instead of having to manage hazards in a temporary method for many years.

At Chalk River, the previous plan indicated we'd have a waste disposal facility in place by 2034. Our current plan is to have a near surface disposal facility operational 14 years earlier, in 2020. This is a key enabling facility, essential to support our plan for decommissioning activities which reduces the hazards and paves the way for site revitalization.

Acceleration of the Nuclear Power Demonstration and the Whiteshell sites will have more detail later in this presentation.

This slide and the next illustrate how we will revitalize the Chalk River site. This is a map of the current built-up area of the Chalk River site showing the buildings, and the area on the left is surrounded by the dark line, which is the protective fence, and administration area on the right.

Over the 10 years of the contract, our plan is to decommission and remove 122 structures at the Chalk River site, as illustrated by all the buildings which are in orange.

At the same time, we will continue to operate many facilities, and we will build new ones to support the overall CNL mission.

The one new building shown in purple on this slide is a new state of art laboratory for chemistry and materials research. Construction has just recently been completed. This lab will allow us to take down older buildings where this type of work has been taking place in the past.

The next slide shows a vision of what a revitalized Chalk River might look like. While our plans are not firm, we envision multiple new laboratories to deliver on science and technology, and new, upgraded infrastructure.

By 2026, the orange buildings from the previous slide will be gone, with one exception. The one exception is the NRU reactor, which will remain in storage with surveillance until a later date for decommissioning.

For completeness, here are some of the other major activities D&WM will be performing, including completion of the Port Hope Area Initiative and completion of the treatment and disposal of the stored liquid waste at Chalk River site, completion of the highly enriched uranium repatriation. Additionally, we'll continue risk reduction at Gentilly-1 and at Douglas Point prototype reactor sites.

To safely achieve the 2026 vision Decommissioning and Waste Management has a three-prong strategy. The first element to achieve the strategy is

focus accountability and leadership. The Decommissioning and Waste Management Program is in one organization at Chalk River reporting to me with two key projects; the Whiteshell led by Dan Coyne and Nuclear Power Demonstration led by Pat Daly reporting directly to the Chief Executive Officer Mark Lesinski to ensure they get the proper oversight and support they need.

We have an excellent group of leaders who have successfully and safely completed similar projects in other locations, and we are working with CNL staff on local knowledge and expertise. We have a clear 10-year plan with contractual incentives and penalties that align with safety-first philosophy. We are using integrated work teams to ensure that the resources are committed to the project's success.

The final point I want to emphasize under this part of the strategy is the people. Implementing D&WM strategy requires a significant increase in the resources at the site. We are working to retrain, re-employ CNL staff to engage them in the D&WM mission.

The second key element of the strategy is our technical approach. We recognize that accelerating the pace of decommission requires that we put in place an integrated strategy for all waste streams. This will start with the new Near Surface Disposal Facility as a permanent

solution for low-level and a small amount of short-lived intermediate-level waste, which meets the safety basis. We want to avoid temporary storage solutions and multiple handling of waste, if possible.

We believe that the optimal approach to decommissioning of the Nuclear Power Demonstration reactor and the Whiteshell WR1 reactor is in situ decommissioning, which will be presented by Pat and Dan.

Finally, everything we do is informed by international best practices. In the third element, we want to emphasize how importantly we treat the process. We are confident that our vision represents a safe, technically sound approach to achieve the mandate.

However, we understand that none of what we are describing today is predetermined. We understand the engagement and the approval is required. We understand and respect both the environment assessment and the licensing process. We aim to be transparent.

We also recognize that we are asking the community and the regulator to absorb and evaluate a lot of information over a relatively short period of time. We are taking great efforts to make information available and answer any and all questions.

This slide demonstrates where rubber is going to hit the road in regulatory space. It shows our

planning basis for regulatory submittals and Commission appearances over the next 28 months.

I want to stress that this is our current planning basis, and we recognize that all Commission meetings and all hearing dates in the future will be scheduled by the Commission. The schedule is aggressive, but we believe it is achievable, and we will do our part in making complete quality submissions to CNSC on schedule.

The slide shows that we will be before the Commission many times over the next two and a half years, on several different projects, as well as the Chalk River site operating licence renewal and the Whiteshell decommissioning licence renewal. We are taking an integrated approach to the various approvals required.

For example, we are coordinating the Near Surface Disposal Facility environmental assessment and the site relicensing together. We are also coordinating our new approach to the Whiteshell WR1 decommissioning with renewal of the Whiteshell decommissioning licence.

Achieving the schedule will be a challenge, and we are communicating with CNSC staff to ensure we provide submissions that allow adequate time for regulatory review.

We have an administrative protocol in place for the Near Surface Disposal Facility which is

available on the CNSC's website. The protocol lays out the detailed schedule for CNL submissions to CNSC, aligned with the overall schedule for Chalk River site licence renewal.

We are developing similar protocols for NPD and WR1, as they have proven in the past to be effective mechanisms for ensuring the expectations for project deliverables are clearly established and communicated.

As part of our engagement strategy, this slide shows a partial view of CNL's external homepage. The homepage is updated regularly so it may not look exactly like this today. I will use it to illustrate one of several mediums we used as part of our public information program. Prominently displayed on the homepage we have links to the major projects we are discussing today: Whiteshell decommissioning; Nuclear Power Demonstration closure; and, the Near Surface Disposal Facility.

We offer ways through the website for the community to ask questions and to get information on these projects and other CNL activities. We are also active in all well-known social media sites including Twitter LinkedIn, Flicker and Facebook. We are continually looking for ways to engage and address questions on any aspect of our operation.

When we talk about specific projects later

in this presentation, we will provide more specific information on engagement and the feedback we have received. Having reviewed the big picture of CNL's scope, mandate and strategy, I'd like to focus for a few minutes on important activities taking place at Chalk River.

I'll be covering topics shown on the slide, some of which I've already mentioned and be providing more depth as part of the understanding.

We are developing an integrated waste strategy, focusing on disposal to support legacy waste, current and future site operations, site revitalization, and decommissioning. Waste currently stored at Chalk River originates from over 70 years ago. To develop an integrated strategy we are updating the list of waste types, forms and quantities, and strengthening our characterization capabilities.

This will allow to maximize the quantity of clean waste we can treat as normal industrial waste. For waste that cannot be cleared as clean, we want to maximum the amount which can go into the Near Surface Disposal Facility.

The waste acceptance criteria for the Near Surface Disposal Facility will be determined from the designed performance assessment and the safety case, as approved in the licence. Other streams will be stored

until permanent disposal strategies can be determined.

Managing all this waste involves a lot of movement, and we are improving on our processes to make it more efficient and avoid unnecessarily handling and storage of waste.

Finally, we're improving our waste data tracking system, which is essential to ensuring we remain in control of all the waste.

Development of this integrated strategy is a work in progress, but we felt it was important to let the Commission know we are taking a holistic view of the issue as we manage the volumes of waste in an efficient and safe manner.

The Near Surface Disposal Facility that I've already mentioned several times is primarily for waste from past, current, and future operations as well as very large volumes of waste that will be generated by our decommissioning activities. All the waste admitted to NSDF will meet the predetermined waste acceptance criteria.

Our goal is to have NSDF operational in 2020. We expect it to receive waste for 50 years. It will be built in phases with a maximum capacity of about 1 million cubic metres. It is essentially a grade-level facility, as illustrated in the drawing.

NSDF will have a large surface area and

shallow depth and, when covered, it will form a low-height mound that will blend with the surrounding environment.

NSDF will be an engineered facility that will have custom-designed barriers on all sides based on proven technology. It will have a leachate collection and treatment facility with extending to groundwater environmental monitoring. This facility will be very similar to the Port Hope initiative long-term waste management facilities.

This slide shows the simplified high-level schedule leading up to active commissioning and start of operation for the Near Surface Disposal Facility.

We are well into the design and engineering work, and the environmental assessment process has started. We are just beginning the procurement process to ensure that we hit the ground running once we obtain regulatory approval.

We are planning to receive approval to start construction in early 2018 with subsequent approval to start operations in early 2020.

After NSDF ceases operations in about 2070 there will be a prolonged period of institutional control. The duration of this period is subject to regulatory approval, but we expect it to be on the order of 300 years.

We are well into the engagement process

for the near surface disposal facility. In many of our engagement activities, we include Nuclear Power Demonstration closure project at the same time given the close proximity of the two projects.

We have reached out to municipal leaders, community members, indigenous communities and interest groups through meetings, multiple open houses and several on-site orientations.

We have sent over 55,000 flyers out in mailings across the province. We have responded to individual requests for information from both individuals and organizations, and we are proactively informing those we know are interested and the community at large when we have new information.

There is definitely an interest in our projects, and we welcome the engagement. Further engagement activities are scheduled for this fall, actually starting next month, and throughout both the NSDF and NPD closure project schedules.

This slide shows some of what we have heard from engagement activities. There has been positive feedback encouragement that we are taking action to reduce hazards in a permanent way. As you can see, a number of questions and issues have been raised and we take them all seriously. Where we were not able to provide immediate

responses to questions, we will address the feedback in subsequent phases of the project, primarily in the environmental impact statement.

One of the main waste streams for the Near Surface Disposal Facility is the waste from decommissioning 122 buildings at Chalk River, which is one of the most critical steps for site revitalization. To support that, characterization is key to the future of knowing what the wastes are and where to take them.

Our intention is that the waste acceptance Criteria will support the bulk demolition approach so we can efficiently demolish many buildings and move waste directly into the Near Surface Disposal Facility. This is to avoid interim storage, additional handling, but as part of this most of the contaminated facilities will wait for demolition until the Near Surface Disposal Facility is available.

Finally, we will look for simple solutions that are safe and cost effective. We will apply a risk-informed graded approach fully keeping with CNSC requirements. This will allow us to apply techniques that are appropriate for the type of hazard resulting in cost-effective and safe decommissioning.

Our decommissioning work at CRL has already commenced. I am pleased to report that since we

arrived a year ago we have safely decommissioned and removed 19 buildings with no lost time accidents.

The final slide of this section of the presentation address environmental remediation at the Chalk River site. Our plans are under development, but we are working on accelerated remediation and cleanup of the overall site. First, we need to establish clarity on the cleanup criteria and intended future use. This will inform the risk-informed clean-up levels required for the future.

We will enhance the environmental data management system so that we can better understand and analyze the environmental status and impact of our activities. This will support improved characterization and will allow us to identify gaps needed to support remediation decisions.

Importantly, we are commencing evaluations to remove sources of groundwater contamination. The Commission will recall that underground plumes at Chalk River area source of discussion at every licence renewal, and sometimes in between. If it is feasible and makes sense to eliminate the source in accelerated fashion, we will do so.

In terms of the timing of major remediation at the Chalk River site, it cannot start in a big way until waste disposal is available. You're probably

aware by now how important the Near Surface Disposal Facility is for all these activities to come together.

The final point here is that we intend to use the low-level contaminated soils at the Chalk River site for much of the fill at the Near Surface Disposal Facility. This fulfills two important purposes: first, it provides the bulk internal structure for building debris in the landfill; and second, it means we only have to clean it and move once.

This concludes this part of the presentation. I'll now ask Pat Daly to go through the NPD Closure Project presentation.

MR. DALY: Thank you, Kurt.

Good afternoon, my name is Patrick Daly, I have responsibility for the NPD or Nuclear Power Demonstration Closure Project. During this presentation I'll go through our strategy, our plans and our approach for that closure.

NPD was the first CANDU reactor and it was the first prototype reactor to demonstrate nuclear electrical power generation in Canada.

The current photo that you see on the slide there, that is the current configuration of the plant at this time. When it operated it operated from 1962 to 1987, when it shutdown there were numerous other buildings

on site, including training facilities, administration facilities, those have all been removed shortly after they shutdown in 1987.

In addition, much of the above-grade equipment was removed from inside the building. For example, on the -- commonly referred to as the secondary side of the plant the condenser, the turbine generator, the control room, all those things are gone. So what is left is what is below grade.

NPD is currently under storage with surveillance and has a decommissioning licence. As we go through our closure project, safety of both employees and the public will be the overriding priority for the project, and including environmental.

One thing I would point out on that photograph is the ventilation stack, which is a prominent feature right in the middle. That is a very important part of our project because it does impact a species at risk, and I'll go into more details in a little bit.

Following shutdown in 1987 NPD was defueled, all fuel is removed from the site and is stored at Chalk River at this time. In addition, all the systems were deactivated, the heavy water was drained, the systems were flushed and dried, and then there is no heavy water, no light water, and again all the systems have been

deactivated at the site.

The radiological hazards that remain are principally the hazards associated with activation products with the reactor and the biological shield around the reactor. And then contamination, residual contamination in the heat transport system, like in the boiler room and the fuel bay.

Looking at the slide there, 6, 5 and 4 represent the area that is actually in a containment, reinforced concrete containment below grade: 6 is the fuel bay; 5 is the reactor bay with the calandria; and then 4 is the boiler room.

The other blue portion on the slide is the condenser bay, all the equipment from that area has been removed. Then the above-grade structures represented as 1, 2, and 3, when we finish closure those structures will be removed and the bulk of that debris will be placed in condenser bay.

For NPD our approach, our preferred approach, and we'll go in more detail, is to take the lower containment structure with all the intact reactor systems and equipment and entomb it, we call it in situ decommissioning, but it will be grouted in place with a reinforced concrete cap and then an engineered clay cap on top of that to disperse water.

CNL will be applying to CNSC for amendment to its licence to allow us to go into active decommissioning, and we're in the process right now of developing our environmental impact statement, our safety basis, our detailed decommissioning plan and the other documents that are going to be required by the CNSC.

Safety is our number one priority. We firmly believe that if our employees don't get hurt, the public is not in danger of being hurt. So we focus on our employees, we focus on the public.

Then finally, the environmental impact, just a little bit of background on NPD, there's approximately 1,000 acres. NPD is located about 30 km northwest of Chalk on the Ottawa River. There's approximately 1,000 acres at the site. Of those 1,000 acres there was 25 acres impacted by construction, and currently there's about 6 acres that are under licence.

So it's a very small footprint that's been impacted. And within that area that's going to be impacted by our closure process, the ventilation stack is an area where there is a species at risk. Our original plans were to design and build an alternate habitat and then remove the stack after engaging with stakeholders, regulators, including Environment Canada. We've decided the best approach is to leave the stack.

So we have analyzed the stack and, when we're done, the stack will remain to support a roost for the chimney swifts in the future going forward.

Our tentative schedule right now, overall duration, we're looking to have final closure by May of 2020 as our target.

The proposed end state is to, as I mentioned on that previous slide, is to have all the reactor systems within that reinforced concrete containment grouted in place to encapsulate the systems and demolish the above grade structures right now. Then we would install a reinforced concrete cap and an engineered clay cap on top of that to disperse any surface water away from the entombment.

We believe this will offer the most robust long-term final state for NPD. So it will become a Near Surface Disposal Facility in itself when we're finished, this will be the equivalent of one.

We have no intention of bringing anything into NPD, it's only what exists there now below grade that will be entombed, nothing else will be brought in.

As I mentioned about the footprint, the actual footprint of just the entombment area is about 150 metres by 50 metres. That’s the square footage if you are looking down on top of it.

When we are finished we have amended the licence. Approximately 950 acres will be available for other uses and be returned to AECL for consideration for future use for whatever use they deem appropriate. As I mention, the ventilation stack will remain for the chimney swifts.

As we go through our process with the environmental assessment there -- we have looked at alternatives. What I have described to you is our preferred alternative. The other alternatives is a partial removal of source term or removal of everything below grade. In doing that it would mean packaging transport to Chalk for interim storage and then eventually at some point when permanent disposal was available, it would be available it would be disposed of at Chalk. Those are the alternatives.

We believe our approach is not only the most robust approach given the fact it already is contained within a reinforced concrete containment, but it also minimizes exposure to employees both from an industrial safety/industrial hygiene and from an ALARA point of view, as well as eliminates unnecessary transportation of waste on public highways and multiple handling of waste at the Chalk River site.

There have been a number of reactors that

have been gone through in-situ decommissioning or entombment within North America. There were three reactors that were entombed back, approximately 45 to 50 years ago. These were small test and research reactors. The institutional controls placed on them involved periodic monitoring of groundwater and, to date nothing has been detected of migrating out of any of these facilities at that time.

The most recent experience has been at Savannah River. The Savannah River has entombed two production reactors and also up in Idaho the Experimental Breeder Reactor II was entombed up there as well using a grout approach where they grouted everything. It was below grade, grouted in place.

We have engaged with subject matter experts from Savannah River National Lab who have done a lot of technical work on grout formulas, grout placement. They are going to support us as well as they are going to support Dan over at WR-1 in helping us develop those formulas as well as help us in our pathway analysis and final closure analysis.

The next slide is just a high level schedule. We are -- currently we are in our preparatory phase. We do have contractors in place for pulling together our environmental impact statement, our licensing

plan. We do have -- we pulled together this year our historical site assessment. We also have our characterization plan.

We are doing some work inside the facility to ensure that we can place individuals back into the facility safely because the facility really -- nobody has worked in the facility for 30 years. We put them back into the facility safely so they can do the final characterization sampling inside the building that again we will support our licence submittals.

Once we -- our intent is to have all the submittals into the staff, CNSC staff by the fall of 2017. That would include our environmental impact statement, a beta safety analysis and our detailed decommissioning plan and then we hope to, by the end of 2018, a beta safety analysis and our detailed decommissioning plan and then we hope to, by the end of 2018 be able to move forward to go into execution phase which then would be the grouting, demolition and final capping of the site. We estimate that would take about 12 to 14 months to do that, to reach final closure. And then it would go into a period of institutional controls.

With that I was going to turn it over now to Dan Coyne to talk about the Whiteshell.

MR. COYNE: Thank you. Thank you, Pat.

Good afternoon. My name is Dan Coyne. I am the General Manager of the Whiteshell Laboratories Closure Project.

I'm going to -- in these next few slides I am going to describe our strategy and plans for decommissioning both the Whiteshell Reactor and progress and plans on decommissioning the Whiteshell site.

The picture on this slide shows the main campus of the Whiteshell Laboratories site as it was prior to September of last year with the WR-1 reactor building noted in the middle.

WR-1 was a research reactor that operated from 1965 to 1985. The reactor is presently in storage with surveillance under the Whiteshell site decommissioning licence that's valid to 2018. We propose to decommission the WR-1 reactor in an accelerated schedule.

WR-1 was a research reactor that used organic coolant. After its final shutdown the WR-1 reactor was defueled and all the fuel has been transferred on site into safe storage at the waste management area at Whiteshell.

The heavy water and heat transport systems were drained. The remaining hazards are mostly components that have been activated and there is some residual contamination inside of the heat transport and auxiliary

systems. I want to reemphasize that we are going to conduct all decommissioning work at Whiteshell with safety as the overarching priority. Our motto is if it can't be done safely, it won't be done.

This slide shows the early progress in Building 300, Phases 4 and 7. Building 300 is a former analytical lab facility at Whiteshell.

The demolition is now complete. It was the first demolition of a former nuclear mission building at Whiteshell.

This slide illustrates a good example of the demolition approach we are following at Whiteshell which is quite simple and involves heavy machinery to quickly, efficiently and safely demolish buildings like the one shown in the photograph.

The more laborious part of decommissioning involves the removal of facility systems components, decontamination and final survey prior to demolition which all happened prior to our assuming the contract and after we got the contract last September.

In April of this year the Commission received a comprehensive update on the status of the commissioning of the -- decommissioning of the Whiteshell site. Therefore, I will focus on progress since then and our plans for the remainder of 2016 and 2017.

This slide provides a visual representation of the 11 buildings scheduled for demolition during 2016-2017. Those indicated in yellow including Building 300 have already been demolished. They include Building 300, as I spoke of earlier, Building 505 where soils research was conducted, Building 509, a civil utility test building and Building 504 which is used for engineering development and test.

The other buildings with the white "X"s are planned for this year, are mostly non-active support facilities with the exception of Building 411 which is in the upper centre part, and that is the former decontamination centre at Whiteshell. That is currently operationally clean and we are continuing with scoping surveys prior to demolition.

Turning now to the WR-1 reactor as shown in this slide, the reactor is the void in the centre below grade as depicted in the picture. The nuclear systems below grade are in a concrete containment which make WR-1 a good candidate for entombment or in-situ decommissioning which is our proposed approach.

The general characteristics of in-situ decommissioning have already been covered by Pat so I am not going to repeat them.

The section below grade shaded in blue on

this slide will remain at the site as is but encased in grout, covered with an engineering cap to contain underground structures. The specific grout will be tailored for the specific characteristics of WR-1. This slide summarizes the methodology we propose to follow for decommissioning of WR-1. It consists of the following steps:

- Environmental assessment has been initiated and is currently in progress;

- We will develop a detailed decommissioning plan detailing our approach that will be submitted to CNSC staff for acceptance through the normal licensing process;

- The next phases in the process will include work planning and engineering, the activation of operational systems, grouting reactor systems in below-grade areas, demolition of the above-grade structure and construction and emplacement of the engineering cover -- engineer cover. Ultimately, the entombed reactor is planned to be covered and landscaped to blend in with the surrounding environment as depicted on this slide.

Once the site has been closed and all decommissioning is complete there will be several areas at Whiteshell that will potentially be under institutional controls and monitoring following site closure.

This slide shows potentially impacted areas at the Whiteshell site including but not limited to the landfill, the waste management area, the lagoon and the main campus which contains WR-1.

The target timeline shown in this slide indicates our proposed objectives of achieving closure of WR-1 by 2020. Decommissioning of all other buildings and site remediation activities are planned to be completed by 2024. At that point the site will be declared closed and a period of institutional controls would follow. The end date for institutional controls is to be determined through regulatory action -- regulatory process, excuse me.

Our CNL team at Whiteshell has been busy throughout 2016 coordinating and conducting local engagement activities. This slide provides a summary of these activities.

We are proactive in communicating with the public through newsletters and our public liaison committee. We are responsive to requests for information and tours as demonstrated by the site tour even to CBC Radio Canada and our response to letters to the press.

We have held multiple public information sessions in the local community and are engaging with indigenous communities to ensure they are aware of information as available and opportunities to visit the

site.

This slide summarizes what we have heard from our engagement activities to date. The feedback is similar to what was received at NPD and NSDF projects with some additional specific feedback that's unique to WR-1 and the Whiteshell site. We will address all of these comments during the environmental assessment process and during further open houses. We will continue our engagement campaigns throughout the course of the project.

I am going to end my part of the presentation but not without showing this slide here. This is our vision of Whiteshell site in 2024. Note this does not include any institutional controls that could be in place, nor any future regrowth opportunities that we are engaging with the community on. Our measure of success will be completing this work safely and leaving a solution that's protective to human health and the environment.

With that I will now turn the presentation over to Mr. Kehler.

MR. KEHLER: Thanks, Dan. Kurt Kehler for the record.

Our goal today was to describe the new mandate for CNL's decommissioning and waste management organization and how we responded to it with a new vision and clear strategy of that vision.

Through all our activities safety remains our highest priority and always will. We have described the three most significant early projects; Near Surface Disposal Facility, the project of decommissioning the NPD reactor at Rolphton and the acceleration closure of the Whiteshell site.

We have also described how our decommissioning activities our supported by an integrated waste strategy.

Finally, I want to emphasize that CNL is committed to transparency and truly meaningful engagement throughout all of our activities including the decommissioning and waste management.

Thank you very much for your attention and we would be happy to address any questions at this time.

THE PRESIDENT: Thank you.

CNL, do you have any additional comments you want to make -- that's staff, sorry.

MS TADROS: Haidy Tadros for the record.

We are available to take any questions from the Commission.

THE PRESIDENT: Okay. So let's jump into the question session starting with Dr. McEwen.

MEMBER McEWAN: Thank you, Mr. President.

Let's start with slide 39. That was a

very good -- both presentation in terms of the paper and in terms of the presentation. Thank you very much.

So slide 39 actually has summarized three or four of the questions that I developed as I read this and listened to you. But in fact one of them is the bullet that says the:

> "Interpretation that in-situ decommissioning is not supported by the IAEA"

Can you explain that to me and give me a rationale?

MR. COYNE: Dan Coyne for the record.

There is an IAEA document that was prepared that talks about it's not -- that in-situ decommissioning or entombment is not a preferred approach except in certain conditions. So we had that question asked to us. It prepared -- they prepared a technical document.

Basically, in the document it also talks about places where entombment could be utilized in the document and it talks about areas where you have a low amount of long-lived radionuclides or no disposal site in the state. So it does offer options for utilizing. If you read just one part of that technical document, it does say entombment is not a preferred approach. But if you read on

there is additional documentation that they call out in that guidance document in regards to entombment.

THE PRESIDENT: I see somebody from staff.

MS GLENN: Karine Glenn for the record. I am the Director of Wastes and Decommissioning at the Canadian Nuclear Safety Commission.

The document that CNL is referring to is the IAEA GSR 6 and, indeed, it does state that entombment is not recognized as a decommissioning strategy. It refers to -- internationally, typically when entombment is referred to, they are referring to a situation such as Chernobyl where a sarcophagus is poured over an accident-type scenario. It doesn't really speak to engineered remediation or decommissioning in a planned fashion of a facility.

It doesn't also take into account sites that were not built in a time where decommissioning was considered at the design stage. So if a new nuclear facility was built today, decommissioning must be considered in the design of that facility. We are talking about facilities that were built prior to that philosophy being addressed.

And so this type of decommissioning which in Canada we refer to as in-situ decommissioning, is not truly what the intent of the IAEA document is with. The

IAEA is working currently on a document to provide guidance with respect to their position on entombment in-situ decommissioning. Unfortunately, they are not able to provide us with a date of when that document will be published.

MEMBER McEWAN: So I guess that leads to the obvious question that is related to this. So you have an underground facility. You are entombing it. So I wasn't sure that I understood the term "grouting". Perhaps you could explain that in a little more detail. That’s what you do with tiles.

And what are the long term risks or medium to long term risks of that type of concrete infill? Is the concrete stable over many years? Do the long-lived radionuclides -- are they there in quantities enough that can cause degradation and is there a risk to groundwater?

MR. DALY: Patrick Daly for the record.

The grout refers to generally -- it's not concrete. It can be a cement-based mixture that is very flowable; self-levelling. So when you pump it into a facility it fills all the voids and spaces with the underground facility. So it's essentially to provide structural integrity that you end up with a monolith. So you have a reinforced concrete structure, cement or a cement base or it could be a clay-based, bentonite-based

grout. There is different -- you wouldn't necessarily use one formula for everything.

And then the process that we are going through now with the environmental assessment is to model that for post-closure performance and to provide assurance to the CNSC staff as well as yourselves that this is a viable alternative for disposal, that it will contain the radionuclides for a long period of time. If you consider thousands of years, the way our model will work it's very conservative. So they use very conservative assumptions that assume a fairly high groundwater flow rate. It's not necessarily realistic but very conservative.

You know, assume that it's going to -- the grout would degrade at a certain rate and show that the transport of the longer-lived activation products will -- they will migrate over time over hundreds of thousands of years but it will not have an impact to the public. It will not exceed the exposure limits to the public. And that's what the model is intended to show and that's the process we are going through right now.

And these are accepted -- we are working to accepted standards and not only within Canada but internationally.

MEMBER McEWAN: So if you look at some of the entombment examples you gave earlier in the

presentation, some of those would be decades-old now? If you go back and look at those has there -- have there been any issues with a breakdown of the model or a flow rate that was unrealistic?

MR. DALY: Patrick Daly for the record.

The three examples that were -- the test reactors that were entombed back in the 1969-1970 timeframe have shown no migration of any radionuclides out of those facilities. And having said that, realizing that back when they did that they didn't have the same models and computer modelling technology that we have now or the standards they are working to now. So they just, without a lot of analytical basis, they went ahead and grouted it and they haven't seen any degradation to date.

MR. RINKER: Mike Rinker, if I could, for the record.

So this project is entering into an environmental assessment and there is a requirement to assess the alternate means to manage these projects. So in-situ entombment, I think we are hearing is the preferred option, but we are going to be assessing whether that is the appropriate option or not. And the criteria, I guess, at a high level that we will be looking at is, you know, is the environmental protection achieved by in-situ management balanced off well by appropriate protection of workers who

would otherwise have to be involved in digging and blasting out the materials and moving it. So that's something that will be assessed during the course of the environmental assessment.

The second thing that I would like to add though is if we were to consider, you know, what would happen in the long term if entombment were to fail, I think probably the monitoring, the groundwater monitoring of that facility now in the absence of any entombment is a pretty good understanding of what is the mobility of the radionuclides in that facility. And the groundwater really is not a major issue from the monitoring that we have seen over the last decade or two.

THE PRESIDENT: Thank you.

M. Harvey.

MEMBER HARVEY: Merci, Monsieur le Président.

Thank you for your presentation. It was a comprehensive presentation and very interesting.

My question is to the staff and to you that to what extent the -- it's very large. Your vision is involving a lot of projects. To what extent it's something achievable and not positive thinking, because there is so many things to do? When you are reducing for example in manipulation the target, the dates, by decades that is

something very important. So how can we be assured that this is achievable, taking into account the number of agencies and people that you will need and what are the factors that make you think that this is a good representation of what will be done?

MR. KEHLER: Kurt Kehler for the record.

We have a lot of experience we have brought to accelerated decommissioning and closure projects. Now, admittedly not all these projects are closure. Chalk River is a revitalization project with ongoing operations and new infrastructure going in, which adds complications over a normal site closure project, but we have had quite a bit of experience on the management team we have brought from multiple sites both in the States and the U.K. of accelerating decommissioning projects and many with the same types of timeframes that we are proposing here.

So it is not without substance that we talk about it. It comes down to really doing a very detailed plan of building turnover, you know, the steps of decommissioning, decontamination, deactivation and being able to get through demolition.

I don't want to overstress it, but it is very important, is that waste is probably the biggest issue in all of the nuclear world, right, at this point of time,

what to do with waste of all types, both low, intermediate and high-level waste. So bringing the approach of having a near surface disposal facility for a great deal of the largest bulk of the waste that's going to be produced is really the key activity because we avoid multiple handling of the waste, temporary storage facilities. We avoid trying to break waste down into small storage containers, for instance for building demolition. You start handling buildings in much larger bulk ways with large machinery like Dan showed on his slide, and so it changes, it really kind of can change your trajectory of your path and your scheduling of the job.

So we are working -- at Chalk River where we have so many things to do to take down 122 buildings, we are in the process of finishing a complete 10-year plan working with operations, the NRU shutting down with everybody working there, when buildings will be shut down, when new buildings will be built for people to move into out of other laboratory buildings, when they will be turned over and when we can then go work on those buildings.

Another key enabler that we have done at the site is we are building the skills to do that work in-house. So we are not going out and subcontracting every job that happens. So I will have a team of people that we are now working on low hazard buildings with to build their

skills and equipment with the flexibility to move from one building to the next, and that has really been a key item at all of our major closure projects to accelerate the pace. Because once the crews get very skilled and trained with what they are doing, not only can they do it safely but in doing it safely, we can do it once and it turns out to be much more efficient in the long run.

MEMBER HARVEY: A sub-question and what caught my attention was you are talking of reducing cost and financial risk and my question is, what about the environment? When you cut something, is there a prejudice to the environment and the health of people?

MR. KEHLER: Kurt Kehler for the record.

Actually, it's a good news story, because with building an engineered storage facility, disposal facility, we are taking buildings which are now, you know, decades old, some of them half a century old, wooden structures, fire hazards, you know, in all sorts of states of repair and disrepair, as it might be, and we are removing those structures and putting them, you know, from just being along the edges of the river to being removed and in an engineered disposal facility, where it is much safer for the environment than where they are at now, and then it allows us to actually get to move into site remediation, so contaminated soils near and around the

buildings, groundwater problems. You know, once we get structures out of the way, in that process we are actually accelerating the cleanup to the environment as well. So it's not that the speed and efficiency is an environmental -- potential environmental hazard, it's actually the other way around.

MEMBER HARVEY: Thank you.

Staff, could you just comment. Is it something for you that is achievable like it is presented?

MS TADROS: Haidy Tadros for the record.

Thank you for the question. I think similar to what CNL has responded, as staff, we have many years of regulatory experience with not only the process but our regulatory requirements, so we do hold a very robust and strong regulatory framework. When it comes to regulatory requirements, we are involved both on the national stage with regards to other jurisdictions but also internationally to know what is coming, what is the best available information from a regulatory process.

Early engagement and a key understanding of the transparency and the public interest that is involved in all of these projects is very important for us, as the Commission is aware, so staying on top of that and making sure that the right processes are kicked in when they are appropriate.

CNL indicated there are administrative protocols at play for these projects. Given the nature of the timelines, we felt that to ensure clarity of expectations of what needs to be submitted when, so that the regulatory process can be delivered accordingly, we have dates involved, we are committed to meeting those dates. Given that the submissions are of quality and are comprehensive, things should again be put in place that move things along very smoothly.

And finally, I just wanted to point out that proper planning is key in all of this. So this is not a surprise. We, as you can imagine, staff as well as the management team involved in the regulatory process have ongoing discussions. Communication is key and we are aware of what the plans are to be able to help inform and direct when it comes to regulatory requirements.

THE PRESIDENT: I would like to jump in here.

So on Slide 7, the change in dates is stuck, let me put it this way. So whose are the previous dates? Whose dates are they? Are they the government dates or who was -- let me put it this way, who was so offside on achievable dates? All of a sudden you guys come here and you can speed up Whiteshell by 40 years. So what am I not understanding here? Either the previous dates

were totally off base or you are really good.

MR. KEHLER: Well, maybe both. Kurt Kehler for the record.

Now, the previous dates, most of them come from the Integrated Decommissioning Plan that was put up for site preliminary decommissioning -- I forget the acronym now -- that was put out previously. It had a 70-year schedule laid out in the plan to complete most of the decommissioning to eliminate nuclear liabilities. It wasn't wrong.

We have seen -- when we have come to acceleration projects before in other places, we have seen other types of durations spelled out and have done similar things to shorten the dates. So part of it is experience and I really can't speak -- even though the decommissioning plan that was there for 70 years talked about prompt decommissioning in the language of the plan, without focusing on the waste -- because you have to begin with the end in mind in projects like this and if you don't focus on the waste, which is really all I am, is a high-paid garbage man, is to make the waste and sort the waste in the appropriate streams that it gets safely disposed of in the right places. Once you kind of come to that realization, you can look at the project differently.

THE PRESIDENT: So are those dates now a

part of your contract and understanding with AECL?

MR. KEHLER: Yes, they are.

THE PRESIDENT: Okay, thank you.

Ms Velshi...?

MEMBER VELSHI: Thank you, Mr. President.

I have a bunch of questions in this round on the Near Surface Disposal Facility. So I guess, similar to decommissioning, the EA would look at alternatives and why you think this is the best option?

MR. KEHLER: The EA will look at other options for dealing with disposal. Of course there is not a lot to look at there because there are no disposal options currently available in Canada for the waste and so then you have to start looking at temporary storage options, how long will that be, which is part of why there was a 70-year date on the previous plans, and then what other types of disposal options you could build of course as part of that, of which there are several which will be looked at and discussed in the EA.

MEMBER VELSHI: And I hear you on how critical this facility is for you to deliver on all the other initiatives. It's an extremely aggressive timeline of 2020 to have it in service and just seeing the experience we have had with some of our other projects. How confident are you in that date?

MR. KEHLER: I would hate to put an exact confidence factor on that date. Kurt Kehler for the record.

It is recognizably an aggressive schedule, we realize that, and in dealing with staff we realize that as well. It allows no hiccups in the process to get there whatsoever and there is no contingency built into that date at this point in time, but we are targeting it as strong as we can as a top priority of really the entire organization because it is so critical to coming up with a final disposal path to support the schedule.

MEMBER VELSHI: And you said this facility would be primarily for low-level waste, but there would be some intermediate-level waste, I think you said with a short half-life. So how short a half-life?

MR. KEHLER: Kurt Kehler for the record.

I am not prepared to list off specific waste types today, but for example Cobalt-60 is a product that Chalk River produces now. You know, it's used in Gamma Knives, in sterilization. It is quite prominent throughout the industry. But when that Cobalt-60 comes to disposal, it still has a fairly high dose field associated with it.

But Cobalt-60 half-life is five years, and so when we look at putting things in near surface disposal,

we expect -- we are not done with the design and the performance assessment and waste acceptance criteria, but we expect to be able to take items like that.

Instead of saying we are going to take this Cobalt-60 and package it and put it over here to the side in a bunker or a surface storage for 20 years, you know, or 30 years and then we will stick it in the near surface disposal, why can we not build an argument that says, with proper shielding now for the handling of the people, for the safety of the people handling it, putting it into a near surface disposal, because even before you are done with completing the Near Surface Disposal, it will be -- its half-life will be gone.

MEMBER VELSHI: Thank you.

And my last question on this. So for all the other waste that would not end up in this near surface disposal facility, what is your timing for coming up with a strategy or a plan for that?

MR. KEHLER: Kurt Kehler for the record.

That is even a harder question because of the waste. Obviously, for spent nuclear fuel, we are relying on NWMO for the national repository. We are in discussions with them. As a matter of fact, we had the cask, transportation casks of NWMO in -- I was on site today to review it for acceptability for some of our fuel

transfers.

But everything else in between is a great variety of waste, intermediate-level waste. So there is no one strategy at this point. That's why we are looking at an integrated waste strategy. And literally, sometime we would like -- at some point in the future we will come back and maybe have more discussion on what that means to have an integrated waste strategy.

But we are taking every type of waste we can identify, you know, going through the radionuclides, the other chemical constituents, and then come up with a treatment and disposal path potentially for all of them which will then lead to what is a potential repository, you know, which could deal with those.

So before the end of our contract, I would expect to have the suggestion and started to work on what that disposal path is, but we will not be there by the end of this contract.

THE PRESIDENT: I hope you participated in the discussion paper that is circulating about characterization of waste management because that is one of -- lack of clarity in the public will not cut it. We use the language of low, intermediate and high. You have to be absolutely clear what is this repository going to handle. And in your project definition, you know, just

identifying waste from buildings rather than their activities I don't think is going to get -- a lot of people out there are pretty smart and they will demand to know exactly what is being proposed for burial here.

So I hope you give some good, practical advice on how you do the characterization that makes sense in designing a low-level -- a near surface repository.

MR. KEHLER: We are aware of the work going on and we did comment on the categorization and characterization of waste. We believe there is work that can be done there and we are working with staff at this point to make it more readily apparent to the public what our purpose is with the near surface disposal facility.

THE PRESIDENT: Staff, I just got stuck on the Cobalt. Would that be defined as high-level or intermediate-level or what level in the new and improved regulatory -- or the discussion paper? What are you going to do with Cobalt? Where does it go?

MS GLENN: Karine Glenn for the record.

So the discussion paper proposes to use quantitative definitions that are aligned with an appendix that is in the CSA N292 waste management standard so that currently it's not a mandatory classification for the use of that quantitative data.

Cobalt would not qualify under the current

definition or the proposed definition of low-level waste due mostly to its heat generation properties. However, whatever the proposal will be from CNL, CNSC staff will perform an assessment and ensure that the design of the proposed facility is suitable to contain the material and to protect the environment and the public.

THE PRESIDENT: That was a very diplomatic answer. We will leave it at that because you can see we have learned from the DGR. The lack of clarity was a problem.

Monsieur Tolgyesi...?

MEMBRE TOLGYESI : Merci, Monsieur le Président.

You were saying on Slide 10 that you "complete Highly Enriched Uranium repatriation from CRL." What is your timeframe to do that?

MR. KEHLER: Kurt Kehler for the record.

We are currently in the process of still shipping fuel, HEU fuel from Chalk River to Savannah River in the United States. The date that the DOE has set for completion of the repatriation program is May of 2019, but we are currently with DOE to extend that date.

I don't have the exact date we expect to complete that because, as you are also I'm sure aware, there is much discussion going on on what we call target

residue material, which is the liquid form of highly enriched uranium shipment, and the receiver side is not yet available to accept that material. There is a court case filed in the United States to stop that shipment, so I'm not going to make any guess on what is going to happen with that.

MEMBER TOLGYESI: There is some high or medium enriched uranium or waste which is coming from other sites which is stored at Chalk River; am I right?

MR. KEHLER: Kurt Kehler, for the record. I do not know the answer to that off the top of my head. We are not currently receiving any shipments like that from other sites. The HEU we received was from the States to begin with to make targets for the production of the Moly-99 at NRU and that's where the waste form came from and that's why we have leftover materials now, but I am not aware of any other HEU we receive at Chalk River from other sites.

MEMBER TOLGYESI: And on the same slide you are talking about "Reduce hazards at Whiteshell Labs, Gentilly-1 and Douglas Point." When you are talking about Gentilly-1, what does it mean "reduce hazards" and how will you -- do you have any plans to decommission Gentilly-1 and, if so, will it be coordinated with Gentilly-2 or what are your expectations?

MR. KEHLER: Kurt Kehler for the record.

Right now, we do not have definitive plans for decommissioning Gentilly-1 or Douglas Point. As a matter of fact, I don't have a licence yet to decommission them, so I would have to go for that first. But we are looking at our overall budgeting profile for the 10-year period and the funds available, and with coming out with our 10-year plan we are going to reevaluate that with our client AECL, what work we want to accomplish there.

Gentilly-1 is unique in that it is not very -- it didn't run very long and so it's not, you know, very activated, it's not very contaminated, and so it is a good candidate to continue on through the decommissioning process.

And we have been in discussions with Gentilly-2 about how to proceed. So I think there is some work to be done there. But again, it's going to come back to ultimately when you start decommissioning large plants like that, where does the waste go?

THE PRESIDENT: A new facility in Chalk River could not accommodate any one of those Gentilly-1 and Douglas Point if that was the desire to do?

MR. KEHLER: The facility size is not big enough to -- Kurt Kehler for the record -- big enough to take large reactor decommissioning projects. So some other

method to accept those waste will have to be determined in the future, and at what site that would be, I would not like to speculate at this time.

THE PRESIDENT: Thank you.

Back to Dr. McEwan.

MEMBER McEWAN: Thank you, Mr. President.

So I am getting confused about the NSDF now after the conversations. So if I understand it, it's about 1 million cubic metres. So given the dimensions you gave us, it is about 6 metres deep, 7 metres deep, something like that. Where on the site would it be? So if we look to Slide 8, would it be actually incorporated within the boundaries there or would it be out of those boundaries?

MR. KEHLER: Kurt Kehler for the record.

The final site selection is not made. We have two sites that we are looking at. They are not anywhere close to the built-up area. It is further back away from the river into a different -- both of them are in two different drainages, and so I would have to give you a bigger map of the Chalk River site and review that with you.

MEMBER McEWAN: So that leads actually to my next question. The drainage will not be to the river, should there be leaching, should there be --

MR. KEHLER: Both sites go into alternate drainages. Ultimately, those surface waters would make it to the river. Of course they would because that's where all the water eventually goes anyway. But they do not -- the initial drainages for where the near surface disposal sites are would not be towards the river at this time.

MEMBER McEWAN: So presumably for non-contaminated buildings that you are taking down, that would not go into this site, that would go offsite to some other disposal facility?

MR. KEHLER: Kurt Kehler for the record. That's correct. We also have a sanitary -- a regular industrial sanitary disposal cell onsite and we use offsite industrial waste facilities as well.

MEMBER McEWAN: So one of the first critical steps then is a clear determination of what buildings are clearly not contaminated as opposed to those which are or may be, which would then require different processes?

MR. KEHLER: Kurt Kehler for the record. That is really the first step, but there are actually a couple of more steps in there as well because there will be contaminated buildings which we can deem we can decontaminate, right, and release most of the

building as clean, but there will be other buildings that through experience you know that you will never get to a free release criteria on and so, yeah, that determination is key for those buildings.

Obviously, from a history, building history, we have a good indication, you know, of where to look and where not to look to start with, but we still have to do the characterization for every building.

MEMBER McEWAN: So is the surface facility, the disposal facility, is it segmented so that there would be a segment of the million cubic metres for contaminated soil, a segment for Cobalt or whatever?

MR. KEHLER: Typically, it is not segmented in that way. We will build it in cells, but the cells themselves will be a combination of materials to make the fill work properly. So that was my discussion about soil remediation happening at the same time, because to properly dispose and compact the debris coming from the buildings, you actually need soil with that, usually around a 60:40 mixture, to make the landfill so it won't subside in the future when you compact it, and so it will be a mix at that point.

MEMBER McEWAN: And then I guess the final question around that is once you have disposed of the buildings, you would then do complete site remediation on

the deconstructed part of the Chalk River site?

MR. KEHLER: The remediation will depend on the future use. For example, part of the Chalk River site on the map, the built-up area, if we are going to reuse it for a laboratory it would be more of a brownfield cleanup, if you are used to that term, versus a greenfield cleanup, you know, still protective of the public, personnel and the environment but maybe to a lesser level than if you were going to release it for public access or recreation.

THE PRESIDENT: Thank you.

Monsieur Harvey...?

MEMBRE HARVEY : Merci, Monsieur le Président.

My question is about the funding. I mean the Commission is not very concerned about the funding except by the fact that if there is not enough money there is no achievement. So how can you be certain that you will get enough funds to achieve all those projects? Do you have enough commitment from the government to achieve it?

MR. KEHLER: Kurt Kehler for the record. I would like to ask Shannon Quinn if she would like to address that question for AECL.

MS QUINN: Shannon Quinn, Vice President, Science, Technology and Commercial Oversight for Atomic

Energy of Canada Limited.

So what I can say is that all of these decommissioning and waste liabilities that Mr. Kehler has been addressing today on the part of CNL, they are all obligations and responsibilities of AECL and indeed the Government of Canada, and the Government of Canada's responsibilities for those are already reflected on the public accounts.

So the estimated costs associated with the full scope of addressing all of Canada's radioactive waste liabilities are on the public accounts today. They are valued at approximately $6.7 billion on the public accounts. This means that the Government of Canada has already made and recognized a commitment to both doing the work as well as making the funds available. So they are already there reflected as liabilities.

When the Government of Canada, through AECL, under contract to CNL, contracts for the work to discharge the government's responsibilities, what it means is that there is a cash expenditure in a given year, but it doesn't actually change the fiscal position of the Government of Canada because it has already recognized those liabilities. So essentially, those cash outlays are drawing down against a book liability. So perhaps more succinctly to your question, the Government of Canada has

already made provision for the funds for all of this work.

But then more directly through the long-term contractual arrangement that now exists between AECL and CNL through the GoCo arrangement, in that contractual arrangement there is specifically a scope of work that is set out and it includes work both at Chalk River, including the NSDF project that is being discussed.

But also, as noted by Mr. Kehler earlier in the presentation, there are two other standalone agreements with respect to Whiteshell and NPD, and through those contractual arrangements, AECL has made commitments to proceeding with that scope of work and all of the costs that would be associated with that, understanding that it's all subject to government appropriations through the annual Government of Canada budgeting process.

THE PRESIDENT: I think what she meant to say, on time/on budget in the nuclear industry would be something new, relatively new. So you guys are committed to on time/on budget, if I understand, because you now really put yourself very, very ambitious target dates that the government has accepted I assume. You don't have to comment.

--- Laughter

THE PRESIDENT: Who is next on the list? Ms Velshi...?

MEMBER VELSHI: Thank you.

On Slide 35 you give a picture of what the end state would look like for WR-1. So how do you define the end state? Are there any restrictions on use? Is it fenced? Does it look like a greenfield site? Like what is the objective?

MR. COYNE: Dan Coyne for the record.

We are in the process of doing that right now. We are putting together our Environmental Impact Statement. We are doing our characterization. We actually just met with CNSC staffers earlier today. We just brought on our Environmental Impact -- or our contract to put our Environmental Assessment and our Environmental Impact Statement together, so it's too early to tell what the end state is going to look like. We have a vision from doing this in the past where it has an engineered cover, you know, and a grout applied to it. That's the vision right now, but it's all open to the science and then regulatory approval.

MEMBER VELSHI: Thank you.

And sort of going hand in hand with that is the institutional control. We have heard about institutional control for abandoned uranium mines, but who would be responsible for institutional control and how long do you envisage the necessity for that or is that also

still too early?

MR. COYNE: Dan Coyne for the record.

It is a bit early. Our contract at Whiteshell goes to 2024. Beyond that, it is AECL and how they implement the next vehicle for the contract. But Kurt mentioned with the NSDF having potentially 300 years of institutional controls there, so I don't want to prejudice the decision that is coming forth, but it is too early to tell. When we turn over the site to AECL, it will be incumbent to whatever AECL's next vehicle for contracts is to manage the institutional controls.

MEMBER VELSHI: Thank you.

THE PRESIDENT: But staff, I would like to -- I thought you would have some targets, environmental targets that you would expect to meet. If I understand correctly, if I take the Whiteshell, the source term -- most of the stuff is already gone. Most of the activated material and whatever is left is going to be cleaned up even further. So what is left behind and if you should be able to meet -- what is the target you are going to set for institutional will be presumably below 1 mSv annual dose. Is that not kind of a public target that you are going to set? Are you working towards such a goal?

MS GLENN: Karine Glenn for the record.

Maybe I will start it and then pass it on

to my colleagues.

But typically, the targets that are met before a move to institutional control would be those that would be presented as part of the EA objectives and accepted by the Commission as part of the EA process. That is typically what happens with other remediation sites, whether they are mines or other types of facilities that require institutional control.

For provinces or for facilities where there is no government-run institutional controls, such as is the case in Saskatchewan -- there is a provincial-run institutional control in that province -- institutional control would be proposed by the proponent and they would define what that would look like, who would be responsible for the institutional control and then that would be presented as part of the case to the Commission as part of the acceptance for a move to institutional control.

So I will pass it on to my colleague, Mr. Barker.

MR. BARKER: Thank you.

Bob Barker for the record.

At Whiteshell, they have an existing approved decommissioning licence. In support of that, in 2002, a comprehensive study report was conducted which anticipated for the project that was described at that

point an administrative control period or institutional control period of about 200 years.

Now, the intent of the institutional control period was to monitor for any impacts from the waste management area. This document looked really only at the in situ disposal of the in-ground trenches, it didn't look at the WR-1 entombment option. But it is anticipated that there may be some form of administrative control. They didn't refer to institutional control. It really meant there would be some ongoing monitoring and there may be fencing and there would be a site review to make sure that the wastes are decaying appropriately and not impacting the environment. They really didn't go on to the situation where we have agreements with other institutions to oversee the institutional control period.

THE PRESIDENT: So all of this is going to be discussed in the environmental assessment, okay. Thank you.

Monsieur Tolgyesi...?

MEMBRE TOLGYESI : Merci, Monsieur le Président.

On Slide 11, "Strategy to Safely Achieve Vision 2026," you are saying in the first column in the fourth bullet, "Contractual incentives and penalties." What does that mean?

MR. KEHLER: Kurt Kehler for the record.

We have three different contract types, so the target costs are different than what I will call the site operating contract, but all the contracts have penalties for health and safety incidents, environmental incidents of different scales and different loss of fee to the companies involved up to 100 percent loss of any potential fee for the companies. So that is the penalty side.

From the incentive side, for the SOC agreement we have a strategy with -- or AECL has a strategy and I may need to let them speak for themselves -- of setting out performance-based initiatives for performance of the work or award fee initiatives to achieve certain milestones and goals as we lay them out in the annual plan of working budget and very shortly in the 10-year detailed plan. So the 10-year detailed plan will allow them to decide what are the most important features to them as a client and then decide what types of incentives they will put on achieving those features by that date, within the cost, safely and compliantly with all environmental controls.

MEMBER TOLGYESI: You know, considering that you have a very aggressive timeframe or schedule, as you were saying, I think it will be quite a management

challenge to avoid shortcuts, no bashing, high-quality execution, because the consequences, if there are, there will be something during the construction. But we see that if there are consequences, they are coming a few years or years after and then the costs are quite higher to correct them. So there will be a kind of necessary tight supervision, and I think tight verification and supervision from staff also.

MR. KEHLER: Kurt Kehler for the record. I would just like to comment.

Based on our experience of accelerating projects like this at other sites, we all believe -- and we have learned the hard way and believe that doing the job once and, more importantly, doing the job safely and compliantly to begin with is the most important thing to achieving the schedule and the cost, because things which, you know, cause injuries, stop work, cause rework are not the cheapest, most efficient way to do the work.

So every site that we have worked that we strive to improve the safety performance and improve the compliance performance, which is all along with the conduct of operations, which is doing strict adherence to procedures and work planning and hazard controls, proves in the long run that we actually accelerate the work and do it at lower cost by focusing on the basics of safety and

compliance.

MS TADROS: So maybe just to add. Haidy Tadros for the record.

From CNSC staff's perspective, you are right, there is close oversight on the activities that are going through with these projects. I did indicate previously proper planning has helped us get to where we are today. With the anticipation of the work that is yet to come, we have mobilized a dedicated team who are looking at these projects, ensuring the regulatory oversight is there but also the regulatory requirements are clear. Ongoing conversations do happen on a regular basis with CNL to ensure that we are meeting the timelines as per what has been agreed to.

THE PRESIDENT: Okay.

I'm toying with taking a break or a quick -- so down the list. Dr. McEwan.

MEMBER McEWAN: So this is I think a fairly quick question. In slides 18 and 38 you discuss your outreach activities and you mention for the one a Stewardship Council, for the other a Liaison Committee. So is it your intent that for the NSDF you will have again a similar type of outreach activity as that process proceeds? What is the makeup of these groups? Are they effectively standing committees, how often do they meet and do you

intend to keep them going beyond the lifetime of the project to act as stewards of the outcomes?

MR. KEHLER: Kurt Kehler for the record.

Off the top of my head I can't name most of them, but I know I have somebody here that can and so I would like Pat Quinn to answer that question.

MR. QUINN: Good afternoon. For the record, my name is Pat Quinn. I am Director of Corporate Communications for Canadian Nuclear Laboratories.

With respect to the Environmental Stewardship Council and the Public Liaison Committee, these are two standing structures that support or provide an opportunity for the organization to test ideas, bring people up to speed on activities on our Whiteshell and Chalk River sites.

The ESC meets three times annual minimum. It is made up of 19 representatives or organizations representing elected officials, so local municipalities, and also various NGO organizations.

With respect to the PLC, it is a similar structure, currently meeting two times annually and as required, and also involves elected officials and local interest groups.

So it has been the practice of the organization to bring both Councils up to speed on the

three projects that we have been carrying on over the past short term and we will continue to do so.

MEMBER McEWAN: So given the intensive remediation and getting, as you said, a very high percentage of the sites back to use, indigenous populations are on those groups as well?

MR. QUINN: That is correct. But in addition to our regular interactions with these groups, we have started an aboriginal and Métis engagement program with respect to the REGDOC-3.2.2 and that is underway now.

THE PRESIDENT: Thank you.

Monsieur Harvey...?

Ms Velshi...?

MEMBER VELSHI: You have mentioned you have had a lot of international experience in doing similar kind of work. Is there adequate -- in your opinion, is there adequate clarity in the regulatory requirements that you need to satisfy for all these different projects or should something else be done? This is your chance.

MR. KEHLER: Kurt Kehler for the record.

I think the discussion we are having about waste categorization and waste disposal is a very timely discussion to be having right now. It is very important.

We believe there is a lot of focus in the waste categorization on storage and safely handling the

material, but that is not necessarily equivalent to disposal and safely disposing of the material. As we all know, what we do is based on science and that disposal needs to be based on the same science, and that may not have straight crossover categories to what exists at this point in time.

So it's a very good conversation we are into at this point in time. I think it is very necessary for the entire industry to come to grips with that. Thank you.

THE PRESIDENT: Monsieur Tolgyesi...?

MEMBER TOLGYESI: Just a quick one. On Slide 27 you are enumerating North American experience in in situ decommissioning. Was there in-situ decommissioning elsewhere in the world?

MR. DALY: Which slide?

MEMBER TOLGYESI: Twenty-seven.

MR. DALY: Patrick Daly for the record. Could you restate the question one more time?

MEMBER TOLGYESI: You are enumerating here two, four, six North American experiences in in-situ decommissioning. What I'm questioning is was there elsewhere, to your knowledge, in-situ decommissioning elsewhere in the world?

MR. DALY: There is currently in-situ

decommissioning being carried out in Russia and we have recently had a literature search done. And so in the most recent they took a -- it was a joint research plutonium production reactor and went through and performed an entombment process on that. That was just a recent effort and it was not a Chernobyl type, you know, it wasn't the result of an accident, it was a deliberate disposal decision by the Russians. Right now, that is the only other reactor that I am aware of.

MEMBER TOLGYESI: And these grouting switch you are talking about in North America, they were recent groutings or they were years back? Because the consequence or measurements, you know, will come later on. So if it was grouted last year, it's normal there is nothing as an impact on the environment

MR. DALY: Patrick Daly for the record.

There has been -- the most recent experience has been both at the Savannah River site with the production reactors and up at Idaho with the experimental breeder reactor. Those are recent activities that do not have a run time on our history associated with legacy sampling. The only other reactors are the ones that are on that list that were entombed back approximately 45 years ago and they have gone through periodic groundwater monitoring and there hasn't been any indication of any

migration of radionuclides.

THE PRESIDENT: Okay.

Any other kind of a question?

I think this is going to be a hard topic, that we will be hearing from you often, and of course there is going to be the actual EAs and the licensing hearing. So thank you for this heads-up.

We will take a break for -- okay, 10 to 4:00. Thank you.

--- Upon recessing at 3:37 p.m. /
Suspension à 15 h 37
--- Upon resuming at 3:53 p.m. /
Reprise à 15 h 53

THE PRESIDENT: The next item on the agenda is a decision item on the Regulatory Document 2.9.1, Environmental Protection, as outlined in CMD 16-M51 and M51.A.

I understand that Mr. Torrie will make the presentation.

Over to you.

CMD 16-M51/16-M51.A

Oral presentation by CNSC Staff

MR. TORRIE: Thank you. Bonjour monsieur le président, membres de la commission. My name is Brian Torrie, Director General of the Regulatory Policy Directorate.

With me today are Mr. Michael Rinker, Director General of the Directorate of Environmental and Radiation Protection and Assessment, along with Dr. Caroline Ducros, Director of the Environmental Assessment Division, Ms Karen Owen-Whitred, Director of the Regulatory Framework Division, and other CNSC staff are available to support and answer any questions you may have.

We are here today to request the Commission approval of RegDoc 2.9.1, Environmental Protection, Environmental Principles, Assessments and Protection Measures.

Regulatory Document 2.9.1 clarifies and consolidates CNSC's environmental protection framework and specifies the CNSC's requirements and guidance for the protection of the environment and health of persons. If approved, this RegDoc is expected to be published in October 2016.

Before discussing the document in detail,

I will briefly review the role of the Regulatory Documents and where RegDoc 2.9.1 is situated within the CNSC Regulatory Document framework.

To enhance accessibility of our regulatory expectation, the CNSC structures our Regulatory Documents according to the framework here. This slide shows where RegDoc 2.9.1 fits within the CNSC's broader document framework. It is situated within Section 2.0, Safety and Control Areas.

This section also includes information on the CNSC's requirements and guidance for applicants and licensees in the 14 safety control areas, or SCAs.

At this point, I'll turn to the presentation over to Mr. Rinker.

MR. RINKER: Good afternoon, Mr. President and Members of the Commission. My name is Michael Rinker, and I'm the Director General for the Directorate of Environmental and Radiation Protection and Assessment.

This slide presents an outline of what will be presented. We will commence by presenting an overview of the development of the CNSC's regulatory framework for environmental protection.

Next we will present the latest update to RegDoc 2.9.1 that is provided for Commission approval. We will present the objectives, the process and results, the

public consultation, including key themes to the public comments and how the CNSC has addressed them.

We will provide a brief explanation of how this Regulatory Document, if approved, would be implemented.

And finally, we will finish our presentation with CNSC staff's conclusions and recommendations.

One of the CNSC's key responsibilities is the protection of the environment and the health of persons. Assessments such as environmental risk assessments, or ERAs, have always been an essential part of the information used by CNSC staff to fully evaluate the environmental effects of all nuclear facilities or activities and determine whether adequate provision will be made by licensees to protect the environment and the health of persons.

To meet this responsibility, the CNSC has always required the environmental effects of all nuclear facilities or activities to be considered and evaluated before licensing decisions are made.

Environmental protection is an important part of the Commission's consideration at each licensing phase. As illustrated in this diagram, an application from a licensee requires the CNSC to conduct technical

assessments, including an environmental assessment of the proposal. In addition, there are numerous opportunities for public involvement throughout the CNSC's licensing and compliance process.

Important milestones that are supported by the CNSC's regulatory oversight for environmental protection and involve public consultation and participation are the licensing process that is illustrated above. That includes public engagement throughout as well as the decision point where the Commission holds public hearings on the licence application.

And because licences are issued for fixed time periods at the discretion of the Commission and need to be renewed, the renewal licensing process follows the same process shown on this slide, and is supported by an environmental assessment.

And finally, during a licence term, a public annual report card in the form of regulatory oversight reports is presented to the Commission, and it includes facility performance for environmental protection.

This licensing process, therefore, enables the CNSC to be a life cycle regulator, ensuring environmental protection and public engagement throughout the life cycle of a nuclear facility.

The RegDoc before you today is written to

ensure that regulatory requirements, guidance and processes for environmental protection and the conduct of an EA are consistent with this life cycle approach to regulation.

This slide illustrates the history of federal environmental assessment in Canada. The CNSC and its former Atomic Energy Control Board was subject to the policy and legislation outlined in this slide.

The CNSC has completed over 70 environmental assessments for nuclear projects over the past several decades.

Since the beginning of environmental assessment in Canada, beginning with the Cabinet policy from the 1970s, then the Environmental Assessment and Review Process Guidelines Order, or EARPGO, then the Canadian *Environmental Assessment Act* of 1992, and currently under the Canadian *Environmental Assessment Act,* 2012.

The Commission is one of three responsible authorities under the Canadian *Environmental Assessment Act* and the only responsible authority in the case of a designated project that is regulated under the *Nuclear Safety and Control Act*.

The CNSC was recognized as a suitable responsible authority for CEAA in previous environmental assessment reviews. In addition, every time the CNSC's

discharge of EA responsibilities has been judicially reviewed, the Federal Court has ultimately upheld the manner in which the CNSC staff have conducted the EAs and the Commission has made its EA decisions.

For example, the *Greenpeace et al. v. Canada* decision record stated that the CNSC is much better placed than reviewing court to factually assess and determine what types of accidents are likely to occur at a nuclear power plant and how to conduct an assessment of the environmental impacts of potential accidents.

Environmental assessments are conducted the *Nuclear Safety and Control Act* at every phase throughout the life cycle of a facility or activity. For each licence application, the CNSC staff consider all future phases of the life cycle, taking into consideration available information.

These EAs include technical review of the information required in licence applications and supporting documentation, data from independent environmental monitoring program, the CNSC’s compliance verification activities, annual environmental monitoring reports, previous EAs and follow-up programs, decommissioning plans and input from indigenous people and the public.

The figures on this slide compare EAs carried out in accordance with the Canadian *Environmental*

Assessment Act to those carried out by CNSC staff under the *Nuclear Safety and Control Act*.

EAs under CEAA 2012 are conducted for projects on the regulations, designated physical activities or project list of the Canadian *Environmental Assessment Act*.

EAs under the NSCA are conducted for projects not on this list or for projects that have completed an EA under CEAA but are at the next or later phase of the project, or at a licence renewal.

Both EAs have as their basis the same core science as defined in the RegDoc before you today. Both EAs consider the full life cycles of the project. However, the CEAA EA process has certain legislative process steps and a legislated scope of factors to be considered, including alternative means of carrying out the project, cumulative effects and, finally, a decision is made on the EA itself.

The EA under the NSCA aligns with the CNSC licensing process, and some factors for assessment are under the discretionary authority of the Commission. There is no decision on the EA itself; however, the objective of the EA report is to provide the necessary information to the Commission so that the Commission is able to make the licensing decision under the NSCA with the confidence that

the environment and the health of persons will be protected.

All projects that successfully go through the process in column 1 for EAs under CEAA 2012 will eventually go through the process in column 2 for EAs under the NSCA at the time of renewal. This is the life cycle approach to regulation and to environmental protection, and this is one reason why we endeavour to make one as rigorous as the other.

This slide illustrates the development of the CNSC's regulatory framework for environmental protection. CSA Standard N288.1 was the first standard for protection of the public. It was published in 1987 and provides a radio nuclide transport model for assessing radiation exposure to the public.

It is also used for calculating derived release limits, or DRLs, for radio nuclides.

The enhanced environmental protection mandate and regulatory requirements associated with the NSCA requires staff to develop a correspondingly enhanced environmental protection framework. This commenced with regulatory policy document P223, Protection of the Environment, which established the CNSC's commitments to government cooperation and harmonization and commitments to regulate in a risk-informed manner while recognizing and

accounting for uncertainty in science through the application of a protective approach.

The Environmental Management System, or EMS, shown in the third step of this diagram includes the requirement for licensees to manage their environmental measures such as controls on releases and effluent and environmental monitoring in a coordinated and systematic and auditable manner.

Finally, the last tier on this slide shows the development history of the current CSA standard for environmental protection. These serve to standardize requirements and provide more detailed guidance. They are written in a manner which supports compliance and verification of the adequacy and design and implementation of each of the environmental protection measures.

The initial version of RegDoc 2.9.1 titled Environmental Protection Policies, Programs and Procedures was published in September 2013. It included requirements for an Environmental Management System and reflected lessons learned from the Fukushima Task Force recommendations.

A two-phase revision to the 2013 version of RegDoc 2.9.1 was conducted. Phase 1 involved providing clarification of the role of an environmental assessment under CEAA 2012 and the NSCA in response to recent

legislative changes to CEAA.

Public consultation of this version was completed in July of 2014.

Phase 2 was then implemented to add CSA standards related to effluent and environmental monitoring, environmental risk assessment and groundwater protection.

These two developments are incorporated into the document you are considering today which, for the first time, captures in a single document the complete life cycle integrated environmental protection framework applied by the CNSC to ensure the protection of the environment and the health of persons.

The implementation of this environmental protection Regulatory Document is expected to lead to greater regulatory certainty for licensees, greater consistency in meeting requirements to ensure environmental protection, enhanced harmonization with provincial and federal regulatory jurisdictions, and transparency for the Canadian public on the CNSC's regulatory requirements and guidance.

RegDoc 2.9.1 describes the CNSC's guiding principles for environmental protection, the scope of an environmental assessment, the roles and responsibilities with an environmental assessment either under the Canadian *Environmental Assessment Act* or the *Nuclear Safety and*

Control Act and the CNSC's requirements and guidance for developing environmental protection measures, including environmental risk assessments where required.

RegDoc 2.9.1 indicates that all licence applications that demonstrate potential interactions between the facility or activity and the environment are subject to an EA, either under the NSCA or under CEAA 2012, and that for each facility or activity that has these direct interactions with the environment, the applicant or licensee must demonstrate that environmental protection measures are or will be in place.

The document also identifies the roles and responsibilities of the Commission, of CNSC staff and of the applicant or licensee in evaluating, mitigating and monitoring the environmental effects of a facility or activity.

As detailed in the consultation report included as part of the CMD package, RegDoc 2.9.1 has gone through extensive rounds of public consultation. Consultation began in the spring-summer of 2014 on Phase 1 work. A 120-day consultation period was held from November 30th, 2015 to March 29, 2016, and consultation on comments received occurred between April 25th to May 16th, 2016.

The RegDoc was sent out to all subscribers to the CNSC's info email account and also notices of public

consultation were posted on CNSC social media pages and the Government of Canada's Consultation with Canadians web page. In total, the CNSC received 261 distinct comments from 12 respondents.

Nine of the respondents were from industry, two of the respondents from other government authorities, and one was from a Non-Government Organization. All of the comments submitted and the CNSC's responses to those comments are detailed in the consultation table.

I would like to note that the comments were quite constructive and led to a significant number of revisions to the RegDoc.

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

The key themes are clarification needed on the scope and applicability of RegDoc 2.9.1, particularly for facilities or activities with no interactions with the environment, the difference between the types of EAs and terminology used in relation to EAs, and concerns with paraphrasing text from CSA standards which could result in regulatory confusion.

The following slides outline CNSC staff

responses to these submissions.

The dominant issue raised by respondents was the scope and applicability of the document, particularly for nuclear facilities or activities with no interactions with the environment. In response to comments received, CNSC staff added text to clarify the document does not create requirements for facilities or activities that do not have releases to the environment.

Stakeholders requested further clarification on the terminology used for an EA under the NSCA, and recommended changing the term used to environmental protection assessment. Stakeholders had concerns that similar terminology for EA under the NSCA and EA under CEAA 2012 may cause regulatory and public confusion, as they followed different review and decision-making processes.

In response to stakeholder concerns, Section 3 and 3.2 of the document were updated to provide greater clarity to differentiate between an EA under the NSCA and EA under CEAA 2012 and the respective roles of the CNSC and applicants or licensees for each.

Additionally, these terms were added to the glossary; therefore, a change in terminology was deemed not necessary.

Stakeholders sought cohesion between this

Regulatory Document and the suite of CSA standards relating to environmental protection. In response to these comments, the document was reviewed and revised to better align with the CSA standards, and CNSC staff have clarified that the narrative around the use of the CSA standards in the document is meant to provide stakeholders and the public and other government departments with information in how these standards are used, and not to replace the content or enhance content of the CSA standards.

The revised RegDoc and the disposition table outlining how comments were addressed were emailed in June of this year to all who submitted comments. CNSC staff organized an industry stakeholder workshop for those licensees who commented on the document, and will be directed to implement the stated requirements and consider its guidance.

All other respondents were offered an opportunity, should they wish, to discuss the dispositioning of their comments with CNSC staff. CNSC staff followed up with the respondents to determine if they had any further input. No comments or concerns were raised.

In follow-up correspondence and discussion with industry stakeholders and other respondents, Saskatchewan Ministry of Environment, Nuclear Waste

Management Organization, Ontario Power Generation and Environment and Climate Change Canada indicated their comments were adequately addressed, and no other respondents indicated a need for follow-up discussion.

The CNSC's What We Heard report included in the CMD package summarizes the discussions that took place at the workshop and the additional revisions to RegDoc 2.9.1. Based on the feedback provided by industry stakeholders, a number of revisions were made as listed in the slide.

There were no substantive changes made as a result of the workshop, but, rather, greater clarification added on the scope and applicability of the document specific to Class 2 nuclear facilities and nuclear substances and radiation devices and distinction between EA under the NSCA and EA under CEAA 2012.

Other changes included revisions to the language in the document with respect to environmental risk assessments to be consistent with the terminology and CSA Standard N288.6, Environmental Risk Assessment at Class I Nuclear Facilities and Uranium Mines and Mills.

The CNSC's What We Heard report was shared with industry stakeholder participants, and concerns have been resolved.

The current version of RegDoc 2.9.1 was

then emailed to all respondents in August 23rd, 2016. One additional submission was received by the representative from the Winnipeg Regional Health Authority. The representative noted that his previously expressed concerns are now addressed in the revised Regulatory Document.

One additional submission was also received by Cameco Corporation requesting clarity on, for example, definitions used and information requirements for EA under the NSCA. These questions have since been resolved.

If approved, RegDoc 2.9.1 is expected to be published on the CNSC's web site in October 2016 and made available to licensees and stakeholders. Upon publication, RegDoc 2.9.1 will immediately supersede two previous Regulatory Documents, P223, Protection of the Environment that was published in 2001, and RegDoc 2.9.1, Environmental Protection Policies, Programs and Procedures that was published in 2013.

RegDoc 2.9.1 formalizes the CNSC's application of a set of existing environmental protection measures for environmental protection. Class I facilities such as Chalk River Laboratories, nuclear power plants, uranium processing facilities, as well as uranium mines and mills, have either fully implemented or are in the process of implementing the CSA standards listed in RegDoc 2.9.1

with the exception of CSA N288.7 on groundwater protection that was published at the end of 2015.

The implementation plans for these CSA standards will continue as planned, and these licensees will be requested to implement the latest CSA standard on groundwater protection.

Facilities other than Class I facilities and uranium mines and mills and that have releases to the environment will meet the appropriate environmental protection measures as described in Section 4 of RegDoc 2.9.1, Integrated Approach Commensurate with Risk.

CNSC staff will engage the relevant licensees to determine the applicability of and implementation plans for the appropriate parts of Section 4 of this RegDoc.

Facilities or activities that do not interact with the environment will not implement this RegDoc, but will be subject to the guidance and guiding principles provided in Section 2.1.

The next planned update of this RegDoc will be in 2017 to incorporate additional information on action levels and release limits. The Commission can expect to see significant activity over the next 12 to 18 months as we develop and publish processes for developing release limits and action levels.

Should the Commission approve this version of RegDoc 2.9.1 as presented to you today, the updated RegDoc 2.9.1 with additional content on the development of release limits and action levels will be available for public comment in 2017.

I will now pass the presentation back to Mr. Torrie.

MR. TORRIE: Brian Torrie, for the record.

To conclude, RegDoc 2.9.1 enhances the existing regulatory framework by providing information about the CNSC's environmental policy assessments and protection measures that applicants and licensees are expected to implement. It is CNSC staff opinion that this RegDoc 2.9.1 codifies CNSC's comprehensive life cycle environmental protection framework, ensures greater consistency in meeting requirements to ensure environmental protection, contributes to greater regulatory certainty for licensees, improves harmonization with provincial and federal regulatory requirements, and ensures transparency for Canadian public and international community on CNSC's regulatory requirements and guidance.

Based on our conclusions, CNSC staff recommends that the Commission approve this Regulatory Document.

Thank you. We are now available for your

questions.

THE PRESIDENT: Thank you.

So let's get into the question session starting with Monsieur Harvey.

MEMBER HARVEY: Merci, monsieur le président.

On page 13 of your presentation, you mentioned that the RegDoc 2.9.1 will enhance harmonization with provincial and other federal jurisdictions. I would like to have an example in Quebec, for example, if there is a mine project and how this document would help to match with l'audience publique in Quebec, the obligation to make an impact assessment in Quebec.

How will that fit together?

MR. RINKER: Mike Rinker, for the record.

So first of all, in the guiding principles section, and it's always been the case with the CNSC, that harmonizing with other regulatory regimes has been paramount. But one, I guess, that we've looked at for all provinces, including Quebec, is the implementation of, for example, provincial release limits for hazardous substances.

If they are scientifically defensible, we would incorporate those, and we have done that for G2 when it was in operation and currently now such as thresholds

for thermal releases. We've done that in Ontario and Saskatchewan.

We've incorporated, and it's stated in this document, that the need to have acute lethality toxicity testing for fish, which is a provincial requirement, we've incorporated that requirement into our RegDoc.

So we brought in the requirements of provincial regulators into our environmental protection framework, but before doing so, we have ensured the scientific viability of those requirements.

An example where we haven't brought it in would be the provincial release limit for uranium in Saskatchewan. It's quite a high number. We have lower numbers in our licences, so -- but in general, when they're scientifically valid, we incorporate the provincial requirements.

MEMBER HARVEY: What about the -- in Quebec, the proponent has to produce an environmental assessment to -- in the process, and will that be useful for the Commission, or it's two different procedures and the Commission will, by itself make its own impact -- well, environmental assessment distinct from the -- what has been done by the proponent, so that doesn't change anything about that.

MR. RINKER: I'll ask Dr. Ducros to answer that question.

DR. DUCROS: Dr. Caroline Ducros. I am the Director of the Environmental Assessment Division, for the record.

One of the great benefits, I believe, of the RegDoc is that it formalizes the process that we already undertake for harmonization into one single document, so it lists the steps that we take for doing an environmental assessment, whether it be under CEAA or under the NSCA.

And one of the goods things about this is then we can map against any other provincial process where synergies can be made and where we can reduce duplication.

So in the past, your -- as an example of your question, for the Matoush project, we did, in fact, work with the James Bay Northern Quebec Agreement's two committees and with the province to reduce, as much as possible, duplication to post things through the Canadian Environmental Assessment Agency synergistically. And following from your question, it doesn't take away where decisions have to be taken.

So the decision that -- if multiple decisions have to be taken, we try to coordinate those time lines as much as possible.

I think having everything spelled out in a document makes that mapping process much easier.

MEMBER HARVEY: Okay. So -- but the experience we had in the Matoush project, for example, where we took our decision first and then the Quebec for any reason -- well, they took months and months and months. So how will that function in the future?

So will the Commission wait for the decision of Quebec or that will be the same process?

DR. DUCROS: Caroline Ducros, for the record.

On a case by case basis we will determine whose decisions have to be made and when they have to be made.

In your example, one of the things that we have to be very clear about and cognizant of is that different environmental assessment regimes in different provinces have different requirements. In our regime, we don't assess direct socioeconomic effects, whereas in the Quebec regime they did assess direct socioeconomic effects and there was a social licence component to their decision.

As much as possible, if we can communicate well and cooperate well, build relationships, I think that's where I hope we'll arrive at determining whose decision comes first. But I think it will have to be on a

case by case basis. The REGDOC won't solve that problem.

MEMBER HARVEY: Well, for sure because there is a political intervention in Quebec, which is different from here.

THE PRESIDENT: Well, you can harmonize EA, you can't harmonize politics.

MEMBER HARVEY: Yes, that's right, that's right. I thought that could be done.

--- Laughter / Rires

THE PRESIDENT: You cannot force the EA on both governments.

Ms Velshi.

MEMBER VELSHI: Thank you.

Remind me again, when would a project fall under CEAA 2012 or under NSCA? I mean, I understand the differences in the two and the similarities, but are the projects defined in the CEAA 2012 a finite list or...? Just help me understand.

MR. RINKER: Mike Rinker, for the record.

I'll ask Dr. Ducros to provide you some examples of projects that are on that list. But it is a very finite list, and the project is either on the list or it's not. If it's on the list, then we follow CEAA 2012.

MEMBER VELSHI: That's okay. That just confirms what my understanding was.

I understand that the NSCA is really a project lifecycle management of the environmental impact and assessment. Do proponents prefer one over the other and, if so, why?

DR. DUCROS: It's Caroline Ducros, for the record.

I will begin, and I may pass it back to Mike who may have something to add.

I wouldn't like to say whether proponents prefer one over the other on their behalf. But one thing is for an environmental assessment under the *Nuclear Safety Control Act*, the report itself is part -- it's a compilation of our ongoing monitoring and it has all the information requirements that we mentioned in the presentation before. The report is written by CNSC staff, so it reduces the burden on the licensee to have to produce an environmental impact statement.

However, many of the NSCA EA reports are written, if there is a project on the designated list of physical activities, we will have already, in most cases, done an EA under the *Canadian Environmental Assessment Act*.

So every time, if we have an environmental assessment under the *Canadian Environmental Assessment Act*, eventually, as in the presentation, when it comes up for licence renewal or amendment, it will go through the other

process.

THE PRESIDENT: Can I jump in on this one? So, you know, you have some terrific -- some charts and graphs in this deck, but I think on -- the difference between the EAs I think require more work.

In fact, I would argue that maybe you should actually duplicate the list of CEAA 2012 into your REGDOC so everybody knows where the designated project here is. And you should start with a little flow diagram. Take any project, and the first question is, is it designated -- you know, the word "designated" project doesn't appear on slide 10.

It doesn't even show up, because there is no discretionary choice. It's mandatory. If it's a designated project, it's under CEAA 2012. And, in fact, it is only for the beginning of the project, and throughout the rest of the project it's going to be under NSCA.

So you can have a situation where you start with the CEAA 2012, but then throughout the life of the project it's going to be all NSCA environmental protection.

This is not clear here. Somewhere along the line you've got to find a better way of describing not only the difference, but how throughout the life, how they both interact with each other. I don't think that's clear.

I don't think people get it. That's why they're confused and they want to have different classes of -- as if there's completely different processes. They are not different processes.

So I have trouble with this thing. But I interrupted Ms Velshi. Do you want to react to this?

MR. RINKER: I just wanted to add to it, if I could.

Certainly the environmental protection and the environmental risk assessments, these are -- you know, we have monitoring data every year, we require an update or a verification that the environmental risk assessment remains valid every five years. If there's been a change to a project, they have to redo their environmental risk assessment. So this is a continuum.

But in addition, and some of the things that are being discussed, in the public now is about indigenous and Aboriginal consultation. CEAA is really the door into that consultation, and it's the continued regulatory oversight that is really how those relationships are founded and how we do continuous public and Aboriginal engagement. That starts at the CEAA 2012 EA for new project.

But really, the work is done throughout the life of the project from an environmental protection

point of view and a consultation point of view.

THE PRESIDENT: Monsieur Tolgyesi.

MEMBER TOLGYESI: Merci, Monsieur le Président.

I just will add to what you were just saying on page 12. At the bottom you are saying:

> "All licensing actions being considered by the CNSC undergo environmental assessment under NSCA, unless it is determined that the proposed licensing actions require environmental assessment under CEAA 2012." (As read)

So could you give me an example of conditions when licence will be required, not under NSCA, but CEAA, and what's the consequence of this decision?

DR. DUCROS: Caroline Ducros, for the record.

I understand you're asking for an example where it would not fall under the *Canadian Environmental Assessment Act*, but we would do an EA under the -- no.

MR. RINKER: I think the question was when it would fall under CEAA 2012, what would be the licence conditions that fall out of that?

MEMBER TOLGYESI: Saying on page 12 that,

all licensing actions being considered by -- undergo NSCA, unless it is determined that proposed licensing action is under CEAA.

So normally, everything is going there, but unless you determine it should go there. So why should it go to CEAA, and what's the consequence that instead of doing that under NSCA you should do that under the other one?

MR. RINKER: Mike Rinker, for the record.

So that's a good question. Some examples that the Commission will be seeing of how we deal with that will be the environmental assessments that have been commenced with CNL for, you know, the Whiteshell facility and the Near Surface Disposal Facility.

The future as-planned decisions that will be put forward to the Commission will be on the one hand an EA under CEAA 2012 and at the other hand a licensing decision -- and the timelines for these, they could be at the same hearing if projects go.

So when we look at the environmental protection measures and the mitigation measures that come out of a CEAA 2012 EA, the science behind those and the requirements behind those are the same.

So if we looked at environmental protection under NSCA and environmental protection under

CEAA 2012, the results are the same, and your licensing CMD will be informed by that EA report whether it's from CEAA 2012 or whether it's done under the NSCA exclusively.

So there isn't a lot of difference in requirements between the two, and they will inform the licensing decision, the conditions will come out of that.

I don't know if I've answered your question fully, but Dr. Ducros has identified where in 2.9.1 now we do clearly define those process flows that illustrate CEAA 2012, then flows into EAs under the NSCA.

DR. DUCROS: Caroline Ducros, for the record.

So in the regulatory document, page 32, we have tried to illustrate the two licensing processes that can be taken, either the integrated EA and licensing process and the sequential EA and licensing process.

I sort of want to add a bit to the question that was posed earlier by the President in terms of this slide with the two graphs not being that clear, or perhaps there was some confusion there.

I think the regulatory document has addressed the comments from the industry groups that we met with at the workshop in terms of their confusion. Part of their confusion comes out of the past literature on environmental assessment, which focus very much on

environmental assessment being a conceptual planning tool.

We were describing the EA under the NSCA as not just a planning tool, but also an ongoing compliance monitoring and adaptive management tool up until the very end of the lifecycle of a project.

When we met in person, we described this and we talked about how the international literature now is moving more towards having environmental assessments be more than planning tools, but ongoing management tools, and that's supported by the International Association of Impact Assessment, the IAIA, they were much more comfortable with the term.

So I don't know if you need anymore. I have nothing further to add.

THE PRESIDENT: Okay. Let me try one more time.

So on your figure 5 here where there's a diagram, but the diagram is how you conduct environmental assessment under CEAA 2012. I'm going before that. You get a project, the first thing you're going to determine is it a designated project? I mean, it doesn't -- you know, you've got to keep hammering this, because I don't think people understand the concept of a designated project.

In fact, all the arguments about doing CEAA 2012 was about which project will be a designated

project and which will not be. That's where, you know, the confusion comes in and you've got to -- I think you're going to start with a project and then flowchart, it goes like that. And if you go through CEAA 2012, then you do an EA under CEAA 2012 and then, even then, NSCA kicks in in the middle when you do your updates.

I don't think anybody got that in the panel and in here, and it's not really clearly defined, in my opinion.

Anyhow, that's -- I stopped you.

MEMBER TOLGYESI: It's okay. I'm going back to the chart, page 32. When you are saying on the previous page that the applicant choose whatever he wants, integrated approach, or sequential approach. Now, there is a commitment to complete both approaches within 24 months.

But when sequential approaches are considered, you have a delay. First of all, you see on the chart that you have two hearing procedures. When you're talking hearing procedures, you are talking about three, four months, at least. So how do you manage that? Because, according to regulations or according to our willingness, it should be completed within 24 months.

MR. RINKER: Mike Rinker for the record.

So I'll ask Dr. Ducros to confirm, just to make sure I've got this right. But we have a service

standard for EAs under CEAA 2012 of 24 months. But we do have in regulation that on a -- receive an application, a 24-month requirement for regulated timelines for licensing.

So if a proponent came in and said they really want to use CEAA 2012 as a planning tool, they submit a project description, we do an environmental assessment, but they will submit a licence application at sometime later. So we will follow a service standard within 24 months to get that EA decision complete.

Then if they submit a licence application at sometime later, we have a 24-month regulated timeline to get that licensing decision complete.

MEMBER TOLGYESI: The same 24 months or additional?

MR. RINKER: If the licensee chooses to do it them separate, the timelines are two separate timelines.

MEMBER TOLGYESI: Okay. Because what you should, according to this, also that when the licensing is later you should update the environmental assessment because you have maybe probably new data, et cetera. So it should be updated, which delays further.

DR. DUCROS: Thank you for that comment. So that's what happened with the Darlington refurbishment environmental assessment, it was on the designated list of physical activities. So in your flowchart, the first thing

that we get is the project description and we do a determination of what process. That one was on the list, so we did an EA under CEAA.

But the licensing hearing happened two years later, so we did update it with an EA under the NSCA report that was submitted as part of the CMD for that hearing.

THE PRESIDENT: Dr. McEwan.

MEMBER McEWAN: Thank you, Mr. President.

I must confess, I had some difficulties with the caveat that you have put in in 2.2 and in the preface around non-complex say Class 1 facilities.

If I look in your preface on page i, the first bullet:

> "All licence applications that demonstrate potential interactions between the facility or activity in the environment." (As read)

So as I look at the breadth of that statement, it includes everything from a hospital that is using particularly therapeutic radiopharmaceuticals, there is a potential urinary interaction with the environment to something that you do mention, which is cremation to the conduct and activities around, for example, cyclotrons.

It seems to me that you haven't yet made a

clear case in this document that is going to help a potential licensee on how to address that potential -- that's a very broad statement that covers an awful lot of medical and university activities related to it.

You put a couple of minor caveats in. I think it's interesting that the only hospital response you got back was from somebody who discovered about the proposed REGDOC accidentally through a joint meeting of CRPA and CNSC.

So I've got real concerns that there needs to be a much clearer definition of what the requirements would be for that environment. Also, I think you need to interact with those communities a lot more.

For example, did you overtly send the drafts to hospital authorities, to universities, to any of the medical organizations or any pharmacist organizations? So the people who are actually directly involved in the planning of these facilities and, as you quite rightly point out, the ongoing assessment of these facilities.

At the moment, if I read this document and I was putting in a cyclotron, I would read this as meaning that I needed a full environmental assessment.

You don't define what a graded approach is, you don't define the parameters around that graded approach. I think you almost need to have a separate

section that deals with your -- and I recognize that there are real expectations around it, but you need to deal specifically with what those expectations are.

We're going to have more medical use of radiopharmaceuticals, more medical use of radioisotopes and more non-medical use of radioisotopes, where that potential for interaction with the environment comes.

MR. RINKER: Mike Rinker for the record.

So the number of paragraphs that touch on this topic are few, but they were really the substantive comments that we received. In the wording of those we struggled over weeks.

So in practical terms, how we intend to implement this -- we're not introducing new requirements for hospitals and facilities that are releasing things to sewer, what will end up at a sewage water treatment plant. That, to us, is not an environmental project interaction compared to a facility that has direct releases to the environment in an uncontrolled or even to a controlled way.

We will be relying on the licensing divisions, I think Colin Moses is here to add some comment to this, where we rely on the project officers who look at a licence application and understand the facility or activity of the project. Because, as you mentioned, we are talking about, you know, one, maybe 2,000 licensees, a very

small...

So we're not trying to introduce new requirements for those facilities. We think they're well-regulated now. They're well-regulated in terms of waste management and radiation protection, have requirements for the safe handling of that sort of material. That does not warrant another level of an environmental protection program when they have those requirements already that would safely manage that material.

THE PRESIDENT: But I thought at one time that there was intense consultation with some those facilities. Mr. Moses, maybe you want to clue me in on this? Because they pushed back hard about not being caught with a full CEAA 2012.

MR. RINKER: So I'm going to rely on others to talk about the intensity of that consultation. But certainly, the subject matter that was brought up by those that did respond was exactly to the point that Dr. McEwan has raised is, you know, who does this regulatory document apply to?

So I'll ask Mr. Moses to continue this response.

MR. MOSES: Thank you. Colin Moses, Director General of the Nuclear Substances Regulation

Directorate, for the record.

Also I just want to speak to your questions around the consultation, whether you specifically and expressly solicited input.

So we have done a couple of things this year to ensure that that community is receiving REGDOCs that may potentially be applicable to ensure that those expectations are clear to them.

Amongst others, we expressly added every single licensee that we regulate under regime to the distribution list to ensure that the are getting direct mailed all consultations that we do on the REG framework.

So that's one of the aspects, make sure that the community is seeing the kind of REGDOCs that might be applied.

The other thing, you referred to it as accidentally becoming aware of the REGDOC, and that wasn't accidental at all. We do hold regular meetings with organizations that represent some of our licensees. For example, the CRPA working group, and we expressly mention REGDOCs and encourage them to engage in those consultations when there's value to be added.

I will note too that, as mentioned in the intervention on a regulatory oversight report tomorrow, that individual was representing that community when they

commented on this REGDOC. And so that's very typical with these communities, they'll sort of designate one individual to present their views.

As is part of the regulatory document process, when the final document is being prepared for presentation to the Commission, it's shared with all the individuals who engage in that consultation. In this case, that individual expressly wrote back to the CNSC to thank them for the amendments and the changes that were made to the REGDOC, and appreciated the additional clarity that was brought in the REGDOC.

To speak to your question around sort of the applicability of the document, in the vast majority of cases, like all those cases that you listed, there is no intent to apply this REGDOC. The requirements that we set and we impose on those licensees through the licence conditions expressly contain limits that will ensure that there is no significant impact on the environment. So there's no need to ask them to do a rigorous or additional environmental assessment to look at those impacts.

But in certain cases there could be activities in the future where the CNSC may decide that there is a need to do a form of environmental assessment under the NSCA and assess the potential impacts. Some recent examples of that have we've included as some of the

transport decisions that we have made where we have looked at shipments and assessed the potential impacts.

So there is a caveat in there that if there is going to be environmental interactions or impacts that warrant further study, we may undertake that review and may request additional information from the licensee. And we work on that through the licencing process.

MEMBER McEWAN: I remain unconvinced that there is clarity for the university and hospital sectors around the wording you have in there. And so let me ask you a specific example. We actually will be seeing it tomorrow.

An accidental release of C11 or F18 from the cyclotron up the stack, is that an environmental impact? Does that require some form of assessment? And it comes back to the definition of boundaries of graded approach. I think I would like to see more clarity.

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

I can see you are concerned, really, the document itself. Clarity, we can provide clarity. The intent here is when there is an application for a cyclotron or short-lived radioisotopes -- we mentioned Carbon-11 is one. What we -- the intent of it is for the applicant to engage with the CNSC. That's one element.

And then I would like to start with the fact that we do EAs for every licence application that comes to us today. So if a hospital applies, they are looking at the environmental assessment that we are doing under NSCA. It could be, as was evaluated by our specialist and determined there is no impact, and then we continued the licensing process.

With respect to the information that is required to be submitted by the licensee. At the time of license application, there is always discussion with the licensing group to determine what is required to submit and what needs to be done.

So in other words, I agree with you clarity is paramount and that was one of the discussions, internal discussion we had internally with respect to the final graded approach to the applicant. But we are reasonable regulators. We deserve some credit with respect to our capacity to determine the depth of the EA that is required.

So the key point here is -- what I am trying to say is once the applicant presents the application, there is always an evaluation and a discussion to determine is there an EA required and we always verify the fact that an EA is -- could be just a checkmark, no EA is required.

With respect to the event that you presented, these are -- those are events, and we take into consideration what would be the impact, short term or long term, on the environment and the public and that's not an EA. That is an assessment as the result of an event.

I fully understand and appreciate the concern that you are raising with respect to if an applicant reads this document, would they be encouraged to submit an application? If I were in their shoes I would probably think twice. But at the same time, I will come and approach the regulator and say, what does this mean from a licence application perspective?

But at the moment I will let the fact be that the CNSC always conduct an EA verification with respect to: is there an EA required or not? And it's as simple as a checkmark saying no, it's not required.

MEMBER McEWAN: Yes, but the document as it reads implies that a formal process would be required. So I think you need to try and indicate whether it's in this document or whether it's in an application guide, do not go out and do your own assessment until you have talked to us because -- something like that. Because I am aware of facilities that have gone out and actually gone quite a long way down that pathway before realizing, no, they didn't have to do it and it wasn't required under the

document in force at the time.

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

I agree with you because I was engaged in one of these facilities but that predates the -- what we currently have with respect to the licensing process. That's one element.

And I'm looking at two things, actually, as a matter of fact, your comment with respect to the inclusion of the license application guide. And we did update the license application guide with respect to the cyclotron facility and the hospitals and other institutions. And the application guide actually highlights the fact that -- I shouldn't say -- I need Mr. Moses to correct the precision of that, but we are putting in the licence application guide to start a discussion with the CNSC because no one in his or her right mind should be starting an EA process based on a project description if it's not required to do so.

Colin, over to you.

MR. MOSES: Yeah. Just to add, as Mr. Ramzi Jammal noted, we do produce licence application guides. Those licence application guides outline the expectations for an application and that's where we get information on the potential nature of the project and

potential interactions.

It's not sort of a -- can't think of the right expression, but it's not a blank submission that goes into a black hole where we render a decision thereon. It's a very iterative process and there is a lot of discussion with our assessments.

So I would strongly, if you are aware of people who are going and embarking on a whole bunch of new programs and assessments before they even talk to the CNSC, to contact us. That's where we sort out any questions of application.

This document in and of itself has no weight unless you choose to apply it. And so if there are aspects or reviews or considerations of environmental impacts that we need to look at, those would be looked at through the licensing process.

THE PRESIDENT: Mr. Rinker, you want to say something?

MR. RINKER: Yes, please. So CEAA 1992 was different than CEAA 2012 in that every activity and project could potentially trigger that act. We didn’t have that problem that you are thinking about now where we didn't have licensees going off and doing EAs.

And so I am not certain that the risks that we are discussing is really that high particularly

when there is an implementation plan that for REGDOC 2.9.1 that we would put in place for those licensees that we feel should be affected. And our plan is not to implement this REGDOC for those small facilities.

THE PRESIDENT: Okay. Look, we're not going to redesign it here. You have a concern. You should go back, take a look at this particular section and see whether you can add a couple of clarifications such as give us a goal before you start. It's always a good thing. I don't know if you actually do it in our regulatory document.

Secondly, even big hospitals have lawyers and lawyers won't care about we didn't intend to do it. Make sure that a lawyer will not read this regulatory requirement and say you must do it. And give an example, like cyclotron is a good example. It's probably the biggest kind of machine in the hospital that can cause some issues. And use the example of a cyclotron. How do you do a cyclotron? I don't know why we are always afraid to use such examples to clarify the intent.

So we are not going to design it here. So I would suggest you do something like that and just further clarify so there is no misunderstanding.

MR. RINKER: If I could just add one more point on this? It's not on the same topic.

just don't want to leave people with the impression that EA under the NSCA is something that we want our applicants to do. This is something that staff does.

The licence applicants apply. We've got their annual compliance reports and staff puts that together as the EA under the NSCA so we are not introducing something new by calling an EA under the NSCA. This is something that we have always done.

THE PRESIDENT: Okay, got to move on.

So I am back to M. Harvey.

MEMBER HARVEY: Quick comment. I was surprised to see that there was no interest except for CELA, there was no interest from environmental associations and groups. So were you surprised or it's just the nature of the document that causes that situation?

MR. TORRIE: Brian Torrie for the record.

I think CELA commented earlier on in the process and I actually had a conversation with one of their members a few months ago. And if you look at the whole suite of our regulatory framework process, like at any one time we say have 40 projects on the go and a number of them are in consultation and obviously it's a priority for us to get those things done. A group like CELA or if you take an Aboriginal group, they just don't have our priorities obviously. They have the burden of other things such as

projects, other real legislative considerations or legislative changes that are being proposed. So those are sort of their priorities.

So as that CELA person commented, “for us right now that's not a particular priority” and for them in deciding that if our REGDOC is a priority, they are looking at something new. Is it a legislative change? No. It's really codifying our existing practices. So they are not necessarily seeing anything new here.

And I think they also know or hopefully they know these are evergreen documents that will change over time. So if they do have a concern it's not always necessary to bring it to our attention right away but as, the document is implemented or considered with projects that's another point for them to interact.

THE PRESIDENT: But indigenous, why indigenous? We couldn't get any reaction from indigenous community that, you'd think, would worry about the environment.

MR. TORRIE: Well, we had earlier comments from the Saugeen Ojibway Nation on the earlier document and then they didn't comment further. Again, it's a priority issue for them as well. At the same time, concurrently, pretty much concurrently with the development of this REGDOC, we have the Aboriginal engagement REGDOC 3.2.2

going along and that's where a lot of their concerns rested in terms of early engagement and issues like determining participation. It was found in this document as well.

And again, they are also focused on project-specific issues. So for the Saugeen Ojibway Nation I am not -- I wouldn't want to speak on their behalf but they were going through the DGR project at that time. So that's where the focus is in terms of their participation.

THE PRESIDENT: Ms Velshi...?

MEMBER VELSHI: A question about the timing of this particular REGDOC. And so you have said a number of times that this is not introducing any new requirements. I mean there was a new CSA standard but they would have been expected to implement that one on groundwater protection.

And so with the CEAA process review underway right now and I don't know what if any implications it would have on this, I just would like to hear from you what your thoughts were around holding off issuing this until there was greater clarity on any impact from that.

MR. TORRIE: Brian Torrie for the record. I will give part of the answer and Mr. Rinker may want to supplement that.

As you can see from the history of this

document it's been in development for some time and there has really been a need to provide clarity in terms of how we are doing CEAA 2012, because it's the current legislation -- and that's the change that came in 2012 -- and provide further guidance or clarity on how EA is done under the NSCA.

So if you have experience with how federal legislation gets developed, it's not often the quickest process. So we can't be caught always waiting for the legislation to happen.

So right now in terms of the EA review process that is going on for CEAA 2012 they are doing a cross-country tour that we have presented at a couple of times already and then from that, that panel is going to make recommendations to the Minister of Environment in January 2017. And then the Minister is going to take those recommendations and decide, next steps with Cabinet, I would imagine, and that could lead to some legislative change as the government has made that part of their priority.

So we're looking at possible changes to CEAA 2012 maybe in 2018 or later. In the meantime I think it's important that we fill the gap in terms of providing guidance through this REGDOC.

MR. RINKER: Maybe just add briefly --

Mike Rinker for the record -- we do have a suite of CSA standards and we can implement them one at a time which is what we are doing.

But I think for the communication and clarity perspective of describing how they work together as opposed to talking about them individually helps clarify with our licensees, even our major licensees who want to understand how they work together. But also a facility such as, if I could give an example of the decommissioned mines in Elliott Lake, they are not Class I facilities. So where is our regulatory requirements for those sort of facilities? And this document provides more regulatory certainty for facilities like that.

MEMBER VELSHI: Thank you. And one was just a comment.

Comments from the industry came as an industry but they were repeated eight times; right? Many of the comments were identical comments and we've seen that with a few other REGDOCs.

Do you ever go back to them saying, let's save some trees and save some effort because now, you know, we have to read all of them and make sure there are no nuances here that are being missed? But if there are identical comments for the most part why do they not just say, you know, here it is from the six of us and it's the

same comment? Any thoughts on that?

MR. TORRIE: I think there is a fair amount of coordination that goes through their comments. And I can't speak on their behalf but I imagine they feel more comfortable presenting their own comments but in a coordinated fashion in terms of ensuring that they are covering off everything that's of concern.

And I think we do try and save some trees in terms of comments by coming down to those common concerns and following up with things like workshops rather than putting out multiple versions of the REGDOC and having letters go back and forth. The workshops that we have had have been quite effective and, you know, if Mr. Rinker wants to speak to the workshop we held on this one, but they have been pretty effective in addressing those industry concerns.

THE PRESIDENT: So are they happy with the final product? We have an uncharacteristically quiet member of this industry who is dying to share with us his view, I know, as to whether they are satisfied with the process and the final product.

MR. SAUNDERS: Yeah, Frank Saunders for the record. I knew you'd get to me eventually.

--- Laughter / Rires

MR. SAUNDERS: Yeah. No, I think in

general we accept the product. We were satisfied that we had good interaction as stakeholders. That's not to say I think it's a perfect process but we very much prefer the ongoing process for environment. That's the way we do business generally.

We monitor things all the time. We are a very cautious industry. We don't like surprises. So rather than do something every 10 years, we prefer to have a process that gives us an ongoing indication of where we are and what we do.

So in general the REGDOC lines up with our preference and you have seen our preference in the CSA standards and how we thought those standards ought to unfold. So incorporating those within the REGDOC was in our view the right thing to do.

So generally we are supportive. I still have a problem with calling two different processes the same name but, you know, the definitions clarify it but it's, in my view, kind of a clumsy way of going around it. It would be nicer if we just called them slightly different. But that's not significant enough that we would object to that process.

In terms of submitting comments, generally when we submit comments we do say we got together as an industry; here's our industry comments attached. And then

if we have specific comments that we feel strongly about or feel are more important than the other comments, we pull those out in our letter and what we attach. So generally speaking, we have adapted that process of saying, here is the industry comments. Here's what they look like. Here are the comments that, in my case Bruce Power, feel strongly about and feels need to be addressed in particular.

So if there is differences because, as surprising as it may seem, we don't always agree on absolutely everything -- if there is differences we identify them in that way normally.

MEMBER VELSHI: Yeah. And that I can appreciate. In here, I think, each one of you put those and they look like very similar comments in a number of areas multiple times.

MR. SAUNDERS: Yeah, the attachment will look the same but the letter will tell you whether we have changed anything. If it was not the standard industry comments, the letter will tell you what we have done different then.

THE PRESIDENT: Thank you for that.

M. Tolgyesi...?

MEMBER TOLGYESI: Merci, Monsieur le Président.

According to this CMD it is the responsibility of CNSC to determine the scope of the environmental assessment and CNSC may also delegate to conduct -- the conduct of an environmental assessment to another jurisdiction.

My question is that in the case of delegation, when the designated jurisdiction extends or modifies the scope of the environmental assessment to answer any specific jurisdictional concerns?

DR. DUCROS: Caroline Ducros for the record.

I am just trying to find the page you are on.

In terms of the *Canadian Environmental Assessment Act, 2012*, it is the responsible authority. In this case it is the Commission's authority to determine the scope. We would delegate to the proponent the environmental impact statement production. That's why we produce and we have generic guidelines so that anything that's in the environmental impact statement meets all the requirements of the *Canadian Environmental Assessment Act.*

MEMBER TOLGYESI: So I said if it's some specific concerns, because you are not talking about proponents. You are saying that to other jurisdictions. That's in page 35. So if the other jurisdictions; say you

are talking about a province, any province, they have any specific concerns, what -- how it will impact? Could they extend the scope or add some specific concerns or they cannot? They should answer only what, the scope, what you had in mind?

MR. RINKER: Mike Rinker for the record.

So we can delegate like you said to a province, another jurisdiction. But they may have their own decision to make. So they could add things to support their own decision but they would not -- we do not delegate the decision. So the decision for the CEAA EA comes back to us and we may or may not take into consideration that extra scope.

MEMBER TOLGYESI: And the last one that I have at present is just, on the last document on this bunch which is the consultation report, okay, the before last page, there is a contradiction between English and the French version. In English you say "ISO 14011, version 2004 or successor versions" and in the French you say "ISO 14001:2004 or version precedent" which is just opposite.

MR. RINKER: Mike Rinker for the record.

So the French translation will be corrected. The English is correct. The English version is correct.

MEMBER TOLGYESI: So the French is to be

corrected?

MR. RINKER: The French will be corrected, yes.

MEMBER TOLGYESI: Okay.

THE PRESIDENT: Okay, merci.

Mr. Harvey...? Ms Velshi...? Dr. McEwan, go ahead please.

MEMBER McEWAN: So just a couple of comments. On Slide 9 this may be, but I don't think it is in the text of the REGDOC, it is such a very, very elegant description of what you are doing, I think it needs to be in there somewhere, almost as it's written there. It's such a clear statement of the intent and what you are trying to do that I think it would be very, very helpful to have that as part of it.

The other question that I have and this is really educating me, in several of the comments that you received back, and it's through the document and particularly in 4.2.1 under "Guidance" is BATEA. Can you explain to me -- if I read the glossary at the back it's not helpful. So it would be very helpful just to get a brief overview of the BATEA principle and how it applies to this document.

MR. McKEE: Malcom McKee for the record, Lead Technical Advisor for the Director of Environmental

Radiation Protection Assessment.

BATEA is a terminology that's thrown around nationally and internationally. Unfortunately it's not defined very well in many contexts. It's the "Best Available Technology Economically Achievable".

The way we are proposing and have been utilizing BATEA is we have been expecting licensees during the design stage of a new project to ensure that their technologies, their treatment systems, their pollution prevention systems are meeting the capabilities and the performances of the top performing facilities within their type of sector.

The other time we have been applying BATEA is when a facility is having to do adaptive management. So once you have originally designed your facility, you have done your environmental assessment, during operations you are maintaining your performance within your original environmental assessment predictions, then we are not expecting a re-evaluation of your current technology that is in place.

Where BATEA would occur again would be if you had to go to adaptive management, so for example where we have seen with selenium at the uranium mines and mills. When we have found a problem that is deviating from expected performance in the EA or the ERAs, we then expect

adaptive management and facilities to respond and at that time they wouldn't be required to evaluate their existing technology and determine if technology has approved that can be applied to address the issue. That always does include at some point the economical achievability of that technology.

MEMBER McEWAN: Thank you.

THE PRESIDENT: Thank you.

Monsieur Harvey...?

Ms Velshi...?

Monsieur Tolgyesi...?

MEMBER TOLGYESI: Thank you. He just asked my question.

THE PRESIDENT: Okay. So I have two quickies here.

First of all, you know the panel, the EA panel that may change everything here I think would benefit from your Slide 7. I thought it was a pretty good slide that shows the evolution, and your Slide 11 also by the way you integrated the CSA. In fact, I was wondering whether some of those CSA standards, are they actually used by any other environmental regulator like NEB, CEAA or are they strictly nuclear type CSAs? Some of them are very generic, like environmental monitoring.

MR. McKEE: Malcolm McKee for the record.

As far as I am aware, most non-nuclear organizations aren't aware of the environmental CSA standards.

THE PRESIDENT: How can that be?

MR. McKEE: Other than the metal mining industry because of our participation in the reviews, the *Metal Mining Effluent Regulations* and our presentations to those organizations, because for the majority of those standards, they are directly applicable to -- they cross industrial sectors in many instances.

THE PRESIDENT: So when a mine is done, like a gold mine, they are not using any kind of existing standard? How about NEB, are there no environmental standards that will guide some of the regulators on this?

MR. McKEE: Malcolm McKee for the record.

I will partly respond to that. There are common practices that are common to doing, say, environmental risk assessment, or common practices for EA. There is a series of CEAA guidance on how to determine significant adverse effect, but they are not -- they are generally high level, high-level documents.

THE PRESIDENT: Again, a panel that is interested in the differences in the three regulators I think would benefit with some of those materials.

MR. RINKER: Mike Rinker for the record.

Maybe just a synopsis for two minutes if you're interested on how we are engaging the expert panel who is reviewing CEAA 2012.

I think it was September 9th when the panel was here in Ottawa we provided an overview and some case studies of -- I guess one of the main themes was how important environmental assessment is to the CNSC and how we regulate and how we are a full lifecycle regulator.

Dr. Ducros just landed a few hours ago. She was out in Saskatoon, the first city that they visited, and the theme of the presentation there was how we harmonize with provincial requirements when there are other jurisdictions doing environmental assessment. So there is a considerable amount of discussion around that.

That was the first city where they were engaging the public and we intend to go and perhaps present when they're in other jurisdictions close to our facility, such as Fredericton for NB Power. We will go down to Fredericton. They will be in Toronto, but they will be in Toronto at the same time that we are in Port Hope, but somebody will be in Toronto. And they are coming back to Ottawa as well to give us an opportunity to engage them again.

And during those presentations we will be picking themes, because we will only have 10-minute or

15-minute slots to present, that are, one, relevant to the area, because there will be local populations and indigenous people locally presenting, but also to explain the story from subsequent presentations to be able to say that I think environmental assessment is in good hands now. That is our overall message.

THE PRESIDENT: I assume industry will be participating quite a bit.

MR. RINKER: Mike Rinker for the record.

So industry, or even Cameco did present in Saskatoon. They delivered the message that they liked the system as it is. They like a project list because it is predictable and it allows for efficiencies to get moving and they like to know whether there is going to be an EA under CEAA or not and they did comment that there is a good strong regulator in place. We discussed good lessons learned about harmonization. We thought the experience was good. The panel asked the province to step up and verify and the province did say that harmonization with the CNSC is working very well. In the CNA, the member on another committee on this topic has made the point that they will be getting other industry to go to these cities and present.

THE PRESIDENT: Thank you.

I think we are going to take a 10-minute

break. We will get back here at 5:30. Thank you.

--- Upon recessing at 5:18 p.m. /
Suspension à 17 h 18
--- Upon resuming at 5:32 p.m. /
Reprise à 17 h 32

CMD 16-M48/16-M48.A

Oral presentation by CNSC staff

THE PRESIDENT: The next item on the agenda is the 2015-16 Regulatory Framework Program, as outlined in CMDs 16-M48 and 16-M48.A.

Mr. Torrie, you still have the floor.

MR. TORRIE: Thank you.

Bonjour, Monsieur le Président, Membres de la Commission.

My name is Brian Torrie, Director General of the Regulatory Policy Directorate.

With me today are Ms Lynn Forrest, Director of the Regulatory Policy Analysis Division and Ms Karen Owen-Whitred, Director of the Regulatory Framework Division, as well as other CNSC staff who are available to support and answer any questions.

We are pleased to be here today to present

our regular update on the CNSC's Regulatory Framework Program.

The last such update to the Commission was provided in June 2015.

Although we are regularly before you at meetings to discuss specific regulatory documents, this report provides us with an opportunity to highlight the important work we are doing to engage in broader regulatory initiatives in the federal government and to discuss our forward plans which help ensure the CNSC continues to have a modern and comprehensive regulatory framework.

Our presentation will provide an overview of the Regulatory Framework Program, starting with a description of our involvement in the Government of Canada's broad regulatory reform initiatives. We will then describe some of the regulatory framework key achievements over the past year. We will summarize some of the program management improvements that we will put in place and we will conclude a preview of some of the work we will be doing over the remainder of 2016 and 2017.

There are two main elements making up the CNSC's Regulatory Framework Program. One is the CNSC's participation in the Government of Canada's Agenda for Legislative and Regulatory Reform. The second is the structured collection of documents, regulations and

regulatory documents, or REGDOCs, collectively known as the CNSC's Regulatory Framework.

The overall goal of the program is to provide regulatory instruments that make the CNSC's expectations clear. These expectations must be adapted over time based on experience and an anticipation of an evolving nuclear industry.

In working towards this goal, the program takes into account the Government of Canada regulatory policy guidance as well as the views of stakeholders and the general public.

I will now turn the presentation over to Ms Forrest, who will provide further information on the Government of Canada legislative and regulatory reform initiatives, CNSC's regulatory framework and CNSC's regulatory modernization projects.

MS FORREST: Thank you, Brian.

Regulatory reform has been an important part of the Government of Canada's agenda over the last several years and the CNSC has been and continues to be actively involved.

In June 2016, the Government of Canada launched public reviews of environmental and regulatory processes. These reviews are focused on environmental assessment processes under the *Canadian Environmental*

Assessment Act, 2012, reviewing the *Fisheries Act* and the *Navigation Protection Act,* and modernizing the National Energy Board.

Under the *CEAA, 2012,* the CNSC is responsible for conducting environmental assessments for nuclear projects. I think we have heard a lot about that already today.

In addition, other federal acts may apply to nuclear facilities and activities in Canada. For some CNSC licensees, authorizations are required under the *Fisheries Act* and/or the *Navigation Protection Act*. The reviews are being closely coordinated across government departments and the CNSC is collaborating with the federal departments and agencies leading the reviews.

The CNSC is also involved with the Regulatory Cooperation Council, an initiative first launched in 2011 between the U.S. and Canada with the main goal of further enhancing areas of cooperation between regulatory bodies. So this initiative brings together regulatory bodies in the U.S. and Canada as well as interested stakeholders, including the regulated businesses.

The CNSC already works closely with regulatory bodies in the U.S., for example, in areas of transportation and certification, but became actively

involved with the RCC, Regulatory Cooperation Council, in 2014 in order to explore additional potential areas of coordination with our U.S. counterparts. One such area of cooperation being explored at this point is the regulation of small modular reactors.

The Red Tape Reduction Action Plan was initiated by the government in 2012 to reduce administrative burden on businesses by making the federal regulatory system more transparent, accountable and predictable. The CNSC has implemented the commitments in the action plan by providing more information on the website about the forward regulatory planning for regulations and by listing service standards for high-volume licensing activities.

As previously noted, the CNSC's regulatory framework is a structured comprehensive suite of documents comprised of the *Nuclear Safety and Control Act*, its associated regulations, licences, regulatory documents and standards that the CNSC uses to oversee nuclear facilities and activities in Canada.

As a responsible federal regulator, the CNSC follows the Cabinet Directive on Regulatory Management to ensure that regulatory issues are well defined and that the choice of regulatory approach is the most appropriate for achieving safety and security objectives. So this

includes re-examining previous ways of doing things, exploring options and, in the cases of new or very different ways of regulating, consulting early with stakeholders through workshops or discussion papers.

Over the past several years, the CNSC has been modernizing its regulatory framework to continue to ensure that licensees and applicants clearly understand the CNSC's regulatory expectations. So a key objective is to ensure that regulatory requirements are up to date, well defined and supported by guidance where necessary and are ready to regulate new and emerging technologies such as small modular reactors.

The Regulatory Framework Program is guided by the Regulatory Framework Steering Committee and CNSC's Management Committee. The Commission approves the regulations, licences and most regulatory documents.

Prior to the reorganization of the CNSC's regulatory framework, a variety of regulatory instruments were used to clarify requirements and provide guidance. So at one time there were over 150 regulatory documents in the framework library under different nomenclatures ranging from policies, which were "P", standards which were "S", guides "G", requirements "R", et cetera.

A review of the regulatory document framework, which began in 2009, found that the framework

was very robust and there were no regulatory gaps. Nonetheless, it was decided that clarity of the framework could be improved by adopting a more logical structure and naming nomenclature.

This improvement initiative began in 2013 and the goal is to complete the full migration of the existing documents, such as the "Gs", "Ss" "Ps" I mentioned before, into the new structured framework, which is illustrated on the next slide, by 2018.

All regulatory documents published by the CNSC are now aligned with the document framework shown in this slide.

The documents are organized into three broad categories:

- the first outlining expectations specific to different regulated facilities and activities, generally in the form of guidance on applying for a licence. This is where you will find licence application guides;

- the second providing requirements and guidance in specific technical areas according to the safety and control area framework; and

- the third covering all remaining areas that warrant clarity through our regulatory framework.

There are 26 areas or series on this

slide, as we refer to them. For each series there is a list of REGDOCs to be published. For example, series 2.7, Radiation protection, contains two REGDOCs: 2.7.1, Radiation protection, and 2.7.2, Dosimetry.

There are 58 REGDOCs beneath this framework that are published or planned for this framework. Our goal is to reduce the more than 150 previously published regulatory documents into these 58 by 2018. These 58 documents are listed in Appendix A to CMD 16-M48.

So to date, a total of 22 REGDOCs have been published since the new framework structure was adopted in 2013.

The Regulatory Framework Plan is a five-year rolling forecast that lays out the planned timing by quarter for the development of regulations and REGDOCs. The plan is established by staff based on the importance and urgency of projects, taking into consideration the evolving nuclear industry and informed by resource availability in any particular area. The plan is reviewed regularly by CNSC staff and adjusted as required should priorities shift or circumstances change.

The Regulatory Framework Steering Committee made up of Directors General from across the CNSC is responsible for program oversight and direction. This approach helps ensure a whole of CNSC perspective.

The Framework Plan is published on CNSC's website and updated annually. It provides a reference for stakeholders, particularly regarding proposed upcoming consultation periods for regulatory projects. The next update to occur is scheduled to take place by the end of this month.

In the next section of the presentation we will summarize results achieved since the last update to the Commission in June 2015. We will touch on work in the areas of regulations, discussion papers and REGDOCs as well as program management initiatives.

CNSC staff are working on amendments to regulations under the *Nuclear Safety and Control Act* to ensure they continue to reflect modern regulatory practices and technologies.

In June of 2015 the CNSC published amendments to the *Packaging and Transport of Nuclear Substances Regulations* that were approved by the Commission. The updated regulations incorporate changes to international standards for the safe transport of radioactive materials which are detailed in the International Atomic Energy Agency's *TS-R-1 Regulations for the Safe Transport of Radioactive Materials*.

Over the past year as well, work continued on drafting the amendments to the *Radiation Protection*

Regulations, the *Class I Nuclear Facilities Regulations*, and the *Uranium Mines and Mills Regulations,* as a result of the Fukushima accident, to clarify radiation protection requirements during an emergency, ensure that human performance is addressed at all levels of the Class I licensee's organization, require nuclear power plant licensees to undertake regular safety reviews against modern codes, standards and practices, and to ensure a focus on safety through the implementation of a management system.

So this is a regulatory package as a whole and it is expected actually to be published in the *Canada Gazette*, Part I in fall 2016 for stakeholder feedback. I believe it is scheduled for a September Treasury Board meeting for approval to go to Gazette I.

Finally, the CNSC has begun analysis on possible amendments to the *Nuclear Security Regulations* over the last year with a view to modernizing some of the requirements based on operating experience and evolving technologies.

And the CNSC is also exploring amendments to the *General Nuclear Safety and Control Regulations* to reflect best practices in the area of nuclear safeguards.

Discussion papers. These provide opportunities for early stakeholder input to the CNSC's

regulatory proposals. They are generally used when creating or amending regulations or when proposing regulatory oversight in a new area or a new approach.

Over the past year the staff solicited early stakeholder feedback on the five discussion papers listed here.

In particular, the waste and decommissioning paper looks at waste management programs, licensing of different types of waste facilities, licensing and decommissioning, and abandonment of nuclear facilities of all types. Consultation on this paper actually closed on September 12, 2016, and the feedback is now being analysed and will be used to develop potential regulatory amendments and regulatory documents for this whole area of the regulatory framework over the next few years.

In addition, potential vendors of small modular reactors in Canada have approached the CNSC, as you are aware, to better understand how to meet Canadian regulatory requirements with their new technologies. The small modular reactor discussion paper provides an overview of potential regulatory issues associated with small modular reactors and how they could be addressed. Feedback received will inform the CNSC in adapting its regulatory expectations in this area. The comment period will close on September 28, 2016. However, due to the complexity of

this area, staff has already held a stakeholder workshop and will likely hold more in order to continue that conversation.

I will now turn the presentation over to Ms Karen Owen-Whitred who will review accomplishments from the past year in terms of the REGDOCs published and the program management improvement initiatives.

MS OWEN-WHITRED: Thank you.

For the record, my name is Karen Owen-Whitred and I am the Director of the Regulatory Framework Division.

Since the last update to the Commission in June 2015, we have continued to actively clarify our regulatory expectations in various areas of the framework.

This slide lists the nine REGDOCs that have been published since the last update to the Commission either as new documents or as new revisions to existing documents, taking into account operational experience and the need for additional guidance for some specific areas of regulatory oversight.

As you can see, we publish REGDOCs in a wide variety of areas, covering for example the construction and commissioning of nuclear facilities, CNSC practices in the area of aboriginal engagement, and guidance for the newly published *Packaging and Transport of*

Nuclear Substances Regulations.

For two REGDOCs on this list, REGDOC-2.13.2, *Import and Export*, and REGDOC-3.6, *Glossary of CNSC Terminology*, I can provide updates since the time of writing of the CMD. The Import and Export REGDOC was recently published on September 1st and the Glossary REGDOC is expected to be published in the coming weeks.

In addition to executing the Regulatory Framework Plan, the CNSC is also committed to the continuous improvement of the Regulatory Framework Program management.

The next section of the presentation will summarize a number of improvement initiatives that were either continued or initiated over the past year, namely, our continuing efforts to actively engage with stakeholders, the consideration of regulatory impacts on licensees and applicants early and throughout the process of developing regulatory documents, recent advances in measuring the performance of the Regulatory Framework Program, and collaboration with the CSA group in the area of nuclear standards.

I will provide a summary of each of the subjects in turn over the coming slides.

As a responsible federal regulator, consultation with the public, licensees and interested

organizations is an important part of the process the CNSC uses to develop the regulatory tools within its regulatory framework.

The CNSC actively seeks public input on its draft regulatory proposals, regulatory documents and discussion papers through various means, including the CNSC's website, Facebook, the Government of Canada's Consulting with Canadians Website and the Canada Gazette.

Stakeholder engagement underlines the CNSC's commitment to a transparent consultation process and plays a vital role in developing the CNSC's regulatory tools. The CNSC stakeholder engagement helps ensure that we remain focused on the transparency of our work while actively seeking opportunities to improve engagement and communication. Stakeholder meetings and other modes of communication will continue to be a focal point in implementing our Regulatory Framework Plan moving forward.

I would also note that published regulatory documents are considered to be living documents subject to regular review, and feedback is welcome at any time.

Over the years the CNSC has made several enhancements to its analysis of regulatory issues, including initiating early engagement with stakeholders to help identify concerns or challenges with regulatory

requirements and increasing use of discussion papers and workshops to receive feedback.

In 2014, stakeholders suggested the CNSC adopt the use of a Regulatory Impact Analysis Statement, or RIAS, for REGDOCs, similar to that used in regulation-making.

Recognizing the effectiveness of this assessment during regulation-making, CNSC staff have developed a similar document called a "Request for Information" for publication with draft REGDOCs when seeking stakeholder feedback.

The Request for Information document piloted over the past year provides additional information on the objectives of a REGDOC, the approach being taken to meet that objective and an overview of the expected impacts on licensees and applicants. It is expected that this document will encourage stakeholders to provide the CNSC staff with feedback and to submit information on potential cost impacts, with calculations and assumptions used to derive those impacts.

Stakeholders are welcome to suggest alternatives to the regulatory approach for consideration.

Recognizing licensees are already engaged during the development of REGDOCs and standards, the CNSC aims to increase its consultation activities with all

licensees concerning implementation of these documents. Implementation workshops conducted to date have shown to be very effective in discussing challenges that may affect the implementation of new documents.

Over the past year the CNSC has developed a new performance measurement framework outlining how the CNSC will measure the effectiveness of its programs, including the Regulatory Framework Program. This is an internal tool meant to enable staff to better manage the delivery of program commitments.

Tracking the performance indicators developed under this performance measurement framework will allow CNSC staff to gauge program performance against the goal of having an updated regulatory framework by 2018. This will allow us in turn to proactively identify the need for adjustments in our processes as necessary.

Some examples of the performance indicators developed include the timeliness of product development measured by the number of REGDOCs and discussion papers produced in a given fiscal year as compared to the Regulatory Framework Plan and completeness of the regulatory framework measured by the number of REGDOCs published on the CNSC website in a given year, again as measured against the plan.

Program performance against these

indicators will be monitored through quarterly reporting to the CNSC's Management Committee commencing in the third quarter of this year.

The CNSC's regulatory framework also leverages international and domestic best practices in establishing expectations.

Nuclear standards produced by the Canadian Standards Association, known as the CSA Group, are an important component of the CNSC's Regulatory Framework Program.

Nuclear operators participate with the CSA Group in its Standards Program to develop consensus-based new clear related standards for equipment and performance to improve safety and reduce risk. The CNSC provides input to these standards and determines whether licensees must meet a standard in whole or in part. Leveraging the work of the CSA Group is a cost-effective way for the CNSC to enhance its regulatory framework.

Over the past year the CNSC and CSA Group continued their efforts to ensure alignment between the CSA Group Nuclear Standards Program and the CNSC Regulatory Framework Program. The CNSC and CSA Group meet regularly to discuss standards and program planning.

In order to ensure transparency of regulatory expectations, the CNSC has arranged with the CSA

Group for their standards to be available to the public through the CNSC's website. Notification of draft standards issued for public review are also forwarded to the CNSC's approximately 2,500 stakeholders through its distribution email list.

I will now turn the presentation back over to Mr. Torrie to conclude.

MR. TORRIE: Thank you, Karen.

Moving forward, CNSC staff will continue to modernize its framework and actively follow the Government of Canada legislative and regulatory reform agenda reviews, particularly the review on environmental assessment processes.

On average, CNSC staff continue to be actively involved on 40 to 50 regulatory framework related projects at any given point throughout the year.

Our upcoming priorities for 2016-17 include: completing the amendments to the *Radiation Protection Regulations,* the *Class I Nuclear Facilities Regulations,* and *Uranium Mines and Mills Regulations* to strengthen worker protection and safety of nuclear facilities in Canada.

Another priority is completing an additional 22 REGDOCs, notably in areas of fitness for duty, safety culture, radiation protection and several

licence application guides.

As well, we will be seeking feedback from stakeholders on human performance requirements and a framework for recovery in the event of a nuclear or radiological emergency.

And we are continuing broader programmatic analysis of regulatory framework needs and priorities in areas of waste and decommissioning, radiation protection and small modular reactors.

The CNSC continues to closely monitor and adjust its work plan as required, taking into consideration changing priorities, resource availability, changes to the regulatory environment and responding to government priorities.

To conclude, since the last update of the Regulatory Framework Program to the Commission, we have seen another busy year with the implementation of many improvements to the plan and to the management of the overall program.

The CNSC remains connected and in line with government regulatory improvement initiatives. We have continued to modernize the framework through the development of new regulatory documents and regulatory amendments to ensure the CNSC's framework continues to reflect the latest developments in domestic and

international lessons learned.

The CNSC's Regulatory Framework Plan outlines a long-term plan for our regulatory framework. This work plan will remain flexible and adaptable to the latest developments in the federal and nuclear regulation.

We thank you for your attention and remain available to answer any questions you may have.

THE PRESIDENT: Okay, thank you.

Let's start. Monsieur Harvey...?

MEMBRE HARVEY : Merci, Monsieur le Président.

I want first to congratulate the team for the result of that exercise. I remember when it started many years ago that it was like the mountains when you see 150 documents, and I have the experience. I mentioned it many times here that in my career, I started in the 1980s, that's a long time ago, I was responsible to modify the regulations on air quality in Quebec, and it wasn't done when I retired 10 years ago, so I know what it is. And I am pretty sure you will succeed to get to those 58 in the end.

My question is, once it is done, I mean you will have to revisit -- even if it is not completely done, revisit those documents from time to time to keep them up to date and what will be the process? We heard our

President many times say, "Oh, it is a document, we can change a document when we want to, when there is a need to change it." What would the process be and would it be easier and quicker to maintain those documents up to date?

MR. TORRIE: Brian Torrie for the record.

The plan, as you stated, is to get to the 58 REGDOCs, 2018 is the goal. So once we get the 58 REGDOCs in place, we have always had a sort of rolling five-year plan of addressing the other REGDOCs. We already have some that are coming in, say, for post-2018 that are priorities now and some of that has been the fact that we are just taking the old legacy documents and putting them in a new framework, knowing that there are issues that need to be addressed 2018-19 moving forward, but there is no immediate concern to reopen the complete document right now.

So I would just say one thing about setting the priorities, it's hard to know what the priority will be in 2019 because there are other things and factors that happen. We have seen it in the past. Fukushima, other things happen and you adjust priorities quickly. Government changes, you adjust priorities. Commission Members, senior management changes, you adjust priorities. So that is in general our approach.

I will pass it over to Ms Owen-Whitred to

comment further on that.

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

The only thing I would add would be first to reiterate what has already been said, which is that we do have a five-year review cycle for existing regulatory documents. So of the 58, we will be going back and reviewing and ensuring that they continue to be up to date on a five-year cycle.

To respond to your question about whether or not that process will be easier or faster than the current process in which we are engaged, I would hesitate to speculate, to tempt fate, but I do believe it is fair to say that maintaining an existing suite of documents is typically easier than going through that process of modernizing, in some cases writing a REGDOC for the first time.

MEMBER HARVEY: My point is, is it -- I will make it more simple. Is it possible to change small things in a document without opening the document with another large consultation and things like that, which take time? So would it be possible to change some parts of the document without starting again the whole process?

MR. TORRIE: Brian Torrie for the record.

A simple answer would be yes and we have

seen it already in REGDOCs that have come through and there has been a particular issue that we needed to put out another version and we were able to do that fairly quickly, but I wouldn't say it's true in all cases. It depends on the complexity of that particular issue and how many parts of the organization or stakeholders want to see other changes to the document, but it can be done quickly.

MEMBER HARVEY: Okay. Just to be clear for what I said at the beginning, I started the modification on air quality in Quebec but I haven't been working on that all my career.

--- Laughter

MR. TORRIE: And I hope to work on something else as well.

--- Laughter

THE PRESIDENT: Ms Velshi...?

MEMBER VELSHI: Thank you.

So I want to follow up on what Mr. Harvey said. You know, it has taken you four years to do the 22 and you have another whatever, 36 to do in a couple of years. How doable is that or is what's going to make you -- what's going to happen is, look, I need to get these docs out, so let's just do some cosmetic changes and issue it. I mean I'm hoping that's not what the driver is going to be. So tell me, how doable is it for you to meet your

goal of 2018?

MR. TORRIE: Well, we are maintaining that it's doable because that is our objective and our goal, but we are not going to compromise or the Commission as well is not going to compromise any particular issue to ensure we meet that goal.

But as I was sort of trying to reference earlier, there are particular strategies to update the framework. It is about providing clarity. That is our first priority. I think the second priority or the Phase 2 would be going back and looking at the changes that need to be made.

For example, we had those 150 documents, all the Ps, the Ss and whatever. So the idea is to get to that one framework of the 58 REGDOCs and that is going to bring clarity because at least you know when you want to know about environmental assessment, environmental protection assessment, it's 2.9.1, it's not 10, 12, 20 different documents.

I will ask Ms Owen-Whitred to speak to the particular strategies of that.

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

So as you have noted, our pace thus far will need to increase year over year if we are going to

meet the goal of 58 REGDOCs by 2018. We do feel confident that that pace will increase.

If I may offer two concrete reasons for that confidence.

First of all, it's logical that there is some time required to work on the analysis and development of REGDOCs before you see them come before you for requests for approval to publish. So there are quite a large number of REGDOCs that have been, if you will, in the pipeline over the past couple of years that now you will start to see that pace -- as they reach the end of their development life and come before you for approval to publish, you will see that number increase.

The second concrete reason for our confidence in the rate increase is an initiative that we are looking at this coming year, in that in some cases the review of this existing library of over 150 legacy documents requires intensive analysis, consultation, review of and in some cases complete rewrite of those existing documents before it's translated into a more modern REGDOC.

In other cases, we have legacy documents that were actually published within the last five, six, seven years, are already quite modern and up to date, and the only difference is that they are not written in the format and nomenclature that we have adopted for our

current regulatory framework document structure. So we are looking at on the order of 8 to 10 legacy documents that fall under that category this coming year wherein we will be reaffirming the content of the documents, translating them into the new format and nomenclature, and publishing them in a much faster way than the more complex regulatory documents.

So we actually have published 22 REGDOCs to date. Our plan is to publish another 22 in this year alone.

MEMBER VELSHI: Thank you.

If you were asked, you know, who do you go to for benchmarking, like who has a really robust regulatory framework, who would come to mind?

MS FORREST: Lynn Forrest for the record.

We participate with the Community of Federal Regulators, which is the organization of the regulatory bodies in the federal government. There are very good regulatory frameworks in the CFIA. You had another one there. Transport Canada has been modernizing their regulatory framework, and we share best practices in these forums. Some of the best practices that we have had are -- publishing our REG framework plan for instance is a really good practice. Our regulatory document suite is -- I haven't seen anything like it, the way it's laid out.

Other things that we are working with other regulators on are for instance the performance measurement for the regulatory frameworks. That is another piece that we are working on with the others.

Where we go, we do get a lot of comments on pretty good regulatory framework, particularly when we work with the people involved in the Environmental Assessment Review and also in the U.S. That's the best.

MR. TORRIE: I think, though, if you were to compare -- I don't want to say we are uncomparable or maybe we are the best, but it's the nature of the way the industry is regulated. If you go to Fisheries and Oceans, they regulate fish, they are not part of any project. They don't necessarily -- they don't regulate the whole project, the whole lifecycle, like the CNSC is mandated to do. So it is hard to find a comparable just because of that fact, really.

THE PRESIDENT: Monsieur Tolgyesi...?

MEMBRE TOLGYESI : Merci.

I should say your report is short, clear, well presented update, and really, I don't have too many questions, I have only one. It is complementary to Ms Velshi's. When you are talking other jurisdictions, I'm looking -- what about other countries where they have nuclear legislation to how far you compare yourself, what

the regulations are, how you revise them, are they updating them as you do or are you quite ahead of all of those?

MS FORREST: Okay. So, as you know, we participate with other countries on the IAEA standards for instance and we do make sure that our regulatory documents are up to date and that other countries are updating. We work together to come up with new standards, new suppliers' lists for instance for import/export, et cetera, and they are updating their documents as we update ours.

I can't really speak to the pace, I'm sorry, that they are going at, but we certainly are trying to keep up with international developments.

We also participate on the NEA. We are participating on some international working groups on small modular reactor design for instance and sharing that and looking at leveraging the best practices to keep our framework up to date.

As for the pace at which the other countries update their regulatory frameworks, I can't speak to that. I can get you more information on it.

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

You asked where we are with respect to international benchmarking.

The IAEA has what is known as guidance

with respect to safety fundamentals in the GSR, which is more or less the integrated management system. So our commitment as CNSC itself, we go through the GER, the IAEA encourages the regulatory body to review its regulatory framework on a cyclical element, between 5 to 10 years. Where are we with respect to the five-year cycle? As you are seeing, the demonstration by our colleagues, we are meeting that requirement internationally.

Based on -- from our submissions, the uniqueness of Canada and what you, as a Commission, approving as Regulatory Documents is very unique because we combine both prescriptive requirement, as in the regulatory requirement, and performance. So what you're seeing is, a lot of times, the Regulatory Documents, is reflecting a performance requirement that we expect the licensees to implement based on performance.

So it's -- as Mr. Torrie said, we are unique, but the frequency of the updates, if you look at our submissions and recommendations for updating regulatory framework, we will be in the top one or two, in putting it mildly.

So we do implement the international requirement for the periodic review of the regulatory framework and, to date -- in this era, as a matter of fact, under the leadership of Mr. Torrie, we have fulfilled the

five-year cycle requirement.

MEMBER TOLGYESI: And my last is, when I'm talking industry perception, when you compare from -- with other countries, what's the perception you have? What do they look -- how do they look, their legislation, compared to you? Are you saying that we have a comprehensive and open, et cetera, or it is something where they don't have that?

MR. SAUNDERS: Frank Saunders, for the record.

In general, I think I would say that the instructions of Canada are much more specific and much more detailed than they are in most countries. Most countries have regulations which are kind of goal-oriented. Not exclusively true, right, but in -- so there's a lot more detail here.

From our perspective, the framework that's laid out is pretty good. We like the clarity in the way it's laid out and we like the clarity in the documents.

We do still have significant issues with process, and some of it is just an understanding of what it takes to change things in our world, right. And so I can give you an example in Bruce Power because I happen to own the management system at Bruce Power, so I've got a job much like Mr. Torrie's there of trying to keep all these

documents and procedures straight.

We have something in the order of 63,000 instructions that we have to deal with on a daily basis, so every time CNSC changes a document that applies to us, we have to go and look and understand whether that document has forced us to make changes in our document.

Now, of course, that doesn't apply to all 63,000, but my point is it is not a simple task to do that work, right.

So when you're changing one or two documents a year, we can keep up with the pace. When you start changing 20 a year, expect a considerably longer time before we're willing to stick our hand up and say we're in compliance because we insist on doing that check thoroughly because if we say we're in compliance, we do not want you or somebody else to come and do an inspection and find out that some of our documents actually do not line up.

And that's hard work, and we have a lot of quality control in our documents for obvious reasons because people use them for work instructions and the like. We can't afford them to be wrong, so we cannot turn a document around in a couple of weeks, either. So even simple changes take some time.

So from our point of view, significant magnitude even if the Regulatory Document changes very

little. If the document adds new requirements which they virtually always do -- I know everyone says the status quo, but that isn't actually correct. They're not status quo documents, for the most part.

I can name one or two that are kind of status quo, but the rest are pretty much new.

Then it takes a lot more because I have to find out not only sort of where to put it and how to change it and how to make an effective change that will actually control the work -- it's easy for me to change a document, but if it's not effective at controlling the work, it doesn't achieve the purpose.

So these things are significant on our part. They do cost significant money and effort, so we always -- and one of the reasons we were really keen on having the RIA statement or something to that effect so that people would understand that sometimes things that look simple really aren't simple, and you've got to understand the impact and make sure that the safety value you're getting for it is worth it because that money and time and money is coming from something else.

There's kind of a limited amount of things you can do, and if you're doing one thing, you're not doing another, so make sure the work we're doing is adding the safety value that you believe because, in the end of the

day, we will do what you tell us. That's the way the business works. But you know, it's important that you understand the impact you're having.

And that's really all we've asked, is that you make sure you get that part right. When I see a RIA statement that says we're not quite sure what it's going to cost, but it's important to safety, so we think you should do it, as far as I'm concerned you haven't done your job, right, because I'll you what it's going to cost if you ask me, or I'll give you a good idea what it's going to cost. I may not know it exactly.

So I think it's important when CNSC or when the Commission is making their decisions that they have that information. Doesn't mean they'll make the decision that I might like, but I think the data should be there and that the decision ought to be made with the data in front of them.

MEMBER TOLGYESI: Do you do cost benefit -- consequence of regulation change because --

MR. TORRIE: I'll make a comment here. Brian Torrie, for the record, and then I'll pass it over to Ms Forrest to comment further.

I think over the past couple years we've made a much more concerted effort to get information on impacts. We had what was then called the RIAS-like

statement for REGDOCs, and I think we're changing the name again, to Requests for Information on Impacts for licensees so that we can determine that as early on in the process.

There's also the reality that sometimes until the document's further defined, licensees can't provide that information, but we're trying to have that dialogue as early on as possible. And then internally here at CNSC, we have an implementation working group now to further consider those issues. And I think there's flexibility in addressing those issues in terms of implementation for the kind of facility or the kind of REGDOC that's being implemented.

And I guess there could be an ongoing dialogue about how many -- whether we're really clarifying things or not. We feel generally most of these documents are clarifying existing requirements and guidance.

But I'll ask Lynn to speak a bit more about the cost-benefit analysis work that we're doing.

MS FORREST: Lynn Forrest, for the record.

We noted earlier in the presentation that we have a cost-benefit analysis discussion paper that we issued. The CNSC had a policy on -- that basically stated that we will consider cost-benefit information when it is brought to the Commission.

What we've done with the discussion paper,

and we're looking to further clarify in a Regulatory Document, is the type of cost-benefit information that we will consider and the different methodologies that a licensee can use, but we really don't -- we're not prescriptive on the type of cost-benefit analysis they might use for two particular circumstances.

One is, as Mr. Saunders talked about, for Regulatory Document proposals, but the other is for licensing proposals, for instance, when they're proposing alternative ways to meet the safety objective.

With respect to doing cost-benefit analysis ourselves, at this point, the CNSC's position is that we don't have the capacity to do the actual cost-benefit analysis. As with much of what we do, we have the capacity to review the cost-benefit analysis what is given to us.

So in fact, when Karen mentioned the Request for Information statement that we are sending out which was -- is intended to be somewhat like a regulatory impact analysis statement, that document actually states at a high level, for instance, CNSC is of the opinion this will not have major consequences for licensees, but it also says we would like your feedback on what the impact would be, and it actually says, "and you may suggest alternatives to meeting those safety objectives" as well.

So we're trying to meet the licensees somewhere in the middle there, and when we do get the costing information, I think what we'll -- what our discussion paper talked about is ensuring that we have some straight principles as to the type of information we would receive, which is, basically, give us the cost, give us the assumptions you used so that we can analyze and ensure that the cost-benefit analysis is at least sound and can be repeated.

It's a long answer, I suppose.

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

Just to support Lynn, my colleague, it's very important to really reiterate what Lynn has said. The cost-benefit analysis conducted by the regulator has been a massive failure internationally, from the USNRC to the French experience to the other regulatory bodies, so let's not pretend that the regulator know it all with respect to the cost-benefit.

So as Lynn mentioned, the licensee is responsible to determine the cost-benefit based on a procedure that is: it can be repeated to determine what alternative -- what alternate things they will put in place to meet our requirement, taking into consideration cost-benefit without compromising the safety.

So the cost-benefit is being applied at the CNSC at all levels. From the refurbishment activity, we review their submission and determine that what they're proposing for enhancement is not compromising safety.

So I really want to make it very clear that our colleagues are doing the right thing. If the licensee does not accept the RIAS, or the regulatory impact assessment, the onus is on the licensee to present the cost-benefit to determine how they will meet our requirement.

THE PRESIDENT: We also want to make sure that your 63,000 documents are up to modern thinking here. We don't want you to use -- I don't know how often you update them, but we want to make sure that you're using the most up-to-date standard, et cetera, et cetera.

MR. SAUNDERS: I understand that. Just to answer your question, three to five years, depending on the document.

So there's a lot of work, and it's a lot of effort. So we appreciate the feedback we get, and the process is getting better. I do think, though, there's a front end, and we've heard several times in that discussion about alternative means of achieving the objective. But in my view, the first question you have to ask is, does the objective itself add to safety or not, right. Is what

we're doing now different, right? Does it have to be something new?

And sometimes that question gets lost. It becomes this is a requirement so tell us how you're going to meet it, so sometimes our view is what's wrong with what we're doing now. It's worked for a long time. We feel it's pretty accurate.

That question also needs to be answered. The answer may be new standards, new requirements. The answer may be, "We didn't know you were doing it", right.

So those things, I think, should be asked and ought to be, at a very early stage in the process, asked to make sure that you're actually putting time and effort into working on something that's actually necessary to do.

THE PRESIDENT: Thank you.

Dr. McEwan.

MEMBER McEWAN: Thank you, Mr. President.

A couple of sort of comments, question. And again, congratulations. Nice presentation, nice document.

You say you have 2,500 stakeholders and that you send these documents out, and yet you only had 12 or 13 respondents to this one. That doesn't strike me as a very high proportion, and I was very, very surprised at

some absentees in the respondents, so the last document, the environmental assessment. It just happened to be there as an example.

Are you very specifically going to those organizations that would be directly involved in a lot of the REGDOCs you're producing?

So you know, you go out to the licence holders. A lot of those would not be the people at the sharp end of actually responding internally to these documents.

Do you go to the Canadian Association of Radiopharmaceutical Scientists, for example? Do you go to CANN, CUNP?

I know you have the working group at CRPA.

But those are the organizations where many of our REGDOCs and the changes of the REGDOCs are -- outside of the NPPs, may well be the most impactful, the least cost effective and the most costly.

So do you actually have a targeted group of people that you go to?

MR. TORRIE: Brian Torrie, for the record.

For the particular REGDOC, sometimes we target the group, so for example -- an obvious example would be the Aboriginal Engagement REGDOC, so we targeted Aboriginal groups through our Aboriginal Policy Group here,

and we offered participant funding for them to participate in that process.

So in that case, obviously, it was targeted.

In some of the more general ones like 2.9.1, we go with the email distribution. We have a standard process for that, and I think it's pretty rigorous in terms of reaching out to the 2,500 people on the distribution list. Then we do -- we update our social media sites as well, and we take advantage of whatever opportunities are out there to talk about the reg framework.

So in terms of industry, that would be the CSA group, it would be at CNA. It would be at the CANDU owners group, is another group. And then we also liaison with our colleagues on the licensing side for whatever outreach they have to also mention those particular documents.

And I would say probably based on some of the comments that you've made over the past few REGDOCs, we're trying to improve that and be a bit more targeted and follow up with those groups. But as I was saying earlier when we were discussing 2.9.1, we have, say, 40 Reg Documents, regulations, discussion paper projects going on at once, and the groups we're dealing with only have so

much capacity -- and they've told us the same -- to address all those documents. So that's why we've employed some of these other strategies, like workshops.

But it is definitely a challenge, like you're saying, when you only get 12 respondents out of that 2,500 to try and get more, but I think part of the reality is that these groups are really overwhelmed with the consultation broadly, and they're picking their priorities. And often, we're not their priority.

We're also doing other things that I wanted to mention as well.

We have a CNSC 101 program where we go out to communities, usually in coordination with where the Commission's going to be, and we stress -- stressing more and more REGDOCs there.

We're also part of the environmental review panel group that was set up, the multi-interest advisory group, and that is a new window for us because it includes industry, Aboriginal representatives, environmental groups from across the country, so the Canadian Environmental Network is well represented there, the Métis, the First Nations groups, and then all the different industries groups like the Mining Association of Canada.

So for 2.9.1, we -- the group had just

been formed, so we had targeted that document to that group, and it resulted in some additional comments from Cameco just last week, but we didn't hear anything more from the environmental groups that received the document that way.

So I guess the short answer to your question is, we have a pretty rigorous distribution and, more and more, we're trying to target those particular groups that have an interest in a REGDOC, and we can probably do a bit more on that. And that's what we're -- we would be doing as we move forward.

MEMBER McEWAN: So you actually didn't answer my question.

For some of these, if I take 1.6, maybe 2.6, 2.7, maybe 2.8, maybe even 2.12, you have 2,400 medical licensees. You've got I don't know how many university licensees. Have you met with the organizations that represent those?

Have you met with CANN? Have you spoken at the CARO meeting? Have you speaking at the CAMRT meeting? Have you set up workshops with those groups?

Those are the people who are most likely not to have access to any of your standard formats, and those are the groups whose practices and daily operations may well be most affected by some of the changes you

implement.

MR. TORRIE: Yeah. I'll ask Colin Moses to speak to those particular groups because he's been active with them.

MR. MOSES: Thank you. Colin Moses, Director General of Nuclear Substances Regulation, for the record.

Just to speak to this specific -- first of all, for the numbers, we have 2,500 overall licensees. Of that community, approximately 200 or so are from the -- yeah, are from the medical community. And we have engaged with a number of those communities in the past.

With CANAM, for example, we've spoken at their annual conferences on an occasional basis. But the groups that we've proven the most effective and the most engaged in our regulatory process that do represent those groups are groups like the CRPA and the Canadian Organization of Medical Physicists. And they're the ones who have proven the most useful vehicle for reaching out and soliciting that comment.

But with that said, you know, that's those specific associations.

As I mentioned on the previous item, we've ensured that every single licensee that we regulate receives a copy of these documents when they are released

for consultation.

The -- as Mr. Torrie alluded to, they do have their priorities, and so when we're looking at documents that are intended to apply to them, we do supplement that. For example, we leverage our DNSR newsletter to highlight upcoming regulatory initiatives. We have generic outreach campaigns across all licensees that reach not only the medical sector, but they also reach the industrial, the commercial and other sectors where we speak to upcoming regulatory developments and specific Regulatory Documents that we're want to ensure they're aware of, solicit the input, speak to some of the changes that are coming.

So we have much more than just the specific associations to reach out, and you're correct. They do choose their battles. They choose on which documents that are particularly important to them.

And some of those documents, for example, the requirements that we introduced on the security of sealed sources, they do engage because those are the ones that are most significant documents that do impact them.

THE PRESIDENT: I guess I come at it from a different point of view. I'm not too concerned about this fear of missing somebody. If it's really -- the community really get impacted by us, they know where to find us.

That's number one.

I'm also struck by the living document concept, and back to Mr. Harvey, we should, and I think we've done, that if we missed some impact and that been raised with us, we can amend and correct and fix.

So I thought the whole idea of having a flexible and, obviously, ongoing maintaining these documents should meet all concern by everybody. And there's an obligation from those who are impacted also to engage with us. It's not a one-way street.

So I'm quite comfortable that this -- by the time -- and by the way, 58 regulatory document is not my ideal. I think we can reduce that further. After you've done the first round of modernizing the 150, I think you'll find some more clever ways of reducing the numbers.

And we haven't spoken about the fact that, hopefully, they're all going to be online, and that's a whole different world in which you will approach a Regulatory Document really down to the specific requirement of somebody who's interested rather than be constrained by this structure.

So did I get it right?

Okay. Where are we now on -- Mr. Harvey?

Ms Velshi?

MEMBER VELSHI: So I can understand the

time lines that you have in the CMD, earlier today we had a presentation from CNL on their waste and decommissioning, and they managed discussion paper. And given their aggressive time line, can you walk me through that discussion paper and when you expect that associated REGDOC to get issued?

It was hard for me to find it here.

MR. TORRIE: We just ended the comment period for that particular discussion paper. I think there were comments received from 16 different intervenors.

And I don't have a summary of the comments in front of me, but I've looked at a few of them, and the comments are quite varied to there's no need for any further regulatory changes to address these issues to "You need wholesale regulatory changes", and then further discussions about classification of waste.

So there's quite a lot of varied opinions that are coming from that discussion paper.

So I'll ask Ms Forrest, then, to speak to the next steps in terms of the analysis and what might eventually come from that.

MS FORREST: Yeah, thanks, Brian. Lynn Forrest, for the record.

So we got the comments on the discussion paper. The discussion paper was very broad, as I mentioned

earlier, and talks about the whole waste section of the regulatory framework.

What we envision happening is -- as part of the drive to 2018 there will be, I believe it's four documents, that will be updated within the regulatory framework between now and 2018. Under -- sorry, two documents.

One is waste programs, and the other one is decommissioning planning. And we're intending to get those documents drafted up and out for consultation in either -- in around Q1 of fiscal '17-18, which would be probably around June of next year for consultation, and then try to get published by the end of 2017-18.

The bigger part of it is the -- there's some questions in there that will likely lead -- may lead to waste regulations or some amendments to the way we -- our regulations regulate waste.

We've had some international feedback that we're -- that CNSC -- Canada could use stand-alone waste regulations.

That's a bigger project. It won't necessarily set new requirements, but it will have us take different aspects of the waste regulation -- of how we now regulate waste out of the Class I regulations, for instance, and out of the radiation protection regs and the

substance regulations and put them all together in a waste regulation.

That would be a multi-year project, probably three years to get done, and that would have consequential impacts on the other regs.

But I have to say that, in the meantime, CNSC -- there is clarity in our regulatory framework already for the way we license waste, and we have a really solid team that is constantly interpreting our waste requirements.

MEMBER VELSHI: Thank you.

So show me on the work plan that you have here like -- because that's just an example for me to understand how you've got that.

MS FORREST: So go to 2.11, series 2.11, waste management. And I'm not sure what page -- there's no page number, so just go to 2.11, waste management.

MEMBER VELSHI: And published --

MS FORREST: And it's on this document that you're looking at; right?

MEMBER VELSHI: Yeah.

MS FORREST: So you'll see discussion paper on regulatory approach for waste management as the header document, and it shows that we went out for consultation and now we're doing analysis in Q3 and Q4 on

the results of the discussion paper. That discussion paper, however, is informing the following two documents, which his 2.11.1, waste programs, and 2.11.2, decommissioning planning.

Under that, we have a list of -- we just, for our own reference, keep the list of the legacy documents that we're incorporating into those that will be superseded once we get these two documents done.

We aren't just updating those two documents. We're taking into account the information we got from the discussion paper to augment those documents and make them more modern.

You'll see that we have under Q1 of 2017-18, consult, and then we have publish in Q4 of 2017-18.

The regulations project, on the other hand, is not there yet because we're not sure.

THE PRESIDENT: M. Tolgyesi.

Dr. McEwan?

I think they have all been very polite to me. I imposed the 2018 deadline because that was the -- my shelf life in this organization comes to an end, and I wanted to make sure that I don't be like you when I retire, that it's not done.

So I'm looking forward to -- for this kind

of -- at least the first round of having looked at all our documents and modernize them and deciding which one require, you know, nomenclature or which one require intense review. At least that will be done once, and leave it to the next regime to decide how intensely to update this.

MS FORREST: You'll see in our reg framework plan, Dr. Binder, that a lot of our documents are scheduled to finish in Q1 of 2018-19, which is --

THE PRESIDENT: Just in time.

MS FORREST: Between April and June of 2018-19.

THE PRESIDENT: So thank you for that. I think you've done a real good job, and I think will continue to do a good job on this one.

So thank you.

We are done for today, so -- go ahead.

MR. LEBLANC: So this concludes the public meeting for today. The meeting will resume tomorrow at 9:00 a.m. So we wish you a good evening.

If anybody borrowed interpretation devices -- I don't see anybody wearing any -- make sure to claim back your ID when you return it.

Thank you very much. À demain.

--- Whereupon the meeting adjourned at 6:41 p.m., to resume on Thursday, September 22, 2016 at 9:00 a.m. / La réunion est ajournée à 18 h 41 pour reprendre le jeudi 22 septembre 2016 à 9 h 00