Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

Public meeting

Réunion publique

June 8th, 2021

Le 8 juin 2021

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

via videoconference

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

par vidéoconférence

Commission Members present

Commissaires présents

Ms. Rumina Velshi
Dr. Sandor Demeter
Dr. Timothy Berube
Dr. Marcel Lacroix
Dr. Stephen McKinnon
Ms. Indra Maharaj
Mr. Randall Kahgee

Mme Rumina Velshi
Dr Sandor Demeter
M. Timothy Berube
M. Marcel Lacroix
M. Stephen McKinnon
Mme Indra Maharaj
M. Randall Kahgee

Secretary:

Secrétaire:

Mr. Marc Leblanc

Me Marc Leblanc

Senior General Counsel:

Avocate-générale principale :

Ms. Lisa Thiele

Me Lisa Thiele

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via videoconference / par vidéoconférence

--- Upon commencing on Tuesday, June 8, 2021
at 1:00 p.m. / La reunion débute le mardi
8 juin 2021 à 13 h 00

Opening Remarks

THE PRESIDENT: Good morning and welcome to this virtual meeting of the Canadian Nuclear Safety Commission.

Mon nom est Rumina Velshi. Je suis la présidente de la Commission canadienne de sûreté nucléaire.

I would like to begin by recognizing that our participants today are located in many different parts of the country. I will pause for a few seconds in silence so that each of us can acknowledge the Treaty and/or traditional territory for our locations. Please take this time to provide your gratitude and acknowledgment for the land.

Je vous souhaite la bienvenue and welcome to all those joining us via Zoom or webcast.

I would like to introduce the Members of the Commission that are with us today, remotely.

- Dr. Sandor Demeter;
- Dr. Stephen McKinnon;

- Dr. Marcel Lacroix;

- Dr. Timothy Berube;

- Ms. Indra Maharaj; and

- Mr. Randall Kahgee

Ms. Lisa Thiele, Senior Counsel to the Commission, and Marc Leblanc, Commission Secretary, are also joining us remotely.

My safety moment today, which is what I'll start with, is about resilience. What the pandemic and other recent negative news have shown us is how to build resilience and dig deep to find ways to cope with hardship and negativity and turn it into positivity, optimism, to move forward with goals and objectives so we can overcome our daily challenges.

A colleague recently shared with me several simple tips that author Neil Pasricha has provided in his best-seller book *You Are Awesome*.

Here are a few tools to increase resilience that I found particularly helpful.

One, take a moment each morning to rewire your brain right at the beginning of the day in what he refers to as the 2-minute morning by asking yourself: a) I will be grateful of; b) I will let go of -- and be really specific; and, c) I will focus on.

Two, call out your "Will do". Three

tangible simple things. This helps to relieve decision fatigue.

And, three, go untouchable. Social media creates less satisfaction in your life because someone is always better. Take control for the last hour of the day, be untouchable, no internet, no social media, no text messaging.

Four, read 20 pages of fiction. This opens up the neural pathways for empathy, compassion, understanding.

As many wise people have said, when tragedy or hardship or disappointment strike, know that by being resilient you have the ability to get through absolutely anything. Here is hoping to a more resilient us.

Now, with that, I will turn the floor to Mr. Leblanc for a few opening remarks.

Marc, over to you.

MR. LEBLANC: Merci, Madame le Présidente. Bonjour, Mesdames et Messieurs.

J'aimerais aborder certains aspects touchant le déroulement de la réunion aujourd'hui.

For this Commission meeting, we have simultaneous interpretation. Please keep the pace of your speech relatively slow so that the interpreters are able to

keep up.

To make the transcripts as complete and clear as possible, please identify yourself each time before you speak.

The transcripts should be available on the CNSC website within one to two weeks.

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.

As a courtesy to others, please mute yourself if you are not presenting or answering a question.

As usual, the President will be coordinating the questions. During the question period, if you wish to provide an answer or add a comment, please use the Raise Hand function.

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 May 28, 2021 for the list of items to be presented today.

All the CMDs (Commission Member Documents) listed on the agenda are available on the CNSC website.

In addition to the written documents reviewed by the Commission for this meeting, CNSC staff and

other registered participants will have an opportunity to make verbal comments and Commission Members will have the opportunity to ask questions on all the items before us today.

Madame Velshi, présidente et première dirigeante de la CCSN, va présider la réunion publique d'aujourd'hui.

President Velshi.

CMD 21-M20

Adoption of Agenda

THE PRESIDENT: Thank you. With this information, I would now like to call for the adoption of the agenda by the Commission Members as outlined in Commission Member Document CMD 21-M20.

Do we have concurrence?

For the record, the agenda is adopted.

CMD 21-M24

Approval of the Minutes of Commission Meeting held on April 27, 2021

THE PRESIDENT: I will now call for the approval of the minutes of the Commission meeting held on

April 27th, 2021 as outlined in CMD 21-M24.

Are there any comments, additions or deletions that the Commission Members wish to make to the draft minutes?

I note that there are no changes. Therefore, I would ask the Commission Members to approve the minutes. Do we have concurrence?

The minutes are approved.

The first item on our agenda is provide updates to the Commission and the public in a more formal and documented manner on items that were discussed during previous proceedings. These updates can be in response to an action item from a hearing or a meeting, such as a request made by the Commission or a commitment made by CNSC staff.

Marc, over to you for the first update.

CMD 21-M25

Written submissions from CNSC staff

MR. LEBLANC: The first update is to provide clarifications on licencing requirements applicable to the transport of natural UF_6 in Canada as a follow-up to a response that was given by the CNSC staff at the December 8th, 2020 Commission meeting.

CNSC staff filed a memo to the Secretariat on April 21st, 2021 as outlined in CMD 21-M25. This change was to correct an error and, on that basis, the minutes of December 8th will also be -- an erratum will be added so that to correct that wrong information -- incorrect information I should say.

I had understood before the meeting that the Commission appreciated the clarification and have no further questions.

Am I correct? Yes, thank you, Members.

The second update is with respect to a presentation from CNSC staff on its Peterborough public engagement plan. So it's an action item that arose from the record of decision on the renewal of the licence for BWXT Nuclear Energy Canada's Peterborough facility.

The Commission had directed staff to conduct public engagement activities in Peterborough within six months after the issuance of the decision in late December 2020.

This update, as outlined in CMD 21-M26, provides information on the engagement activities undertaken by CNSC staff and we will turn the floor to Mr. Andrew McAllister for a short presentation.

Please proceed, Mr. McAllister.

CMD 21-M26

Oral presentation by CNSC staff

MR. McALLISTER: Thank you, Mr. Leblanc. Thank you, President Velshi, Members of the Commission.

For the record, my name is Andrew McAllister, and I'm a Director of the Nuclear Processing Facilities Division.

In the Commission record of decision on BWXT NEC relicensing one of the directions CNSC staff -- given to staff was to conduct an information session in Peterborough, Ontario to explain the beryllium resampling results to the community and to answer any questions that the community may have. This session should be held as soon as possible and no later than six months after the release of the Commission's decision on this matter.

As per the CNSC staff's Peterborough public engagement plan provided secretarially in a memo to the Commission in February 2021 to address the Commission's direction, CNSC staff have completed several public and Indigenous outreach activities associated with BWXT NEC's licence renewal and beryllium resampling.

I will speak to Indigenous outreach efforts first. Curve Lake First Nation intervened during the BWXT NEC hearing and asked to be kept informed of

CNSC's processes and activities related to this facility.

Subsequently, in January 2021 CNSC staff had a meeting with Curve Lake First Nation specific to the long-term engagement terms of reference with them and the activities part of the work plan which covered BWXT NEC matters, including regular meetings.

Since then CNSC Staff and Curve Lake First Nation have met on five occasions, four of those occasions were in the form of meetings. The focus of those meetings included CNSC's Independent Environmental Monitoring Program, or IEMP for short, with discussions held on the program itself, the IEMP sampling program for the Peterborough area, and the involvement of Curve Lake First Nation in that sampling program.

Other topics during these meetings included the BWXT record of decision, webinar planning, environmental assessment, and environmental protection matters.

In addition, CNSC staff held a webinar with Curve Lake First Nation members in late April to discuss IEMP and to get feedback on the plan sampling campaign in the Peterborough area.

CNSC staff and Curve Lake First Nation continue to meet on a regular basis. CNSC staff have also kept other Indigenous groups informed of the IEMP sampling

in Peterborough and sought their feedback on the proposed sampling plan.

I will now discuss outreach efforts done with the public and other stakeholders.

In February/March 2021 CNSC Staff completed CNSC webpage updates on BWXT NEC Toronto and Peterborough facility pages such as linking to the record of decision and beryllium resampling aspects.

To advertise and plan CNSC public webinar to explain the beryllium resampling results to the members of the public, CNSC staff did a Canada Post mail drop to Peterborough residents within 10 km of the facility in addition to email and social media pushouts.

We also responded to public and media inquiries. And finally, CNSC staff met with the Ontario Ministry of Environment Conservation and Parks Ontario, or MECP for short, who agreed to support CNSC Staff on outreach efforts.

In March 2021 CNSC staff successfully completed, with MECP support, an outreach meeting with the BWXT NEC Peterborough Community Liaison Committee and two public webinars. More specifically, CNSC with MECP support, presented to the BWXT Peterborough Community Liaison Committee which has a diverse membership including but not limited to neighbours, representatives from the

Prince of Wales Public School, Peterborough Public Health, the Métis Nation of Ontario, and Dr. Julian Aherne who is a Professor from Trent University and a neighbour and who had intervened in the same proceedings.

CNSC staff's presentation was well-received and responded to all questions asked.

The two public webinars were held on March 22nd; one in the morning and one in the evening. CNSC staff gave a presentation and answered questions from participants, some highlights included a total of 128 people participated. The most popular means by which participants found out about the webinar was through the mail drop.

There was a noticeable increase in the level of understanding of the participants about the CNSC and beryllium based on before and after polling questions.

And finally, both MECP staff and CNSC Specialists answered questions which is greatly appreciated and added value.

In April and May 2021 there was one initial follow-up meeting with Dr. Julian Aherne who discussed outstanding issues on beryllium resampling and on the proposed IEMP sampling plan. Addition meetings are being planned.

CNSC staff also presented to the

Peterborough Board of Health on the role of the CNSC, the licence renewal, and the results of the beryllium resampling. The Board is comprised of local elected representatives as well as Indigenous representatives. Peterborough Public Health members were also present, including Dr. Salvaterra, the Peterborough Medical Officer of Health.

Also in April and May key stakeholders from the Peterborough area were notified of the planned IEMP sampling campaign in June. On that note, IEMP at Peterborough is planned for the week of June 14th, 2021, once the lockdown restrictions are lifted with a few Curve Lake First Nation members observing sampling activities.

With respect to next steps, we will be carrying out the IEMP sampling plan and disseminating the results after the lab analysis is completed.

We will continue discussions with Curve Lake First Nation, other Indigenous groups, and Dr. Aherne on BWXT NEC related matters as needed or as requested. And we'll be summarizing these outreach efforts in the Regulatory Oversight Report for uranium and nuclear processing facilities and research reactors which will be before the Commission in December 2021.

To conclude, CNSC has carried out the planned activities that were outlined in CNSC staff's

Peterborough public engagement plan in a timely fashion. Outreach activities were well-received and deemed effective. And CNSC will continue to engage with the public, Indigenous groups, and other interested parties.

Thank you, merci. We are able to answer any questions that you may have.

THE PRESIDENT: Thank you, Mr. McAllister for that very comprehensive update.

I'll open the floor to Commission Members for questions, and start with Dr. Lacroix.

MEMBER LACROIX: Thank you very much, Mr. McAllister, for this presentation.

From what I gather, there is an application for judicial review of the Commission decision that has been filed in federal court, isn't that right?

MR. McALLISTER: That is correct.

MEMBER LACROIX: Okay. So that means that CNSC staff must avoid any community discussion that could lead to discussions of the court challenge, if I understand it correctly?

MR. McALLISTER: Andrew McAllister, for the record. That is correct, Dr. Lacroix.

MEMBER LACROIX: Okay. So it seems to me that we're putting the Commission in a very awkward position in the sense that it seems to -- that we're asking

staff to keep on dancing with a foot nailed to the floor. I feel that you're caught between a rock and a hard place, in the sense that you can no longer be fully transparent and open.

And my concern is that could the fact that you cannot fully fulfill the mandate of the Commission, which is to disseminate objective scientific, technical and regulatory information to the public, could it lead to a blame on the Commission, and eventually why not a second court challenge?

MR. McALLISTER: Andrew McAllister, for the record. What I will comment to, Dr. Lacroix, is we did address this matter at a very high level during both the community liaison committee meeting as well as a public webinar indicating -- acknowledging that there was a judicial review on the decision regarding certain aspects, that judicial review was not precluding CNSC staff's ability to do its regulatory oversight of that facility.

And we set the stage with that respect so that all participants were aware of the circumstances moving forward.

MEMBER LACROIX: Okay. So there's no conflict with the court challenge?

MR. McALLISTER: Now, we did not get -- yeah, we did not discuss those matters in any great detail.

DR. LACROIX: Okay, thank you. Thank you very much.

THE PRESIDENT: Dr. Berube.

MEMBER BERUBE: Yes, thank you for that presentation. My question's for the CNSC. I note that you said that, in general, the feedback from the public was overall positive.

Were there any specific points of concern left to you through the series of meetings that you've had with Indigenous groups and with the members of the public that are still outstanding? Something, general themes that they would still be concerned about that you are unable to answer at this point?

MR. McALLISTER: Andrew McAllister, for the record. I will use a couple of issues to highlight your question, Dr. Berube. One of them, and I'll use discussions with the Curve Lake First Nation, was they wanted to get a better understanding of our environmental protection framework. And they were using the environmental assessment process under the *Canadian Environmental Assessment Act* as a point of comparison.

So we had an initial dialogue around that, for example, discussing how an environmental risk assessment, which is really a technical basis, how that would help inform an environmental protection review that

was done under the *Nuclear Safety and Control Act*, as well as how it would help an environmental assessment, environmental assessments that have been done in the past.

And the outcome of that discussion was they wanted to get a better understanding of our environmental protection framework, namely that that is outlined under REGDOC-2.9.1 on environmental protection.

So we will continue that discussion with them. As we've mentioned, we have monthly meetings and we'll have that as a topic in a future meeting.

If you're at with respect to the public webinars and the concerns raised there, people are still expressing concerns around the beryllium, around aspects that were covered off during the hearing. And certainly one aspect that we talked about was our plan Independent Environmental Monitoring program, and we did get some feedback during the webinar on aspects around that.

For example, there's questions raised well, you know, would you be taking more samples to be more representative of what the regional conditions are? So aspects like that were sort of noted. And, as we mentioned, we'll be undertaking the IEMP sampling plan hopefully next week with the restrictions hopefully being lifted to allow for that.

So certainly that remains top of mind and

we'll continue out outreach efforts with the committee to continue to address the concerns they may have.

THE PRESIDENT: Dr. Demeter.

MEMBER DEMETER: Thank you, Mr. McAllister. I wanted to get a sense of if you have a methodology or a plan or a way of packing the feedback you've gotten from the various stakeholders, and how that information may be used to guide future interaction with these stakeholders or with communication to the Commission.

And I guess I'm starting from, you know, the circle where the Prince of Wales School's right there. Maybe specifically, how that information will be packaged for that community and the local residents, and how it will be used to sort of guide further communications with the stakeholders.

MR. McALLISTER: Andrew McAllister, for the record.

That's an excellent question, Dr. Demeter. We don't have of our communications expert with us sort of in support role. But certainly we can continue to engage mechanisms such as the Community Liaison Committee who is a good representation of interests in that facility.

And I see that Kavita Murthy may want to supplement that answer.

MS. MURTHY: Thank you. Do I have the

Commission's permission to speak?

THE PRESIDENT: Yes, go ahead.

MS. MURTHY: Thank you, Ms. Velshi. Kavita Murthy, for the record.

So, Dr. Demeter, some of the lessons learned from the webinars was it was two-sided. One was that we needed to make the information we share with the public more user-friendly and that we need to communicate it in terms that the public would understand.

On the other side of it we really felt through these webinars that having direct access to our specialists at the CNSC who are able to answer questions, very very technical questions which also came during the webinars, very openly was a big factor in the success of these.

So our lesson learned from this is that there are different audiences and there are different needs of different audiences, in that our messaging really needs to be conscious of what we want to communicate, who the audience is.

Having the ability to do webinars and having the ability to do the polling before and after has given us a good sense of what works and what doesn't.

So going forward we know there will not be a one-size fits all approach that we will be able to use in

all situations, particularly when it comes to explaining the IEMP results. It is a very -- there is a lot of data there, and interpretation of the data is very important. And so we need to do a little bit of upfront work to educate the public on what we're reporting.

Thank you.

THE PRESIDENT: Maybe I can just follow-up on Dr. Demeter's question.

This wasn't a once-off thing; there's going to be ongoing communication and Mr. McAllister already said once you know the sampling is done and the new results are there; you'll be out in the community I suspect explaining the results, addressing any questions and concerns so that there will be this ongoing dialogue, and good to hear that the dialogue will be different depending on who the audience is, what their concerns are, and the kind of information that would help allay any concerns or address their concerns.

So, maybe you can just comment on that, Ms. Murthy?

MS. MURTHY: Yes, in particular for the BWXT Peterborough audience, absolutely we have already taken steps, and Kiza Sauvé can confirm this if there's anything more she wants to add, but we have definitely had -- we have definitely made efforts to engage the public

and the community much more actively in IEMP and in engaging them -- with them on the results, as well.

Further to that, yes, for other communities as well there's a lot of very important lessons that the CNSC has taken from this whole experience, so we will be implementing those much more widely.

THE PRESIDENT: Thank you.

Dr. McKinnon?

MEMBER McKINNON: I'm very happy to hear that there still continues to be a strong engagement with the community members here, as we saw in the original hearing.

I have no additional questions, though. Thank you.

THE PRESIDENT: Thank you. Ms. Maharaj?

MEMBER MAHARAJ: Thank you, Madam Velshi.

My question is a little bit more general in nature, and Ms. Murthy has already answered part of it in advance. But I was curious to know what your experience is with respect to the change that you've had to make in consultation and in community outreach with COVID? I can hear from the information you've provided that there have been some in-person meetings; there have been some webinars. Is there any methodology or general lessons learned in terms of the effectiveness of different styles

of approach for different communities that we may take forward as we hopefully are coming out of some of the COVID restrictions?

MS. MURTHY: Thank you for that question. Kavita Murthy, for the record.

So, we have had -- if there is a success story associated with this COVID, it is in how we have been able to leverage the webinars, the ability to do webinars, the ability to reach a lot of people who don't have to leave the comfort of their homes to attend a one-off session. So, we have been able to engage and have more specialists participate and have more people of -- in the general public participate in -- in the webinars.

As we have gained experience in doing webinars, we have discovered tools that help us gauge the audience's engagement.

We have had the ability to allow them to ask questions live during the webinars, and we have devised a way in which we can take those questions, get the answers back and respond to the questions.

So, are we going to continue to do webinars after COVID? I think so. I think this is a very good way of doing outreach. It is a very cost-effective way, and it is a very popular way as evidenced by the number of people who joined in.

In our past we have done outreach through many different means, one of which has been to take a team of people and -- and set up a shop and open and hope that people drop in. Sometimes that is successful and sometimes it is not. But webinars have generally seen much more appetite for people to come and -- and talk to us.

The other aspect of it is that there is important benefits to in-person meetings, as well, which avenues -- the avenues that have worked for us well is to go where people are already present, in other words go to community events there where there are people there for many other reasons, not just to see the one show in town.

So, yeah, it's a mix. We definitely got a very good experience with doing webinars through this COVID and we definitely intend to -- plan to use a lot more of it in the future.

THE PRESIDENT: Thank you. Mr. Kahgee?

MR. KAHGEE: Meegwetch for your presentation; that was very helpful. I think my colleagues have addressed some of the questions that I wanted to raise.

Just a clarification. You referenced your engagement activities with respect to Curve Lake First Nation in light of their intervention in the hearings.

You also reference engagement with other

groups. Can you clarify who those groups are and maybe just briefly outline what your engagement activities have been with those groups?

MR. McALLISTER: Thank you, Mr. Kahgee.

Andrew McAllister, for the record.

I'll have Adam Levine who is our team lead for Indigenous Relations elaborate on that aspect.

MR. LEVINE: Thank you very much.

Adam Levine, Team Lead for Indigenous Relations and Participant Funding, for the record.

So, in addition to Curve Lake First Nation we have also been engaging with the other Williams Treaties First Nations which are made up of seven different First Nations communities and the Hiawatha First Nation was the other Nation who participated in the Commission hearing back in March of 2020, and alongside Curve Lake, and so we have been reaching out to Hiawatha directly and the other Williams Treaties First Nations communities as well as the Metis Nation of Ontario.

Curve Lake so far has been the most engaged since the Commission hearing in March 2020, but we continue to keep the others updated and informed and always willing to discuss BWXT or anything else we're doing including IEMP.

THE PRESIDENT: Okay. Commission Members,

a show of hands if you have any additional questions?

Okay, not.

So, thank you, CNSC staff, for the update and we're happy to see the progress that you have made with the outreach and addressing concerns, so thank you again for that.

So, we'll move to the next item on the agenda which is the Status Report on Power Reactors as outlined in CMD 21-M21.

I note that we've got representatives from the nuclear power industry and CNSC staff joining us for this item. They can identify themselves later before speaking.

I'll turn the floor over to Dr. Viktorov.

CMD 21-M21

Oral presentation by CNSC staff

DR. VIKTOROV: Thank you, and good afternoon Madam President and Members of the Commission.

My name is Alex Viktorov, I am the Director General of the Directorate of Power Act Regulation. As the CNSC staff members as well as representatives for licensees are attending and will be available to respond to any questions.

The Status Report on Power Reactors, CMD 21-M16 was finalized on May 31st. I have no further information to provide to the Commission as no notable developments happened since then, and this concludes a very brief verbal update on the Status of Power Reactors.

Merci.

THE PRESIDENT: Thank you, Dr. Viktorov. And, again, just to clarify, it is CMD 21-M21.

I'll open the floor for question from Commission Members to both staff and licensees, and we'll start with Dr. McKinnon.

MEMBER McKINNON: Yes, thank you.

I have a question for Bruce Power. There has been a lot of interest in pressure tubes recently, and I notice that Unit 6 has the pressure tubes removed now. So, this is a very good opportunity to carry out some physical testing to look at their status.

Could you briefly describe any such plans that you would have and any investigation into the pressure tubes and how they've performed?

MR. BURTON: Sorry.

Maury Burton, for the record. I'm the Chief Regulatory Officer for British Power.

For Unit 6, yes, we have removed all 480 pressure tubes from that reactor. The majority of those

tubes were actually crushed and sent for waste. However, we did remove two tubes for what we call surveillance activities which is essentially a number of testing of the material up at the Chalk River facility at CNL, so there were two of those tubes that were removed for that specific purpose and a couple of those, the two that were chosen, were for very specific reasons. One was because it had tight-fitting garter springs that had sufficient powers on it for testing of those tight-fitting garter springs. And the other was because of the flux in the centre of the core.

MEMBER McKINNON: Okay, thank you. And even the ones that have been crushed, for example, could you carry out any metallurgical testing to see what the status of the material has been and if there's been any degradation changes according to the models?

MR. BURTON: There is no plan to receive any of that material for testing. It probably is possible if deemed necessary, but we do have enough material from the tubes that we've removed and from other units to carry out the surveillance testing.

MEMBER McKINNON: Okay, thank you very much.

THE PRESIDENT: Thank you.

Dr. Lacroix.

MEMBER LACROIX: Yes, thank you very much.

My question is for staff.

I found interesting that Bruce Unit 6 and Darlington Unit 3 are both undergoing a refurbishment simultaneously, and I was wondering, are there staff at CNSC that oversee both projects so that they can I would say gather information and lessons so that they could eventually improve the practises in the refurbishment projects?

DR. VIKTOROV: Alex Viktorov, for the record. I'll start and then I'll ask Directors of Bruce and Darlington to supplement.

Indeed, we have a dedicated staff who focus their activities on refurbishment and they certainly communicate with each other and I refer primarily to the inspectors at each of the sites.

They are also supported by technical specialists in Ottawa who may be and likely are involved in assessing information coming from both projects at the same time, so they certainly are aware of information and well, share it if necessary.

I will also remind that we already completed the regulatory oversight of Darlington Unit 2 refurbishment and before that, Bruce Units 1 and 2, so we have information, experience available to us and we

continuously learn from these experiences to make sure we focus our attention where necessary and do oversight effectively.

And if any of my colleagues would like to provide additional details, I would welcome them to step up.

THE PRESIDENT: Okay. It doesn't look like anyone else has anything to add to what you've said Dr. Viktorov, so let's turn to Dr. Berube.

MEMBER BERUBE: Yes, I'd like to thank CNSC for this report; it's pretty good, in particular, I think the report on the COVID activities have been beneficial to wrap that up nicely.

One of the questions I have with regard to COVID has to do with the actual emergence of these new variants and how that actually impacts the risk assessments at each nuclear power plants as we're seeing some of these variants are becoming more contagious, and obviously that is of concern. At the same time, we're trying to vaccinate at record speed to try and curb some of the effects of -- of becoming infected.

But we could, could we start with Bruce particularly and then move maybe to OPG and then Point Lepreau just to get a quick summary of how you are actually tacking the new variants and how you think that may impact

your operations, what you do to basically head that off as effectively as you can?

MR. BURTON: Yes. Maury Burton, for the record, for Bruce Power.

Basically, for us, in our area we are really relying on the Public Health Unit to track the variants being -- I'm thinking about a low population area, we haven't had that many in the area, although we have seen up to 70 percent of the active cases in the area being variants of concern.

Really, to combat that, we do have an ongoing testing program on site where we've actually conducted over 100,000 tests now and essentially all workers on site are expected to get tested weekly, so that is ongoing.

Another thing that we have done and in cooperation with the Health Unit, we are quite lucky to be able to have an on-site vaccination clinic where we managed to vaccinate 3500 of our staff that work on site all the time, so like I said we were quite lucky to get that, and these are essentially the steps that we're taking to manage those variants of concern.

THE PRESIDENT: Thank you.

OPG?

MR. BEVACQUA: Yes, it's Val Bevacqua, for

the record, for OPG. Can you hear me, Madam?

THE PRESIDENT: Yes, we can, thank you.

MR. BEVACQUA: Thank you. So, we continue with our robust screening and monitoring program. Like Bruce Power, we also have proactive testing and we do track whether the testing results in any variants, and we have our screening process.

So, at this point, while we're tracking it with our local health, we have not seen that it has led to any increase infection anywhere near our plant.

So, we are continuing to monitor but it hasn't raised any additional risk for us at OPG.

THE PRESIDENT: Thank you. And anyone from Lepreau have anything to add?

MR. REICKER: Yes. Nick Reicker, for NB Power, Regulator Affairs Manager, for the record.

So, our COVID response team on site continues to work closely with Public Health and monitor any strains of the variants that are coming within the province, particularly that any of the health regions that are closely in and around our surrounding area and community.

One further support is the province right now is approximately 70 percent of the first vaccination for the entire province, so as we start to get further into

our vaccination for first and second round, we have a higher confidence rate that our protection of our workforce and surrounding communities will be further supported, so it's obviously to continue monitoring but no additional changes at this point.

THE PRESIDENT: Thank you. I did have a follow-up question on the COVID Update Report, and this was for -- maybe OPG can answer this. This was the outbreak at Darlington declared by the Durham Region Health Department, and it was declared, the report says, on March 8th and was declared over on May 6th, and so almost two months long, which seems kind of long for an outbreak.

Can you just comment on that, on -- usually they tend to be about two weeks long at the maximum?

MR. GRACE: Yes. Madam Velshi, can you hear me, okay?

THE PRESIDENT: Yes, we can, thank you, sir.

MR. GRACE: Thank you. Allan Grace, for the record. I'm the Plant Manager here at Darlington.

So, some context on your question. that particular outbreak circumstance was centered around one of the trailers we have on site, so we do have some trailers on site that support both our refurbishment program but

some other activities on site. So, fairly localized to a particular work group.

For the interface with the Region, the Public Health Unit, the criteria for stand-down was no -- I'm simplifying it a little bit, but no -- no further cases at Darlington site. And, of course, Darlington site has, you know, a couple thousand folks that do work here, so the criteria was -- was quite challenging. But we did work with Public Health to demonstrate very clearly that we had no transmission related cases to that initial outbreak. And in that interface with Public Health, we agreed that we could stand down. So, a little bit longer than we would have expected but I'll say very challenging criteria to meet and, ultimately, we did meet that criterion.

THE PRESIDENT: Thank you very much for that.

Ms. Maharaj?

MEMBER MAHARAJ: Sorry, I was just looking at my notes, Madam Velshi, but I do have a question with respect to the international collaboration component of your report.

I thought it was very interesting to see that -- that the interactions resulted in a finding that there were no gaps in CNSC's practises after -- after having been assessed, but I was wondering whether or not

there were opportunities that you discovered through this particular summit and conference for CNSC to improve as opposed to simply not having a gap. Are there some lessons learned so that we can be world leaders, or so that we can retain that priority and that -- that primacy, in the international forum?

DR. VIKTOROV: Alex Viktorov, for the record.

Thank you for the question. And I wouldn't say that we are at the end of the journey here. We still keep our eyes wide open to see if there are any experiences or practises that we can learn from and improve.

But we found that by and large CNSC's response from the very beginning was very robust, strong, and as we had chances to compare our response with our international counterparts, we didn't really identify anything significant that we could bring. For example, we very meticulously studied a report produced by USNRC, Nuclear Regulatory Commission exactly to see if their response was different in any way compared to ours. We didn't find any significant differences.

Nevertheless, we took out one practice that we will implement based on comparing our response with the Americans, namely formalizing an existing practice with

our licensees by which our inspectors have access to various licensee databases or systems.

Again, we have access as an established practice but it is not formalized anywhere, whereas Americans made this practice formal, so we will do that in the coming months.

We also keep communication open with our colleagues internationally. Just a week ago we discussed this with the nuclear regulators at NEA Nuclear Energy Agency, and later on in December there will be another dedicated meeting to exactly compare practices and lessons learned, and I expect next year there will be further additional events, so we believe our responses have been adequate and strong.

We will, of course, avail ourselves to any good practices that become available, but right now I think we are one of the strongest responders to the pandemic conditions.

THE PRESIDENT: Thank you, Dr. Viktorov. Thank you.

Mr. Kahgee?

MR. KAHGEE: I have no further additional questions at this time. Thank you very much for your presentation.

THE PRESIDENT: Thank you.

Dr. Demeter?

MEMBER DEMETER: Thank you for the presentation.

I have a COVID-related question, and I think I could stand to be corrected, but I think Bruce already addressed it.

I was trying to figure out how your workforce can access the vaccine especially when they work shift work and the -- if so, one of the licensees and again I think it was Bruce that talked about having on-site vaccine clinics which I think is an excellent idea. I would like to hear what the other two licensees are doing, as well, to accommodate that.

And understanding that there's ethics involved, I was wondering how, and every province is dealing with this -- how do you positively manage those who might be resistant to becoming vaccinated especially if they are part of your minimal shift complement staff?

So, I wouldn't mind you sort of comment of how you provide access to vaccines in a comfortable way, especially those that have shift work, and how do you incentivise vaccinations amongst your staff?

THE PRESIDENT: Why don't we start with OPG and then New Brunswick Power and then Bruce Power.

So, OPG?

MR. BEVACQUA: Thank you. It's Val Bevacqua, Director of Ops and Maintenance at Pickering.

We have an ample availability of vaccine in our local areas and we have been actively encouraging our staff to get vaccinated. We are running some internal surveys to check and anonymous surveys, and obviously we're finding that we aren't getting a high uptake of vaccinations amongst our employees both at the Pickering and Darlington sites, as well of the balance of OPG.

THE PRESIDENT: And when it comes to our minimum shift complement are you doing anything different for them?

MR. BEVACQUA: We did get an opportunity about ten days prior to the full availability to get some preference for our staff within the protected area, which we did take advantage. That was done in negotiation and consultation with the province.

THE PRESIDENT: Now, we heard from New Brunswick Power that 70 percent of their staff have received the first dose. What does the OPG number look like? Do you know?

MR. BEVACQUA: I don't have that. What we got from our survey, Madam Velshi, was that over 90 percent of our staff either had or had planned to be vaccinated, but I don't have a current as of today status of the number

of OPG employees that have been vaccinated.

THE PRESIDENT: Thank you.

Thanks very much.

Let's move to New Brunswick Power, if you've got anything else to add, please.

MR. REICKER: Yes, thank you.

Nick Reicker, for the record, Regulatory Affairs Manager, NB Power.

So I think maybe a clarification to that original statement. When I said 70 percent that was relating to the Province of New Brunswick residents that were vaccinated, not specific to NB Power employees.

I guess on the first part, the vaccinations is following the Public Health Guidelines. So this is being administered through pharmacies, as well as through the Horizon Health Network, through standardized clinics. We are communicating and encouraging all of our staff to get vaccinated and we continue to do this through multiple forums and encourage that all, as well as all family members, get that.

So it's really through encouragement. We've sent out a lot of surveys and making sure that people are aware and have the information. That's currently how we are tracking at this time.

THE PRESIDENT: Thank you.

Bruce Power?

MR. BURTON: It's Maury Burton, for the record.

As far as ensuring that the minimum complement and shift workers have access, as we made you aware, we did have our on-site vaccination clinics and there were actually four over a period of two weeks. They were all at different start times. So we had one that was basically aimed for evening, one for morning so that people coming off their night shift could actually get vaccinated before they went home, and then a couple of other ones that were kind of normal hours. So we did do that.

Like I said, we found it quite successful. We have 3,500 people vaccinated, which is a good portion of our workforce. I guess looking at the numbers that we have on site today, it's just over 3,000.

I was actually in one of the nights where we were actually signing people up for the vaccine clinics or assisting them. We actually used the Public Health service online to get people set up, but we were encouraging people to get done.

And most people had either already signed up for our on-site clinics or off-site clinics or had had the vaccine.

I only recall one person that said they

were not going to get the vaccine.

So I think the numbers are fairly good in people wanting to participate. We did a survey similar to OPG and found very similar numbers, in the 90 percentile for people that are planning to or have got the vaccine.

THE PRESIDENT: Thank you very much.

I have a question for OPG and it is to do with Pickering Unit 8 planned maintenance outage.

The unit has been shut down since January 11th, so over five months, almost five months shut down. Tell us a little bit about what the scope is and what the return to service expected date is.

MR. BEVACQUA: Thank you, Madam Chairman. It's Val Bevacqua here, for the record, Director of Ops and Maintenance for Pickering.

The major scope of the Unit 8 outage included three grey lock leak repairs and a single fuel channel replacement, as well as three feeder replacements.

So we have completed the vast majority of that scope.

Currently the unit is on schedule to be returned to 100 percent for June 14th. We actually surrendered the Condition Guarantee last night and we are moving towards our approach to critical as we speak.

THE PRESIDENT: Excellent. Thank you very

much for that.

Any additional questions?

Okay, no hands up.

I understand that staff are going to take the opportunity to provide us an update on the COVID-19 situation at some sites managed under the Nuclear Fuel Cycle Program.

Ms. Murthy, over to you for that, please.

MS. MURTHY: Thank you. Good afternoon, President Velshi and Members of the Commission.

My name is Kavita Murthy and I am the Director General of the Directorate of Nuclear Cycle and Facilities Regulation.

With me today are Ms. Candida Cianci, the Director of the Canadian Nuclear Laboratories Regulatory Program Division, and Mr. William Stewart, Senior Project Officer in the Uranium Mines and Mills Division and Project Officer responsible for the Cigar Lake site.

We are here to provide information to the Commission on two outbreaks at CNSC-regulated sites that fall under the Nuclear Fuel Cycle Program.

CNSC staff note that in both cases there were no impacts on safe operations of the facilities and the affected licensees have posted information on the outbreaks on the public website, in addition to providing

information to CNSC staff.

COVID-19 outbreak at Cigar Lake. On May 14th, 2021 an outbreak of COVID-19 was declared at the Cigar Lake site in Saskatchewan. As of May 20th Cigar Lake had been associated with 11 presumed positive cases, including site transmissions.

In response, Cameco implemented a site-wide testing program. Here are the latest numbers from Cigar Lake.

As of June 4th Cameco has conducted more than 800 tests. As of yesterday, June 7th, there have been a total of 16 on-site positive cases and 34 off-site positive cases associated with this outbreak. That add up to 50 cases associated with the outbreak.

An additional positive case was reported by Cameco this morning but it is not confirmed whether this case is associated with the outbreak.

Two workers who tested positive and one close contact, so a total of three workers, remain in isolation at the site at this time under the care of Cameco site nursing staff.

A public health inspection has been conducted at the site that identified good practices and some opportunities for improvement.

No report is available at this time, but

Cameco will provide CNSC a copy of the report and notify CNSC of any actions arising from these inspections.

The outbreak had no impact on health and safety of persons as it leads to the operations of the nuclear facility, no impact on the environment and Cameco continues to maintain the site staff complement.

On May 28th vaccines were received at Cigar Lake and were administered to site staff.

CNSC staff are satisfied with Cameco's actions and continue to monitor the situation and continue to receive notification from Cameco.

On Port Granby Waste Water Treatment Plant location, on June 3, 2021 CNL posted that a workplace outbreak of COVID-19 occurred at the Port Granby Waste Water Treatment Plant.

Two positive cases were reported among staff based only in the plant and their work did not require them to be in contact with local communities.

CNL continues to co-operate with local Public Health authorities and follow their guidelines. Contact tracing has been completed and the waste water treatment plant has been cleaned and sanitized.

CNL continues to operate the waste water treatment plant safely. CNSC staff are satisfied with CNL's actions and continued notifications on the situation.

Thank you. We are available to answer questions.

THE PRESIDENT: Thanks very much.

Let's start with Dr. Demeter.

MEMBER DEMETER: Thank you, Ms. Murthy.

There we go. My mute is out now.

Thank you very much for your presentation.

With the mining industry there is usually an in-and-out cycle for workers coming in and going out. Do you know if that cycle has been modified at all with COVID? I don't know if it was two-in and two-out before. It leads to the incubation time has to be considered, whether or not how many people have been vaccinated.

Has there been some change in the in-and-out cycle, do you know?

MS. MURTHY: Kavita Murthy, for the record.

I don't believe that there has been any change in the two-in and two-out. We do know that Cameco has instituted on-site testing of people coming in. But as far as the changes are concerned, it continues to be what it was before.

MEMBER DEMETER: Okay, thank you.

THE PRESIDENT: Dr. McKinnon?

MEMBER McKINNON: Thank you for the

update. I have no specific questions. Thanks.

THE PRESIDENT: Dr. Lacroix?

MEMBER LACROIX: Neither do I.

THE PRESIDENT: Dr. Berube?

MEMBER BERUBE: Yes, I just have one question regarding Cigar Lake.

I think you mentioned 50 cases. At this point what percentage of the full staff complement would that represent for the company?

MS. MURTHY: I will ask William Stewart to respond to that, please.

MR. STEWART: William Stewart, Senior Project Officer at Uranium Mines and Mills Division.

There are about 600 employees in total at Cigar Lake, including the two-week-in/two-week-out contractors and projects. And of those 50 cases associated with Cigar Lake, there are some secondary transmissions off-site. So not all the cases are Cigar Lake employees.

So it would be less than 10 percent. You are looking closer to probably about 6 to 7 percent.

MEMBER BERUBE: And just a quick note. Are they using the quick testing in order to access the site? Is that what it is?

MR. STEWART: That is correct. So when people arrive, they do a full sweep of the people arriving

on site with the quick test, and that's when they identified two people coming off the site as COVID positive. So those two cases, although they were at site, they are not associated with the outbreak.

MEMBER BERUBE: That's fine, thank you.

THE PRESIDENT: Thank you.

Ms. Maharaj?

MEMBER MAHARAJ: My question is more just operational.

When you have employees who have to be taken off of their work duties because they're positive or in a time when they are in quarantine, are you doubling up other employees' shifts to cover them off and are you having specific pinch points in your HR staffing regime in order to accommodate for significant numbers of employees who might have to be removed from the workplace?

MS. MURTHY: Kavita Murthy, for the record.

We can take this question to Cameco and get you a specific answer to that. We don't have that information at the time.

We do know that the questions we typically would ask would be related to taking people off staff who would be performing safety critical functions, and we know that those were not impacted.

We will get you specific information to the question you have. Thank you.

THE PRESIDENT: Mr. Kahgee?

MEMBER KAHGEE: Just one clarification. Thank you very much for the update.

You reference there is going to be a report coming forward. Do you estimate the timeframe for that?

I believe it was from Cameco.

MS. MURTHY: Kavita Murthy, for the record.

Yes, that is correct. It is Cameco.

I wonder if William Stewart has the information on that.

MR. STEWART: William Stewart, for the record.

So Sask Health did an inspection at the site and they may or may not issue a final report. They gave their recommendations to site. They identified good practices and they identified a few opportunities for improvement. But it is a process where they don't always issue a formal written report.

Cameco did commit to provide me with the report and any corrective actions associated with their report, but there is no guarantee that Sask Health will

issue any type of report.

THE PRESIDENT: But is Cameco then going to be producing a report that captures what happened, the impact of it and the corrective actions taken and the lessons learned from this?

MR. STEWART: We have not asked Cameco to produce a report for us. With respect to their corrective actions taken, they have provided us updates as we have requested them. But we have not asked for a formal report that we would probably ask under a regulatory requirement.

THE PRESIDENT: Well, maybe a more generic question for CNSC staff.

What are we doing as far as asking our licensees to capture lessons learned through the pandemic, whether it's around the pandemic planning, the business continuity planning, the safety protocols, etc., so that all of this information is collected and hopefully consolidated and shared again more broadly with other communities?

Is there any work being done in that area, being contemplated?

Ms. Murthy, Dr. Viktorov, anyone?

MS. MURTHY: Kavita Murthy, for the record.

I can start the response and then pass it

on to Dr. Viktorov.

So in terms of formal lessons learned from COVID, we do expect to have discussions with our licensees to see how they have managed through this crisis and how it has affected their planning going forward with business continuity plans.

With respect to the aspects that we look at in terms of minimum staff complement and having sufficient staff for security and emergency preparedness, we definitely have had an eye on that and we have maintained contact with licensees to make sure that they have put into place enough measures.

A big difference obviously between the licensees in the Fuel Cycle Program and in the NPP Program is that the latter, because of their job functions, are essential workers.

I'm sure that Dr. Viktorov has a much more comprehensive answer so I will pass it on to him.

DR. VIKTOROV: It's Alex Viktorov, for the record.

Licensees of power reactors have a mature strong program for capturing operational experience from events or developments and we periodically assess this program and we are all satisfied with it.

Several months ago we also conducted an

assessment of licensee response, OPG response to the pandemic and the robustness of the business continuity provisions. We found that the existing ones at OPG were robust and adequate to respond to COVID.

In that assessment we also looked at how OPG was able to respond to changing conditions; for example, keeping an eye on availability of staff on minimum shift complement.

Again we found the provisions in place were adequate.

Nevertheless, we are still in the situation and will be monitoring any lessons learned, and when we ourselves look at lessons learned for the regulator we also correlate it with lessons learned and the licensee organizations.

But again we are still in this journey. We are not at the end, not quite ready to say it's all done and learned. Thank you.

THE PRESIDENT: Thank you.

Maybe I'll just ask any of the licensees if they wish to add anything about their plans for doing a more parallel lessons learned exercise or what they're doing on an ongoing basis.

Anyone?

Okay, I don't see any hands up.

Then thank you very much for that status update.

We will move to the next item on the Agenda, which is the Event Initial Report regarding an exposure above regulatory limit of a Nuclear Energy Worker at Alberta Health Services, as outlined in CMD 21-M27.

I know that Mr. James Lee from Alberta Health Services is joining us remotely and that he is available for questions.

But before opening the floor to questions, I will turn to CNSC staff.

Ms. Owen-Whitred, over to you.

CMD 21-M27

Oral Presentation by CNSC staff

MS. OWEN-WHITRED: Thank you.

Good afternoon, Madam Velshi, Members of the Commission. My name is Karen Owen-Whitred. I am the Director General of the Directorate of Nuclear Substances Regulation.

With me are other CNSC staff who will be available to answer questions after this statement.

We are here today to provide a preliminary verbal report on an event recently reported to the CNSC.

As the Event Initial Report CNSC staff submitted to the Commission contains a full description of this event, based on the information we have at this time, I won't repeat those details here. Instead, I will summarize the facts of the event at a high level.

On May 19th, 2021 CNSC staff were notified by the Radiation Safety Officer of Alberta Health Services that a Nuclear Medicine technologist was reported to have exceeded the regulatory effective dose limit for nuclear energy workers of 50 mSv in a one-year dosimetry period. This report was based on the technologist's dosimeter result for the first quarter of 2021, which indicated a whole body dose of 146 mSv.

The technologist was immediately removed from work that could further contribute to his radiation dose.

While the licensee has not yet completed its investigation into this matter, their preliminary assessment is that this dose is likely to be non-personal and is instead most likely due to improper dosimeter handling.

In November 2019 Alberta Health Services experienced a similar event at the same location, which CNSC staff reported to the Commission in June 2020.

Given the similarity of these two events

over a relatively short period of time, CNSC staff took a risk informed decision to conduct a reactive inspection at this location, with the focus on the implementation of the licensee's radiation protection program.

This inspection took place last week, on June 2nd, so we have not yet had time to fully evaluate the results.

However, the inspector's preliminary observations provide no indication of immediate health and safety concerns and support the theory that this was a non-personal dose.

Once the licensee has completed its investigation into this event and has submitted its final report to the CNSC, which is due on June 9th, CNSC staff will provide a full event report to the Commission.

This concludes our initial report on this event. CNSC staff are available to answer any questions the Commission may have.

THE PRESIDENT: Thank you.

I will turn this over to Mr. Lee from Alberta Health Services to see if he would wish to add anything or make a statement.

Mr. Lee?

MR. LEE: Yes, hello. James Lee from Alberta Health Services and Radiation Safety Officer.

We initially got the report from our Dosimetry Service about the high dose on the technologist, which was extremely unusual, similar to what we had seen back in 2019. Initially when we started our investigation with the technologist in question, it was reported that his dosimeter was left improperly stored in a location where it might pick up extra radiation from a remitting generator diffusor. Subsequent to that, we did actually investigate that and took various measurement running QC with a meter in the same location where his dosimeter was placed, and we thought this might be an explanation for the high dose readings.

It turns out that the QC runs that we recorded were very low. The amount of energy coming off was nowhere near what would have caused the readings in the dosimeter. So we concluded that that wasn't a contributing factor to this incident.

When CNC was here to do the inspection, they also left an electronic dosimeter in the same location and recorded very low readings as well.

So we are pretty confident that that wasn't the cause of the actual high readings we see here.

What we've done since then, after looking at all of his rotations and his work schedule, we could not find any initial incident that would cause anything that

would give an unusual reading such as this.

So from that we actually did some investigation work with the medical physicist that we have here, Dr. Erin Niven, who did some calculations for dosimeter contamination. These will be submitted with our final report tomorrow.

Our initial conclusion what it could have been was contamination either by Indium-111 or Gallium-67 in the nuclear medicine department. Our medical physicist, Dr. Niven, came to that conclusion based on the actual numbers we've seen on the dosimeter. And those two isotopes fit the profile most closely.

So at the moment that's kind of where we're sitting with the investigation, as we found no other instance that would support any other reason why he'd get such an extremely high dose. It's very very unusual.

THE PRESIDENT: Okay, thank you for that. Let's open it up for questions and start with Dr. McKinnon.

MEMBER McKINNON: Yes, thank you. So my question is in connection with how dosimeters work and it's partly due to my ignorance in how they -- you know, what they're precisely measuring.

And I'm wondering when there's an investigation like this where there may be contamination from different sources, is there any way to distinguish

what the reading is comprised of or does it only read a certain type of radiation and that's it?

Could you, for example, I notice in the report it was mentioned that there was a potential source on the Positron Emission Tomography equipment. And in the past we've heard dosimeters have even been put through airport security scanners.

Is there any way to distinguish these different sources when you're doing the investigation into what might have happened?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record. I'll turn that one to Caroline Purvis from our Radiation Protection group.

MS. PURVIS: Good afternoon. Caroline Purvis, I'm the Director of the Radiation Protection Division, for the record.

So, Dr. McKinnon, in this particular circumstance the licensed dosimeter came back with a notation on it that it was an unusual exposure. CNSC staff are responsible for the licensing of dosimetry.

We followed up with this particular provider to get some more details on what criteria they use when they're identifying sort of an anomalous or a suspected result that perhaps may not be personal.

But to get to your point about what the

dosimeter may be exposed to, if you look at the doses that this dosimeter has reported, it's clear that it was exposed to an isotope or a source that was emitting different types of radiation. So the deep dose is 145 mSv, so that would be the whole body dose, as the person wears the dosimeter.

But the shallow dose, which is typically the skin result, is much higher. So that's indicative of either being exposed to a source with beta and photon radiation or perhaps contamination on the surface of the dosimeter that could be also preferentially exposing the dosimeter in that pattern.

So we're waiting for a response back from the licensed dosimetry service for this particular case and we will have more information when we come back to the Commission.

MEMBER McKINNON: Thank you very much, that's very helpful Thank you.

THE PRESIDENT: Thank you. Ms. Maharaj.

MEMBER MAHARAJ: Thank you very much. I do have a bit of a follow-up question.

When I reviewed the report and the exposure was looking like it could have been non-personal because of poor storage, that's an operational situation that can be fixed.

From what I understand, and please correct

me if I've misunderstood, but from what I understand, that conclusion or assumption does not appear to be the case. And it looks now that this dosimeter was actually exposed in a different manner, which could be potentially more serious to the individual.

I guess I'm a bit troubled by the level of exposure. And I'm wondering, first of all, is this person okay? And secondly, I'm missing the link as to how this exposure potentially could have happened if it wasn't a result of the badge being stored in a cupboard next to the Rubidium source?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record. I believe this would be more appropriate to start with the licensee.

But I would just note that part of the investigation and the expectation from CNSC staff during the licensee's investigation is that they consider all potential scenarios that could lead to that dose. So that is what we are expecting to see in the final investigation. We don't yet have that report, which hampers my ability to speak to your question, Ms. Maharaj.

So maybe I'll turn it to the licensee and see if there's anything that they can add at this point.

MR. LEE: Yes. So James Lee, for Alberta Health Services.

So just to follow-up on your question there. So the technologist in question here is -- he's actually with us here, he's fine. One of the things we're going to be doing is we've already set up to do blood dosimetry for him with Health Canada. So we'll be getting a package from Health Canada this week, it's sending out a sample on Monday, next Monday. So that'll hopefully be able to determine if there's been any actual exposure changes at the DNA level.

For the dosimeter to be -- we thought because of the improper location of the dosimeter in location to the Rubidium generator infuser we thought that that would explain this. Like I said, subsequent monitoring this, there just wasn't enough energy there to actually come anywhere close to the numbers we've seen on the report. So because of that we looked at, like I said, the possibility of contamination.

And what I'd like to do is I'm going to pass this over to Medical Physicist here, Dr. Erin Niven, who can explain very carefully about how we can get contamination onto a dosimeter, an OSLD like this, and give us some very unusual readings.

DR. NIVEN: This is Dr. Niven. So it's not unusual for contamination to occur in the nuclear medicine department when you're handling various sources,

liquids, and dealing with patients. You can have all sorts of interesting events occur.

And so in this case we're actually kind of interested in the fact that we are getting these readings on OSLs when none of us in our past experiences at various facilities have seen this before with TLDs.

So recreating some of the calculations that were provide the last time around, as you mentioned, back in the 2019 incident, it does look as though we can kind of do a bit of a comparison between the beta reading and the photon reading. And it does appear to be more of a signature of Gallium versus Indium.

It doesn't necessarily mean that that's the perfect answer. These dosimeters are newer in terms of the crystal. It's not as well known as the lithium fluorides, and it does have -- (indiscernible) aware of this and they've informed everybody that there are odd readings possible when you have unusual types of geometry with the radiation.

So the calibration of a dosimeter would occur in a geometry that would not be seen with contamination. So it's quite possible that the algorithm that they're using to calculate these doses is not applicable in this situation.

So it is possible there is a minute amount

of contamination that is yielding unusual doses.

THE PRESIDENT: Thank you for that. Let me just ask a follow-up question. Because you started off by saying that having contamination is not that unusual. So getting the dosimeter contaminated, even though you may not have seen it before, is not something that one should see as being extremely rare.

So what immediate steps have you taken to make sure that this doesn't happen until you've completed your investigation to find out exactly what's causing these high results?

MR. LEE: So we've created some new procedures for the department, one is a hand monitoring procedure. So this is in accordance with CNSC procedures for our nuclear medicine poster actually for designation of nuclear medicine rooms.

So in there it's wash hands regularly, monitor them for contamination. So all the staff are going to be required to do hand monitoring and recording the numbers on that into our NMIS system, it's a nuclear medicine program that we use in the departments.

So all staff will be monitoring their hands frequently through the day and recording those actual measurements. So hopefully, if there's any contamination anywhere that somebody has on their hands, we'll be able to

catch that.

We're also inventing a new procedure for the carriage and storage and monitoring of personal dosimeters. So since the last incident in 2019 we had implemented a system where all the dosimeters were placed on a location rack that all the staff were supposed to use them and put them back in this position each time when they finish their shift.

So what we're doing now is following up with that with a new procedure for all the staff to show exactly what they need to do. We'll have it written down, so they'll have to follow that and make sure if there's any changes, if there are unusual incidents with their dosimeters, we'll be able to catch that.

So they'll have a written procedure for the use of the dosimeters, make sure that the care of the dosimeters laid out by that factor and the storage of the dosimeters. We're also going to be monitoring the dosimeters with our routine monitoring contamination checks in the department. The monitoring of that rack itself will be part of our routine contamination checks in the department.

Also each quarter when the dosimeters are sent for monitoring, back to Landauer, we're going to actually monitor them before they leave the department so

we know exactly if there's anything contaminated before they even leave. So we'll be able to catch that.

THE PRESIDENT: Thank you very much for that.

Dr. Lacroix.

MEMBER LACROIX: Yes, thank you. This is a question for staff. There have been two similar events at this location in the past two years, I was wondering will there be a section in the full event report that addresses other matters such as the management of the lab itself?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record. We will of course be making our final report as comprehensive as possible, and I would agree that a link to the 2019 event will be part of that final report just to see if there are any similarities or if there are any, you know, lessons learned that we can draw from one versus the other.

If there is something in particular that you're looking to see, Dr. Lacroix, if you can make that clear to us now, then we can make sure to cover that in the final report.

MEMBER LACROIX: Well, I'm particularly concerned with the fact that it's not the first time that we have an event that involves the health sector, and I'm

ill at ease with the situation.

This is supposed to be a sector that cares about health. And it seems that these events occur and sometimes, you know, they involve I would say carelessness. They're not necessarily incidents. But this is what I'm -- you know, I'm concerned about, I don't know, maybe it's the perception, but this is concerning.

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record. I would note that as a percentage of the total population of licensees that we're talking about here, which is quite large, you know, that has to be taken into account when you're looking at the context, which is not at all to minimize what you are pointing out, which is that in any event, with any licensee, where it could potentially be a result of carelessness, as you said, that is of course a concern to CNSC staff and something that we would follow-up.

We have a database of events which does allow us to monitor and track for any trends that might be emerging of concern and that, in turn, allows us to take an appropriate regulatory response.

So I can say that in terms of our analysis at this point we are not coming to the conclusion that there is a significant disturbing trend in the health sector related to, you know, a lack of attention to any

established procedures. So we are of that opinion at this point. But, as I said, we will continue to monitor and if something does emerge then we would definitely take the appropriate response.

MEMBER LACROIX: Okay, that's good. Thank you very much. And I want to just point out that I'm not insinuating that this is a carelessness case in this case. You know, I will wait for the conclusion of the full investigation. Thank you very much.

THE PRESIDENT: Mr. Kahgee.

MEMBER KAHGEE: I have no additional questions. I believe Dr. Lacroix and Mr. Lee clarified the questions I had with respect to the scope of the report. So that's all.

THE PRESIDENT: Okay. Dr. Berube.

MEMBER BERUBE: I have no additional questions. Although, I do look forward to the final report. Thank you.

THE PRESIDENT: And so remind me again when is the final report coming to staff and when can the Commission expect to get an update?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record. The final report is due to staff on June 9th is my understanding.

It's difficult to predict exactly when we

will then get that final report to the Commission. We'll need of course to review it and analyze, and if there's any follow-up, et cetera.

I would hope that we would be able to file something with the Commission over the course of this summer with the anticipation that, if necessary, we can come back in front of the Commission for the August proceeding.

THE PRESIDENT: Thank you. Well, maybe I'll ask Mr. Lee, you know, June 9th is tomorrow. And you've said you still have a whole lot of questions. Is there going to be a report that answers those questions being submitted to staff tomorrow?

MR. LEE: Yes. The report is almost completed, just some final touch-ups. So I was hoping to actually have that out later today, so it's possible.

THE PRESIDENT: Okay, thanks very much for that.

Dr. Demeter.

MEMBER DEMETER: Thank you. I've got three sort of short questions.

The first one, as the report was received, so the cause of the elevated dose was thought to be related to where the device -- where the dosimeter was stored. And subsequent, Mr. Lee, you've clarified that that might not

have been the case.

But help me understand. If I'm a trained radiation safety, trained nuclear medicine technologist, the last place in the world I'd want to leave a badge is in a hot lab. So, first of all, help me understand the rationale of leaving a dosimeter badge in a hot lab. And I'll go to my other questions after that.

MR. LEE: The technologist in question was working a late PET shift in the PET hot lab. So in the evening when he was leaving he was the last one in the department, so there was nobody else.

So I can't explain why he put it there. He had left it there and he would just pick it up in the morning, obviously that's not the correct procedure. But he did leave it there and that's -- I can't follow-up anymore on that.

MEMBER DEMETER: Okay. It just makes me concerned about radiation safety culture, that's something that's so ingrained that that would be...

The other question is if you're going to contaminate your badge with a liquid, in this case perhaps Gallium-67, and although the physicist -- it's not uncommon to have liquid contamination, this is probably the first time I've heard of a badge being contaminated while in use.

Help me understand the mechanics of -- I

mean, if the badge was contaminated, that means either the hands were contaminated, the clothes were contaminated, help me understand the mechanics of how you would contaminate a dosimeter on the top of your torso with a liquid radio-isotope and not notice other things being contaminated.

MR. LEE: Well, it could be a situation where they might have had something on a glove, accidentally touched their dosimeter without even knowing.

The amount of activity you're talking about here, according to Dr. Niven's calculation, is in the range of about 80 kBq which, yeah, volumetrically it would be very very low, you might not even see that.

So we're talking about a very very small amount here, so it could have happened where it was on a glove, accidentally touched something, or maybe perhaps a needle, it's hard to say.

Talking with the technologist, he doesn't remember anything unusual that stands out in his mind from back then. We do know the dates he actually was handling Gallium, so there was two dates, these were back in January and February.

So, at that time, it's possible that something could have gotten contaminated say when he was drawing something up and somehow accidentally touched his

dosimeter. And it would take a very small amount to do that.

So it would be unusual, put it that way.

MEMBER DEMETER: Okay. I look forward to the final report on that.

And for CNSC staff, is there a regulatory requirement for nuclear medicine or nuclear energy workers, especially in nuclear medicine, to do hand monitoring before they leave the department?

MS. OWEN-WHITRED: Karen Owen-Whitred, for the record. There are certainly regulatory requirements related to radiation protection programs. As to whether or not they're specifically related to hand monitoring, I think Karen Mayer might be in a position to respond to that.

And, Dr. Demeter, with respect to your earlier questions, these are some of the same questions of course that CNSC staff are asking as well.

And so after Ms. Mayer has had a chance to speak to hand monitoring, I'd also like to turn it to Ms. June Singleton, who was our inspector on site last week, to share some of the initial observations that she had with respect to the Radiation Protection Program.

So if I can start please with Karen Mayer?

MS. MAYER: Karen Mayer, for the record.

It is definitely something that we would look for in nuclear medicine procedures for hand monitoring.

However, it seems to be that in the course of most nuclear medicine operations there wasn't as many portable contamination meters available to be able to be checking as often. So that's something that we've been promoting more and more with licensees, and to be able to have them incorporate that into their procedures.

But it, for sure, is a best practice working with any kind of open sources or radioactive material to be checking your hands when working prior to leaving or when finishing your operations.

I would turn it over to June Singleton as well, because I think she may have more to be able to offer in the field for that.

MEMBER DEMETER: Madam Chair, just in recognition of time, I'm happy with waiting for the final report on that if you wanted?

THE PRESIDENT: Okay, thank you. So I'd appreciate that then, Dr. Demeter. And we look forward to staff's inspection report being included in that final report that we're going to get.

So with that, I want to thank Alberta Health Services for answering our questions today and again, we look forward to the report. So thank you staff

as well.

Let's move to the next item, which is for a decision from the Commission to approve and publish regulatory documents REGDOC-2.7.1 on Radiation Protection and REGDOC-2.7.2 on Dosimetry Volume I: Ascertaining Occupational Dose.

I'll turn the floor to CNSC staff for their presentation. Ms. Tadros, the floor is yours.

CMD 21-M23/21-M23.A

Oral presentation by CNSC staff

MS. TADROS: Merci beaucoup et bonne après-midi, Présidente Velshi et membres de la commission.

For the record, my name is Haidy Tadros. I am the Director General of the Directorate of Environmental and Radiation Protection and Assessment at the CNSC and the person responsible to ensure the regulatory framework is up to date in the technical areas of Environmental and Radiation Protection.

With me today are my colleagues Ms. Lynn Forrest, Director of the Regulatory Framework Division; Ms. Caroline Purvis, Director of the Radiation Protection Division; as well as Ms. Christina Dodkin and Mr. Bert -- Bertrand Thériault subject-matter experts in the Radiation

Protection Division at the CNSC.

The CNSC is committed to maintaining a regulatory framework that is modern and aligned with national and international standards and best practises while taking into account the Canadian context.

CNSC staff are here today to present Commission Member Document 21-M23, and to recommend that the Commission approve two draft regulatory documents as listed on the slide. These draft documents herein referred to a REGDOCs provide consolidated guidance on radiation protection and dosimetry. The documents were developed to assist licensees and applicants in preparing safety programs consistent with the requirements found in the *Radiation Protection Regulations*.

Information and support of CNSC staff's recommendation is provided in this presentation and in the Commission Member document package which was provided to both the Commission and interested members of the public.

This slide provides an overview of what we would be presenting today. First, we will outline the CNSC's regulatory framework, REGDOC Development Process and associated stakeholder engagement.

Next, we will give an overview of the CNSC's framework for radiation protection.

Then, we will provide details on each

REGDOC and finish with our conclusions and our recommendations to the Commission.

I will now turn the presentation over to my colleague Lynn Forrest to provide information on the CNSC's regulatory framework.

MS. FORREST: Hello. I am Lynn Forrest, for the record, and I am the Director of the Regulatory Framework Division.

This slide is a quick view of our Regulatory Framework at the CNSC. It starts at the top with our enabling legislation, the *Nuclear Safety and Control Act*, known as the NSCA.

In the second tier, the CNSC has thirteen regulations which set out the topic-specific legal requirements that licensees or applicants must meet in order to obtain or retain a licence.

Nest, we have licenses and certificates. The CNSC issues licenses and certificates with facility and/or activity-specific requirements that permit licensees to operate.

The segment in red represents the CNSC's REGDOCs. REGDOCs provide greater detail than Regulations, to clarify the CNSC's regulatory requirements and provide guidance as to how the requirements may be met.

The CNSC is committed to continuous

improvement of its regulatory framework. Comments are welcome at any time since REGDOCs are considered to be evergreen.

This slide describes the CNSC's REGDOC development process. This well-established process ensures the creation of robust regulatory documents through extensive analysis and stakeholder engagement.

The process of developing the REGDOCs starts with policy-analysis. Once a regulatory issue has been identified the Regulatory Policy Analysis Division conducts and analysis with the subject-matter experts.

During the analysis phase a discussion paper may be issued. Discussion papers are used to solicit early public feedback on CNSC policies or approaches that may be new or complex. The CNSC then analysis and considers this early feedback when determining the regulatory approach to take.

The outcome of the analysis is a recommendation on the most appropriate regulatory instrument to use to address the issue at hand. This also includes a clearly defined purpose and scope along with proposed content for the regulatory instrument.

The recommendation is reviewed and approved by the CNSC's Regulatory Framework Steering Committee, a committee of Directors General from across the

CNSC.

In the case where the approved regulatory instrument is a REGDOC the project follows the subsequent steps described in this slide. A draft is created, reviewed by CNSC staff then posted for public consultation. Comments received are then taken into consideration and the draft REGDOC is revised accordingly.

The process is extremely flexible and may include additional consultation meetings with stakeholders and/or Indigenous groups as appropriate.

The final draft is presented to the Commission for approval.

The two REGDOCs presented today have followed this process.

The CNSC's regulatory document framework structure is shown here. There are three categories of REGDOCs: 1.0 series, titled Regulatory Facilities and Activities, articulate the basic requirements for applying for a license for each of the facility types of nuclear activities. These REGDOCs point to all of the other REGDOCs that contain requirements or guidance that applies to the particular facility or activity.

The 2.0 series is organized by the Safety and Control areas. These REGDOCs apply on a graded approach basis across the facilities and activities.

And, finally, the 3.0 series captures other regulatory areas. These documents include reporting requirements, engagement guidance and other matters of Commission business.

The documents we're presenting today are denoted in red font.

It should be noted that two other REGDOCs in Series 2.7, Radiation Protection, have already been published.

The Radiation Protection Regs which we will refer to in this presentation as the RPR set out the radiation protection requirements that licensees must meet. The RPR were last amended in 2020 and came into force on November 25th. More information on the process to amend the RPR will be covered later in this presentation.

I'm sorry if there's background noise; I apologize.

In accordance with the structure of the CNSC's regulatory framework, there are regulatory documents that support the RPR and provide clarity of requirements and guidance.

In the past 20-plus years the CNSC published nine regulatory and guidance documents to support the RPR. Please note that there was a mistake on page 2 of the written CMD. The CMD indicated that the REGDOCs would

be consolidating information from ten existing documents when it should really have said nine. The list of the documents is provided on the next slide.

The two draft REGDOCs we're presenting today are intended to supersede the nine previously published documents. The documents we're presenting today update the existing CNSC Guidance for radiation protection and dosimetry in support of the amended RPR. They also align with the CNSC's modernized regulatory framework structure shown on the previous slide.

This slide depicts the CNSC -- sorry, depicts the existing CNSC guidance documents I mentioned earlier for radiation protection and dosimetry which were used as source material for these draft REGDOCs.

At this point I'll turn the presentation over to Caroline Purvis who will provide you with the history on this specific project.

Thank you.

MS. PURVIS: Good afternoon.

For the record, my name is Caroline Purvis. I'm the Director of the Radiation Protection Division of the CNSC.

I'd like to start on providing some background information on the project to amend the RPR. This project was one of the main drivers for the

modernization of the CNSC's radiation protection guidance.

The RPR is based, in part, on the work of international organizations such as the International Commission on Radiological Protection, known as the ICRP, and the International Atomic Energy Agency, referred to as the IAEA.

ICRP recommendations are periodically updated so that they remain relevant, useful, and suitable for world-wide use. In 2007 the ICRP published a revised set of fundamental recommendations for its system of radiological protection, otherwise known as ICRP Publication 103. These revised recommendations incorporated updates based on evolving science information as well as new guidance on controlling radiation exposures.

Subsequently, the IAEA in cooperation with co-sponsoring organizations revised its international basic safety standards and published the revised standard titled General Safety Requirements or GSR Part 3, in 2014.

The updated requirements in GSR Part 3 took into account the ICRP recommendations as well as other safety-related improvements.

In 2013 the CNSC initiated a review of the RPR with the view of identifying opportunities to enhance safety. The review took into account the updated international recommendations as well as operational issues

and lessons learned from implementing the RPR.

Lastly, the circumstances of the 2011 Fukushima nuclear accident highlighted opportunities to strengthen the CNSCs regulatory framework.

In 2017 the RPR was amended to enhance requirements for worker protection during the control of an emergency.

The remaining amendments to the RPR came into force when they were published on November 25th, 2020 in *Canada's Gazette, Part 2*. Transitional provisions came into force on January 1st of this year, 2021.

In parallel with the RPR amendment project CNSC staff began work in 2014 on developing two new REGDOCs on Radiation Protection, that is REGDOC 2.7.1 titled *Radiation Protection*, and REGDOC 2.7.2 titled *Dosimetry, Volume 1: Ascertaining Occupational Dose*. These draft REGDOCs provide clear guidance for radiation protection and dosimetry that is aligned with the revised RPR. As previously mentioned, they also incorporate and update information from nine existing CNSC guidance documents.

Public consultation on these draft REGDOCs coincided with the RPRs, *Canada Gazette Part 1* consultation. Further targeted consultation with stakeholders occurred between November 2020 and March 2021.

The draft REGDOCs were updated to reflect

the final version of the RPR and have taken into account the comments received throughout the consultation.

Turning now to REGDOC 2.7.2 *Radiation Protection*. As previously noted, this document updates guidance from previously published documents and aligns with the RPR.

The draft REGDOC also elaborates on topics which are not fully addressed in existing CNSC guidance. Such topics include: Guidance on developing radiation protection programs, and Guidance on the application of the principles of worker dose control and radiological hazard control.

To reflect the amendments to the RPR new guidance was added to the draft REGDOC. This guidance includes information on meeting the RPR requirements for radiation detection and measurement instrumentation and guidance on the provision of information for nuclear energy workers, also referred to as NEWs.

REGDOC 2.7.2 *Dosimetry, Volume 1: Ascertaining Occupational Dose.* This document incorporates and updates guidance from previously published documents on occupational dosimetry. In addition to incorporating existing regulatory guidance the document elaborates and expands on methods and techniques used to ascertain dose, in particular for licensees that do not use licensed

dosimetry.

New guidance was also added to help licensees meet the new requirements in the RPR, specifically, new guidance was added in the areas of external dosimetry, including ascertaining dose to the extremities and the lens of the eye, calculating whole body external effective dose from multiple dosimeters, the assessment of equivalent dose associated with skin contamination events, and the assessment of dose in relation to infants of breast-feeding NEWs.

The draft REGDOCs before the Commission today are the result of an iterative consultation process spanning a five-year period. Starting in 2016 the CNSC issued a discussion paper to seek early feedback on the proposal to create two new REGDOCs that would provide consolidated guidance for radiation protection and dosimetry. The proposal was to draft the documents in alignment with the requirements of the RPR and provide relevant information to licensees on meeting new requirements from the proposed revisions to the RPR. As mentioned, this project was occurring at the same time period.

During the early consultation period the CNSC held an information session with interested stakeholders who were asking for clarification on the

project. Participants were invited to submit their feedback via the official consultation channels, and a total of 113 comments were received in response to the discussion paper.

Public consultation on the draft REGDOCs occurred in 2019 and was held concurrently with the consultation on the proposed amendments to the RPR. REGDOC 2.7.1 was posted for comment between March 21st and July 19th, 2019. In total 131 comments were received.

REGDOC 2.7.2, Volume 1, was posted for comment from April 24th to July 19th, 2019 and we received 76 comments. The majority of the comments were submitted by CNSC licensees but the local, provincial and federal health organization also provided valuable input. All comments were posted on the CNSC's website and subscribers were invited to provide feedback on them. No additional comments were received.

After considering all the feedback, both draft documents underwent significant revision.

To seek final input on the revised documents an additional targeted consultation was held between November 26th, 2020 and January 11th, 2021. The draft REGDOCs were sent to stakeholders who had previously commented, as well as to civil society organizations who had requested a new opportunity to comment. During this

phase, 28 additional comments were received, although no comments came from the civil society organizations.

In addition to the targeted comment period, stakeholders requested an information session with CNSC staff to seek clarity on certain topics and to provide final feedback. This session occurred on March 10th, 2021 and through discussion the majority of the outstanding issues were resolved. Taking into consideration the additional context provided by stakeholders, CNSC staff made final changes to the draft REGDOCs.

All comments received during the entire consultation process were considered in the development of the documents. The REGDOCs were amended after each engagement activity to address the concerns raised and to incorporate recommended content as appropriate.

Now I will provide a short summary of the feedback we received on the draft REGDOCs. The complete list of comments and staff's disposition of each comment has been provided in the CMD package.

There were similar comments on both draft documents in three key areas. First, many of the comments received during public consultation was related to the purpose of the documents. It was not clear to stakeholders whether the documents included both requirements and guidance. Although the documents were always intended to

be strictly guidance, references to RPR requirements caused confusion.

Secondly, stakeholders interpreted the draft texts in both documents as quite prescriptive and asked for greater flexibility in the wording of certain sections of the documents.

To address these two areas of concern, the CNSC staff revised the terminology in both documents to ensure that the language was consistent and to make it clear that the documents provide guidance for licensees on meeting the requirements set out in the RPR and that they do not introduce new requirements.

Finally, some comments received on the draft REGDOCs were actually related to the amendments to the RPR. Given that the project to amend the RPR was occurring at the same time as the development of the REGDOCs this overlap was not surprising.

While it was not possible to address all the comments related to the RPR in the context of the REGDOCs, CNSC staff took note of the feedback and committed to analysing the issues that were raised for the next review of the RPR.

This slide describes some of the key comments brought forward by stakeholders during consultations on REGDOC 2.7.1, as well as an overview of

the revisions made to the document. The first area relates to the labelling of containers and devices containing nuclear substances.

Throughout the REGDOC consultation process licensees often mentioned the challenges they face in meeting the labelling requirements in the RPR.

It should be noted that the concerns that were expressed relate to sections of the RPR that were not part of the recent amendment package.

During the targeted consultation phase CNSC staff confirmed with stakeholders that the REGDOC provides general guidance to explain how licensees can meet the intent to the regulatory requirements for labelling. Based on the discussions with stakeholders on this important topic modifications to the guidance were made to address some of the concerns raised by stakeholders, although it was not possible to incorporate all suggestions.

Specifically, the changes made include: clarification for the situations where labelling requirements would not apply; changes to recommend that licensee-specific situations be discussed with CNSC; and, to recommend that licensees clearly define in their radiation protection programs the measures that they implement to meet the labelling requirements for their

specific circumstances.

Licensees -- or, stakeholders, pardon me, also raised concerns about the guidance related to the topics of radiation detection and measurement instrumentation and monitoring for radioactive contamination. For example, there was a concern that the REGDOC appeared to broaden requirements for calibrations of all instruments and equipment being used to measure radiation.

The REGDOC was subsequently revised to include additional guidance and technical clarifications for both sections of the document. The revisions addressed the concerns raised by stakeholders and also improved overall the guidance provided.

Revisions were also made by removing all references to “expectations” and “shall” statements that implied new requirements.

As for REGDOC 2.7.2, Dosimetry, Volume 1, the key comments we received were related to ascertaining and monitoring doses to the lens of the eye and questions regarding the implementation of certain sections of ICRP publication 103. More specifically, with respect to ascertaining and monitoring doses to the lens of the eye, licensees were concerned about the recommendation in the REGDOC to use eye lens dosimetry if the lens of the eye

dose was expected to be greater than 50 mSv in a one-year dosimetry period; the challenges they may face in accurately measuring the dose to the lens of the eye; and, to the process for the submission of lens of eye dose records to Health Canada's National Dose Registry.

As a result of these comments and further analysis of the issues at hand the recommendation for use of eye lens dosimetry at a level of 15 mSv per year was removed from the guidance. The document was also revised to provide additional clarity on the methodologies for monitoring and recording lens of eye doses, and on the use of the National Dose Registry Database in recording lens of eye doses.

With respect to the implementation of ICRP 103, stakeholder concern focussed on the challenges of applying the revised radiation and tissue weighting factors in Schedules 1 and 2 of the amended RPR.

The revised weighting factors impact the dose coefficients used to determine internal doses. They also impact the compartment factors which are used to apportion external doses when more than one dosimeter is worn by a worker.

Based on the feedback, the REGDOC was modified to include additional guidance on the application of the tissue and radiation weighting factors as it relates

to the ascertainment of dose.

Text was also added to indicate that at the time of the writing of the document the ICRP continues to finalize their updates to the dose coefficients for Publication 103, and that licensees may continue to use existing dose coefficients in the ascertainment of dose.

When the ICRP has published their full set of dose coefficients the CNSC recommends that licensees adopt the latest coefficients when calculating doses.

With this, I would like to turn the presentation back to Ms Haidy Tadros.

MS. TADROS: Thank you, Caroline.

Haidy Tadros, for the record.

If approved, the REGDOCs will be published on the CNSC website. Subscribers to the CNSC website and stakeholders that have commented on the REGDOCs will be notified. Draft REGDOC 2.7.1 and REGDOC 2.7.2, Volume 1 provide detail guidance for radiation protection and dosimetry.

Licensees and applicants can use the guidance using a graded approach and commensurate with their licensed activities and associated radiological hazards when developing programs to meet the regulatory requirements of the RPR.

For licensees with licence condition

handbooks, CNSC staff recommend that these REGDOCs be added to the Guidance section.

This suite of science-based regulatory documents was developed through iterative consultations with stakeholders from 2016 to 2021 and is supported by several decades of CNSC experience and technical documentation.

CNSC staff conclude that the draft REGDOCs presented to you today provide clear and useful guidance for all applicants and licensees.

Further, the draft REGDOCs reflect the latest requirements of the RPR and are consistent with CNSC's modernized regulatory framework.

Based on our conclusions, CNSC staff recommend that the Commission approve these REGDOCs which would supersede the nine documents mentioned in this presentation.

Thank you for your attention, and we remain available to answer any questions you may have.

THE PRESIDENT: Thank you very much for the presentation.

We'll take a ten-minute break and resume with questions from Commission members at 3:15.

We'll see you then.

--- Upon recessing at 3:05 p.m. /
Suspension à 15 h 05
--- Upon resuming at 3:15 p.m. /
Reprise à 15 h 15

THE PRESIDENT: Welcome back, everyone. Let's open for questions from Commission Members.

We will start with Dr. Lacroix.

MEMBER LACROIX: Yes, thank you.

Can you hear me?

THE PRESIDENT: Yes, we can.

MEMBER LACROIX: Okay, that's great.

I do not have a question. I simply want to acknowledge the amount of work that was done, was achieved by the CNSC Staff and also the contribution from all the people, the stakeholders, the public, the Indigenous people, as well as the industry.

Also I must say that I appreciate especially the Section 4.1 of REGDOC 2.7.1 on the application of ALARA. It's really nice to see that you took time to explain the social and economic factors. I really appreciate that.

Thank you very much for the work.

THE PRESIDENT: Dr. Demeter?

MEMBER DEMETER: Thank you. I also want

to indicate I was impressed with the consolidation and integration of a very large body of REGDOCs into one and I was impressed with the iterative process. Thank you for providing all the feedback. I did read it all, all the feedback. And I have a sense from the process this was transparent and reflective of comments.

I had one sort of question. A couple of times you talked about records and records being presented to nuclear energy workers and the specific comment was it could be provided in writing or electronic format.

That raised the question to me: Do we have recommendations or guidelines for the keeping of electronic records relative to security and stability? If we bring it up, we're in an electronic age and we're going to start moving away from paper. Do we have anything for the licensees about how they should store their information, how secure it should be; whether there should be redundancy built in, all those kinds of things if we're going to start going down that direction?

MS. PURVIS: Caroline Purvis, for the record.

I'm going to start. I may just ask my colleagues to support.

I do not believe that there is anything in these documents that addresses this question. We do have

some guidance with respect to licenced dosimetry services and expectations for the maintenance of certain records.

I believe you are referring to, for example, provision of risk information and acknowledgement forms from nuclear energy workers.

The guidance that we've put in REGDOC 2.7.1 really puts on paper the recommendations and the guidance CNSC Staff have been providing licensees over the past 21 years. So we are sort of in that modern age of getting away from paper.

There are certain recommendations that we're using to make sure that the approach for providing information and for storing information is proactive.

But perhaps just for the purpose of maybe additional information I will turn the floor to Christina Dodkin if she has anything else to add.

MS. DODKIN: Thank you. Christina Dodkin, for the record. I'm a Radiation Protection Specialist.

So regarding your question, we do have some guidance in Section 7 regarding the provision of information that is provided to nuclear energy workers, which I believe you were referring to, in that licensees must provide evidence that they have met this regulatory requirement and informed workers of the risks and all other matters within the sections of the Regulations.

So when there is a record of written acknowledgement generated by a nuclear energy worker, whether it's on paper or electronic format, they must be retained by the licensee as per the provisions in the *General Nuclear Safety and Control Regulations*. And that's subsection 28(1).

That says that the licensee must retain these records as long as a licence has been issued to -- I'm sorry, must retain the records generated as part of the licence and they have to be retained for a certain period after the expiration of a licence.

So in that sense that is the guidance we provide.

You do raise an interesting question. And going forward that is something that, as was mentioned during the presentation, these regulatory documents are evergreen and we're always looking for ways to improve the guidance provided to licensees.

So perhaps this could be one area where we could look for further guidance in the future.

THE PRESIDENT: Okay. Dr. Berube.

Sorry. Dr. Demeter?

MEMBER DEMETER: Yes, I didn't want to ask another question, just to say I think as we move, as you visit a site to inspect it, a lot more of the records may

be in electronic form versus those records are compliance records. And it may be good to think about how you expect that information to be secured.

I don't have another question. It's just an observation.

THE PRESIDENT: Thank you.

Dr. Berube?

MEMBER BERUBE: First of all, thank you for these documents. They are an immense amount of work. I can appreciate how much effort goes into doing exactly what you produced here.

That being said, looking at the CNSC regulatory framework which you've put on Slide 4 of your presentation, the CNSC has I guess the privilege of writing its own regulations and of course that goes from what I would consider to be a definitive regulation to a directive handbook and licensing condition and to this guidance-based REGDOC, which is what we're looking at, the combination of a lot of work to try and expand on each one of the layers above.

Each one of these layers is kind of unique in that it requires a different mindset and a different writing style in order to make those happen, to meet requirements.

Could you talk to me about the nature of

the language development and the language scrub that happens at the REGDOC level, especially with regard to the first draft and the drafts that go out, because one of the comments that I see from a lot of people with regard to a lot of these documents is that they're getting them and they feel very prescriptive, very directive, and maybe that is a symptom of the same people doing these documents or maybe it's just the way you are actually going to scrub on it.

So could you highlight and illustrate to me how you actually go about that process?

MS. FORREST: Lynn Forrest, for the record. Yes, I will take that question.

The REGDOCs, it's an interesting situation. Since 2013 when we put in place this framework for regulatory documents, we've been working very, very hard to get all of the sections of the regulatory framework populated with robust guidance and clarity of regulatory requirements.

The way we go about the REGDOCs is that we start without pen to paper figuring out what the requirements and guidance are that we want to put in a regulatory document. Then we start to write the document.

Once we write the first draft we send it out across the CNSC for internal review. Then we get it

back and we address the comments from the internal review. Also before we go out for consultation, we have English editors on site who edit the English language. Then the process goes on.

However, I think your question is a bigger picture question rather than editing, and I think what you're getting at is something that we're looking at right now, now that we've focused on getting all these regulatory documents out over the last nine years we're moving to sort of a stronger quality control reassessment of the regulatory documents across the framework to make sure there's greater consistency in the language across regulatory documents, greater consistency in terms of when it's prescriptive, when it's not and when it's performance based.

So I think it's a work in process and I hope that helps answer your question.

THE PRESIDENT: Dr. Berube?

MEMBER BERUBE: Yes. Thank you very much. That will do.

THE PRESIDENT: Thank you.

Ms. Maharaj?

MEMBER MAHARAJ: Thank you, Madam Velshi.

I have one question really more about the process. It is with respect to the process of

consultation.

I've read through all the consultation records and they're very detailed and I really do appreciate the amount of work that goes into not only getting that level of input but also recording it in a concise and informative manner.

I notice that all of the respondents or parties who contributed to the consultation seemed to be licensees or organizations with the exception of an individual I believe called A. Lee. But I don't see a lot of recording of concerns or matters that the public as individuals has raised or Indigenous Nations.

I was wondering if you could explain the breadth of the consultation process on this kind of a REGDOC and how those more perhaps more individual or personal concerns are reflected in the REGDOC development.

MS. FORREST: Lynn Forrest again, for the record.

We reach out the best we can. We work with the Communications Directorate. We leverage all of our social media accounts. We use our subscription service and it's on the web. We announce it at some of the Meet the Nuclear Regulator sessions and we do our very best to reach out.

The symptom you are noticing is not an

uncommon symptom. Industry is ramped up and ready to answer our questions.

And A. Lee, by the way, is I believe a Radiation Safety Officer. So he's in the industry as well. It's Albert Lee actually.

The public is not always interested, and also some of these things are over their head. They don't get involved.

What I was disappointed in with this document -- and it's not the document's fault -- is the Civil Society Organizations reached out clearly in 2019 and asked to have an opportunity to look at this document again. We gave them an extension at that time, as well as reached out to them additionally with an email personally to each of them. And we have an email list of 30. Not all are CSOs. Some of them are actual individuals.

And they did not comment on the document.

I think it basically states the level of interest or acceptance or something of that nature.

We are doing our best to reach out to the broader public, but at a point in time they are out looking at other areas of nuclear interest perhaps. This document is particularly targeted at licensees.

That's all I can really surmise. Thank you.

MEMBER MAHARAJ: Thank you.

THE PRESIDENT: Mr. Kahgee.

MEMBER KAHGEE: Thank you very much for your presentation and documents and your efforts. Obviously this is a huge undertaking to put these document together.

Just following up on my colleague Ms. Maharaj's question with respect to process, you indicated that this seems to be symptomatic in terms of getting responses or lack of responses from public and perhaps Indigenous groups.

Has there been any consideration in terms of doing kind of plain-speaks of documents as you put them up as opposed to just putting the documents out in their current form?

Is there any consideration of that?

MS. FORREST: Again it's Lynn Forrest, for the record.

We have evolved over the last couple of years. In recent documents we have in two situations done a public information session when it was launched for consultation. So again that was publicized through all our approaches. And we had I think it was a one to two-hour information session where we oriented the individuals to the document and what it was about.

That wasn't on this document, but I believe it may enrich the input that we get. Yes, so that's all I can say at this point.

THE PRESIDENT: Dr. McKinnon?

MEMBER McKINNON: Yes, thank you.

In preparation for this discussion I actually looked at some of the underlying regulations and they were very, very terse and I can see how enormously useful these REGDOCs would be for the licensees and the value and the effort that went into compiling them.

So my question is: Whenever there is an expansion of something very simple there could be an issue of interpretation, especially with regard to what would be adequate response to the regulation.

Do these issues ever come up? Has that ever been raised as a concern in the interpretation or implementation of the regulation versus what is in the REGDOCs?

MS. FORREST: I'll start. Lynn Forrest again.

Absolutely there is an interpretation issue, but that's why we do the regulatory documents, to provide clarity. Most of our regulations are relatively performance based and you do need the regulatory documents to help them determine what we actually are expecting.

That's why licensees are so very, very engaged in our regulatory documents because they know that's probably where the rubber hits the road.

A lot of attention is given to the "shoulds" and the "shalls" in the document, a lot of attention. So the "should" is nice to do, guidance; the "shalls" are very much what we expect when we go out and do the review.

Having said that, the big licensees have *Licence Condition Handbooks*. They are evaluated against the specifics that are in the *Licence Condition Handbook*, which are drawn from the regulatory documents and actually have more information to interpret even further what the expectations are.

It's not precise. It cannot be. It's too complex an industry for that.

MEMBER McKINNON: Yeah, that makes sense. Okay, thank you very much. That helps. Thank you.

THE PRESIDENT: Thank you.

I see we still have a few members from industry here. And from the Staff's disposition of comments, it looks like they've done a very thorough job but I would like to hear from you.

Do you still have any residual concerns or issues before the Commission decides on approval of these

two very critical REGDOCs?

I see Mr. Burton from Bruce Power is here. We'll start with you first.

MR. BURTON: Yes. Good afternoon. Maury Burton from Bruce Power.

I talked to my staff who were directly involved with Ms. Purvis and Ms. Forrest on this, and they were very happy with the resolution that we came to. There's always going to be some minor issues that aren't resolved, but for the most part all of our major concerns were addressed. I think we're very happy with the way the document has landed at the end here.

THE PRESIDENT: Thank you. Thanks for that reassurance.

And from New Brunswick Power, Mr. Reicker?

MR. REICKER: Yes, thank you.

Nick Reicker for NB Power, for the record.

I would like to echo Maury's comments in that our staff reviewed it and are very happy with the comments that were dispositioned and we'll continue to move forth as these documents come into approval and effect for us.

THE PRESIDENT: Excellent. Thank you.

And do we have anyone from OPG? I don't see anyone on the List of Participants, but I may be just

missing it.

Here's your chance.

MR. KHAWAJA: For the record, my name is Ghulam Khawaja. I'm the Regulatory Affairs Manager at OPG.

I also want to echo what was said earlier. OPG appreciates CNSC Staff's efforts to consider industry's input as their REGDOCs were being revised ahead of their publication and implementation. So thank you.

THE PRESIDENT: Thanks very much for that.

Anyone else from industry?

I don't believe the hands-up function is working.

If not, I have one last question for Staff.

The slide on your REGDOC development process kind of stops at the publication of the document.

What is the post-implementation review process?

I know we heard these are evergreen documents. Can you just for the benefit particularly of some new Commission Members tell us how is feedback shown? How are these documents and their effectiveness assessed?

MS. FORREST: I'm going to start. It's Lynn Forrest again, for the record.

The document for the larger licensees goes

into an implementation working group that works on how the document will be implemented and over what time period, but also what Commission Members should know is they are always open. We will always take consultation.

We have a five-year regulatory framework plan that is a rolling plan. Every document is put on that plan for review at least every five years.

As we get operational experience with the document, very often a document is moved up on that regulatory framework plan earlier than five years if we have to make changes or if we have to do more policy analysis. And that operating experience comes from comments from industry. It may come from the public but often from our own licensing and inspection groups.

THE PRESIDENT: Okay, thank you.

Thank you very much and thank you, Staff, for this Agenda item and your presentation and the great work in bringing these REGDOCs forward.

This concludes the public Meeting of the Commission. The Commission will move in camera for the last item on proposed *Regulations Amending the Class II Nuclear Facilities and Prescribed Equipment Regulations*.

I thank you all for your participation. Stay safe, stay well. Bonne fin de journée.

--- Whereupon the meeting concluded at 3:35 p.m. /
La réunion est terminée à 15 h 35