

**Canadian Nuclear  
Safety Commission**

**Commission canadienne de  
sûreté nucléaire**

**Public meeting**

**Réunion publique**

**December 17<sup>th</sup>, 2015**

**Le 17 décembre 2015**

**Public Hearing Room  
14<sup>th</sup> floor  
280 Slater Street  
Ottawa, Ontario**

**Salle des audiences publiques  
14<sup>e</sup> étage  
280, rue Slater  
Ottawa (Ontario)**

**Commission Members present**

**Commissaires présents**

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

**M. Michael Binder  
M. Dan Tolgyesi  
D<sup>r</sup> Sandy McEwan  
M<sup>me</sup> Rumina Velshi  
M. André Harvey**

**Secretary:**

**Secrétaire:**

**Mr. Marc Leblanc**

**M. Marc Leblanc**

**General Counsel:**

**Avocate générale :**

**Mr. Denis Saumure**

**M<sup>e</sup> Denis Saumure**

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Ottawa, Ontario / Ottawa (Ontario)

--- Upon commencing on Thursday, December 17, 2015  
at 9:06 a.m. / L'audience débute le jeudi  
17 décembre 2015 à 9 h 06

**CMD 15-M44**

**Opening Remarks**

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

Today we have simultaneous translation -- or interpretation I should say. Please keep the pace of speech relatively slow so that the interpreters have a chance to keep up.

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

Please identify yourself before speaking so that the transcripts are as complete and clear as possible. The transcripts will be available on our website probably -- well, with Christmas, probably between Christmas and New Year's or right after New Year's Day.

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.

We would ask you to please silence your cell phones and other electronic devices.

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

President Binder...?

**LE PRÉSIDENT** : Merci, Marc.

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

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

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

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

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

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

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

the conduct of its business.

Please refer to the updated agenda published on December 9th for the complete list of items to be presented today.

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

#### **CMD 15-M45.A**

#### **Adoption of Agenda**

**THE PRESIDENT:** So 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 15-M45.A.

Do we have concurrence?

For the record, the agenda is adopted.

**CMD 15-M46**

**Approval of Minutes of Commission Meeting held  
September 30 and October 1st, 2015**

**THE PRESIDENT:** I would like to call now for the approval of the Minutes of the Commission meeting held on September 30 and October 1st, 2015. The minutes are outlined in Commission Member Document CMD 15-M46.

Any comments? Dr. McEwan?

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

The section in minutes 121 through 124 relating to the training of RSOs, I felt we had a good conversation and the minutes reflect that conversation well. However, I do feel that we left a number of issues undiscussed and open at the time of the meeting and I wonder if we could come back to that at some future meeting for a more detailed discussion.

**THE PRESIDENT:** Okay. Well, may I suggest that staff come back to the Commission in a future meeting with a little bit more detail about the training requirement and procedure for RSOs, okay. So let the record ask for that. Thank you.

Any other comments?

Okay. Do we have concurrence to approve the minutes?

For the record, the minutes are approved.

**CMD 15-M48**

**Oral presentation by CNSC staff**

**THE PRESIDENT:** The next item on the agenda is on the Darlington Exercise Unified Response Update.

Presentations were filed by CNSC staff, OPG, Office of the Fire Marshal and Emergency Management Ontario, and Health Canada.

First of all, I apologize we started a bit late because we had some technical issues. Are those technical issues resolved? I see some heads nodding yes. Okay, that's good.

So let me first test the technology. We are supposed to have Mr. Nodwell and Mr. Tom Kontra and Mr. Taylor from -- sorry, this is from the Office of the Fire Marshal and Emergency Management. Can you hear us?

**MR. KONTRA:** Good morning, Dr. Binder. Tom Kontra is here and Dave Nodwell will join me shortly.

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

I also am told that Mr. Taylor from NB Power is online. Can you hear us?

**MR. TAYLOR:** Yes. Good morning, Mr.

Binder. This is Dean Taylor from NB Power

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

So I now will turn the floor to CNSC staff for their presentation, as outlined in CMD 15-M48.

Mr. Awad, the floor is yours.

**M. AWAD :** Merci, Monsieur le Président.

Bonjour, Monsieur le Président et membres de la Commission. Mon nom est Raoul Awad. Je suis le directeur général de la Direction de la sécurité et des garanties à la CCSN.

Avec moi aujourd'hui est monsieur Luc Sigouin, le directeur de la Division des programmes de gestion d'urgence, et monsieur Bernie Beaudin, agent de programme à la CCSN.

We have present with us today and via teleconference representatives from Ontario Power Generation, Ontario's Office of the Fire Marshal, and Health Canada and Public Safety Canada.

As requested by the Commission, we are here today to provide the Commission with an update on the progress of CNSC staff action plans as a result of Exercise Unified Response.

I will start with some background information and Mr. Sigouin will present the main recommendations of the independent evaluators and an update

on the CNSC staff action plan and an update on Exercise Intrepid 2015 held at Point Lepreau this past November.

I will complete the presentation by the next steps and a summary.

As I mentioned, the purpose of our presentation today is to give the Commission an update regarding our action plan as a result of Exercise Unified Response.

Our presentation will be followed by presentations from OPG, Office of the Fire Marshal and Health Canada to demonstrate the integration of lessons learned in their emergency plans at all levels of government, including the operator.

Exercise Unified Response was a full-scale nuclear exercise that took place in May 2014, simulating a severe accident at Darlington Nuclear Generating Station. This exercise was the biggest exercise ever held in North America. During three days, over 2000 participants from a large number of organizations, including all levels of government, Ontario Power Generation, the IAEA and United States Nuclear Regulatory Commission, participated to assess preparedness, interoperability and communications.

As Canada's nuclear regulator, the CNSC played a dual role during this exercise: first, maintaining regulatory oversight of the nuclear power plant

affected; and second, supporting the whole-of-government response.

In the next few slides, Mr. Sigouin will present the status update regarding the recommendations of the independent observers and the CNSC staff action plan.

Mr. Sigouin...?

**M. SIGOUIN** : Merci, Monsieur Awad.

Good morning, Mr. President and Members of the Commission. My name is Luc Sigouin. I am the Director of the Emergency Management Programs Division here at the CNSC.

As you may recall, the CNSC engaged the services of two external evaluators during Exercise Unified Response. Ms Purdy and Mr. Harlick are experts in emergency management and critical infrastructure protection, with a wide range of policy and operation experience, including senior management roles. During the exercise, they independently observed and evaluated the performance of CNSC staff and our interactions with stakeholders.

In November 2014, Ms Purdy made a presentation to the Commission during which she outlined the high-level findings of her review. Ms Purdy and Mr. Harlick's report contained a total of 35 recommendations to CNSC.

Based on these recommendations, CNSC staff established an action plan to address these opportunities for continuous improvement.

Annex "A" of the slide deck contains additional information regarding the status of each specific action, the lead responsible of this action and the completion date.

I will now provide you with a high-level overview of the recommendations made by Ms Purdy and Mr. Harlick.

The recommendations made to the CNSC by Ms Purdy and Mr. Harlick can be grouped into six high-level topical areas.

The first area related to several recommendations toward improving the efficiency of information-sharing within the CNSC and within our Emergency Operations Centre. This related to the efficiency of collection and dissemination of information, preparing situational reports and preparing briefing materials for internal or external use.

The second area identified related to clarifying how the CNSC would provide technical information related to our assessment and prognosis of the accident as well as how we would share briefings and communications products with various stakeholders in the federal

government.

The third area is related to our physical Emergency Operations Centre and addressing the workflow and configuration of the allotted space.

The fourth area of recommendation concerns building capacity for an extended or prolonged response to a domestic nuclear emergency incident.

The fifth topical area is about improving the amount and frequency of technical data on the state of the reactors as well as information related to the accident that is provided to the CNSC during an emergency.

The sixth and final high-level topical area addresses recommendations related to the recovery phase and actions relating to returning to normal.

So these represent the six high-level topical areas of recommendations made by Ms Purdy and Mr. Harlick as they were addressed by Ms Purdy during her November 2014 presentation to you in this forum.

I will now provide you with an overview of the actions taken by CNSC staff thus far in relation to these areas.

The first status update is related to the efficiency of information-sharing within the CNSC in general and within the Emergency Operations Centre in particular.

CNSC staff are addressing this recommendation by means of a proven commercial off-the-shelf crisis management software tool called WebEOC.

WebEOC is used by all our NPP licensees: OPG, Bruce Power and New Brunswick Power. In addition, our U.S. counterpart, the Nuclear Regulatory Commission, uses WebEOC as do the vast majority of the U.S. NPP licensees.

WebEOC is a social media-like platform expressly designed as a crisis information management system. It provides an efficient and effective means of ensuring a common understanding and situational awareness to all teams involved in an emergency response.

WebEOC will provide the CNSC with a secure real-time method to efficiently collect and share information within the Emergency Operations Centre teams and to disseminate this information to the CNSC Emergency Executive Teams and other stakeholders.

The WebEOC platform will provide position-specific activity logs and real-time tracking of significant events. It will also generate automated status reports and contribute to prompt and accurate communication to everyone involved in the emergency response by providing consistent and accurate information to everyone who needs it when they need it.

The WebEOC project is being managed by the

CNSC's Information Management and Technology Directorate, in close collaboration with the Directorate of Security and Safeguards.

We will now look at the next area of recommendation.

The second area of recommendation is about technical information and communications products and it's addressed on the next three slides.

First, on the topic of sharing technical information.

A new Liaison Committee for Nuclear Emergency Management was established with our partner Health Canada. The committee has worked to clarify the roles and responsibilities regarding the generation and dissemination of technical information and assessments. There is now a clear understanding and agreement between CNSC and its partners relating to the actions that are required during an accident, both onsite or offsite.

As a result of this committee's work, the CNSC's procedures were updated to include the deployment of a Liaison Officer to the Health Canada EOC to work in the Federal Nuclear Emergency Plan's Technical Assessment Group. Also, the basis for a team approach to focus on common Health Canada/CNSC protective measures assessments was developed as a joint standard operating procedure. In

addition, a standard operating procedure for both Health Canada and CNSC was developed for interaction with the IAEA to provide information for their assessment and prognosis of the accident. These new procedures were successfully tested during the recent New Brunswick Power exercise.

Now I will go on to the second slide relating to this area of improvement.

So on the same topical area of information-sharing, specific actions were taken on a broader multilateral federal basis by staff from CNSC's Strategic Planning Directorate.

A workshop was held with Health Canada, Natural Resources Canada, Global Affairs Canada, Public Safety Canada to address the recommendation on managing the demands associated with briefings to Deputy Ministers, Ministers or Cabinet Committees that would definitely arise during a nuclear emergency in Canada.

The outcome of the CNSC-led workshop was that participants agreed that the lack of participation by Deputy Ministers, Ministers and Cabinet during Exercise Unified Response hindered a definitive understanding of potential challenges with information-sharing and briefing demands of senior level officials during a nuclear emergency. It was further agreed by participants that many improvements have already been made to nuclear emergency

response under the Federal Nuclear Emergency Plan which has resulted in a stronger Government Operations Centre structure.

Accordingly, a plan for a path forward was established to ensure that senior officials receive access to required information during a nuclear emergency, while respecting the roles and responsibilities of the parties involved in nuclear emergency response. CNSC staff are going beyond the recommendations made by Ms Purdy and are developing high-level timelines for information-sharing within the federal family for domestic events, international events and events in the United States.

CNSC staff will follow up with the participants of the workshop to review the scenarios, identify any gaps and implement solutions to ensure that all departments are clear on their roles and responsibilities for briefing senior officials.

I will now go on to the third slide related to this topical area, which is focussed on communications products and the work of our Strategic Communications Division.

Since the Fukushima incident, CNSC has established measures for effective communication with the public during nuclear emergencies, including a dedicated website with useful information and links to inform the

public and stakeholders.

As a result of Exercise Unified Response, the CNSC updated its Emergency Communications Protocols and Framework documents. This evergreen framework will be regularly updated to include lessons learned from future exercises.

Working with other federal partners, CNSC staff participated in a communications workshop hosted by Health Canada.

Building on outcomes from this workshop, Health Canada and the CNSC will review communications roles and responsibilities and will coordinate a joint emergency communications workshop for staff in 2016.

As you can see, several actions were taken to address the recommendation relating to information-sharing and communications.

I will now turn to the next area of recommendation.

The third area of recommendation made by Ms Purdy and Mr Harlick was about the configuration of the CNSC Emergency Operations Centre.

As the Commission Members may remember, the CNSC does not have a dedicated emergency operations centre. Rather, we have adopted a dual-use approach, whereby we have a group of meeting or conference rooms on

the third floor of this building that are configured to be used as an operations centre when needed.

To improve the workflow and work effectiveness and to achieve better use of the space in the Emergency Operations Centre, CNSC staff have identified two separate projects to improve the physical space of the EOC and the effectiveness of operations and workflow.

The first project is the renovation and construction of technical assessment meeting rooms. This construction work will start next January and will provide CNSC technical staff doing reactor safety as well as protective action assessments a more efficient and effective workspace.

The second construction project involves the renovation and construction of updated command and coordination meeting rooms. This project is scheduled to be completed during the next fiscal year and will provide EOC section heads, the CNSC executives and the emergency executive team with an effective workspace for briefings, decision-making and developing action plans.

The implementation of these two projects ensures that all work teams in the EOC will have an effective workspace in case of an emergency but that is also available for use on a day-to-day basis.

I will now turn to the fourth area

identified by Ms Purdy.

The fourth area relates to preparing CNSC staff for a prolonged response to an emergency. Many actions were taken by groups across the CNSC to address this recommendation.

For example:

An online training module was implemented as well as supplementary training for different positions within the Emergency Operations Centre. Additional staff were also trained and exercised during the recent New Brunswick Power exercise.

Training on the International Nuclear Event Scale, INES, on its evaluation and reporting is provided to CNSC staff working in this area and has also been made available to other staff and external stakeholders.

In addition to CNSC staff training, Ms Purdy addressed the involvement of Commission Members in exercises. Staff will work with the Secretariat to arrange for training and for participation of Commission Members in future exercises.

Now, for the fifth high-level topical area, which addresses the issue of access to plant data and information.

It is common practice in most countries

for NPP data to be available in near-real-time within the regulator's Emergency Operations Centre. Currently, CNSC does not have such a system, but rather, NPPs send information to the CNSC EOC on an hourly basis.

In order to address the recommendation made by Ms Purdy, the CNSC Directorate of Assessment and Analysis has established a joint CNSC-industry working group with representatives from the three NPP licensees. The goal of the working group is to identify a fully automated method to transmit the required parameters to our EOC in near-real-time.

All three NPP licensees, OPG, New Brunswick Power and Bruce Power, have committed to providing near-real-time data to the CNSC. The working group has agreed on a data set of approximately 50 key data points such as temperatures, pressures and water levels, and the working group has developed a draft information management policy.

In addition, work is already under way with OPG to trial run a near-real-time method that they have proposed and discussions are continuing with New Brunswick Power and Bruce Power on their specific implementation of this system.

The implementation of the near-real-time NPP data systems will be completed for all NPPs by the fall

of 2016 and it will be tested during the upcoming exercise at Bruce Power in October next year.

We will now move to the sixth and final improvement area identified by Ms Purdy and Mr. Harlick. This area is about preparing for the recovery phase of an emergency.

CNSC staff from the Directorate of Environmental and Radiation Protection are working in close cooperation with Health Canada to establish national guidance documents.

CNSC staff have started work on post-accident recovery and will take the lead in developing guidance documents and will collaborate with Health Canada and other relevant stakeholders and partners.

The post-accident recovery guidance will be tested and validated through workshops, tabletop exercises and full-scale exercises. The planned completion for this work is for 2017.

Mr. President, Commission Members, this concludes the update on the staff actions undertaken to address the recommendations from Ms Purdy and Mr. Harlick.

I will now turn to more recent events and would like to give the Commission a brief update of Exercise Intrepid that occurred recently in New Brunswick.

Exercise Intrepid 2015 was hosted by New

Brunswick Power this past November.

During two days, a full-scale nuclear emergency exercise was conducted in partnership with the Province of New Brunswick, local communities and some federal authorities.

The exercise simulated a severe accident at the Point Lepreau Generating Station during which approximately 40 organizations worked together to allow for an integrated assessment and response.

On the second day of the exercise, participants responded to a simulated release of radioactivity to the environment. In addition to activities on the Point Lepreau site, extensive offsite play was undertaken.

In particular, the New Brunswick Emergency Measures Organization and its provincial partners conducted an actual evacuation of some 150 residents who had volunteered to assist in the exercise, including setting up decontamination facilities and reception centres for people and their pets.

CNSC took full advantage of this opportunity and activated our EOC for the full extent of the two-day exercise. This exercise was used to validate the changes implemented in our plans and procedures after Exercise Unified Response. With this opportunity to test

our plans, we can confirm the effectiveness of the revised plans and procedures and state that no further revision or changes are needed at this time.

New Brunswick Power is preparing a broad After Action Report which is expected to be released early next year.

I will now turn the presentation back to Mr. Awad.

**MR. AWAD:** Thank you, Mr. Sigouin.

CNSC staff and key stakeholders will continue to work together to ensure that all remaining actions are completed.

The Provincial Nuclear Emergency Response Plan is currently under review to include lessons learned from Exercise Unified Response and international best practices. Currently, the Office of Fire Marshal and Emergency Management is finalizing the planning basis. Once completed, it will be reviewed by CNSC staff.

Public awareness and an education program will provide information that can reduce public risk in the event of a nuclear emergency.

As per CSA Standard N1600, CNSC staff will continue to verify and monitor the development and implementation of the public awareness and education program. The next opportunity to test this improvement

will be during the Bruce Power exercise scheduled in fall 2016.

CNSC staff will continue to update the Commission at the Annual Nuclear Power Plant Regulatory Oversight Report.

In summary, all levels of government, federal and provincial, and industry, are committed to enhancing nuclear emergency plans, processes and procedures.

The interjurisdictional emergency response arrangements are currently addressed and all stakeholders are committed to continue to strengthen this arrangement.

CNSC staff have committed to work with their provincial and federal partners on continuous improvement of current plans and procedures.

This completes our presentation and we are ready to answer your questions.

Thank you.

**CMD 15-M48.1**

**Oral presentation by Ontario Power Generation Inc.**

**THE PRESIDENT:** Thank you.

I think we are going to hear the presentation from all our guests here and then open up the

floor for questioning.

So I would like to turn now -- I would like to turn the floor to OPG, Ontario Power Generation, for their presentation as outlined in CMD 15-M48.1, and I understand, Mr. Lesiuta, you will make the presentation.

**MR. LESIUTA:** Yes.

**THE PRESIDENT:** Over to you, sir.

**MR. LESIUTA:** Yes, thank you.

Good morning, President Binder and Members of the Commission. For the record, my name is Steve Lesiuta and I am the Director of Emergency Management and Fire Protection at Ontario Power Generation.

With me today is Ian Azevedo, Senior Manager, Emergency Preparedness, and Robin Manley, Director of Regulatory Affairs & Stakeholder Relations.

The purpose of this presentation is to provide you with an update on the status of the implementation of the lessons learned from Exercise Unified Response. You have heard from CNSC staff and you will also hear from the Office of the Fire Marshal and Emergency Management, and from Health Canada.

After a brief description of Exercise Unified Response, I will highlight the lessons learned, I will discuss in more detail the status of the OPG-led activities, followed by a summary.

Ontario Power Generation has a robust emergency preparedness program which includes performing drills and exercises to confirm the effectiveness of our emergency plans. In fact, over the past month we conducted two multi-unit severe accident drills, one at each nuclear power plant.

Exercise Unified Response was a major undertaking involving many organizations and government agencies. The size and complexity of this exercise made it unique and unlike anything since we have done in Canada since the CANATEX 3 exercise in 1999. The exercise was successful in confirming Canada's ability to respond to a nuclear emergency. It allowed Ontario Power Generation, government agencies and support organizations to exercise and evaluate their integrated response capability.

Each of the organizations involved demonstrated that they can respond effectively to a hypothetical severe accident in order to protect the public infrastructure and environment.

As expected in any well-planned exercise, there will be opportunities for improvement identified. Addressing these opportunities for improvement improves our collective community response capabilities and inspires public confidence.

In November 2014 Ontario Power Generation

provided an update to the Commission on the success of the exercise and identified the learning opportunities that resulted. Since then the organizations involved have been continuing to build on the lessons learned to make further enhancements to our response capability.

This presentation focuses on how Ontario Power Generation is addressing the key issues raised in the Joint Evaluation Report of Exercised Unified Response. This exercise tested the coordination and integration of the nuclear emergency plans of every level of government. Not surprisingly, the report identified issues that confront every organization involved in the response to a nuclear event. These issues are being addressed collaboratively since no single organization can resolve them alone.

The Joint Evaluation Report identifies a total of 11 key improvement opportunities. Highlighted on this slide are the four multi-partied issues where Ontario Power Generation has taken the lead to find a solution.

For context I have included this slide which shows the other issues raised in the report. These issues are being addressed by the departments or ministries holding jurisdiction over them where Ontario Power Generation has a supporting role. That will be discussed in the presentation by the Office of the Fire Marshal and

Emergency Management.

OPG is also supporting implementation of other lessons learned such as participation in the Plant Information Transfer Working Group and ensuring our experience with information-sharing software which we use in our emergency response facilities across OPG.

I will now summarize the initiatives which we have undertaken to address the improvement opportunities identified earlier.

The first initiative relates to dose control and dose reporting process at the Emergency Worker Centre. This initiative addresses the two issues, the alignment of dose control limits and the need to provide dosimetry to emergency workers before the Emergency Worker Centre is activated.

The second initiative deals with the rotation of onsite OPG staff during a severe accident, how we get staff into and out of an evacuated area. This initiative is a supporting one and ensures alignment with incident command at the Emergency Worker Centre.

The third item is related to the use of the dose projection software to make protective action recommendations and updating the tools to facilitate assessment of multi-units in severe accidents.

And, lastly, I will discuss radiation

survey requirements both onsite and offsite, defining a survey strategy during each phase of the emergency such as before the release, while the release is ongoing, after the release and during remediation.

The first initiative is dose control and reporting. Ontario Power Generation took the lead to organize a Dose Control and Dosimetry Working Group. This working group includes all stakeholders including the CNSC, the Province, the Regional Municipality of Durham and Health Canada in its national dosimetry services.

Currently, different jurisdictions have adopted a range of requirements that are not consistent. Although each group already has effective dose limits which would ensure the safety of their workers, misalignment between organizations causes unnecessary complexity during dosimeter issuance and in the field.

Working collaboratively has led to the creation of a draft document describing new arrangements for dosimetry and dose control at the Emergency Worker Centre.

The working group is preparing a dose control guidance document that proposes uniform requirements for all workers during an emergency. The next step is to create an integrated guidance document that will be approved by all organizations and that will lead to

updates of the emergency response plans within each organization.

Adoption of the Dose Control Guidance Document would ensure that all emergency workers receive the same level of protection while remaining flexible enough to accommodate the needs of each organization. Once stakeholders agree on the document, each organization will update their emergency plans to make them compatible with the guidance.

The second initiative is a Staff Rotation Plan. Ontario Power Generation has developed contingency plans for staff rotation that will facilitate the movement of OPG workers during an emergency. The contingency plan addresses minor accidents where the site remains accessible to the workers. They also address severe accidents where several sectors surrounding the site may have been evacuated and the access control roads are under the control of the Regional Municipality of Durham.

It is proposed that the staging area for employees going to the site during the unlikely event of a severe accident will be located at the Emergency Worker Centre. In this way, OPG staff who are accessing the plant are known to incident command at the Emergency Worker Centre and can be briefed for situational awareness. This has been discussed with the Region of Durham who are

supportive with this approach.

Once stakeholder comments are received, this guide will be finalized and this enhancement will be added to our emergency documents.

The third initiative is dose modelling software. Ontario Power Generation has identified the need to update the emergency response, called ERP, used by the Office of the Fire Marshal and Emergency Management which is used to make decisions for protective actions for the public during a nuclear emergency.

Exercise Unified Response confirmed that an update is appropriate to address the post-Fukushima lessons learned. Currently, the emergency response project software models the consequences of a design basis accident at a single unit. OPG and other stakeholders have recognized that this software should be updated to model beyond design basis accidents including multiple unit events.

OPG has partnered with Bruce Power and we have had discussions with the Province and CNSC to understand their needs. The procurement process is nearing completion for an updated dose modelling software to be available in 2016.

The fourth item is a review of the survey strategy which covers both onsite and offsite radiation

surveys. All onsite surveys are under the responsibility of Ontario Power Generation but offsite surveys integrate resources from the federal government, the Province, the Region and OPG.

The updated strategy addresses the need to survey populations outside of the 10 kilometre primary zone following a severe accident and enhances how information is reported to better support decision-making by the province.

The strategy developed recognizes that survey requirements change during each phase of the emergency. The new guidance document identifies which measurements are to be taken at each stage of the emergency and who is responsible for taking these measurements and samples.

The draft strategy is being shared with our stakeholders. Once stakeholder comments are received, this document can be used to inform and update the emergency plans initiated by the Province.

In summary, Ontario Power Generation is systematically addressing the lessons learned from Exercise Unified Response while recognizing that joint issues require consultation with other stakeholders and consensus building.

Guidance documents have been recently completed for both the survey strategy and for staff

rotation. These are being reviewed by stakeholders.

OPG is following an iterative consultative process that involves many participants that will ultimately lead to improved and well-integrated emergency plans.

As a result of Exercise Unified Response and working with our partners, we have all improved our overall response capabilities. As we complete the remaining actions as well as new ones identified through our comprehensive exercise program, our overall emergency program continuously improves.

This concludes my presentation and I thank you for the opportunity to speak here today.

**THE PRESIDENT:** Thank you.

I understand that Mr. Oldham from Public Safety has to leave at 10:15. So are you interested in making any statement?

**MR. OLDHAM:** Not at this time (off microphone).

**CMD 15-M48.2**

**Oral presentation by**

**Office of the Fire Marshal and Emergency**

**Management Ontario**

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

So I will move on now to the presentation from the Office of the Fire Marshal and Emergency Management Ontario for their presentation as outlined in CMD 15-M48.2.

Mr. Kontra and Mr. Nodwell, I guess the floor is yours.

**MR. KONTRA:** Thank you very much, Dr. Binder.

Good morning, Members of the Commission. This is Tom Kontra for the record.

We are pleased to provide a report back on the exercise and we continue to work with all our partners and stakeholders in the continuing improvement of our emergency response capability to nuclear incidents.

David Nodwell will speak to the presentation.

Dave...?

**MR. NODWELL:** Thank you.

Good morning. Dave Nodwell, Office of the

Fire Marshall and Emergency Management for the record.

If we could move to Slide 2, please?

I appreciate this opportunity to provide an update on the progress of after action items that were identified in Exercise Unified Response.

Slide 3, please.

I would like to highlight how important exercises are to the overall provincial emergency management strategy. It is in fact written into the *Emergency Management and Civil Protection Act* where there is a legal obligation for all ministries in the provincial government and all municipalities in the province to conduct one emergency exercise per year.

The exercises chosen vary from full scale exercises to discussion-based table tops and that choice is based on the specific needs and requirements of the organization.

Emergency exercises provide multiple benefits. They are a tremendous opportunity for organizations and their respective personnel to learn, to be trained and to practice an emergency response. They provide a chance for organizations to interact with each other in a way that they don't normally interact and this significantly increases inter-agency understanding and contributes to the integration of multiple organizations in

a potential emergency response.

Similarly, exercises are the only way short of an actual response to truly assess the effectiveness of plans and procedures and to identify areas in which they can be improved or enhanced.

Next slide, please.

Exercise Unified Response was the second opportunity for the Province to test in a full-scale manner the Provincial Nuclear Emergency Response Plan as well as associated plans and procedures.

OFMEM was a key partner throughout the exercise design process and integral to both exercise control and conduct.

As we have previously pointed out, Exercise Unified Response was successfully carried out in the midst of a "real" Provincial Emergency Operations Centre activation dealing with flooding evacuations on the James Bay coast. I think this demonstrated the flexibility and capacity of the Provincial Emergency Operations Centre.

OFMEM was very pleased that Exercise Unified Response demonstrated the excellent integration of response partners in addition to other strengths, best practices and capabilities demonstrated.

Exercise Unified Response demonstrated that the Province with the support of its many response

partners is able and prepared to conduct an effective nuclear response.

Slide 5, please.

As expected, several key findings from Exercise Unified Response were related to the actual PNERP. Consequently these findings have been logged and are being used to inform the PNERP update. We have reported to the Commission before that the PNERP update will be addressing these key findings in addition to other considerations including lessons learned from previous exercises and activations.

And I would point out that PEOC activations may not necessarily be nuclear but they are still applicable and important lessons to be considered and includes as well international best practices and of course the CSA N1600 standards.

As reported to you, recently the planning basis and PNERP master plan are currently under review with a public consultation scheduled for 2016.

Slide 6, please.

Key findings arising from Exercise Unified Response that we are incorporating into the PNERP update include notification protocols. For example, clarification around this terminology associated with emergency declarations and the need for written declarations with

respect to the use of KI pills.

We are incorporating optimized decision-making processes and specifically that would include addressing such issues as venting outside of the nominal venting procedures and providing further clarification with respect to that decision-making process.

Clarification of roles of response agencies with shared responsibilities is another item being addressed. For example, that would include the implementation of food controls and authority over farmland.

Coordination of messaging between OPG and the Province is also being addressed in the PNERP update and specifically with respect to public communications but also improved alignment of operational and briefing cycles; finally, simplified public messaging and particularly a review of terminology that in public communications that may be considered to be too complex or technical for the public.

If we could move to Slide 7, please.

Issues identified with respect to some organizational liaison officers not fully understanding the role or the function of the PEOC:

- It's important as well to realize, and this will be discussed later, the old Provincial Emergency

Operations Centre has been decommissioned and replaced with a new state of the art facility. Since that transition has occurred PEOC work station manuals have been updated to reflect the new technology and procedures in the PEOC;

- A liaison officer training module has been developed and this will be available annually for PEOC representatives for all hazards;

- A hands-on training session for nuclear representatives to be held in 2016.

Slide 8, please.

Exercise Unified Response identified the need to communicate early with the public regarding nuclear compensation. As a result of that, a Nuclear Compensation Working Group has been re-established, led by the Ministry of Municipal Affairs and Housing in close cooperation with the Office of the Fire Marshal and Emergency Management and this includes as well representatives from the insurance industry.

Nuclear compensation processes are being developed and it is on these processes that public communications will be developed so that they are available in advance of an emergency.

Slide 9.

OFMEM is also engaged to a high degree on many other Exercise Unified Response-related initiatives

being led by OPG. Specifically, OFMEM is supporting OPG and stakeholders in updating the emergency response program software so that it's able to address beyond design basis accidents and multi-unit accidents.

OFMEM is providing advice and support on OPG's Radiation Survey Strategy which we have heard about in the previous presentation.

In response to the identified need to formalize dose control and dosimetry arrangements at the Emergency Worker Centre, OFMEM is supporting this working group that is established by OPG to address this issue.

Slide 10.

As mentioned, the OFMEM has been very busy in improving the functionality of the PEOC. Clearly, while not a direct result of Exercise Unified Response, these changes do address some issues expressed by exercise players.

The PEOC, as a part of the merger with the Office of the Fire Marshal, has been moved to the new facility that the Office of the Fire Marshal and Emergency Management is currently housed in. Features of new PEOC include state of the art technical equipment and expansion of the overall operations centre. This includes as well enhanced planning and scientific rooms and updated teleconference systems.

Next slide, please.

This is an image of the operations section of the current Provincial Emergency Operations Centre. Of particular note is the electronic wall featuring 30 high-definition screens which facilitate the transmission of current information to everyone in the PEOC. This is only a part of the new PEOC.

And I would like to take this opportunity to invite Commissioners to this new facility so that you can see it firsthand and gain an increased understanding about how the Province activates and operates in an emergency situation. We would be most pleased to have you come and visit us.

Finally -- the next slide, Slide 12.

Finally, another area of improvement relates to exercise developmental training. An important part of our evaluation of exercises includes the actual exercise development and how that process unfolds. So future provincial nuclear exercise planning will emphasize the following:

- Full participation of stakeholders throughout the design process and during exercise conduct;
- Pre-exercise training to address how players are to participate in an exercise and,
- As well in the future to be inclusive of

post-release coordination and response efforts so that we have a chance to spend more time detailing that aspect of an emergency scenario.

Next slide.

We thank you for the opportunity of presenting this update to you and we are available to answer any questions. Thank you.

**THE PRESIDENT:** Thank you.

**MR. KONTRA:** Thanks very much, Dave.

It's Tom Kontra for the record.

I think this presentation and, in fact, our previous discussions about exercises represent a tremendous improvement in provincial capacity certainly from the time that I started working with operations. The 1999 exercise referenced in previous discussion was my first nuclear exercise and I do remember where pretty much everything was canned in other exercises and we have progressed to we are exercising events in real time without any pre-planning.

The people who work on the design of the exercise are not the ones that are being exercised and so that the improvements that we bring after each exercise are realistic and the results of each exercise are now absolutely realistic in terms of capacity to respond.

So with that, Dr. Binder, we'll be happy

to entertain any questions. And I emphasize the invitation the next time the Commission meets in one of the Toronto proximity facilities, then please do come and visit.

Thank you.

**CMD 15-M48.3**

**Oral presentation by Health Canada**

**THE PRESIDENT:** Thank you. Thank you very much.

I would like now to turn the floor to Mr. Ahier from Health Canada for their presentation, as outlined in CMD 15-M48.3.

Mr. Ahier, the floor is yours.

**MR. AHIER:** Thank you very much.

Good morning, Mr. President and Members of the Commission. For the record my name is Brian Ahier and I am the Director of the Radiation Protection Bureau within Health Canada.

I am accompanied today by Mr. Andrew Adams, Director General of the Environmental and Radiation Health Sciences Directorate who will also be able to answer any questions that you may have.

As you are aware, Health Canada is the lead department for the Federal Nuclear Emergency Plan and

we, along with the Public Health Agency of Canada also within the federal health portfolio, were the federal responders of exercising the federal response and we led the development of the Federal Interdepartmental After Action Report that I will talk about more today.

The purpose of my presentation today is to provide a brief recap of the federal involvement in Exercise United Response, a description of the Federal Interdepartmental After Action Report and the status of actions taken to address the recommendations that are identified in the report.

As you aware, the Federal Nuclear Emergency Plan, or FNEP, is a federal event-specific emergency management plan under authority of Health Canada, describes the federal preparedness and response framework to manage the radiological hazards from a nuclear emergency that could impact Canada or Canadians, domestically or abroad.

It integrates with the Government of Canada's all hazards Federal Emergency Response Plan, or the FERP, that is led by Public Safety Canada to provide those additional arrangements necessary to address the health risks associated with a nuclear emergency.

The current version of the FNEP was endorsed by the Deputy Minister's Emergency Management

Committee in October 2012, with agreement validate it in a national full-scale exercise. As a result of that directive, 18 federal organizations participated in the exercise, for which the overall federal objectives were to exercise the Federal Emergency Response Plan in support of the response to a nuclear power plant emergency, to test the FNEP for coordinating scientific and technical resources to support the federal response to such an emergency and, of course, to complete the validation of the fifth edition of the FNEP.

The Federal Interdepartmental After Action Report focuses on the evaluation, observations and lessons learned relevant to the federal exercise objectives. It was prepared by the Health portfolio in consultation with all federal exercise participants, and was approved by the Federal Assistant Deputy Minister's Emergency Management Committee in July 2015.

The report responds to the Deputy Minister's committee direction to validate the FNEP, and it is intended as an improvement tool for federal partners.

To address the recommendations in the report, Health Canada worked in consultation with its partners to develop a management action plan.

In order to clarify the scope of the Federal After Action Report, this slide shows a simplified

view of the interfaces between the various jurisdictions that would respond to a nuclear emergency in Canada.

The Federal Interdepartmental After Action Report focuses on that part of the response shown within the red box, namely, the federal response under the integrated framework of the FERP and FNEP, and the interactions with provincial stakeholders.

There was some limited engagement with international partners as well, but this was out of scope of the interdepartmental evaluation.

This slide shows the governance structure was described in the FERP and FNEP, including the Government Operations Centre for coordinating all government response as well as the senior executive committees. These are supplemented by the coordinated arrangements described in the FERP, in the FNEP and, in particular FNEP senior officials, the FNEP Technical Assessment Group and its associated radiological task teams.

The FNEP Technical Assessment Group, or FNEP TAG, is a multi-departmental group composed of technical experts from designated FNEP federal institutions, and is chaired by Health Canada. And its activities include assessing the nuclear emergency situation, providing information on its possible evolution

and potential off-site radiological impacts, supporting field monitoring and human monitoring and preparing technical communications.

The TAG supports integrated planning and decision-making across the federal response as well as with provincial and territorial authorities.

Most of these elements were exercised as part of Exercise Unified Response with the exception of the Deputy Ministers and Cabinet committees.

The overarching conclusion of the Federal After Action Report was that Exercise Unified Response successfully demonstrated the government's capability to provide an effective response to a nuclear emergency.

The evaluation has also shown that most of the federal objectives were fully achieved, with some areas for improvement identified. The successes and best practices demonstrated during the exercise were described at previous Commission meeting. As such, the remainder of the presentation will focus on the areas for improvement, which were addressed in the Federal After Action Report through 45 specific recommendations.

As part of regular planning and improvements under the FNEP, we have developed a management action plan and have been working with our federal and provincial partners to respond to the 45 recommendations by

April 1st of 2016.

The objectives of the work are to address the recommendations from the exercise evaluations by building on and strengthening engagement with provincial, municipal and industry partners to support the coordination, implementation of the identified corrective actions, to further elaborate and test FNEP and FERP arrangements for other provinces and other types of nuclear emergencies covered by the FNEP, to develop and implement a regular training program and continue developing, in consultation with partners, a multi-year nuclear exercise cycle, including a full scale nuclear exercise at least every five years in accordance with the FNEP.

As the recommendations address response arrangements under both the FERP and FNEP, key partners in the management action plan include Public Safety Canada and its Continuous Improvement of Federal Event Response, or CIFER, process as well as the Federal Exercise Working Group.

In order to address the lessons learned from the exercise in the most effective manner, the management action plan has organized the recommendations in the Federal Interdepartmental AAR into the following themes: Federal Emergency Response Plan Governance; Federal Event Response; Public Communications; Federal

Assistance; Liaison and Coordination; Technical Assessment; Communicating Technical Information; Support to Emergency Workers, and Departmental Responsibilities.

The actions addressing these themes have been prioritized, and many have been -- many of the completed items were tested in the recent Exercise Intrepid in New Brunswick in November 2015.

The theme of governance under the Federal Emergency Response Plan includes the roles and responsibilities of federal organizations and senior emergency management committees under the all hazards FERP structure.

All corrective actions addressing this theme, which include clarifying roles and processes of committees and organizations are complete or will be addressed as part of the broader revision of the FERP and through the CIFER process, which is being led by Public Safety Canada.

The Federal Event Response theme includes recommendations addressed to -- addressing strategic planning and interdepartmental coordination.

As with the previous item, the majority of these actions were completed or will be addressed as part of the broader revision process of the FERP and CIFER process.

Public communications includes the processes related to coordination and approval of federal-wide communications with the public. In this case, the action addressing an improved process for approval of communications products is being led by Public Safety Canada and is pending broader discussions on the FERP emergency support function for communications.

The theme of federal assistance includes processes for provision of assistance to impacted provinces and territories. Actions that have been completed to address recommendations in this area include the development of revised processes from Public Safety Canada under its all hazards framework.

Additionally, the FNEP Ontario Annex, which describes the framework for federal radiological support to the province and which was tested during the exercise, was finalized and approved this year by Health Canada and Province of Ontario.

Looking more broadly, a draft FNEP Provincial Annex for New Brunswick was also developed and tested in the recent Exercise Intrepid.

The liaison and coordination theme includes information sharing and connectivity between operating centres and coordination of federal field operations. To address this recommendation, Health Canada

has developed an updated tools and training that address our data sharing and data management capabilities and tools. There is also ongoing training of field teams.

Additionally, work to clarify the triggers for deployment of the federal assets and improved coordination between the field operations and relevant emergency operation centres is in progress and will be completed by the end of March 2016.

The technical assessment theme includes assessment to support federal and provincial decision-making, FNEP TAG coordination, data compatibility and assessment tools, including those for the post-release situation.

Actions that have been taken to address recommendations in this area include the completion of a project to benchmark various technical dose assessment tools and support revised procedures for their use in coordinated situational awareness.

This project involved several FNEP partners, including Health Canada, the CNSC, Environment and Climate Change Canada, Canadian Nuclear Laboratories and the Province of Ontario.

A workshop with Environment and Climate Change Canada and involving a number of FNEP partners was also conducted to improve understanding and use of

atmospheric dispersion models in general.

Finally, improved coordination and connectivity between the CNSC and the rest of the FNEP TAG is being implemented through active participation of the CNSC and the FNEP TAG on-site conditions and risk assessments groups and through the creation of a Health Canada CNSC Liaison Committee for Emergency Management.

Moving on, the communicating technical information theme includes technical products and experts that support the communication of technical information to the public. Actions addressing this area include the development and testing of an improved format and distribution procedure for the FNEP TAG summary reports in order to improve their clarity, usability and access amongst FNEP partners.

In addition, plain language training and tools for FNEP technical liaison officers and the FNEP TAG support to communications group will be developed by end of March 2016.

To address the support to emergency workers theme, which includes the joint federal-provincial field team operations and health and safety of emergency workers, the concept of operations for joint field teams are being reviewed and revised.

In addition, there is federal

participation, including from Health Canada and CNSC, in the previously-referenced multi-jurisdictional working group being led by OPG on dose control, with the objective to harmonize dose limits, support dose tracking and recording and confirm available dosimetry assets for emergency workers.

Finally, Health Canada also hosted a tabletop exercise earlier in November looking at human monitoring arrangements in a nuclear emergency, including the provision of dosimeters to emergency workers.

Finally, the theme addressing departmental responsibilities includes roles and responsibilities of federal organizations as described in the FERP and FNEP. In this regard, the recommendation addressing the ability of organizations to sustain their roles during a prolonged response are to be considered within the CIFER process and, importantly, a formal exercise calendar -- nuclear exercise calendar which is routinely reviewed and updated in consultation with our FNEP communities has been developed.

Integration of this calendar into the Federal Exercise Working Group under Public Safety's DG Event Response Committee and the national exercise calendar will help us identify the nuclear exercises that will be broadly supported by federal organizations.

In conclusion, Health Canada is pleased to

reaffirm that ExUR met the federal exercise objectives and demonstrated the federal government's capability to provide an effective response to a nuclear power plant emergency.

Health Canada has maintained strong leadership for federal nuclear emergency preparedness response through the FNEP update process and its validation as part of Exercise Unified Response, and I think it's fair to say that we've made significant progress on addressing the Federal After Action Report and many of the actions that -- of the actions that had been completed were tested as part of the recent Exercise Intrepid in New Brunswick in November 2015.

We will continue to exercise our leadership for the FNEP, including federal level follow-up, to complete the Exercise Unified Response management action plan in cooperation with our federal, provincial, international and industry partners.

In closing, I would like to express Health Canada's gratitude to all of our FNEP partners for their support and contribution to the design, implementation and evaluation of Exercise Unified Response and for their contribution towards ongoing improvements in exercising our readiness and capability to respond to a nuclear emergency in Canada or elsewhere.

That concludes my presentation. Thank you

for your attention, and we would be happy to answer any questions.

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

I'd like now to turn the floor for Commissioners' questions. And let me start with M. Harvey.

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

First, I would like to express my appreciation for all the work you've done and all the huge efforts given to that exercise, which is very important for the Commission and for the public because it's a sort of assurance that we are prepared to face nuclear -- a nuclear event.

And the issue now is to keep that alive, and this is not an easy task. And I think we've got to keep that among our priorities because it's very important.

This being said, I've got another comment which is about the acronyms.

Reading the documents, I would have appreciated to have in front all the -- all those documents a list of the committees, Ministries, offices, at least 30 or 35 -- I don't know -- and some for sure we are able to find the definition somewhere in the text, but quite often we have to refer.

So it would be easier to have a list in

the front of the documents.

My comment may be to the staff to do that job, and that would be a great value for us.

My first question would be about the -- you mentioned that you were organizing, starting in January, to -- you have two projects to organize spaces -- two spaces.

And I would like to know what are the characteristics of those spaces, what is -- how those new spaces would facilitate your work and what plus value those spaces will give to the staff to do their job.

**MR. SIGOUIN:** Merci, M. Harvey.

The current space in the CNSC Emergency Operations Centre or the conference rooms that are dual use was established several years ago, before Fukushima, before Exercise Unified Response.

The way we work and the roles and responsibility of the CNSC have evolved during that time. The two specific projects that we're undertaking now, the first for the technical assessment team, is in recognition of a significant change in the size of the technical assessment team.

In the 1999 exercise that we keep talking about, the CNSC's technical team was a handful of people working in a conference room that was maybe about one-

quarter the size of the floor where you sit.

Now, it's turned into two significant groups that make up the total of about 15, 16 people that have two different focuses.

One group is focused on what's happening with the reactor and what the progression will be of that, and there's another group that's focused on if there is a release, what would be the consequences and interacting with the province and Health Canada on what should be done.

And supporting that are a group of, you know, section heads, if you will, or information management specialists who are just preparing that information to be shared with others.

So they have been relocated into another conference room which is a little bit larger, but not laid out for their use and not laid out for them to collaborate effectively.

So that's one thing that's being done, similar for the command centre. It's being laid out in such a way where the section heads can come together and work collaboratively to make their -- for their decision-making.

But one of the key aspects related to all this is also the co-location of work teams in proximity to each other and the concept of visual openness within the

emergency operations centre so the teams that need to work next to each other are located next to each other, and these two construction projects will allow us to do that and locate collaborative teams in proximity to each other where they can work in their environments with the right tools but also see each other, signal each other that they need to talk and be aware what's going on in the other areas.

**MEMBER HARVEY:** And those rooms, I don't know, a dedicated link with other offices or other centres?

**MR. SIGOUIN:** Luc Sigouin, for the record.

The equipment in the rooms will be very similar to what we have now, but it will be updated, so we will have more projection monitors, more work stations with computers. But it's essentially the same tools that we have now, audio conferencing, video conferencing, monitors to display equipment.

The tools that we have are being integrated and being placed onto our network for redundancy and availability, but with the exception of the Web EOC Project that we've described and the NPP Plant Data Transfer, there are no additional technology projects for the emergency operations centre.

**MEMBER HARVEY:** How are the people forming those teams? How are they dedicated?

I mean, they -- are they dedicated -- they know in advance that they are on the team and they will, and if somebody is moving, there is another one, then -- because if it's happened tomorrow morning, the people already know that they will have to be there tomorrow.

**MR. SIGOUIN:** Luc Sigouin, for the record.

Contrary to what our licensees may do, for example, we do not have staff who are on call who have been pre-identified to be -- to come into the emergency operations centre in case of emergency.

Rather, the way we have structured the operations centre is that the structure of the emergency response organization is very similar to our day-to-day structure within the CNSC.

So the work that is done by the -- the work that is done to analyze the accident and what is happening with the reactor is done by staff from Mr. Frappier's Directorate of analysis and assessment.

The work that's done on the health consequences is done by Ms. Thompson's team of environmental and radiation protection. And they're the experts in these fields.

Similar in communications, similar in inter-governmental relationships -- relations. They're the experts in this field, and they know what to do and how to

do it.

What the emergency operations centre allows, it allows them to come together and work in a more focused manner at a faster pace in proximity to each other.

As far as -- excuse me. As far as activating people and having them come in to do the work, we have an automated call-out system that is similar to what is used at some of our licensees where our duty officer, when receiving the order to activate, would automatically broadcast a message to the 100 or so people who need to report immediately to request any one of those expertises to come in.

So if we need an additional duty officer to come in, there's an email that goes out to -- email, telephone call, text message, call at home and so on goes out at any hour of the night or day to those four or five individuals who are qualified for that role, the first one who responds to say he will come in stops the deployment of the communication system. That person reports to work.

**MEMBER HARVEY:** Merci.

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

I just want to make sure that I understood what you said. If something happened tomorrow, there would be an immediate reaction to that and the right people will be called, and they know who they are.

So I didn't want to leave the impression that it's kind of an arbitrary --

**MEMBER HARVEY:** No, my question was related to the -- if there were specific people --

**THE PRESIDENT:** Oh, yeah. And it just depends from what level, et cetera.

Okay. Ms Velshi.

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

I, too, would like to compliment and congratulate you, and I was particularly impressed with the systematic and the coordinated integrated way that all these corrective or improvement plans have been addressed. Clearly a big, big area of risk when you have so many agencies and organizations involved.

So one of the key organizations I'm surprised not to see here in front of us is the Municipality of Durham. And maybe you can shed some light on why they're not here.

And they were a key player in the exercise, and were there not areas of improvement identified in their part of the business?

**MR. AWAD:** Maybe you can ask Office of Fire Marshal to answer this question. They are better position to answer it.

**MEMBER VELSHI:** Thank you.

Office of the Fire Marshal and Emergency Measures, please.

**MR. NODWELL:** Dave Nodwell, OFMEM, for the record.

I can't speak to the reasons that Durham Region was unable to attend today. However, we were aware that they were not able to and were in communication with respect to the work that they are doing.

A lot of that relates to items that were addressed in our slide deck and specifically related to the FNEP update.

**MEMBER VELSHI:** So would they have any additional improvement opportunities that this exercise would have identified that they're following through?

**MR. NODWELL:** Dave Nodwell, for the record.

Certainly they are critical stakeholders in the emergency worker centre, so certainly have a stake in the work that it's doing related to the dose control project and so forth. So I think that there were many considerations that they're looking at.

I think another example would be their participation in joint traffic control and matters such as that.

**MEMBER VELSHI:** I'm not sure whether it's

fair of us to ask you, Mr. Nodwell, or Mr. Kontra, but can we get some feedback on exactly what their plans are and, you know, just as you and OPG and others have identified, there's some that you've got primary responsibility for and there's some where you're supporting others for that it would be good to get their plan and see exactly what they're doing from lessons learned from this exercise.

**MR. KONTRA:** It's Tom Kontra, for the record.

We will make a point of asking Durham Region to forward their After Action Report and update and we will send up to the Commission

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

**MR. KONTRA:** -- and ask them to --

**THE PRESIDENT:** If I had to jump into this -- and, again, I echo my colleagues here -- with all the good work that's been done by all the agencies, what was missing, what I was looking for, is what is the plan that's going to be given the household, to the schools, to the hospitals?

Everybody is talking, you know, either inside the fence or at the provincial level or the federal level. You know, most of the feedback we've been getting is at the household level: we don't know what to do. Where is our plan for nuclear, et cetera, particularly in

the first 24 to 72 hours, which make nuclear unique.

I know there's all kinds of other emergencies everybody's preoccupied with, but some critical decisions have to be made the first 24 to 72 hours, and it has to be at the household level. I don't know who's responsible for producing that document.

This is just a comment that we will ask all of you, I'm sure, by the Commission here.

Ms Velshi, I interrupted you.

**MEMBER VELSHI:** Thank you.

My next one was -- thank you to the Office of Fire Marshal and Emergency Measures for your invitation to visit the PEOC. Maybe I can ask Staff and the Secretariat to make that as part of the Commission members' training. I think that would be extremely helpful and useful.

Thank you.

**THE PRESIDENT:** Okay.

Mr. Tolgyesi.

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

When I'm looking in update area 1, "Efficiency of CNSC Emergency Operation Centre," you are talking in bullet two, four, six about "Automated generation of status report." The status report is

addressed to whom -- by whom? And considering information dissemination responsibilities assigned to CNSC by the *Nuclear Safety Control Act*, to what extent this status report should be public, or when it should become public?

**MR. SIGOUIN:** Luc Sigouin, for the record.

The status reports that are being referred to are the internal status reports for the EOC and for briefings to the CNSC executives, and I guess, in the case of the Commission members playing, in briefings to the Commission. So they're the internal status reports that paint a common picture of what has happened at that moment in time and what actions are being taken by different parties.

The process by which we do that right at this time, and during the exercises and during Fukushima, was a very time-consuming process. The introduction of this information management tool will improve the efficiency of that activity.

Those situation reports themselves are addressed and focused on specific topics, and they are used by our communications team and communications staff to inform and to create the communications products for the public. So they're a key piece of information for them.

But the status report itself is not the document that is made public. That is the document that is

used by our communications experts to develop the public information pieces that are posted on our website or disseminated in other way.

**MEMBER TOLGYESI:** Because in the past we were looking -- you know we were facing a situation where discussions and exchanges between Staff was requested to be public, and my question was what will happen in that case? Could it happen?

**MR. SIGOUIN:** Luc Sigouin, for the record.

The request to share any reports or any work that happens during an emergency response can occur whether we use this tool or not. I'm trying to recollect if there were any requests for that from our work in Fukushima, but I don't recollect.

The purpose of this project is just to improve the efficiency of it and the effectiveness of it. Our policies on information management are the same: documents are classified to the appropriate level protection: they are shared as they are required to be shared in accordance with the policies and procedures.

**THE PRESIDENT:** Thank you.

Dr. McEwan.

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

So, again, to add my congratulations on the outcome and the process.

I think each of the different presentations mentioned communications with the public, and in particular the Health Canada presentation, on slide 13, talks about a technical information team, and Mr. Sigouin just mentioned information products. I'm always a little concerned when I hear "information products," because it implies something that is prepackaged and not reactive.

So how do you actually identify the groups who are responsible for providing the public with information, and how do we understand that the language that is used is being appropriately used and appropriately understood? Because it seems to me that the key element when we have multiple different agencies is ensuring that there is actually a clear communication path to the public, and, as the President said, right down to the level of the household.

I got no sense of how that is structured and how that is managed from any of the presentations.

**MR. SAUL:** Good morning, Dawolu Saul, for the record, Acting Director of Strategic Regulatory and Communications for CNSC.

I can take that question in regards to how we do things here at the CNSC.

As the independent regulator, we operate outside of, I guess, the formal government approval

processes. By that I mean we do not necessarily have to go to the minister to have our communications approved or through PCO. So within the time of a crisis, we would be speaking to the actions of the licensee, whether or not they are taking appropriate actions as they regard to our mandate for dissemination of information to the public.

In regards to the communication products that you asked about, those would normally be our news releases, our information tools and products that can be regularly found on our website, but also that we would generate in the event of a crisis.

For the coordination of those products, before Public Safety would take on the coordination role, we would be speaking as the regulator and we would be speaking within our mandate as the regulator. Once Public Safety does take over the coordination role, we coordinate with our federal partners to ensure that we have a consistency of messaging.

The messaging that we put out, we always run through our technical groups and the other teams within the CNSC to ensure that what we're saying is technically accurate, reflects the situation, but I wouldn't say that it's something that is done prior. It's usually done as a reaction to the situation as it develops.

**THE PRESIDENT:** Okay, let me try to

explain what -- maybe I don't understand, but there's two different types of communication. The communication that I thought was in the technical, all of this should be laid out now. After Fukushima the one thing we want to know is: When do you evacuate? When to you return? All the recovery, all the parameters should be somewhere: what food you can eat, when can you eat, what's the level of dose in shrimp? I mean, we have learned so many things from Fukushima. We should know this now, and it should be on somebody in a national kind of a database.

I thought we had a crisis database where all those parameters will be articulated, and I thought Health Canada was supposed to update their recovery parameters, which all the world is now trying to come to grips with.

So all those things should not be reactive, we should know right now what's going to happen if and when a severe accident happens.

Then there is a different set of communications during the severe accident, and that's a completely different kind of process, which is reactive.

So there's two different kinds of things here. And, again, I am -- the critical thing from our perspective is there should be an understanding for the first 24 hours/72 hours who does what, and, you know, this

is kind of -- you're talking about coordination amongst all the agencies. This is my nightmare scenario, because in a severe accident to coordinate -- it's bad enough to coordinate one level of government. To coordinate three levels of government, not to mention international, is a challenge. So we better do our homework now to know exactly who does what, to whom, and when, in the first 24 to 72 hours.

So excuse my rant here, but I just want to make sure that we're talking about the right communication scenario.

**MR. SAUL:** Dawolu Saul, for the record.

You're quite right, Mr. President. In regards to our crisis site, we use that more of a hub to be able to share communications that would be coming out from other federal partners or stakeholders.

I can't necessarily speak to the household level because we would not have that within our mandate, in terms of providing or preparing those communications in advance. But we do have the mechanism with which to share those communications once they are being made available from the region or the province.

**MR. CAMERON:** Mr. President, Jason Cameron here, for the record.

Just to respond to both your remarks and

to those of Dr. McEwan, I think that there's a sweet spot that we've been working on since Fukushima, and that's the crisis site that Mr. Saul was speaking to, and all of the technical information as well that is available. But we never know where that accident might occur, so there's a variety of templated information that's available on the crisis site that sits there, and ready to be activated, but it's sort of a plug-and-play.

So it's not like the information is made up in advance. It's well-known, but it's for us to put it together in a way that it's going to be consistent with what's going on, confirmed with our technical folks, and then displayed to the public in a way in which they're going to understand, which is why we have communications professionals like Mr. Saul helping to lead the communications response during the emergency exercise -- or during the emergency itself.

**THE PRESIDENT:** Dr. McEwan.

**MEMBER MCEWAN:** Thank you.

It's still, however, not clear to me how the more acute communications are coordinated. How well is language tested so that we know that we are using the most appropriate phrasing to convey both level of risk and level of action that has to be undertaken by members of the public, by families, and what would be the sequence for

releasing some of those communications?

**THE PRESIDENT:** I suspect that the Office of the Fire Marshal will be kind of the first agency that will declare this emergency, and the local Durham, together with the OPG, they will be the first line of communication will come this way, and that's why I think everybody wants to see what the Durham plan is.

I don't know if OPG, you want to enlighten us on this.

**MR. LESIUTA:** Steve Lesiuta, for the record.

You are correct, after an emergency the province would be handling the off-site communication, and we would be providing information to the provincial information centre, as well as to the Region of Durham, to provide the messaging to the households.

**THE PRESIDENT:** But in developing such messaging, have you ever tested them with the public? You know I remember one of the information or one of the inputs we always get from the public: they don't know what to do, they don't understand, et cetera, so...and nuclear is treated the same as any other emergency kind of a thing.

Are you doing anything in this area?

**MR. SAUL:** Dawolu Saul, for the record.

If I can remind the Commission, one of the

things that we tried to test during the Exercise Unified Response was to get together a group, a focus group of sorts, of community members, where we shared with them specifically the products that were being generated during the exercise, and requested their feedback in terms of consistency of messaging, language. These are things that we then took back to help better craft our own messaging and to ensure that what we were saying resonated with the public. It's through exercises like that that we can hope to refine our messages in the future.

This was also done, I guess, in an informal way also after Fukushima, as we looked back on what was put out to the public.

**THE PRESIDENT:** Okay.

Monsieur Harvey.

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

In the annex of your presentation, the actions item taken by CNSC Staff, on item six, the recommendation:

"CNSC should consider including Commission members in future emergency management exercises. The action taken as Commission members have been included in past exercises

via our Secretariat and it is our intention to have them participate in future table-top exercises." (As read)

Could you explain what you mean by "have been included in past exercises via our Secretariat?"

MR. AWAD: Raoul Awad, for the record.

As Mr. Purdy recommended, the Commission members will have some training on emergency, about their roles and responsibility, and we are in communication with the Secretariat to try to arrange the participation of the Commission members in future exercises --

**MEMBER HARVEY:** In future.

**MR. AWAD:** -- or creating a table-top exercise to simulate a similar situation.

**MEMBER HARVEY:** Yeah, but "Commission members have been included in past exercises," I just want to know what you mean by that. What type of --

**MR. SIGOUIN:** Luc Sigouin, for the record, Monsieur Harvey.

I believe this is making reference to exercises in the vintage of the 1990s and the 1999 large-scale exercise, so before many of our time here.

**MEMBER HARVEY:** All right. Okay.

**THE PRESIDENT:** You want to add something?

Go ahead.

**MR. LEBLANC:** Marc Leblanc, for the record.

As the Secretary, when there is an exercise, except for this -- or the two more recent exercises, where the Commission members were not involved, we had plans in place, though, for the unified exercise -- or the response exercise that we know where to reach you, and how to reach you, if we need to issue an emergency order.

In past exercises we did, in fact, communicate with the Commission members, and then validated how many we had reached, how much time?, was it difficult?, did we have alternate? We did not do this for that most recent exercise.

**THE PRESIDENT:** Thank you.

Ms Velshi.

**MEMBER VELSHI:** A question for the Office of the Fire Marshal and Emergency Measures.

On your slide number 8, on nuclear emergency compensation, where a working group has been re-established, is this consistent with what's in the *Nuclear Liability Act*? Is this outside that, because I don't see any federal representation on the working group or licensee representation? So help me understand, how does this

reconcile with the *Nuclear Liability Act*, please?

**MR. NODWELL:** Dave Nodwell, Office of the Fire Marshal and Emergency Management, for the record.

The group has really come together fairly recently, in light of the *Nuclear Liability Act*, and now that that provides clarity with respect to how that works the group is working with the insurance industry. Because there are components within the *Nuclear Liability Act* and there are components that are outside of the *Nuclear Liability Act*, so both of those are being looked at.

Certainly there have been representatives of the federal government participate on that, as required specifically those related to the act itself.

So the group is looking at all of those options that include what is covered under the *Nuclear Liability Act* and those that would be managed by the traditional insurance industry.

**MR. KONTRA:** If I may, Tom Kontra, for the record.

I would also add the routine in Ontario is for various municipalities to take the lead in assisting in an emergency. The *Nuclear Liability Act* in particular assigns benefits or compensation to people directly affected. A municipality who expends effort, resources and funds to assist those who are directly affected cannot gain

compensation under the *Nuclear Liability Act*, so certainly Ontario's looking to see what we need to do internally to deal with that.

**MEMBER VELSHI:** So if there is compensation to be made as a result of a nuclear incident - and maybe it's just my lack of understanding. I thought the *Nuclear Liability Act* was supposed to cover all of that -- but are you saying that there may be a need for additional insurance schemes to cover that?

**MR. KONTRA:** The *Nuclear Liability Act*, to our understanding, covers direct loses. So if my household is affected, I can claim directly for my losses, but the City of Toronto cannot claim for their expense in supporting me or my family in that instance.

**MEMBER VELSHI:** Okay. I guess this is a topic for another discussion at another date then.

**MR. KONTRA:** Yes, it is.

**THE PRESIDENT:** Yeah. This is managed with NRCan. There's a lot of complexities associated with it, about setting up a panel, et cetera, and application, so it is for another conversation.

Mr. Tolgyesi.

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

On "Actions taken by CNSC," it's action

number 2, it's saying that:

"As an interim measure a site inspector will be post at the nuclear power plant control room." (As read)

Does it mean that right now he's not there if it's an emergency?

**MR. SIGOUIN:** Luc Sigouin, for the record.

No, it does not mean that, sir. The process that we have in place right now is that a representative from our site inspector team will report to the emergency response facility at the site and act as CNSC's eyes and ears at the location.

What this is referring to is, in the interim of a near real-time MPP plant data system being implemented, there are measures taken for an additional inspector, who could be located in proximity. We've said in the control room, but after discussion with licensees it's in proximity to the control room, where they could have access to the additional data that we would require during a severe emergency.

So in answer to your question, there are staff on site during normal working hours where provisions to send staff to site as per our Nuclear Emergency Response Plan and procedures, and that has been in place for a long time. This particular reference is an additional capacity,

if required during a severe accident, to gain more information.

**MEMBER TOLGYESI:** Because my question was -- the next one was: When this online connection will be established between the site and the CNSC, what could become the role of the inspector on-site? It will be changed? Modified? To what extent?

**MR. HOWDEN:** Barclay Howden speaking, Director General of Reactor Regulation.

The role of the inspectors on site won't change. When this was identified during Exercise Unified Response, the concern was that if there is a loss of information between the licensee and ourselves that we could pick it up ourselves with an inspector on site. Through the data transfer project which you are just speaking of, we have been able to predefine all the information that's needed in advance. The licensees already collect those and even in the event of a severe accident, there are severe accident guidelines, they have templates that they can make available to us. So this is why Mr. Sigouin is saying that an additional inspector can be available near the control room, more for our situational awareness because we know that the licensees can provide the information directly.

In terms of our role during an emergency,

we have always had onsite staff go to the Site Management Centre. It has different names at different plants but it's basically where the site management gathers there to provide support to the control room who is looking after managing the emergency but also provides support to the offsite authorities. So that's normally where we would go.

But we have access to anywhere in the site as necessary. So if we had someone at the site management centre and we wanted them to go down to the control room, there is normally an EOC outside the control room just for situational awareness, we can send them there.

**THE PRESIDENT:** So while I have you here, where are we on the direct connection with the site? Is the site now connected to our emergency? What's the status of that?

**MR. COLE:** Christopher Cole for the record.

Just for everyone's information, I am the Chair of the working group that has been leading up this initiative to get the direct data transferred to the CNSC during an emergency.

In terms of physically transferring data to the CNSC, that's a bit of a misnomer. Information will be made available to us through their WebEOC system. So we will log into their website and they will plot that

information in the system on a frequency of about 15 minutes. So it's automatically updated onto their site so we can see it. They will supplement that with qualified data on an hourly basis so we can verify that the information is coming automatically, is in fact valid.

So at this stage, we have come to an agreement in principle with all three of the nuclear power plants, and a more detailed discussion or process will be taking place by the end of January 7<sup>th</sup>. So we will get submissions at that time saying how we expect this to happen technically, and our process to have it in place before the Bruce exercise in October 2016 is the ultimate goal.

**THE PRESIDENT:** Do you see any showstoppers here? You know, again for everybody here, Fukushima happened four years ago, it's getting to be a bit late for us to take our pace and not act aggressively to implement all the lessons we have learned from Fukushima. So if I show some impatience about some of those plans, forgive me but I figured after five years we should be all -- have implemented most of the lessons learned. So is there any showstopper about connecting us to the site?

**MR. COLE:** Christopher Cole for the record.

At this stage, we do not see any

showstoppers. I do have agreement in principle from all three nuclear power plants and our timeline should be respected.

**THE PRESIDENT:** Thank you.

I think we are going to break. Oh, Dr. McEwan, sorry, I forgot about you on the list here.

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

I'm actually carrying on this theme. In the staff presentation, Slide 8, there is a new Health Canada-CNSC Liaison Committee. In the second sub-bullet of the second bullet there is a comment that starts:

"Team approach to focus on common  
HC/CNSC health and protective  
measures assessment"

What does that mean and what is the product of that?

**MR. SIGOUIN:** Luc Sigouin for the record. So I will take that and maybe Mr. Ahier from Health Canada would like to add in.

As you can imagine, we have two groups within the federal government who can do the assessment of: are the appropriate protective actions being taken around the site; is evacuation the appropriate measure for the magnitude of this emergency, this release; should people be sheltering; what are some of these urgent protective

actions that need to be taken?

The CNSC EOC has a group of radiation protection and health physics experts that are looking at that. Part of the new process is that we deploy a liaison officer to the FNEP Technical Assessment Group, who are doing similar work but on a much broader scale as well. And we have come to an understanding of how the two teams will work together to come to a common operating picture of what the situation is, because both teams are looking at it from a little bit different perspective, but we have ensured that we understand each other, we have set up a system to share information and to actually have a resource physically at the FNEP TAG at the Health Canada EOC.

I would ask Mr. Ahier to add any additional comment.

**MR. AHIER:** Yes, thank you. Brian Ahier for the record.

I think that is a totally accurate statement. Certainly, the role of the FNEP Technical Assessment Group is to bring together the expertise that resides in different federal organizations to contribute to a consolidated situational awareness and to work in coordination with the provincial science groups to ensure that we all have the best picture. Each organization has the particular response objective they are looking at.

In the case of the FNEP TAG, we are looking at some longer-term and longer-range issues offsite. In order to do that, we require expertise from the CNSC with respect to source terms, information. For example, we work with Environment and Climate Change Canada to help us with some of our modelling capabilities.

The point is that these organizations have defined roles and responsibilities within the Federal Nuclear Emergency Plan, and the liaison committee that we have put in place earlier this year has helped us to resolve some of the specific operational coordination issues that appeared during Exercise Unified Response.

We now have procedures in place to ensure that our coordination occurs appropriately and we have even implemented some technical projects to benchmark some of our capabilities to make sure that we are working from similar assumptions and that our outputs are well coordinated and understood by everybody.

**THE PRESIDENT:** So just so I understand coordination and agreement, I'm just trying to bring it down to very specific. So do we now agree about what is a protective action? I'm talking about the numbers. When will evacuation happen vis-à-vis sheltering? You know, again, one of the big debates about Fukushima was maybe you shouldn't have evacuated everybody so quickly. Are there

now agreed-to procedures and the numbers, the dosage numbers for the evacuation, recovery and restoration? That, I understand, is a topic that every nation on earth now is trying to come to grips with, but the Office of the Fire Marshal will eventually have to come with operational data to give to Durham for example. So do we all agree on what are the parameters? Health Canada, maybe I will start with you.

**MR. AHIER:** Thank you. Brian Ahier for the record.

At the moment, we have current guidelines in place. We have mentioned at previous meetings that the intervention guidelines for emergencies are in the process of revision to bring them in alignment with international recommendations. Those guidelines have gone through two rounds of stakeholder consultations based upon the amount of feedback we have had, including from organizations such as the CNSC and the Province of Ontario. We have made further modifications and we will be taking those out for a third round of consultations before they are finalized in the next year.

In discussions with the Province of Ontario, my understanding is that based upon where the Health Canada guidelines end up, they may make similar revisions to their provincial plan as well, but OFMEM would

be best placed to answer that question.

**THE PRESIDENT:** Okay. Office of the Fire Marshal?

**MR. KONTRA:** Tom Kontra for the record.

Brian is absolutely correct, we use their current guidelines and we will adjust if they revise their guidelines and it is part of our review of the PNERP that is in process right now.

**THE PRESIDENT:** So all of this new information will be eventually in the provincial plan and in the federal plan so everybody can see them?

**MR. KONTRA:** That is correct.

**MR. AHIER:** Certainly, once the guidelines are finalized, they will be posted for example on the Health Canada website so they will be available for everyone to see.

**THE PRESIDENT:** Okay, thank you. I think it's a good time for us to break. At 11:10 we will come back. Thank you.

--- Upon recessing at 10:57 a.m. /

Suspension à 10 h 57

--- Upon resuming at 11:17 a.m. /

Reprise à 11 h 17

**THE PRESIDENT:** Okay. We're back and we will continue with the question period avec Monsieur Harvey.

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

The outcome of that exercise is something like a plan or organization that links and that makes better communication between all the intervenors. What is the flexibility of that organization? Well, if you start with a specific event and suddenly the event develops into a larger event, so what is the time of response and the flexibility to get the appropriate decisions?

**MR. SIGOUIN:** Luc Sigouin for the record. I suggest maybe we start from OPG and then go to OFMEM and describe how they would scale up and then we can finish with the federal level.

**MR. LESIUTA:** Steve Lesiuta for the record.

For any type of incident, we have notifications and all of our response structures are flexible. Depending on the size of the event, we can bring in more people. So we have callouts to all of our responders and depending on how the incident progresses, we can bring in more people or we can activate more centres as well. We have response centres that are at the site

location, offsite location and including the corporate response centre, and depending on how the incident progresses, we can easily activate all of those people who are on call to respond to any size of the incident.

**MR. SIGOUIN:** It's Luc Sigouin for the record. I wonder, Tom or Dave Nodwell from OFMEM, are you on the line and if you could give the provincial view on this?

**MR. KONTRA:** Tom Kontra for the record. Certainly, we also have a flexible response with default actions. On notification from the plant that some incident has taken place and has been categorized, we can respond in four levels as default, routine monitoring if there is nothing untoward, enhanced monitoring if we are waiting to clarify or some minor incident, partial activation or full activation at the top end where an emission is forecast imminent or is actually occurring. Those default responses bring with it specific actions up to and including advising the public through precast messaging as to what actions they should be doing.

Certainly, in the Provincial Emergency Operations Centre we have the ability to respond with staff at all levels to those various response categories, and at the high end we have practised on many occasions, but the whole Provincial Emergency Operations Centre staff can be

in within about two hours, which is the commuting time around Toronto where all the people live.

Our best record so far has been in 2003 when we had the blackout. Fortuitously, at the end of the business day, people in various government offices leaving and finding that they couldn't get anywhere, walked over to the Provincial Emergency Operations Centre, and we were fully staffed within about half an hour of the incident being recognized. So that's our sort of flexible response.

**MEMBER HARVEY:** So this is to say that within two hours a decision can be taken if some change occurs?

**MR. KONTRA:** No. The decision is taken within 15 minutes of being notified. I'm saying full staffing can occur within two hours.

**MEMBER HARVEY:** Okay. So you say that just for an example, within 15 minutes you can go from 10 kilometres to 20 kilometres, the evacuation?

**MR. KONTRA:** If that is the appropriate default action that I have preprogrammed, yes.

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

Ms Velshi...?

**MEMBER VELSHI:** So on a similar theme, slightly different angle. Many of our improvement plans here talk about a much greater reliance on electronic

media, whether it's on the new updated PEOC or the CNSC's Emergency Operations Centre or the webEOC, and one of the key lessons learned from Fukushima or our 2003 event that Mr. Kontra just talked about was this major failure of infrastructure where cell networks and the Bell systems were down. So what are the backup plans around that where you can't get hold of people over the phone, gas station pumps aren't working, so people can't even drive? How do you make that work then if there is major infrastructure failure?

**MR. KONTRA:** Tom Kontra for the record from Office of the Fire Marshal and Emergency Management.

We have worked through a number of those situations like the 2003 blackout, certainly a similar situation in 1998 with the ice storm, 2013 ice storm, 2009 I believe fuel shortage issues that affected all of this, and most -- I would say almost all of our various government level response organizations are redundant with various things. I will speak specifically for the Provincial Emergency Operations Centre. We have redundant generation for communications. And the reason I cited all those other incidents is that none of them were a total breakdown of the infrastructure. In other words, all of them had various -- somewhat limited but all of them had various abilities to communicate with the public.

So for us, we have at least three or four in-depth things: we have the generation; we have the double input in land lines; we certainly have cell and satellite communications; and we even have Radio Amateurs of Canada back up our communications system.

**MEMBER VELSHI:** Thank you.

And CNSC and Health Canada, same kind of backups or similar kind?

**MR. AWAD:** Raoul Awad for the record.

Actually, in this building we have a backup generator, and for the communication each site our inspectors, they have satellite phones that they can communicate directly with the head office as a backup.

**MR. AHIER:** And in the case of the broader federal -- well, both the Health Canada, Health Portfolio response and the broader federal response, the Health Portfolio has a Health Portfolio Operations Centre that has redundant power and communications. The Government Operations Centre I believe has similar redundancy, although Public Safety would need to be able to speak to that.

Certainly, for our technical capabilities within Health Canada, those are all written into our business continuity plans, and critical systems and mission-critical applications have supporting disaster

recovery plans with recovery time objectives and our plans are in place to allow us to meet those.

**MEMBER VELSHI:** And in your exercises or design of exercises, do you plan on having to instigate any of these backup plans? Like does that happen on a regular basis? I will start with the Fire Marshal's Office first and then maybe Health Canada can talk about it.

**MR. KONTRA:** Tom Kontra for the record.

In point of fact, in Exercise Unified Response we did play a scenario where normal communications were disrupted and we had to practise our backup situations. So we did do that and we frequently do that in other exercises as well.

**MEMBER VELSHI:** Thank you.

**MR. SIGOUIN:** Ms Velshi, Luc Sigouin for the record.

If I may add, that was also practised during the New Brunswick Power exercise where the site went without telephone communication for a certain period and we had to use backup systems. So that is a common practice.

**MEMBER VELSHI:** Thank you.

**THE PRESIDENT:** Well, maybe I will take a minute now to ask. I know there is an NB Power representative here. What is their take from the Unified Response Exercise here? Did they learn something to allow

them to plan their exercise better?

**MR. HICKMAN:** (Off microphone) do you want to take the first part of that?

**THE PRESIDENT:** Go ahead. I see some other people --

**MR. HICKMAN:** Okay.

**MR. PLUMMER:** For the record, this is Brett Plummer, VP CNO of New Brunswick Power, Point Lepreau. Charles Hickman will now answer that question.

**MR. HICKMAN:** Good morning. For the record, this is Charles Hickman, formerly the Manager of Health, Safety and Environment at Point Lepreau, currently the Director of Emergency Planning for NB Power Corporation. Can you hear me?

**THE PRESIDENT:** Yes, we can.

**MR. HICKMAN:** Okay. So thank you for the opportunity to explain how we took some lessons learned from the Unified Response Exercise. I think two of the items of note, we were observers during Unified Response. OPG was kind enough to invite us. We had three observers who actually watched the actual exercise and we have had the opportunity to visit the local and the provincial response centres as well, so we got some firsthand feedback in that respect.

In order to incorporate some of the onsite

lessons, we actually had an oversight team established to help design the exercise that we ran in November. That oversight team included a senior member of the Ontario Power Corporation Emergency Management side. So Jim Coles was on that oversight team for us and he was able to bring some very pertinent lessons forward from Unified Response.

Also, I think it's worth noting that OPG has been very open in sharing some of their lessons learned through the CSA Committee on Nuclear Emergency Response. OPG chairs that committee but we are also part of that, so we have picked up a number of lessons learned through that committee.

And lastly, we included in our design team a number of different organizations, perhaps more than was originally anticipated, to try to learn as much as we could from Unified Response and other exercises as well. So we took every opportunity to learn what we could from Unified Response and from Huron Challenge before that, and I think a lot of the comments that you have heard from other federal and provincial members speak to the fact that we all strive and I think we have been successful for ourselves in learning from Unified Response and from the rest of the industry as we progressed into our Intrepid Exercise in November.

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

I would like to move on. Monsieur Tolgyesi...?

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

You know, in November 2014, when Mrs. Margaret Purdy was presenting the conclusions, she was saying at one page that (indiscernible) exercise did not simulate many of the demands and expectations of CNSC during a significant domestic nuclear emergency.

Considering this Exercise Unified Response update, do you believe that the missing simulations on demands and expectations are not impacting the conclusion of the exercise?

**MR. AWAD**: Raoul Awad for the record.

Actually the simulation is related to vehiculating the information to other federal departments and I will ask Mrs. Cattrysse to answer this question.

**MS CATTRYSSSE**: Hello, I'm Clare Cattrysse. I am the Director of the Policy Aboriginal International Relations Division at CNSC and in the EOC I'm the Chief of the Government Relations team.

It's correct, the federal players were not fully tested and we do know that if all the federal players were involved that the demands on the EOC would have been extremely high. So as a follow-up of that, one of the

recommendations that Ms Purdy did have was that she felt that -- and we agreed -- that the demands on the Centre for briefings for Deputy Ministers, Cabinet members would be extremely high and that there needed to be a bit more clarity on roles and responsibilities.

Now, we didn't do this test either through the FNEP and the GOC exercise. So what we did is we held a workshop with Foreign Affairs, Health Canada, Public Safety, Natural Resources Canada to sit down and discuss our roles and responsibilities and we want to go beyond the Purdy report.

So what we are looking at is an emergency situation where you have -- the FNEP is kicked off, but we also wanted to look at situations where CNSC might be on our own for quite a long time if there was an incident in the States that didn't trigger the full FNEP. So what we are doing is we are mapping out timelines right now to figure out who would be doing which briefings, how would we coordinate the briefings.

We have been told by Health Canada too that there have been some significant improvements through the FNEP to do federal briefings, and the Government Operations Centre has also told us that they don't really think there is that much of a gap with respect to how briefings could be done and rules and responsibilities.

So we are hoping that by mapping the timelines out, we will be clear on if there are any gaps and we will have all this -- we are aiming to have everything resolved and clarity on these processes before the end of March. I hope that helps.

**MEMBER TOLGYESI:** You know, considering that this Point Lepreau exercise was later on, did you include some of these communications, improved communications, into the exercise or you didn't? What I mean, if what was learned from Darlington and there was some missing communication, you didn't -- they were not there. When you were trying to do the exercise at Point Lepreau, there were some improvements where you included some missing things there.

**MR. SIGOUIN:** Luc Sigouin for the record.

During Exercise Intrepid, which was an excellent full-scope exercise, but it was essentially a provincial exercise with participation from two federal organizations, the CNSC and Health Canada's FNEP TAG, so there was not that opportunity to test what you have just described as this information-sharing and preparing briefings for high-level government and politicians.

Ms Cattrysse may add some additional comment.

**MS CATTRYSSSE:** It's Clare Cattrysse for

the record.

During the Fukushima event, however, we were doing this activity and we were doing continual briefings and we do know that it takes a huge amount of work. So what we have done, we have worked with Mr. Sigouin's group, we have added an extra room for government operations, we have a number of people well trained.

The way that our organization at CNSC is set up, it's quite well set up for our whole directorate, is we do briefings, we prepare people for Cabinet committees, that's what we do, and so we are just making sure that we are going to have all the resources available and we just were recognizing it's going to be a huge undertaking if it really was an event in Canada. So that's why we are working very closely to just make sure we have mapped out with other departments who is doing what and we are making sure that our staff are well trained about what the expectations are going to be on them.

**MR. AHIER:** Thank you. Brian Ahier for the record. Just to add some additional information.

As mentioned by Luc Sigouin, there was participation at the federal level during Exercise Intrepid. It was focused at the federal level, the technical assessment and interaction with the Province of New Brunswick. CNSC, Health Canada, as well as several

other FNEP partners, were playing in that.

But in order to address one of the scope limitations that we saw in Exercise Unified Response, which was the lack of participation of Deputy and Cabinet committees, as I have mentioned previously, we are maintaining a multiyear nuclear exercise calendar of agreed and proposed exercises that will be routinely interfaced with Public Safety's Federal Exercise Working Group to get larger, broader federal buy-in.

That allows us, when we have broader buy-in at the federal level, to engage with the ADM and DM committees to see if we can get their involvement in the exercises. I think that when we get commitment on that broader level of play at the federal level, that will allow us to test some of those mechanisms that were flagged as potentially missing in Margaret Purdy's report.

**THE PRESIDENT:** When is your next planned big exercise and where?

**MR. AHIER:** There is an exercise that is being organized by Bruce Power later in 2016. The level of federal involvement in that exercise is still under discussion.

**THE PRESIDENT:** Thank you.

Dr. McEwan...?

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

I would like to go to the Summary of Recommendations from the Management Action Plan and also Ms Purdy's slides 8, 9 and in particular 10. If I look at reference H27 on page 3 of the document that we got yesterday -- so Ms Purdy's slides were given to us under CMD 14-M72.4. OPG? You haven't got them?

--- Off-record discussion / Discussion officieuse

**THE PRESIDENT:** Just tell them what the issue is.

**MEMBER MCEWAN:** Okay, so let me tell you what the issue is and we can ask you to respond.

This is I think primarily for Health Canada and for staff, so I think you are off the hook.

If I look at Ms Purdy's Slide 10:

"CNSC's role and authority in these areas..."

That's public health impacts, offsite protective measures.

"...did not appear..."

The "not" was underlined and bolded.

"...appear to be well or widely understood."

If I look at H27, which appears to be a sort of kind of response to that, you say that it's completed, and yet I have heard no assurance that Health

Canada's role is well understood -- excuse me, that CNSC's role is well understood.

And in the completed section, you say:

"Procedures exist and discussions will take place."

Implying a future activity, which implies that it is not completed.

So where are we with those activities? And perhaps you could identify for me what Health Canada perhaps sees CNSC's role in this environment is.

**MR. AHIER:** So Health Canada will start on this one. Brian Ahier for the record.

I think I will start with what Health Canada's role is because that might be easier.

Under the Federal Emergency Response Plan, the FERP, both Health Canada and the Public Health Agency are responsible for emergency support function 5, which is human health and essential health -- public health and essential health services.

That's one of the reasons why we have the FNEP. The FNEP supports the response to the radiological impacts in an emergency. The FNEP also outlines the roles and responsibilities of all of the FNEP partner organizations in contributing to a set of nuclear emergency functions, one of which is protective action

recommendations.

So in the first instance, the provinces have responsibility for public health. The federal government will support them or deal with areas within federal jurisdiction, and under emergency support function 5 on public health, Health Canada is identified as the primary department for the protective action recommendations that are applicable to the federal mandate, with support from other organizations, including the CNSC.

Clearly, the CNSC brings in a lot of expertise and capability that supports the overall assessment of public health and that is why the CNSC plays an important role in the FNEP Technical Assessment Group, both with respect to the Onsite Conditions Group and the TAG Risk Assessment Group, that recognizes the expertise of the CNSC. It also recognizes the fact that the CNSC is the Canadian nuclear regulator.

I think during Exercise Unified Response there was an observation from Margaret Purdy about perhaps some lack of coordination or clarity around the roles and responsibilities, which in many ways we see as reflecting perhaps at the time a weakness in some of our operational arrangements.

So since that time, we have had many operational discussions with CNSC staff, we have discussed

this within the Health Canada-CNSC DG committee that supports our Memorandum of Understanding, and under that we also created a Health Canada-CNSC Liaison Committee for Emergency Management where we have also discussed how in an emergency we bring together the various sets of expertise to ensure that there is no conflict on the day that we need it. These procedures have been documented. They were practised during Exercise Intrepid and I think there is some pending action just I think in terms of the briefing up to senior levels in terms of what those arrangements are.

And I guess CNSC, if you have something to add to that.

**MR. SIGOUIN:** Thank you. Luc Sigouin for the record.

So just to layer on the additional CNSC's perspective on this, the comment that Ms Purdy made was relative to a specific interaction that she observed and I think if she was here she would support the statement that it was not an endemic problem that she observed but it was related to one observation that needed to be looked into because it might have been indicative of something more.

Since then, Health Canada and CNSC have worked very closely together, as Mr. Ahier has talked about, at the pre-existing DG level committee but also at

this new committee that was set up to coordinate emergency management measures. So since establishing that committee, we have revised the roles and clarified the roles and responsibilities and we have trialled this during the New Brunswick exercise that occurred in November.

I think that the Action Plan that you see in the Annex maybe should read "will continue to discuss these issues." So as the committee continues to meet on a regular basis and we do exercises and we have lessons learned, that work will evolve and we will adjust as required.

I think it's important to note that in spite of what Ms Purdy recognized or observed during the exercise and the significant work that has been done to address that since then, CNSC and Health Canada demonstrated during a real event, during Fukushima, for several weeks that we could work collaboratively together and there was clarity on who would be speaking to what topics at that time. So I think the issue was highlighted by Ms Purdy, but I think it has been addressed, completely addressed by Health Canada and CNSC in the ongoing work that we have done since then.

**THE PRESIDENT:** So since I have everybody, all the players here in the room, let me try out my understanding of the role of CNSC, okay, and I think that

came up in the Darlington hearing and I sort of expressed it.

Yes, we have technical capability and we cooperate and we are participating, but I think the debate about jurisdiction always comes up and I thought that post-Fukushima we launched the KI -- the KI distribution project is a pretty good example -- not example, but indication about the CNSC role.

We did not distribute the KI pills, we did not eventually decide how it will be done, but we caused it to be done, and the reason that's important is that historically there was a perception the CNSC role is inside the fence -- everybody know what I mean by that -- inside the facility, not outside the facility. Well, I don't buy into that. I believe since we license the licensee, everything the licensee does comes under our own jurisdiction.

So I look at the emergency plan, that we would like to make sure there is a plan, a coherent plan, all the way from the federal government to the provincial level, down to the region, down to the household. Now, how do we make sure it happens? That can be debated, but we always look at the licensee to make sure it does happen and let them put pressure on their own stakeholders and friends, locally, et cetera, to make it happen. And I

thought it worked pretty well with the KI distribution. There were resource investments by the licensee to make sure it happens.

So I see it's the same thing. We will not rest until we see a coherent plan at the federal level, provincial level, regional level and some messaging down to the household and, you know, a lot of commitments are being made by next year. It will be a critical milestone because a lot of people believe that most of the work that you guys are doing will be ready by 2016, and we are looking for this coherency because I have been in the government for a long, long time and I know how difficult it is to coordinate in an emergency.

So enough of my rant. Somebody tell me if I'm right or wrong.

**MR. LESIUTA:** Steve Lesiuta for the record.

You are 100 percent correct, Dr. Binder. As a licensee, we do work with all the stakeholders to ensure that -- we do work very well with all our stakeholders to keep the momentum going so we have all these plans in place. And the example that you gave about KI pills was an excellent example. As you know, we are 100 percent compliant with the REGDOC on KI pills and that was an example where all of us worked very collaboratively

together, and our presentations today also show that we are working together to meet these 2016 deadlines that we have discussed.

**THE PRESIDENT:** Are you suggesting we need to put what I just said in a REGDOC or in the LCH somewhere to make it happen?

**MR. LESIUTA:** Steve Lesiuta for the record.

No, I'm not suggesting that at all, but we are working together with all of our stakeholders to meet these timelines.

**THE PRESIDENT:** Thank you.

Anybody? Office of the Fire Marshal, do you want to comment on that?

**MR. KONTRA:** Tom Kontra for the record. No, I don't want to comment on it, but since I'm here.

**THE PRESIDENT:** Okay.

**MR. KONTRA:** I think I keep emphasizing, certainly at every provincial opportunity, that our way of getting things done is what I refer to as C-cubed or C3, and it is coerce, cajole and coordinate, and definitely that works better than using jurisdictions and my stick is bigger than your stick in this area.

You may recall that we were working on KI before REGDOC-2.10, and yes, there was a bit of a push and

we all collaborated in the C3 fashion to achieve the goals. So we will continue to work together with facilities, stakeholders, municipal, federal and everybody else. Thank you.

**THE PRESIDENT:** Thank you.

Health Canada...?

**MR. AHIER:** Brian Ahier for the record.

I would like to reiterate what I said on my last slide in the presentation, that Health Canada takes its role and leadership for the FNEP very seriously. We certainly are fully aligned with the CNSC and with the view of the Commission that we need coherent plans, and I think it's important not to only consider Exercise Unified Response.

Since Fukushima -- actually, I would like to go back to Fukushima. Mr. Sigouin has already mentioned the excellent cooperation that both Health Canada and CNSC and the rest of the federal government provided during that important response, but since that time, in order to address lessons learned and also to support the revision of the Federal Nuclear Emergency Plan, we cooperated in 2013 to host two provincially based workshops to bring all stakeholders together to start talking about how we coordinate our plans and make sure everything is well aligned.

That led to a whole series of escalating exercises that at the federal level culminated in Exercise Unified Response. Clearly, we have taken very seriously the lessons learned coming out of Exercise Unified Response.

We continue to cooperate through various means and we have already touched today upon some of the formal venues we have for allowing those discussions to occur beyond the normal day-to-day operational level discussions that happen.

So it's fair to say that at the federal level we work very well, we work very closely, and that includes with Public Safety and the Government Operations Centre and all the rest of our partners, but we also work closely with the provincial authorities and that's why we have made efforts to ensure that we have operational arrangements, fit-for-purpose arrangements, arrangements that will work on the day that they are needed with our linkages down into the Province of Ontario.

We focused recently on the Province of New Brunswick. We are preparing annexes to the FNEP for our -- for linkages with other provinces, including British Columbia where one of the FNEP scenarios of concern to them is nuclear power vessels. So overall, we work to ensure that we have coherent plans across all of the scenarios

that have a relevance to the FNEP.

And I just want to say that the cooperation that we had with CNSC has been excellent and we look forward to that ongoing work as we continue to implement the outcomes of Exercise Unified Response and also whatever comes out of the evaluation of Exercise Intrepid.

**THE PRESIDENT:** Thank you.

Where were we? We are back on the top of the list. Monsieur Harvey.

**MEMBRE HARVEY :** Merci.

My question is for the Fire Marsha. If a nuclear event occurred and has the potential to touch for example the Quebec side around Chalk River, I imagine that you will have to get in touch with the protection civile du Québec. My question is will the communication with Quebec be right at the beginning of the event or just if needed, and will the response in that case in Quebec, will it be in the same order of timing as in Ontario?

**MR. KONTRA:** Tom Kontra for the record.

Thank you for that.

I can assure you that Quebec and Ontario work together on many levels with respect to protection civile or emergency management. We do share our plans with them, and between the province and CNL we provide them with

all the information regarding the various stages. We have, through CNL, also provided them with the plans for KI and public education. So you would have to specifically ask Quebec as to their guarantee of the same level of response and reaction.

That whole area is closer to the Point Lepreau model, where on the Quebec side there are very few residences and even fewer of those are year-round all-weather, so there is an ability to reach out specifically to each household. But I would have to ask somebody from Quebec to specifically respond to you, other than to say that we share everything with them.

The specific question about do we notify them early on or later, it depends on the specific incident, and if there is any effect or potential effect to Quebec, then we would notify them immediately.

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

**THE PRESIDENT:** Thank you.

Ms Velshi...?

**MEMBER VELSHI:** Thank you.

A question for -- or I would like to hear from Point Lepreau, CNSC staff and Health Canada, and it's around Exercise Intrepid and your objective of evacuating a 20-kilometre zone and particularly in light of the extensive discussions we have had about beyond-design-basis

accidents or the CPR accident and the kinds of implications that may result from that.

I just wondered what was the basis for coming up with an evacuation within the 20-kilometre zone and whether it was just to test your evacuation capability, and then to hear from Health Canada how -- you know, what kind of scenario would result in that protective measure, and then from CNSC staff what are the implications of that for other exercises for other facilities that may be in much more populated areas.

So I will start with Point Lepreau and get some insight into why the 20-kilometre zone.

**MR. PLUMMER:** Okay. This is Brett Plummer for the record. I will ask Charles Hickman to answer that question.

**MR. HICKMAN:** Charles Hickman for the record.

I will just confirm, can you all hear me?

**THE PRESIDENT:** Yes, we can.

**MEMBER VELSHI:** Yes, we can.

**MR. HICKMAN:** Okay. So when we went into the design process for the exercise, we approached both our internal resources and all of our external partners, both federally and provincially, and requested their input in terms of the design and the objectives that they would like

to meet as part of the exercise. This is now a standard part of large exercise design.

As a result of that discussion, we specifically crafted a scenario that would lead the offsite authorities, Provincial Emergency Measures Organization, to consider whether or not an evacuation, full or partial, was an appropriate protective action for the progression of the event. So the design of the actual exercise incorporated taking the accident progression to that point where the province is required to make that decision.

The distance, we have the emergency 20-kilometre zone. We have a defined emergency planning zone. It's based off IAEA guidance documents with regards to potential dose and voided doses. The decision-making around whether or not to actually evacuate is a function both of the voided dose, again back to IAEA documentation, but it also takes into account specific weather conditions and predictions about the accident progression as well.

So during the exercise on day two, the province chose, based on the situation that was developing in the scenario, to evacuate within the emergency planning zone -- for us, that's 20 kilometres -- and as part of that exercise design, rather than evacuating the entire population of approximately 3500 people, we had identified, peer-identified almost 200 people, 190 individuals who

would be willing to be evacuated through a formal evacuation process, including registration, going to reception centres, including pets and so on.

So the evacuation was designed previously as part of the planning process for our emergency response plan. The objective was to test that portion of the plan. The exercise achieved that objective. The province -- I think we all learned a certain amount from it. That's why we do these exercises.

But I would like to give a significant I'll say vote of confidence to the province and their partners in this because it went extremely well. The Red Cross stepped up. They actually set up a reception centre which accepted the individuals. We had an animal rescue team set up to receive pets. We actually evacuated a local school as part of this. They went to their own reception centre.

So this is a major stretch to actually do a real live evacuation with real live volunteers. It went extremely well. I think it proved that we have that capability, that the province has that capability, but it was definitely a team effort and real credit to all the people involved.

**MEMBER VELSHI:** Thank you.

So just to confirm, you were actually able

to come up with a scenario that necessitated the evacuation within the 20-kilometre zone?

**MR. HICKMAN:** To be very technically specific, it necessitated the province to make a decision about whether to evacuate or whether to order a shelter in place but it required them to make decisions on protective actions for offsite persons, offsite public.

**MEMBER VELSHI:** Thank you.

Health Canada?

**MR. AHIER:** Thank you.

Brian Ahier for the record. I can't really comment on the choice of the scenario for the exercise, but a few more generic comments.

International guidance as well as the Health Canada intervention guidance indicates that decisions on protective -- urgent protective measures should be based upon plant conditions, supported by additional modelling or monitoring results. Our guidelines contain intervention levels for evacuation and sheltering. The guidelines are undergoing -- the draft revised guidelines contain more detailed information on that, including operational intervention levels, essentially measurements in the environment that would indicate whether a particular protective action decision should be taken.

In support of that, the Technical

Assessment Group, the FNEP Technical Assessment Group, through its various partners, including Health Canada and Natural Resource Canada, et cetera, can provide additional modelling and monitoring information.

We have monitoring stations located around the nuclear power plants that give us real time data out to a number of kilometres that would be supported by predictive modelling results out to many kilometres. We can model out to either short range to a longer range. All of that information would be provided to the province to support their decision-making. Their decisions would be based upon their own provincial criteria for protective measures.

**MEMBER VELSHI:** So for this particular exercise, with that input information on what the source was, what the weather conditions are, et cetera, with your modelling and your guidelines as they exist today, do you know if that's what your recommendation to the province would have been, to evacuate within that 20-kilometre zone? I'm trying to grapple with what scenario would lead to that as the required protective action.

**MR. AHIER:** I think in general the scenario that would lead to an evacuation is whether the population would receive a dose above or below the appropriate criteria.

During the exercise, the Technical Assessment Group in Ottawa was developing assessments. We also had a liaison officer in person in the New Brunswick operating centre in their provincial Technical Assessment Group to provide that liaison and coordination between the assessments that were happening in Ottawa and the assessments that were happening in the provincial level. The CNSC also had a liaison officer located in the Provincial Science Group as well, I do believe.

So that would allow us to have an overall coordinated awareness of what was happening, both based upon the specific data and information being produced provincially as well as the broader range of information that's available from federal partners. Based upon those results and comparison against the appropriate criteria, the province would be able to make a decision.

I cannot comment on how that worked during this specific exercise because I was an observer during the exercise and don't have the specific information on the decisions that were taken at that time.

**MEMBER VELSHI:** Thank you.

**MR. SIGOUIN:** Luc Sigouin for the record.

The situation in New Brunswick is a little bit different than Ontario. If we want to do an apples-to-apples comparison, the 20-kilometre zone that they use --

they have that in their plans -- is not analogous to the 10-kilometre zone in Ontario. New Brunswick has a 12-kilometre zone and a 4-kilometre zone also in which they can take different levels of action.

The accident scenario that was modelled and exercised during Intrepid did not lead to projected dose consequences that would have exceeded the recommendations for evacuation of 20 kilometres. The decision to evacuate to 20 kilometres was an operational decision that was made and really it was driven by the objectives of the exercise.

So around the Point Lepreau station in New Brunswick, evacuating to 20 kilometres is convenient from an operational standpoint. There aren't that many more people who need to be evacuated and it allows the provincial organizations to establish access control point and management of evacuees at two very strategic locations along one highway. So it's very convenient for them operationally to evacuate to 20, and part of the exercise objectives was to test those, access control evacuation, reception centres, and so on, that are there.

So in summary, the accident itself did not require evacuation to that distance during the exercise. It was an operational decision that was made to allow them to test some of their capabilities.

**MEMBER VELSHI:** That's very helpful. The next part then is so what are the implications in Ontario? I mean you have been to all these hearings. We will say, well, we need to test for evacuation in Ontario, you know, beyond 10 kilometres -- I mean even out to 10 kilometres. And when you have an exercise like this happen, is there an expectation that that would happen in other provinces as well?

**MR. SIGOUIN:** Luc Sigouin for the record. I will provide some initial comment and maybe we can ask OFMEM to add to it.

I think the purpose of these exercises is to test the -- to give an opportunity to decision-makers and technical people to test their processes. It's not a competition of who has the biggest source term and who will evacuate the furthest. So part of the exercise design is to determine what is it that you want to test and then to come up with a scenario that allows you to put people in a situation where they can make those decisions and see if the processes work.

I think that Exercise Unified Response was an excellent exercise that allowed decision-makers to test their processes and systems, and whether that would have necessitated a 5-kilometre, 10-, 15-, 20-kilometre evacuation, it didn't matter. So we are satisfied that the

exercise that was undertaken in Ontario was an effective one and there was value to it and there is no need to compare the size of the evacuations between exercises.

I'm not sure if OFMEM wants to add anything else.

**MEMBER VELSHI:** So maybe I can ask OFMEM to answer that but in light of do you see a scenario where you would actually want to test evacuation within 10 kilometres or whatever of a plant in Ontario?

**MR. KONTRA:** Thank you very much.

Tom Kontra for the record.

Obviously, that might pose certain concerns for various people. I think what's more important, as Luc just mentioned, Exercise Unified Response took us to a decision point for ordering an evacuation and, as I continually emphasize, we have that mechanism. In previous exercises, we have established reception centres and we have done nominal evacuations to assess, similar to what was done recently at Point Lepreau where they evacuated 10 percent. I'm not sure we did 10 percent but we certainly have in past exercises done some sampling of that nature.

The next exercise coming up, we haven't designed the objectives yet, defined the objectives, that will happen sometime in January, and we will see exactly

what the various levels wish to do in that respect.

**MEMBER VELSHI:** Thank you.

**THE PRESIDENT:** Thank you.

Mr. Tolgyesi...?

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

On Slide 14 of staff, you are talking about working with Health Canada to establish national guidance documents and decontamination and recovery strategies. How are these two completing each other?

**MS RICKARD:** It's Melanie Rickard for the record. I work in the Radiation Health Sciences Division.

Can you just repeat the very last part of your question?

**MEMBER TOLGYESI:** How are the decontamination strategy and recovery strategy complementing each other? Is there a priority to do one before the other one or there are some population fears more for one or the other one?

**MS RICKARD:** Thank you. The recovery strategy is a fulsome approach. So with that respect, today we have been talking about the emergency phase. Now we are talking about the recovery phase for when the emergency is over and really addressing whether citizens can continue to live as they normally would in a given area

or perhaps they might need to stay away. If they do return, what sorts of things need to be considered in order to ensure that they are protected and that they can live a relatively normal life.

So the decontamination strategy is really part of the recovery strategy and it addresses characterizing the situation, so characterizing the level of contamination and decontaminating to a level that's considered safe. So the decontamination is just a specific part of the overall recovery strategy and for whatever reason we decided to highlight that in the slide.

**MEMBER TOLGYESI:** So you discussed with Health Canada to what extent and when the population could move back, what should be, I don't know, the food limits or contamination limits?

**MS RICKARD:** Absolutely. All of those things. So the recovery strategy will cover several components, including, like I said, characterization of the situation, a decontamination strategy, waste strategies, tools to help people self-help so that they can implement protective strategies that they can live with on a day-to-day basis. All of those things will be part of the strategy that we are working on with Health Canada.

The CNSC is taking the lead, but we will be collaborating with all of our stakeholders in order to

develop recommendations that will address what Mr. Binder has already said today. It will address roles and responsibilities of all the jurisdictions down to the level of the homes themselves and the people, what they will need to do in such a situation.

**MEMBER TOLGYESI:** Health Canada, do you have some comments?

**MR. AHIER:** I think the information provided by Ms Rickard is absolutely correct from the perspective of Health Canada. I think in many ways the decon strategy, the waste strategy, they address criteria and processes. The broader recovery strategy also needs to consider roles and responsibilities of organizations, stakeholder engagement, all of the necessary pieces around the governance.

So CNSC and Health Canada have been discussing on how best to move forward with this and part of the approach will be to reach out to the broader range of organizations that we know will have a role, although I think those roles and responsibilities still do need to be defined.

**THE PRESIDENT:** Are you going to -- when -- you mentioned that you are now consulting on this and I assume the report will be ready soon, at least in 2016.

As we observe what's happening in Japan,

right, are you going to address the issue with -- I think everybody is struggling with the regulatory limit of 1 milliSievert is being looked upon as a health limit rather than a regulatory limit and therefore in Japan is a reluctance to go back to an area that the contamination is, let's say, below 20 milliSieverts. I am being very specific because that's a specific international issue that needs to be addressed before an accident happens, not while or after an accident.

So that's why we are really looking forward to seeing these kinds of arguments that Health Canada and the health community -- to differentiate between the health parameters and the regulatory parameters which are continuously being confused.

**MR. AHIER:** Brian Ahier, for the record.

The document that will be going out soon for consultation is the intervention guidance for emergency situations. So they will take us up to -- the Transition to Recovery includes evacuation, sheltering, food guidelines.

The recovery is a different issue and is not captured in the intervention guidance document and that's the reason why we have been having a conversation with CNSC staff to provide how do we move forward on that piece?

As part of those discussions we will be clearly looking to available international guidance from the ICRP and the IAEA with respect to appropriate limits for long term existing radiation protection situations, looking at the bands of reference levels and other guidance around that. That will clearly be incorporated into the discussions that we have as we elaborate what I would see to be a framework for the post-accident recovery situation.

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

Dr. McEwan...?

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

If I go to OPG's Slide 7, "Dose Control and Reporting" I think in your presentation you actually used the term "a new approach to dose control". Can you explain how this works? Presumably this is in the acute phase. Is it for workers on site and emergency workers being brought in and how has this developed as a new process after the exercise?

**MR. LESIUTA:** Steve Lesiuta, for the record.

The current plans do not explain how personal dosimeters are processed for non-OPG workers or what to do with the results. The proposal describes how the dose will be recorded at the Emergency Worker Centre and how it will be tracked.

**MEMBER MCEWAN:** So do you have the ability for remote monitoring of the doses or do they have to be manually -- manually measured?

--- Pause

**MR. AZEVEDO:** Ian Azevedo, for the record.

What the arrangements are calling for is that the dosimetry that is handed out to the emergency workers, you know, it was very clear for OPG people how we do that, you know we have a set of instructions how we set the limits, how we set back-out limits for those dosimetry -- for that dosimetry, how we bring it back, how we record all that, and how it gets sent back to the database.

And for non-OPG workers, you know other first responders at the Emergency Worker Centre, that process wasn't well-defined. So what this document does, it defines that, sets that process out; talks about what the responsibilities are for the various organizations and making sure that that happens so that the doses are tracked and recorded.

**MEMBER MCEWAN:** So who would have ultimate responsibility in saying that this emergency worker can no longer go back in because he or she has received a dose that is above limits?

**MR. AZEVEDO:** So right now, of course, the employer, each group's employer has the responsibility to

ensure that their folks don't exceed the regulatory limits. In this proposal, in this proposed document we would have a database that, you know, no matter where the workers are bringing their dosimetry back to be recorded that that would show so that we could track to certain limits and ensure that they wouldn't -- we would set an administrative limit and it would ensure that overall they wouldn't go above the limits.

**MEMBER MCEWAN:** So it's still not clear to me that in the chaos of the emergency how you would track an individual OPG worker or first responder or other emergency worker who would be coming in and out, presumably, of the actual working environment. How do you monitor those individuals in real time?

**MR. MANLEY:** Robin Manley, for the record. Workers are provided with an electronic personal dosimeter. That information is linked to the database. So it provides a local display to them and to anyone who is providing protection to them. So for example, an emergency worker is not necessarily a qualified radiation protection expert. So the person who is providing the radiation protection to them in an emergency is keeping track of how they are doing in terms of the overall dose.

Then as they come out of the workplace for

that time and the information gets downloaded into the database it's compared against limits. So if those limits were close to being met then those workers would not be able to proceed back in again.

You were asking also about remote monitoring. Within the nuclear power plant we have certain facilities for remote display, what we call tele-dosimetry. That does not provide coverage, you know, everywhere around a nuclear station because it's typically focused around operational areas where we go in the normal course of events.

We have a certain capability to expand that or extend that to other locations by first a kind of mobile platform but, again, you know depending on where the exact scenario was we might or might not have remote monitoring in that way. I hope that answers your question.

**MEMBER MCEWAN:** So let me try and understand. The worker comes out. Their dosimeter is downloaded into a database. This is a common database for both OPG and emergency workers so everybody is in the same database. Who would have the responsibility -- I am still not clear -- of saying that this worker can or cannot go back into the workplace?

**MR. AZEVEDO:** Yeah. Ian Azevedo, for the record.

Actually, it's not a common database as you described. You know, for OPG and other licensees those databases exist and so what needs to be done is a database needs to be created, you know which should be fairly straightforward because other licensees use this and we use it.

So the document lays out that that would have to be created and if everyone agrees then we'll adjust our -- you know, someone would have to put that together. There were -- you know, the working groups talked about several proposals on how that could -- you know who could do that work for us.

But we will very soon in January or February have the finalization of that document which will lay out exactly who would be doing that work.

**THE PRESIDENT:** So CNSC, will you be looking at this document because here is where again we have learned from a previous accident in Fukushima. There was very sloppy tracking of the dosage for some of the workers. They were going in and out and were lacking dosimeters, all that kind of thing.

So this document will be shortly available. Presumably you will -- CNSC staff will look at it from safety to a worker's perspective?

**MR. SIGOUIN:** Luc Sigouin, for the record.

So in response to that specific question, sir, yes, CNSC staff will look at it. The staff is involved in this committee that OPG is describing. So we are aware of the work that is going on and staff from our Radiation Protection and Radiation Health Sciences Divisions are involved in that work.

I just wanted to make a clarification though. This dose control and reporting enhancement that is being discussed is not related to workers at the nuclear power plant. OPG has a very robust, very mature dose control program for workers at the station. Our Radiation Protection Division and our regulatory programs oversee that and evaluate it. We have seen that system used during exercises almost on an annual basis. So we have no concern with that.

This specific recommendation relates to dose control for those people who go through the Emergency Worker Centres that are set up 10-12 kilometres away from the plant; first responders, police, ambulance drivers, people that are assisting with the evacuation, dealing with any emergencies in and around the nuclear station, these people who might have to go into contaminated environments, how their doses are managed and controlled.

So I just wanted to clarify this is about -- and Mr. President, I know you don't like the term onsite

and offsite but from an onsite standpoint OPG has this and all licensees have this set up, this opportunity for improvement related to how to manage the doses of all those individuals that go into contaminated zones to do work.

**MEMBER MCEWAN:** So we still have two populations monitored quite separately. We have one population who are the emergency workers coming in from the outside and one population who are part of the OPG. So how is, if you like, the dose distribution among those two populations who presumably are going to be working side by side absolutely together going to be monitored and tracked and the individuals most at risk identified?

**MR. SIGOUIN:** Luc Sigouin, for the record. I'll start off and then maybe we can pass this off to Health Canada and the Province as well.

My understanding, sir, and Dr. McEwen, and we can -- and OPG can confirm this, but anyone who comes on to the OPG site will be under their dose control program. And they will account for the doses of anyone who comes on their site and they will ensure radiation protection for them. OPG employees who are working at Emergency Worker Centres kilometres away from the plant will be under OPG's dose control program.

There are other -- there is personnel from Health Canada, provincial ministries, provincial police,

regional police, whoever who will be working in the evacuated zones in potentially contaminated zones and they will go through access points at these Emergency Worker Centres and they will be assigned duties and they will be assigned dosimetry. And this is what this is addressing that there was an opportunity to improve how that was done.

Maybe we could ask Health Canada to talk about how they manage dosimetry for the FNERP assets that are --

**MEMBER MCEWAN:** So can I just cut in --

**MR. SIGOUIN:** Yes.

**MEMBER MCEWAN:** -- just cut in very quickly?

So a fire fighter who is working on the site who has come in from one of the local communities to support your onsite staff, how will they be monitored and how will their monitoring be tracked? Because you have just told me they are going to be given a dosimeter at the emergency centre so they are going to be given a dosimeter as they come onsite in an emergency environment.

**MR. MANLEY:** Robin Manley, for the record.

That's correct. Once they come on site we make sure that we are provided with dosimetry and protection so that all the dose limits are safely maintained.

**MR. AHIER:** Brian Ahier, for the record.

Just a few additional points to add to that.

Under the Federal Nuclear Emergency Plan, Health Canada can provide a field response capability and that's already been made reference to in terms of the federal workers that can go down and work in either some of the controlled areas or to provide assurance monitoring. We do that in joint cooperation with the Ministry of Labour.

In Ontario, for example, we have a joint federal/provincial team. Those teams are fully equipped with their own dosimeters, both electronic personal dosimeters and passive dosimeters that will serve as the dose of record. The electronic personal dosimeters will be used to manage the radiation dose during the event to ensure that people do not exceed administrative or regulatory dose limits. The passive dosimeters will be used to provide the dose of record that is submitted to Health Canada's National Dose Registry.

During Exercise Unified Response there was an opportunity to -- a finding to improve how all of those offsite emergency workers; federal, provincial, what-have-you improve their overall coordination with respect to dose control. That is what the current group is addressing. I think that group is addressing the questions that you are

currently asking and the report, or at least a draft of a procedure from that group, is pending in the next few months, I believe. I don't want to mis-speak the timeline on that.

One of the additional assets that Health Canada will bring into that overall control is we are able to provide an additional resource of electronic personal dosimeters and passive dosimeters to other workers beyond just the federal family. That is something that's also being taken into consideration as we develop these procedures within that dose control group.

**THE PRESIDENT:** Thank you.

Back to the top here. Monsieur Harvey...?

**MEMBRE HARVEY :** Pas d'autre question.

Merci.

**THE PRESIDENT:** Merci.

Ms Velshi...?

**MEMBER VELSHI:** A question to staff. You said the next update that you are planning is part of the annual MPP report. So will that include updates on all the plants or just the CNSC? And if it's just the CNSC how do we know all this is now being completed to finish?

**MR. AWAD:** Raoul Awad, for the record.

We will update you on our action plan and on the licensees; OPG, Bruce Power and the others action

plans.

**MEMBER VELSHI:** So what about Health Canada and the Office of the Fire Marshal and Emergency Measures' plan or maybe Durham Region's plan?

**THE PRESIDENT:** So let me piggyback on this question.

So the next MPP annual update is sometime in August. Would that be a good time to get a real update on all the plans that we have from Health Canada, joint work from OPG and from the Office of the Fire Marshal and Emergency Management and staff, August 2016?

We are a bit insistent on dates and delivery, as you know. So is that a good time to get at least an update. Hopefully the project will be complete by then.

Mr. Jammal...?

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

A couple of things. First, I will answer the question by Ms Velshi with respect to the process.

The answer; yes, we will be using the annual report as an update to the Commission, so that will be whatever comes first. So if we have a significant update we are not going to wait for the annual report. We are before you on a monthly basis for the NPP status

report. Significant major changes, we will update you as quickly as we can. The annual report is an indicator that will update you collectively.

With respect to the present question on August or not, we are starting to look at the preparations for establishing the annual report and we will look at our partners that are before you with respect to providing you an update. If there is an update we will give you a written update, and if there are no updates we are going to say there is no update and we'll take your direction and we'll come back, and we will provide you with progressive dates on how we are accomplishing the action plan and the requirements that are being imposed by the Commission.

**THE PRESIDENT:** I assume silence is concurrence; right?

**MR. PLUMMER:** Brett Plummer, for the record.

NB Power would like the opportunity to share the lessons learned during that period as well.

**THE PRESIDENT:** By all means.

**MR. PLUMMER:** Thank you.

**THE PRESIDENT:** Okay. M. Tolgyesi...? Dr. McEwen?

Oh, I have a couple of questions here. So the Office of the Fire Marshal says

that we have to do the exercise once a year. That's what the provincial legislation says. Is that being followed up?

**MR. SIGOUIN:** Luc Sigouin, for the record.

If we could ask Mr. Kontra to clarify this, my understanding is he was referring to the obligation of municipal and provincial ministries to do one exercise of any type annually.

Mr. Kontra, could you comment on that?

**MR. KONTRA:** Tom Kontra, for the record.

In fact our EMCPA does say that for municipalities and we do have a longer term plan working with the nuclear facilities who have a very detailed exercise plan. They do various levels of exercising throughout the year and obviously they can speak to that. We work with them on anything that requires an offsite notification and depending on the objectives that we have assigned and they have assigned and then we work with them collaboratively up to and including something like Unified Response and the next planned exercise for the fall of 2016.

**THE PRESIDENT:** So I am just trying to figure out, so Durham is required to do an annual kind of an exercise, emergency exercise?

**MR. KONTRA:** Durham is required on an

annual basis to exercise their emergency plan. They are not required to specifically do a nuclear exercise. So it's their internal plan as to what their two, three, five year progress is and they may choose to do Unified Response in '14 and in 2013 they would have done maybe a flood. In 2016 I'm not sure what they are planning on doing.

But it's an annual plan of the emergency management program that they have established.

**THE PRESIDENT:** But for staff for communities near a nuclear power plant, you may be piggybacking on some of those exercises. Even though it's not nuclear you can learn a lot of readiness, if you like, for other emergencies. Do you do that?

**MR. KONTRA:** Oh, absolutely; absolutely. And the nuclear Exercise Unified Response in 2014 provided Durham with a lot of non-nuclear issues.

The beauty about exercising the emergency management plan is that the cause of the incident is immaterial. We, in the municipal and provincial field respond to the offsite or to the general consequences and whether that's from nuclear contamination or flooding or a derailment causing methyl ethyl nasty spill, it really doesn't matter. We practice the emergency response to the specific consequences.

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

I have two other quick questions.

Was the planning basis document that the Office of the Fire Marshal promised to deliver, was it delivered?

**MR. KONTRA:** Tom Kontra, for the record.

In fact it was delivered to our stakeholders. We had a quick discussion at the Nuclear Emergency Management Coordination Committee meeting on the 10th of December where we got some immediate feedback from our stakeholders. We were also collecting written feedback. We have committed based on the immediate feedback to do some additional research and we have actually been discussing some of that with the CNSC staff.

And we have committed to the Nuclear Emergency Management Coordination Committee to come back on their comments by the end of January to give them an update on where we are with the additional study and whether we have completed it or not.

But, yes, we have delivered the document and we are now reacting to the immediate feedback by our stakeholders.

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

Do you want to add anything to this?

**MR. AWAD:** Raoul Awad, for the record.

Actually, I confirm that we received that

document and we made comment and we are working with them now to the next phase of this study to confirm all the science behind the planning zone.

**THE PRESIDENT:** So my last question is probably the real -- to me is the one that we are striving to see.

Who is going to provide the information to the household? You know, the KI pill, I remember there was this debate about how to distribute it. At the end of the day when all those updates for the nuclear plants come together who is going to produce the summary and communicate it to the household, to the hospital, to the school boards?

Remember that every time we have a public hearing in those communities, we hear that they don't know what the plan is.

So let me start with you, OPG. Do you see yourself part of this equation?

**MR. LESIUTA:** Steve Lesiuta, for the record.

Yes, we see ourselves as part of the equation. We would work together with the Region of Durham and the Office of the Fire Marshal to ensure that the household get the proper information.

As we worked together for the KI pill

distribution, we had a very comprehensive communication strategy and we provided comprehensive information on a nuclear emergency to the household and we would work together collaboratively again with the stakeholders to ensure that they get the proper messaging.

**THE PRESIDENT:** So hearing all this work that's been going on, when do you -- let me put you on the spot. When do you think such an update of information can be sent to the households into your communities?

**MR. KONTRA:** Tom Kontra, for the record.

So the void here we are, as indicated by OPG, working collaboratively on the public education program. We are updating it on a regular basis. We have had a couple of key milestones with KI and the previous addition of the information brochure from OPG. We are going to continue that. We take the opportunity annually at the Emergency Preparedness Week to emphasize in general and in Durham Region, for example, nuclear preparedness.

So essentially we are continuing to update that public education program in all areas of the province.

**MR. LESIUTA:** Steve Lesiuta, for the record.

As Tom said from the Office of the Fire Marshal, there are annual campaigns and we have participated in the last two annual campaigns with the KI

pill distribution, the flashlight the previous year. And we would support what the Office of the Fire Marshal and the Region of Durham is doing to promote more awareness of the households.

As Tom said, Emergency Preparedness Week is always a good time to provide information and if the Office of the Fire Marshal is looking to do something during that time, we would provide input to that as well.

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

Any final comments?

Okay, thank you. Thank you for your presentations and we are looking forward to the updates.

We will reconvene after lunch at 1:30.

Thank you.

--- Upon recessing at 12:40 p.m. /

Suspension à 12 h 40

--- Upon resuming at 1:34 p.m. /

Reprise à 13 h 34

**MR. LEBLANC:** Okay. We are ready to resume, and I just want to verify that we have people on line.

I understand there are representatives from NB Power.

**MR. TAYLOR:** Yes, this is Dean Taylor, Nuclear Safety Manager from NB Power.

**MR. LEBLANC:** Thank you, Mr. Taylor.

Then we have representatives from Bruce Power, despite their very busy schedule, today.

**MR. SAUNDERS:** Yes, it's Frank Saunders and Maury Burton here from Bruce.

**MR. LEBLANC:** Thank you.

**THE PRESIDENT:** Okay. Let's begin with the next item on the agenda, which is a status report on power reactors, which is under Commission Member Document CMD 15-M47.

And I understand, Mr. Howden, you'll take us through this?

Over to you.

**MR. LEBLANC:** And just before you start, Mr. Howden, I just want to verify if we don't also have an OPG representative on the line, Mr. Lehman?

**MR. LEHMAN:** Yes, that's correct.

**MR. LEBLANC:** Sorry; I forgot you just earlier. Thank you.

**CMD 15-M47**

**Status Report on Power Reactors**

**MR. HOWDEN:** Thank you. Barclay Howden speaking.

Good afternoon, Mr. President and Members of the Commission. My name is Barclay Howden.

With me today are our power reactor program division representatives, plus technical support staff who are available to respond to questions on the Status Report on Power Reactors, which is presented in CMD 15-M47.

The document was finalized on December 14th, 2015, and the only update to report is that Darlington's Unit 3 restart is in progress following the planned outage.

This concludes the Status Report on Power Reactors, and we are available for any questions.

We do have slides to bring up if you have questions regarding the Point Lepreau, but they'll be what you have in your package.

Thank you.

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

So let's jump to the question session, starting with Dr. McEwan.

**MEMBER MCEWAN:** The -- I guess the Darlington heat transport pump, what are the implications of that trip and how rapidly does a response have to come to a trip like that before it's safe?

**MR. HOWDEN:** Thank you. Barclay Howden speaking.

Mr. Rinfret has lost his voice, so he's just given me -- so with that motor failure, the reactor would have tripped right away, yeah, on low flow. And OPG is available to speak to it if you wish.

**MEMBER MCEWAN:** So it's an automatic complete --

**MR. HOWDEN:** Yeah. And it -- the system and the reactor responded as expected.

**MEMBER MCEWAN:** Thank you.

**THE PRESIDENT:** Okay. Ms Velshi.

**MEMBER VELSHI:** I really wanted to ask you on Lepreau, but let me just finish up with the Darlington one.

So the automatic trip, now -- and it says it took 20 days to replace this damaged mortar, so the unit needs to be shut down to replace it.

**MR. HOWDEN:** Barclay Howden speaking.

That is correct. I believe they're also taking advantage of the outage to do other things, and

there is a Darlington rep available to provide you with information if you wish.

**MEMBER VELSHI:** So yes, if you could, and also just let me know, was -- you know, did the refurbishment scope include replacing this motor or this pump?

**MR. MANLEY:** Robin Manley, for the record. Jeff Lehman, our Director of Station Engineering, is on the line and will be able to provide an answer.

Jeff?

**MR. LEHMAN:** Yes, thank you. For the record, Jeff Lehman. I'm the Director of Engineering at the Darlington site, and thank you for allowing me to participate today.

So yes, two points there.

First of all, the -- as a result of the pumptrip, we do have an immediate reactor shutdown. That's the first point.

And secondly, during refurbishment, when the units come down for refurbishment in the case of Unit 2, all four heat transport motors will be replaced.

However, in addition to that, we do have an ongoing monitoring program and a number of motors will be replaced on an ongoing basis, both prior and after

refurbishment.

**MEMBER VELSHI:** Thank you.

**THE PRESIDENT:** M. Harvey

**MEMBER HARVEY:** Just a question about those motors.

Have those motors been there for the -- for a long period of time for the start of the unit or you change such motors from time to time?

**MR. LEHMAN:** Yes. For the record, Jeff Lehman.

Yes. These motors are the original motors from original commissioning. However, we do have a spare motor, and over the course of the last several years, I've got -- spare motor has been moved into various units on an as required basis.

**THE PRESIDENT:** M. Tolgyesi?

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

How many days to change a motor? It's --

**MR. LEHMAN:** Jeff Lehman, for the record.

In order to change a heat transport pump motor, we do need to shut down the reactor. And because we are -- have been monitoring the situation and because we're monitoring the condition of the motors, we have a pre-established outage plan available to us. And that outage

is, as stated, typically 20 days.

In the case of Unit 1, the -- what I can tell you is that that pump motor, the motor that tripped, has already been removed, the new pump motor is in its stand and we expect to be returning that unit to power within about a week.

**MEMBER TOLGYESI:** And this is -- the origin of the fault is a ground fault. Did you find -- did you do a root cause analysis to find what was the reason for this grounding and did it happen in the past in any -- you have several of these motors.

Do you have the experience it's happened in the past on other motors?

**MR. LEHMAN:** Jeff Lehman, for the record.

So yes, we have four of these heat transport motors installed per -- for each unit, so a total of 16 for the Darlington site.

In this particular case, for Unit 1, pump motor 1, the root cause is under way to determine the cause of failure.

The initial indications so far are that it was a ground fault. It was an electrically-induced failure. But obviously, that may change as we complete the investigation and as we inspect -- disassemble and inspect the motor.

The second question around failures, we have -- on occasion over the last 25 plus years of operation, we have had a very small number of pump motor trips and we've done a root cause on each one of those as they have occurred.

This particular failure, as I say, we're at the front end of the investigation. We do not yet have a definitive root cause, but we do suspect an electrically-induced failure.

**THE PRESIDENT:** Thank you.

Dr. McEwan.

**MEMBER MCEWAN:** So Point Lepreau, thank you for the graphs. They actually made the text very understandable.

This is, to start with, just a very, very simple question. If I look at your Figure 2 in the CMD or I think it's the -- it's also in the handout.

This is a recently refurbished facility. That looks an awfully rusty unit to me, particularly the -- in fact, both edges, but particularly the right edges as you're looking at it.

Would it be normal for that much rust to be in a newly refurbished facility, or relatively new?

**MR. POULET:** Ben Poulet, for the record.

I'll begin with the answer and let NB

Power elaborate on the answer.

The refurbishment focused on the nuclear systems directly related to the reactor. This is a ventilation fan that was -- this is probably original equipment. It's been maintained over the years.

The issue of rust, or this is surface rust, has to do with the fact that Point Lepreau is located near salt water body, and it's not unusual to have rust show on the surface of certain equipments. It's taken care through regular maintenance.

So I will -- it doesn't mean that the component's not functional. It's just the surface rust.

I will let NB Power add to my answer if they wish.

**MR. NOUWENS:** Jason Nouwens, for the record.

I think the summary that was just provided is quite accurate. We do have a challenge with the salt air in our environment that does frequent surface rust.

We do a comparison system overhaul that ensures the equipment is fully functional even if the appearance of it is less than what we would prefer. We are embarking on a campaign to ensure that the surface conditions of our equipment is improved, and that will be coming in the coming years.

**THE PRESIDENT:** Just a follow-up. Could a failure of this piece of equipment can cause a shutdown of the unit?

**MR. NOUWENS:** A failure of this equipment would cause the event that is summarized in this in the sense that it will cause an impairment. And if the -- the corrective actions for the failure would be what you've seen in the event where containment would be boxed up.

That would prevent the shutdown, but that would cause some operating restrictions that we would attempt to get the equipment back in service to alleviate.

So when the containment building was boxed up, it caused some restrictions on access and makes it a little more difficult to do the day-to-day operations, so we wouldn't want to stay in that condition long term.

But the failure of the equipment itself would not cause shutdown.

**MEMBER VELSHI:** So I need help understanding the progression of events that led to this, please.

So Level 1 impairment is extremely serious, right, I mean, compared to 3, 2 and 1, so this very serious event caused by what looks like a fairly minor triggering event.

So I suspect this is cause for great

concern.

I'd just like to understand how something small resulted in something that could have been potentially extremely serious, and the dependence on the operator to take the action. I don't know why -- does the reactor box up automatically? What if he hadn't seen the alarm bell?

Why not a root cause as opposed to an apparent cause, which I don't know what is as intrusive an investigation?

So help me understand the sequence of events.

You may need to go through what you've already sent to us, but just so that I can understand how things progressed and what's really critical and what are some of the interim measures being taken to address this.

**MR. POULET:** Is this to staff or is it to NB Power?

**MEMBER VELSHI:** It was to New Brunswick Power, please.

**MR. POULET:** Thank you.

MR. NOUWENS: Jason Nouwens, for the record.

I'll provide some high level comments, I guess, to attempt to address your questions and then turn

it over to Dean for more of the nuclear safety aspect of it.

So you are correct that it is a single component that failed that caused this event. That is part of the investigation into the failure and what corrective actions we can put in place to prevent this in the future. So we can provide more details when that investigation is done.

With respect to your comment on the -- what's stated as a high apparent cause evaluation as opposed to a root cause, typically, on an equipment-specific failure, we will use a high apparent cause.

So the wording may not be "root cause", but it is -- it's still a very intrusive investigation, looks at extended conditions and actions to prevent recurrence.

So I don't want you to have the impression that we're taking this lightly in any way. A root cause we would use for more significant events or ones where we are concerned that the procedural organizational aspects are there, and this one, it's specifically an equipment failure.

We have implemented some preventive maintenance on the affected equipment as an interim measure, but when the full investigation is done, we will

implement that we would consider full prevention measures to prevent this from happening again.

With respect to the seriousness of the Level 1 impairment and nuclear safety aspect, I'd like to ask Dean Taylor if he could provide some context into the - - in the significance of this event, but also in what other defence in depth measures we have in place that prevented this event from being more serious.

**MR. TAYLOR:** Thank you, Jason. This is Dean Taylor, for the record.

When we look at this particular parameter, it did create a Level 1 impairment on multiple safety systems. However, there are multiple trip initiation parameters for each safety system, and this condition that was experienced at Point Lepreau would have resulted in a delay on only one parameter, and it would not have prevented the safety system -- any of the safety systems from being effective.

**THE PRESIDENT:** So why was it shut down manually rather than automatically?

**MR. TAYLOR:** When there is a -- this is Dean Taylor, for the record.

When there is a fault on the system, CANDUs are designed in a very robust way, and they're designed to detect conditions that may result in systems

being impaired. And there are pre-established responses and procedures for those conditions.

And the condition that we were in, the procedures were followed, and the procedure has the operator to automatically box up containment in order to put it in a safe state, and that is done because one of the initiation parameters was not available in the event it was called for.

**THE PRESIDENT:** So just so I can understand, so let's assume if the operator didn't react, would there be another defence mechanism that's set in?

What would happen if the operator didn't shut it down?

**MR. TAYLOR:** Yes. If the operator would not -- again, Dean Taylor, for the record.

Had the operator not boxed up containment and a worst case event would have occurred, there are other diverse parameters which would have created the box-up condition automatically. And in this particular case, any type of radiation release from a system that would have tried to get outside of containment would have initiated containment box-up on high activity.

**THE PRESIDENT:** Ms Velshi.

**MEMBER VELSHI:** So if I look at what was given to us this morning, the graphs, I understand the 48

seconds from the enunciation to the Level 1 impairment starting.

Where does the 150 seconds of the containment system impairment show up, then, or is it just 198 less 48?

**MR. TAYLOR:** This is Dean Taylor, for the record.

That is correct. It's the time from the impairment level being reached until the time the operator acts.

**MEMBER VELSHI:** And it says approximately 150 seconds, but it isn't really approximate. It's pretty precise because you've got the graph that shows when the pressure starts going up again.

**MR. TAYLOR:** This is Dean Taylor, for the record.

That is a correct interpretation. It was -- based on the data collected from our data logging systems, it was 150 seconds. That is a precise number.

**MEMBER VELSHI:** And then was the unit -- did the unit have to be shut down for you to replace your equipment?

**MR. TAYLOR:** This is Dean Taylor, for the record.

No. The containment building was put in a

safe state and all impairments were cleared within minutes of the event, the 38 minutes. That's 38 minutes to be exact.

**MEMBER VELSHI:** Thank you.

And just a quick question to staff. Your last comment that this completes the staff report on this event, you just mean for now; right? You may be coming back after you've seen the high apparent cause evaluation report.

**MR. POULET:** Ben Poulet, for the record.

That is correct. We're satisfied with the response of the NB Power at this point. Should anything come out that is unusual following the completion of the apparent cause evaluation, we would, of course, come back and inform the Commission.

**MEMBER VELSHI:** Thank you.

President, if you can just -- one very quick question.

How many Level 1 impairments happen in a year?

**MR. TAYLOR:** This is Dean Taylor, for the record.

Typically, there are very few Level 1 impairments that would happen in a year. At this point, for the year at Point Lepreau, we've had a total of, I

believe it is, four Level 1 impairments.

**MEMBER VELSHI:** Thank you, staff.

Across the fleet?

**MR. HOWDEN:** So without having the stats, we're -- just our experience, about one a year across the fleet if you do an average.

**THE PRESIDENT:** Is that --

**MR. HOWDEN:** Per station across, but we'd have to pull it out of our regulatory oversight report.

**THE PRESIDENT:** Is that a good SPI or whatever we call them nowadays, indicators for -- that we keep monitoring and reporting on?

**MR. POULET:** Impairments -- this is Ben Poulet, for the record.

Any impairments such as Level 1 impairments are, of course, reported by -- to the Commission by the licensees, but we do -- we do the appropriate regulatory follow-up, but we don't count because they're not all the same.

A Level 1 impairment is based on -- the application of impairment levels is very strict, and it varies from safety system to safety system.

The rules apply to different safety systems in a different way, so it's not appropriate to count Level 1 impairments.

They are of interest, of regulatory interest, and to both CNSC staff and, of course, the licensee organization, but we don't count them for the sake of counting them.

**THE PRESIDENT:** But that's my question.

I understand we follow on one by one when they happen, but why is that not a good indicator -- if everybody is using Level 1 as a measure of severity of the incident, why is that not a good proxy for a cumulative number per year?

That's not the industry proxy. Is that what you're saying?

Anybody? Does OPG measure, or Bruce?

**MR. POULET:** Yeah. I can add to my earlier response regarding -- this is Ben Poulet, for the record.

These Level 1 impairments are reported to CNSC, as I mentioned, and are included in the data for system reliability, so they're already counted and accounted for in the reliability.

**MR. HOWDEN:** So Barclay Howden. I'd just like to comment.

We do report them, but not necessarily statistically. If you'll recall in the reliability section -- you probably don't recall, but anyways, in the

reliability sections, we do go through any of impairments of special safety systems per unit, but we haven't -- we haven't put them in a graph for comparison.

And I think if that's something the Commission wants, we will look at it to see what value it has. But they are --

**THE PRESIDENT:** No, I'm just interested if the industry itself are monitoring it, you know, because if they do monitor it, then why not? I don't want to create a new monitoring if it doesn't make sense.

Mr. Jammal?

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

As mentioned by my colleague, we -- under system reliability of the year end report, we track every Level 1 impairment.

In addition, we do present the values. I'm going by memory. I'll -- we'll give you the value by the end of this session. It's not a problem.

The key point here is, I want to close the fact that Level 1 impairment is an indication of the potential impact on the unit.

Under the Op and P's that is approved by the Commission, Level 1 impairment has to be addressed quickly.

And the reason I'm putting this from safety perspective, at no time that, let it be an immediate automatic trip or a manual trip, will take place based on the level of impairment.

So we do track them from a regulatory oversight perspective for closure with respect to the cause or extent of condition of the event, but I do not want to leave the perception that Level 1 impairment is directly impacting safety.

At no time there was any safety concern with respect to the application of the OP and P's approved by the Commission or the action taken by the licensee or the operators. But we do track them in number, and now the question becomes is it an SPI or not. Well, let us evaluate.

As we mentioned, if there is a feedback mechanism of usefulness to us, we will look at it.

When we looked at the SPIs, we established the SPIs in collaboration with the industry based on the old S99 factors, and we determined based on risk informed decision what key SPIs we will try out and then we will expand and extend the SPIs as we're getting more knowledge with respect to the reporting mechanism.

But I just don't want to leave the fact that Level 1 impairment at no time is putting the safety of

the reactor in question. The operator must shut down the unit.

**THE PRESIDENT:** Thank you.

M. Harvey?

**MEMBER HARVEY:** Just to clarify the explanation of a Level 1, the last sentence, the system would not be able to provide adequate protection in the event of the worst case accident scenario.

Is this to say that during that 150 seconds, if there is a crash, if there is an earthquake that the reactor would not trip?

**MR. TAYLOR:** This is Dean Taylor, for the record.

I'd like to provide one erratum before I answer that, and that is a correction on my previous number of four Level 1 impairments. We had two Level 1 impairments prior to this event, so that is a correction.

To answer your specific question, the definition that you see in the CMD is a very bounding and very large definition. In fact, Point Lepreau's definition includes a number of different states. One is that the shutdown system does not have the capability, but another is that a single-trip parameter may not be effective or has not been analyzed, and that is the case in this event for Point Lepreau.

We have performed a safety significance and it does demonstrate that at all times we did have the adequate means to shut the station down and to mitigate any radiation released to the public. There was no increased risk to the public during this event.

**MEMBER HARVEY:** Okay, so it should be written differently maybe. Yes?

**MR. POULET:** If I may, that is what the -- if you look in the middle of the third paragraph, where we say:

"CNSC Staff says in the CMD the delay would impact the effectiveness of the special safety system for a limited number of postulated scenarios. The accident scenarios which do not rely on RB pressure would not be affected." (As read)

So it's consistent with what Mr. Taylor is explaining, is that we did mention that.

**MEMBER HARVEY:** That's one of the --

**MR. POULET:** Yes.

**MEMBER HARVEY:** -- different means?

**MR. POULET:** And that parameter may only be required for certain accident scenarios.

**MEMBER HARVEY:** Okay. Thank you.

**MR. POULET:** I'd like to point out -- to go up with the "approximately 150 seconds in approximately 38 minutes," the reports we get includes decimal. We didn't include those, so that's why we say "approximately.

Thank you.

**THE PRESIDENT:** Thank you.

Mr. Tolgyesi.

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

My understanding is that the reactor building pressure is normally maintained between minus .1 and minus .8 kilopascals. In this paragraph, one, two, third paragraph, at the end you are saying that "Reactor building pressure also initiates automatic closure of the containment isolation valves at 3.45 kilopascals," which is quite high, which means that the pressure inflow is high, but there's no outflow. That's what my understanding is.

Why you don't have some system which will operate automatically also?

**MR. POULET:** You know, as stated in the report, the box-up that's at 3.45 kPa is above atmospheric. This is an automatic parameter. It would box up containment automatically. And the basis for that parameter is for the accidents, you know, that box up, it's supposed to protect for, which are failure of either the

heat transport system or a secondary cooling system inside the reactors, steam event inside the reactor. That's what the purpose of that parameter is. So it is automatic. It does box up containment.

**MEMBER TOLGYESI:** Because I feel that there is quite a difference between those two pressures, okay? And you were saying that the operator shut down the valves because he finds that the pressure is dropping -- I'm sorry, the pressure is decreased, and so that's why he shut down.

And there is some automatic system, but this automatic system is at 3.45. So should we have another one, another limit, which, you know, will shut down the system when the pressure is not at 3.45, but, I don't know, much closer to operating limits? Then you will not have -- you will not have this problem of -- you have a problem with this -- how you call that? Just a second.

The joint where, you know --

**MR. POULET:** I think you're referring to the expansion joint.

**MEMBER TOLGYESI:** Yeah.

**MR. POULET:** That's not necessarily involved here.

If I could just speak to the 3.45 limit, that's a positive limit, meaning this will be 3.45 kPa

above atmospheric, whereas normal pressure is slightly below atmospheric. That's just the way the reactor building is operated during normal operation. So the gap, in actual fact, is quite small. You want to maintain that gap between -- slightly below atmospheric. For something -- for the reactor building to go above atmospheric, it would have to be a fairly significant event.

So we want to maintain the margin as small as possible so that we have a quick response time to the possible event, and I can let Mr. Taylor complete my answer, if he wishes.

In terms of the expansion joints, this was just a direct result of a surge outside the reactor building caused by the damper -- the louvers suddenly closing.

I'll let Mr. Taylor complete my answer if he wishes.

**MR. TAYLOR:** This is Dean Taylor, for the record.

That is a good answer, Mr. Poulet, and I would concur.

**MEMBER TOLGYESI:** And my last is: were these equipment -- you know, you did a large refurbishment. Where these equipment covered by or included in the refurbishment also or were not?

**MR. POULET:** Ben Poulet, for the record. I would NB Power I think to answer this question.

**MR. NOUWENS:** This is Jason Nouwens, for the record.

This equipment was not included in the refurbishment scope. We base refurbishment scope on equipment that was critical to the reactor, and primarily equipment that is difficult to access during normal operation. This equipment is easily accessed during normal running state, so we can maintain it at any time, and for that reason it was excluded from the refurbishment scope.

**MEMBER TOLGYESI:** And my last is that you told me it has a controller failure. Do you have a preventive program where you replace these controllers automatically after some period of time, or you wait until it breaks, then you fix it?

**MR. NOUWENS:** That's a good question.

This is equipment is not equipment that we would "run to failure," which is the term we use, or "run to maintenance." This is equipment that we would maintain preventively to ensure that it always continues to operate. However, in this event the fuse supplying the power supply failed, so we are adding that to our preventive maintenance strategy. In a further high apparent cause evaluation,

we'll look at other measures we can implement on a preventative aspect.

**THE PRESIDENT:** Thank you.

Dr. McEwan.

Ms Velchi.

Monsieur Harvey.

Okay.

**MR. HOWDEN:** Can I just do a quick summary, Dr. Binder --

**THE PRESIDENT:** Go ahead.

**MR. HOWDEN:** -- just to make sure that...?

So I think the pressure is kept negative in containment because containment is to contain. When positive, if it goes positive, it could indicate an event, like a loss-of-coolant accident, and that's why the pressure goes up, it boxes up. If it goes too low in this case, and you have that very remote event occur, it takes longer to get to the point where you box up containment. So that's why you have these impairments.

We're looking at 99.9 percent reliability on safety systems, and so an impairment shows that it's gone outside that reliability. Then we rely because on these for conservative decision making. So, as Mr. Jammal said, an event has not occurred, but if an event did occur, your safety system wouldn't work as well. So you have to

address the impairment, and if you're not able to fix it within the time period set then you'd have to shut the unit down. So that's kind of the logic.

So you think of it as going too high is important, but too low is just as important, because then if you have an event it takes longer for the pressure to go up to that automated point.

In this case there's alarms on containment, the operator noted the alarm, saw it, diagnosed it, boxed it up, Level 1 impairment went away fairly quickly. If he or she was not able to do that, they would have had to start preparing themselves possibly for a safe shutdown of the unit.

So, again, it's all about conservative decision-making, and it drives them through the process. I think in this case, although there were these impairments, they did react in the manner that we expected them to. So I think that's an important message to come across for you. And then if they weren't able to fix it, they would have had to shut down the unit.

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

The next item on the agenda is a decision item on REGDOC 2.3.1, Conduct of Licence Activities: Construction and Commission Programs, as outlined in CMD

15-M49 and M49.A.

**CMD 15-M49/15-M49.A**

**Oral presentation by CNSC Staff**

**THE PRESIDENT:** I understand that Ms Owen-Whitred will make the presentation. We'll give you time to set up.

Go ahead any time.

**MS OWEN-WHITRED:** Okay.

Bonjour, monsieur le président, membres de la commission.

My name is Karen Owen-Whitred, Director of the Regulatory Framework Division. With me today are Haidy Tadros, Director General of the Directorate of Regulatory Improvement and Major Projects Management, who will be presenting the document-specific slides today, also, Doug Miller, Acting Director of the New Major Facilities Licensing Division, as well as other CNSC Staff available to support and answer any questions.

We are here today to request that REGDOC-2.3.1, Conduct of Licensed Activities: Construction and Commissioning Programs, be approved for publication and for use by CNSC Staff in assessing the acceptability of construction and commissioning programs.

Before outlining the presentation and discussing the document in detail, I will briefly review the role of regulatory documents and where REGDOC-2.3.1 is situated within the CNSC's regulatory document framework.

Regulatory documents are used by the CNSC to provide clear requirements and guidance for facilities and activities under our oversight.

Documents generally provide both requirements and guidance. Requirements are mandatory once included in the licensing basis and lay out what must be done to meet the expectations of the document. Guidance helps inform licensees and applicants on how the requirement should be met, as well as giving information about how CNSC Staff will evaluate their applications.

The CNSC has a robust process to develop our requirements and guidance, which includes rigorous analysis of modern domestic and international best practices, as well as comprehensive stakeholder consultation and engagement activities.

This process helps ensure that our regulatory documents are reasonable and comprehensive, clearly addressing issues that control and enhance nuclear safety, security and protection of the environment.

Regulatory documents may be applied using a graded approach, which allows for the documents to be

adapted to suit the risks and particular characteristics of a regulated facility or activity. Once published, regulatory documents support both licensing and compliance, describing clear expectations against which regulatory activity and facilities are assessed.

To enhance accessibility of our regulatory expectations, the CNSC structures our regulatory documents according to the framework shown here. This slide shows where REGDOC-2.3.1 fits into the CNSC's broader document framework. It is situated within Section 2.3, "Operating Performance." This section also includes regulatory requirements and guidance for accident management and for periodic safety reviews.

I will now turn the presentation over to Haidy Tadros, Director General of the Director of Regulatory Improvement and Major Projects Management.

**MS TADROS:** Thank you.

Good afternoon, Mr. President, and members of the Commission. For the record, my name is Haidy Tadros, Director General of the Directorate -- Karen introduced me -- and I'll be presenting the document-specific part of our presentation.

This slide provides an outline of what we'll be covering today, starting with a brief historical perspective of the regulatory oversight around construction

back when the current Canadian nuclear power reactors were being built.

Next, we will cover the objectives of REGDOC-2.3.1 and explain the consultation process and feedback received before moving on to explain how the document, if approved, would be implemented.

Finally, we will finish with CNSC's Staff conclusions and recommendations.

For currently operating facilities the *Atomic Energy Control Regulations* contain clauses pertaining to construction and commissioning activities. At the time, the Atomic Energy Control Board's regulatory oversight during construction focused on confirmation that construction activities was in accordance with the licensee submissions for design of the facility and facility structures, systems and components function according to the design.

Best industrial standards and practices for facility construction and commissioning activities were followed and included in licensing submissions for nuclear power plants currently operating in Canada.

Upon review of these submissions, the AECB granted an approval, through the issuance of a licence, to construct the current facilities in place today.

Operating experience over the years has

shown that regulatory oversight AECB provided in the past gave adequate assurance of safety.

In 2000, the *Nuclear Safety and Control Act* came into effect. The *Class I Nuclear Facilities Regulations* issued under the *Nuclear Safety and Control Act* contain more comprehensive regulatory requirements for a licence to construct a nuclear power plant. Many industrial codes and standards are still being used in construction and commissioning activities of nuclear reactor facilities such as *CSA Standards* and *ASME Codes*.

REGDOC-2.3.1, *Conduct of Licensed Activities: Construction and Commissioning Programs*, further elaborates our current understanding of how to better meet regulatory requirements. Construction and commissioning programs are an integral part of the design assurance process for a reactor facility so that facilities are constructed per design, modifications to existing facilities are carried out appropriately, and structures, systems and components perform per design.

The basis of the requirements and guidance come from the extensive experience of the CNSC and the nuclear industry in these areas.

REGDOC-2.3.1 codifies current best practices and incorporates lessons learned from national and international reactor facility construction and

refurbishment projects with five key emphasis points: licensees having the primary responsibility for safety and security of all construction and commissioning activities; licensees having the appropriate focus on contractor oversight; training of those involved in the nuclear safety aspects of construction and commissioning activities; the use of appropriate procedures for commissioning activities; and, finally, the licensees having appropriate oversight of the supply chain.

The goal of a construction program is to provide assurance that facilities are constructed per design and major modifications to existing facilities such as those outlined in an integrated implementation plan arising from a periodic safety review are carried out appropriately.

Information found in this REGDOC informs the development, implementation, assessment and improvement of the construction methods, procedures and techniques so that the facility meets the design and safety intent. The information also provides the licensee regulatory positions on technical aspects to be used in technical specifications to a contractor that are pertinent to the supplied product.

Information also assists the licensee in understanding the regulatory aspects that must be considered when assessing contractors' qualifications and

performance.

And, finally, the information in this REGDOC assists stakeholders in understanding the roles and responsibilities of contractors. These contractors may be technical support organizations or consultants carrying out independent review and assessment or third-party inspections.

As per regulatory fundamentals, the licensee has the primary responsibility for safety and security of all construction activities, including work carried out on its behalf by contractors.

The goal of a commissioning program is to provide assurance that the reactor facility meets its safety requirements and will operate safely, including demonstration that the reactor facility components and systems operate in an integrated manner in accordance with the design objectives and meet the performance criteria regarding operational, occupational safety and nuclear safety and security.

Safety requirements are also included to demonstrate that new and existing structures, system and components conform to the defined physical, functional performance and safety requirements and that management arrangements have been appropriately updated.

Commissioning program highlights include:

defining clear responsibilities for commissioning activities and oversight; specifying interfaces between design, construction, commissioning and operating organizations; commissioning program highlights also include comprehensive testing to demonstrate that the reactor facility can operate in the modes for which it has been designed; and finally, commissioning program highlights include performing tests in phases and in a logical and progressive sequence.

As detailed in the consultation report you have before you, RECD-2.3.1 has gone through extensive rounds of public consultation. Consultation periods were held from November 6<sup>th</sup>, 2013 to February 6<sup>th</sup>, 2014 for the commissioning part of the REGDOC and from April 24<sup>th</sup> to June 24<sup>th</sup>, 2014 for the construction part of the REGDOC.

Through these two periods the CNSC received 214 comments, 81 on the construction document and 133 on the commissioning document, from a total of 10 respondents. Five of the respondents were from industry groups, four of the respondents were interested individuals and one was the Power Workers' Union.

The feedback we received indicated the value of merging the two separate documents into a single REGDOC on construction and commissioning, which is the document that you have before you today.

The majority of comments received were grouped into common themes. The following three key areas of concern emerged based on the comments: an excessive focus on CANDU technology; multiple instances of duplication and requirements was expressed; and capturing the appropriate level of regulatory focus was also of a concern.

The next three slides outline CNSC Staff's responses to these three key areas.

In response to comments made that there was excessive focus on CANDU technology, CNSC Staff drafted the document to be as technology neutral as possible, with the recognition that CANDU is the predominant technology in Canada. As other technologies become more widely used, the document will be revised accordingly.

In response to comments made that there were multiple sections of duplication of requirements across the construction and commissioning documents, including *CSA Standards* and other CNSC REGDOCs, CNSC Staff merged the construction and commissioning documents and carefully reviewed all sections, eliminating a number of duplicative and inconsistent information.

REGDOC-2.3.1 complements industry standard, *CSA N286, Management system requirements for*

*nuclear facilities*, and elaborates further on how to meet regulatory requirements.

And finally, in response to concerns about the prescriptiveness of the information found in REGDOC-2.3.1, CNSC Staff recast existing good practices as guidance. There are no new regulatory requirements found in REGDOC-2.3.1.

In addition to the standard rounds of public consultation presented, CNSC Staff organized a meeting with interested stakeholders to present the newly merged and revised REGDOC-2.3.1. The meeting held on June 4<sup>th</sup>, 2015 also provided an opportunity to answer any residual questions or offer clarifications in advance of the Commission's consideration of the document today.

CNSC staff received further comments on the merged REGDOC-2.3.1 prior to this meeting on June 4. These comments are reflected in the comment disposition report you have. For those who attended the meeting, the discussion clarified a number of concerns.

I will now discuss the implementation strategy for REGDOC-2.3.1.

As has been noted, REGDOC-2.3.1 includes regulatory and industry best practices and lessons learned from past projects. Existing nuclear power plant licensees have already applied the large majority of these practices

to their past and ongoing projects.

The principles set out in this document apply in a graded manner to activities related to the life extension, refurbishment and modification of existing reactor facility.

As such, our proposed implementation approach is to include REGDOC-2.3.1 as a guidance document in the Licence Condition Handbooks for nuclear power plant licensees, referencing the document in the recommendations and guidance section of current licensees' Licence Condition Handbooks.

Seeing as the document codifies current best practices across reactor facilities, CNSC staff anticipate minimal to no additional effort for licensees in implementing REGDOC-2.3.1.

For a new reactor facility, any licence application that includes construction and commissioning steps, the applicant would be required to describe in their application how regulatory requirements in REGDOC-2.3.1 are being addressed.

The principles behind the requirements and guidance are equally applicable to smaller reactor facilities in a risk-informed (graded) manner.

If approved, REGDOC-2.3.1 will be published on the CNSC website and the document will be in

effect immediately upon publication.

This slide depicts implementation of REGDOC-2.3.1 going forward for existing facilities.

As noted earlier, existing nuclear power plant licensees have already applied the large majority of these practices to their past and ongoing projects.

Current refurbishment projects are planned and executed according to RD-360, *Life Extension of Nuclear Power Plants*, which ensures the right work is being done and the work is being done right.

As per the implementation of REGDOC-2.3.3, *Periodic Safety Reviews*, the Integrated Improvement Plan is defined and when approved by the Commission is the licensing basis for all activities carried out.

With the implementation of REGDOC-2.3.1, *Conduct of Licensed Activities, Construction and Commissioning Programs*, regulatory requirements are further elaborated to ensure the work is being done right.

Licensees are expected to review and consider the guidance found in REGDOC-2.3.1 in a graded manner.

REGDOC-2.3.1 complements other supporting documents such as CSA Standard N286, currently captured in existing nuclear power plant licences.

So in conclusion, merging the original

Commission and construction documents eliminated redundancies and inconsistencies while reinforcing the links between these two programs.

REGDOC-2.3.1 will strengthen and modernize the CNSC's construction and commissioning regulatory framework. The document codifies current practices around construction and commissioning activities, ensuring effective management and consistency with design requirements, and the document also further elaborates a better level of detail of management system requirements as defined in the licensing basis.

CNSC staff recommends that the Commission approve REGDOC-2.3.1 for publication and use by CNSC staff in assessing construction and commissioning programs.

We thank you for your attention and remain available for any questions you may have.

**THE PRESIDENT:** Thank you.

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

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

On page 4, construction of reactor facilities, at 3.1, the last paragraph on page 4:

"Contractors at all levels in the supply chain should expect to be

audited on a regular basis as part of the contractual arrangement."

(As read)

Audited by who, by the licensee or by somebody else?

**MS TADROS:** That would be by licensees. Haidy Tadros for the record.

**MEMBER TOLGYESI:** And they should expect also visits of CNSC?

**MS TADROS:** Perhaps I can ask Mr. Pierre Lahaie, Director of Management System Division, to answer that question?

**MR. LAHAIE:** Pierre Lahaie for the record.

In answer to that question, there is an expectation through management system requirements that contractors who complete lifecycle phase activities for licensees must meet the management system requirements that the licensee must meet and that the licensee must do oversight of the contractor to ensure that these management system requirements are met. So in that way, there is a requirement for the licensee to ensure the contractor is meeting the requirements and following all proper management processes.

**MEMBER TOLGYESI:** And these audits by licensee, should the results of these audits be presented

to CNSC or just on request?

**MR. LAHAIE:** Pierre Lahaie for the record.

The CNSC and staff do regulatory oversight of licensees' activities surrounding management of contractors and so we look at the processes in place for the licensees to do this. We look at all the records of these audits, but more importantly we look at how the licensees are day-to-day doing the oversight and that's probably more significant for us when the work is actually being done.

**THE PRESIDENT:** Thank you.

Ms Velshi...?

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

Thank you for a really good presentation. It was concise and complete.

I would start off with a comment. As I was reading the Executive Summary, it wasn't until I got to page 5 -- I think it was page 5 --that it was then put in front that this also applies to modification and refurbishment. When one reads construction and commissioning, the general thinking is that this is for new construction only. So I mean it's too late to make any changes but it was a bit confusing to begin with.

In your presentation, you said that this REGDOC introduces no new regulatory requirements. Does

that apply to the guidance as well, that those were from RD-360 or have new ones been introduced?

**MS TADROS:** Haidy Tadros. Thank you for the question.

The guidance that is currently found in REGDOC-2.3.1 as stipulated is based on current best practices. So while we wouldn't consider them as requirements, they are in place currently and being executed and looked at by the licensees in order to further elaborate on the requirements that are captured in the document.

**MEMBER VELSHI:** Because as I was reading through the comments and the disposition, that seemed to be a recurring concern, that this is too onerous, that if it's guidance, we still need to demonstrate that we have looked at it and then decided that we have something equivalent in place. So maybe the question is to ask any of the licensees that are here, whether it's OPG or Bruce Power, do you see an additional regulatory burden as a result of this new document?

I will start with OPG and then if Bruce Power is online, maybe they can comment after.

**MR. MANLEY:** Robin Manley from Ontario Power Generation, for the record.

Ms Velshi, you are correct that during the

review of this draft regulatory document, industry expressed concerns about the applicability to existing facilities and, you know, reading through the Executive Summary, as you say, it's clear that the intent is that this would be guidance for existing facilities, and to the extent, you know, that's true, then we are satisfied that we can support this regulatory document as written. My belief is that if all of the aspects within this REGDOC were formal requirements for existing facilities, that would cause us new work. I believe, as CNSC staff had said, many of those are already best practices in effect, but there would be some that would be new things.

**MEMBER VELSHI:** Thank you.

So just for confirmation then, because I think staff have made it very clear that it would be just guidance for existing facilities, would this in any way change the scope of the Darlington refurbishment project?

**MR. MANLEY:** Robin Manley for the record.

It has been looked at and we do not believe it would have any effect on the scope of the refurbishment project as we have submitted it to staff.

**MEMBER VELSHI:** Thank you.

Bruce Power, any comment from you, if you are still online?

**MR. SAUNDERS:** Yes, I'm still here.

Frank Saunders for the record.

Yes, it wouldn't be correct to say there are no new requirements in here. There certainly are some. For example, currently our management systems require us to have commissioning plans and so forth for major activities that we do work, but it does not require us to submit those plans. They are available and CNSC can see them and review them. This would make the requirement to submit the plan.

So there is new stuff in here, but we have reviewed it and reviewed the changes made since the first draft and as long as we continue to understand that this is a new build requirement versus an operating plant, then we are content with the additional requirements that are here.

It would, as OPG just indicated, be very onerous to apply a new build to existing plants and it's really not because there's more stuff, it's just because the way it's applied is different in a new build than it would be in an operating plant and we don't want to confuse that with our current management system requirements, which are adapted of course for an existing plant.

So with that kind of caveat, you know, we support the document. There are some new requirements, but they are reasonable and acceptable requirements.

**MEMBER VELSHI:** Thank you.

**THE PRESIDENT:** Thank you.

Dr. McEwan...?

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

If I look at this again as sort of a statement that this would also apply to research reactors, presumably going down to if one were to put in a new SLOWPOKE, and you mentioned the sort of graded approach, as I have read through this, it seems to me very, very difficult for a university putting in a SLOWPOKE reactor to be able to grade this to what they would have the capacity for doing. So how do you propose addressing that in the future? Because I really think you would be putting an impossibly onerous burden on them if you expected them to follow this to the letter.

**MS TADROS:** Thank you for the question, Dr. McEwan. Maybe I will start off by giving a brief summary and then passing it to my colleague Mike Rinker to address the SLOWPOKE-specific element.

So when we say graded approach for smaller reactor facilities, it's important to point out that using a graded approach is not a relaxation of the requirements in any sense, but what we are trying to put in place is an approach whereby based on risk commensurate to the activities that are being conducted or proposed, that there is a consideration of what the requirements are in general and the principles behind those requirements from a safety

perspective, and then, yes, as per specific to your example of SLOWPOKES, there would then be an understanding or a position made whereby it would be onerous to apply them to the letter, but there are a lot of good practices in the document that are captured and could be put forward as considerations to look at.

So perhaps Mike Rinker can -- oh, I guess Ramzi.

**MR. JAMMAL:** It's Ramzi Jammal for the record. I'm just replacing Mr. Rinker.

Just for the record and for clarity, the document as written will not apply to SLOWPOKES. Let me repeat it for the record: will not apply for the SLOWPOKE.

So because it is a certain guidance with respect to best practice, not to the severity as being presented, we always look and evaluate, but for the record so we don't have any ambiguity with respect to implementation or regulatory oversight during the licence application, it does not apply to SLOWPOKES as presented to the Commission.

As our regulatory regime is based on performance base, so we will look at what we can improve from safety enhancement for the SLOWPOKE, based on new technology we will apply them, but the letter of this document will not apply to the SLOWPOKE.

**THE PRESIDENT:** Wait a second, wait a second. Not existing SLOWPOKE, but if we wanted to build a new SLOWPOKE, a brand-new SLOWPOKE, a new build.

**MR. JAMMAL:** Yes.

**THE PRESIDENT:** So it's like SMR, right?

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

Yes. Sorry to interrupt you, sir. Yes, we will apply it in a graded approach to an SMR, but the question I believe was for the existing SLOWPOKES.

**THE PRESIDENT:** But the question is still valid. The whole idea of SMR is that it should not necessarily be as heavy -- I don't know how to put it kind of. I have to be careful what I'm saying here. For SMR, the regulatory requirement is viewed to be lighter than on a full-scale NPP. And again, I have to be cautious with this. So how do you differentiate?

You know that we are looking for a document on SMR by itself, a standalone, and a brand-new research facility may follow up in the same kind of a vein. So do you really expect this document to apply to a small SMR? Let me put it this way.

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

Again, the key point here is it's

performance-based. So we have a base document right now that is taking at the highest risk, with respect to the NPP facility as either it exists or the new build. I will pass it on to Mr. Mike Rinker who is in charge of the research reactors with respect to how the graded approach will be applied, but let's not pretend that we have all the answers. As we start to look at the design review of the SMRs and we start to look at the safety case associated with it, so, we start to gauge the requirement based on the risk associated with the activity and the design of the facility.

I will pass it on to Mr. Rinker.

**MR. RINKER:** Mike Rinker for the record.

So really, maybe if I go through how we implement a graded approach in this case, it would be a bit clearer.

We would place the regulatory document in the Licence Condition Handbook. However, we would be specific to which sections of the REGDOC would apply and that would depend on the type of reactor we are talking about. A high-energy SMR versus a very low-energy research reactor would have different verbiage around how we intend to implement this document in the Licence Condition Handbook. However, all reactor facilities, newly constructed, would have the main high-level principles of

this document applied to it.

**THE PRESIDENT:** So just to be absolutely clear on what you just said, you have in front of you, I understand, an application for an SMR. Are you going to assess that application against this document?

**MS TADROS:** Haidy Tadros for the record.

So what we have before us, sir, is a vendor design review from a vendor to look at a specific design that is being proposed for a small reactor, modular reactor. I would distinguish that from the application that we would normally see that comes before the Commission as per staff's recommendation.

So the vendor design review process would look at what the vendor is bringing forward as a design on paper and we would look at that design. We would look at and consider what we have put forward in our regulatory framework as the suitable safety fundamentals and requirements that we would need to keep in mind and be in a position for that vendor design review to state or not whether the design as put before us is a barrier to licensing or not, but it is in no way reflective of an application that would come before the Commission for your approval in the end.

So when we talk about small modular reactors, our regulatory framework, the underlying focus is

safety. Whether the design is miniature, small, maximum, the footprint is there or not, the role of our regulatory framework and the legislation is to ensure safety.

The regulatory documents we put together have the underlying fundamental principle of safety and if it's an applied requirement for some or a good consideration for others, I think that's the way it should be viewed instead of does it apply or not. These are safety principles, these are industrial regulatory principles that have been put together to ensure safety. So I think that's more the lens that we should come at it from an SMR perspective.

**LE PRÉSIDENT** : Monsieur Harvey...?

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

On page 11, under 5.4, Receipt of Components Important to Safety:

"An initial check should be carried out when components important to safety are received at the construction site to..." (As read)

And there is a list there. Does there exist a list of those components? I thought we said today that a small part, a small component outside the reactor could be important to the safety. So when you say that, is

it for 80 percent of the components, 10 percent of the components? Is there a list or some indication what is important and what is less important?

**MS TADROS:** Haidy Tadros. I will ask Doug Miller to answer that question.

**MR. MILLER:** Doug Miller for the record.

The list of systems important to safety is defined through CNSC REGDOC-2.5.2. Design of nuclear power plants applies equally to small reactors and it gives the categorization of it's the systems whose failure could impact on the safety of the facility. So for example the connections for fire hoses for the additional emergency equipment -- it's part of the Fukushima Action Plan -- would be identified as a component important to safety. So yes, that is a very broad scope.

I would ask Mr. Gerry Frappier to elaborate if he wishes to.

**MR. FRAPPIER:** Thank you, Doug. Gerry Frappier for the record.

So as Doug mentioned, with respect to components or systems or structures, there is as part of the design review, which this is not the document for the design review, but as part of the design review, we would be ensuring that we have a common understanding of what systems are considered important to safety and they would

have special controls. From the acquisition of them to the receiving of components to how they are, they are assessed as part of the overall design.

**MEMBRE HARVEY** : Merci.

**LE PRÉSIDENT** : Merci.

Monsieur Tolgyesi...?

**MEMBER TOLGYESI**: On page 27, talking about testing and modifications, it's saying that:

"Modifications to test procedures and other related documents shall be authorized by means of formal licensee-approved process control."

(As read)

And that it should be performed and approval obtained from the appropriate organizations. I suppose appropriate organizations, for instance CSA, if you would like to change the -- modify the test procedures, but how far is it approved by the licensee? How far CNSC will be informed or be involved or should it give its permission or how will it work?

**MS TADROS**: Haidy Tadros for the record. I would look to Mr. Pierre Lahaie to answer the detailed questions on again the roles and responsibilities of the oversight there and the level of oversight that you are seeking, sir.

**MR. LAHAIE:** Pierre Lahie for the record.

In terms of modifications, the licensee's management system is required to have processes in place to control odd changes, and so the details of those changes as they need to be documented, as they need to be passed on to suppliers and contractors, et cetera, et cetera, have to be controlled, have to be approved by the right authorities and then have to be put in place. It's basically planning the work, doing the work, verifying it and then acting on any differences.

So there is -- there is a kind of an umbrella requirement under the management system that all these activities be planned, be managed well, be controlled, be approved and then be put in place.

**MEMBER TOLGYESI:** Because it's not so long a time ago when we last -- we had the problems with the valves. Remember the safety valves? I think they were not working well because the composition, the manufacturer was wrong.

So I am questioning how if this was modified could it happen that components will be out of specifications?

**MS TADROS:** Perhaps I'll -- Haidy Tadros -- I'll ask Dr. Doug Miller to give you a sense of our compliance oversight strategy with regards to the examples,

sir, that you gave.

**MR. MILLER:** Doug Miller, for the record.

So that's a very good example and, following on from Pierre Lehaie's answer is that through their management system the licensee can make changes according to their own governance. Our job as the regulator is to verify that they have made the changes appropriately. So we would go in and look at how they have made the changes and do they have the appropriate peer review and sign offs.

Another aspect of our regular planned regulatory oversight during construction is to independently go to suppliers to evaluate how they are doing things and then look at the licensee's audit reports and compare, compare notes. If we find no issues, then we have high confidence in the adequacy and depth and scope of their audits.

If we find out it's lacking, well, they are the "intelligent customer". They are responsible for oversight of those in the supply chain and they should be challenging the suppliers that -- and verifying they meet the safety requirements.

**MEMBER TOLGYESI:** OPG, do you have any additional comments to that?

**MR. MANLEY:** Robin Manley, for the record.

With respect to modifications to test procedures I would say that the CNSC staff were quite correct. We have governance that tells us what we have to do to modify any kind of procedure that we have. There is multiple levels of verification and approval authorization that occur. Depending on the extent to which that document is somehow potentially impactful on safety those levels of authorization are higher.

So for example, a test that's happening in the field cannot just be changed by the worker or cannot just be changed by the worker's supervisor or cannot just be changed by the worker's manager. There's strict processes in place to ensure that it is properly controlled and that especially applies to anything around reactor safety systems, design, et cetera.

And then, you know, with respect to components and you know the valve cases, and there was discussion earlier today about a follow up on vendors and audit of vendors and oversight of vendors and all of those processes have been looked at extensively by industry -- by the nuclear power industry in Canada. In the last year as a result of that operating experience we have been doing extensive reviews of the processes in place and developing some enhancements to make them even more robust.

**THE PRESIDENT:** Thank you.

Ms Velshi...?

**MEMBER VELSHI:** Thank you.

A quick comment on the disposition of comment section on pages 86 and 87, specifically comments 231 and 233 from John Froats. And as I looked at those comments and I looked at the CNSC response I couldn't see a correlation. So the first one on 231 -- and this is all around tightening the language to make sure that the requirements are clear and focused on safety-significant aspects. So the first one is on management system and he is saying, you know, other than in CSA N286 use or equivalent because ISO 9001, et cetera. And then I looked at the response and I couldn't see how that was addressed.

And let me talk about the second one and then maybe you can comment on it. But number 233, again his recommendation I thought made a whole lot of sense. Instead of getting the construction entity to understand all regulatory requirements, he is saying really make the requirements as they apply to their scope of work because that's really what we intended. And then I looked at the response which talked about something totally different, almost like a cut and paste response from some other comment.

So I just want to leave it out there that you may want to just look at -- you know they are good

recommendations on tightening the language and why they haven't been considered.

**MS TADROS:** Thank you. We will.

**THE PRESIDENT:** Thank you.

Dr. McEwan...?

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

So if I look at actually the first of the comments on page 1 of 102 Bruce Power are saying, "In our view this document is not yet ready for publication" which is a fairly bold statement. And we are not going to make comments on the original bits. Yet, going through it they do.

So I guess a question for both staff and Bruce Power, has the circle been squared and do you now believe this document is ready for publication?

**MR. SAUNDERS:** Yeah. Frank Saunders here for Bruce Power.

Yes, in our belief it has. We weren't very happy with the original version because it created a great deal of confusion between our management systems that exist today and the bits and pieces that were described in that original document and didn't really separate new plant requirements from existing plants.

We feel that the response has actually been pretty good and that overall they have addressed our

concerns.

**THE PRESIDENT:** Thank you.

Mr. Harvey...? Mr. Tolgyesi...?

**MEMBER TOLGYESI:** Safeguards, page 6, you are talking about International Atomic Energy Agency who shall have access. What are the IAEA procedures when visiting a site? It's periodic, it's random, it's unannounced, it's announced or it's coming with CNSC staff?

**MS TADROS:** Thank you for the question.  
Haidy Tadros.

I'd like to ask Mr. Raoul Awad to answer that question with regards to the IAEA.

**MR. AWAD:** Raoul Awad, Director General of Security and Safeguards, CNSC.

Actually, it depends if you talk about the construction. There is a specific visit to verify the design information provided on this site. If you talk about loading the fuel that will follow the regular IAEA inspection which is verifying the nuclear material are safeguarded, verifying the equipment are installed and so on.

The inspection could be -- according to the procedure between Canada and IAEA could be an unannounced inspection or short and random -- short notice and random inspection or it could be a planned inspection

where we have in advance notification where the inspection could be done.

**THE PRESIDENT:** Thank you.

Ms Velshi...? Dr. McEwan...? Monsieur Harvey...?

A couple of quick questions. I know a lot of debates were about the difference between "accept" and "approve". Somebody tell me -- I'm not being a lawyer here. Somebody tell me what's the difference. Why is it so important?

**MS TADROS:** Perhaps I'll ask Mr. Barclay Howden to take on that question.

**MR. HOWDEN:** Barclay Howden speaking.

So in terms of approve it means to a certain extent -- and I am not sure of the context that you are pulling it out of the document but it means that it is an approval that is then signed off. Whereas acceptance is more a program has been accepted but it would be subject to verification over the course of the licensee's implementation. I'd say that's the difference.

Can you give me a better context?

--- Laughter / Rires

**THE PRESIDENT:** It was part of the consultation advice that you were getting. Somebody --

**MR. MANLEY:** Robin Manley, for the record.

Maybe I can explain what I believe the industry comment specifically referred to.

I believe what we were trying to say there, sorry it wasn't clear, is that approve to us within our Licence Condition Handbook means approved by the Commission or a designated officer. Accept is more of a staff acceptance that we have met the requirement.

I think that's the context in which we meant it.

**THE PRESIDENT:** Thank you.

A little bit more interesting question is so here we are talking about construction, commissioning and operating. I mean commissioning is not a licenced activity. So what I would like to ask is if I were to -- if I were to come on a new build, and let me stick to a new build, with a construction licence, do I automatically get commissioning authority here or do I need on top of that operating licence and is that the beginning of Canada accepting COL or what I am reading here?

**MS TADROS:** So I'll try to take this one on, and I am sure my colleagues will help voice clarity as needed.

So you are correct, sir. Haidy Tadros for the record -- there is no commissioning licence under our current legislation. As stipulated in the *Class I Nuclear*

*Facilities Regulations*, sections 5 and sections 6, there is very clear information with regards to what the verbs what the licenced activities are that cover a licence to construct and a licence to operate. So commissioning activities are found in both a licence to construct and a licence to operate.

**THE PRESIDENT:** But in your definition of commissioning here with all the phases, presumably it takes you all the way to fission, which I don't know how you can hide that under construction without an operating licence.

I want to hear what staff says first.

**MS TADROS:** So as not to be the go-between, Haidy Tadros for the record, what I would like to express and maybe we can stick with new applications. So new applications, our *Act* and our *Regulations* clearly lay out if and as needed the phases that potentially we can look to. We have a licence to prepare a site, we have a licence to construct and a licence to operate as per the category of licences laid out in the *Act* and *Regulations*.

The important point is what is the activity that is being presented at the time? So, sir, you mentioned a commissioning activity or a construction program. There are sections that within an operating licence you can look to covering both construction programs and commissioning programs so, for example, this REGDOC

that you have before you today.

So for a new build having passed the licence to prepare a site you would be in the phase of a licence to construct which would cover construction program elements and commissioning elements. There are elaborations in the *Class I Nuclear Facilities* that would allow for covering of commissioning activities within the licence to construct.

And this is all as per the applicant's request of us. We will not go out and suggest that they apply for a licence. They put together an application based on where their program's maturity is and what the requirements that we point to they need to fulfil on, and we will assess it based on the applicant's request of us.

--- Pause

**THE PRESIDENT:** Okay. Just let's hear Mr. Jammal and then by all means.

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

You asked the question with respect is it time to look at construction operating licence? The answer is, yes, it all depends on the information submitted by the applicant.

So the key point here is this document deals with program activities, and we are trying to put a

fine line or trying to make a difference between commissioning and operation. So the key point here is, if the information submitted to us encompasses adequate information for us to recommend to the Commission to issue a construction operating licence, the answer is "yes".

As Ms Tadros mentioned, under the Act we have existing facilities that they have the verbs that authorize the licensed activities take place. For example, CNL Chalk River licence, the Commission approved the construction activity under the licence to operate when they built the fuel process -- fuel packaging and storage facility. So with the new licensing regime and the improved licence, we are able now to put the verbs and the regulatory requirements associated with it.

So the answer is, depending on the information submitted, depending on the review and recommendation to staff, we can provide regulatory certainty for the applicant in order to ensure that, if they are going to construct, they will be able to commission and finally operate a reactor with respect to regulatory requirements.

If I didn't answer your question please let me know.

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

**MEMBER MCEWAN:** So the construction

process and then the commissioning process is not quite a continuum. Presumably there would be some sort of inspection hold point between the completion of a construction component and then the beginning of the commissioning element.

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

You got that bang on. That's very true. So when -- for example, let's go back to the existing facility just for the experience perspective.

Point Lepreau finished refurbishment. We came before the Commission, the IIP which dictated the whole scope of the activity. We had a discussion about prescribed information, the list of the elements and that's what the Commission approves with respect to the IIP, the safety-significant elements.

As the refurbishment kicks in, and then, the Commission consented or authorized me to consent for the removal of the hold point. They had to meet those requirements. So when we recommended for Point Lepreau to go from zero to 1 percent, the release hold points were presented as a requirement to the licensee and they met each and every one of them.

And for Part 2 of Darlington we presented to the Commission an example on removal of hold point by

the executive, my level, in order to assure the Commission that all the regulatory requirements have been tested and passed before a recommendation coming from staff for the removal of the hold point.

So briefly, the answer is yes based on the progression. In construction you can have a cold commissioning. That means no fission. Let's say you can push water or a pressure hammer and so on and so forth before you go to the fission, but each state/phase will have a hold point and we ensure the requirements and carry out the inspection to ensure based on risk-informed decision. We cannot inspect everything, but we inspect key critical elements to make sure what was designed or was approved is operating safely.

**THE PRESIDENT:** But the question is different. For new build, forget about existing -- new build -- can a licensee come in and ask for one licence for construction and operating, okay. I don't know where this is in the Commission's bag of tricks here. Right now, as far as I understand, you have to come in with a construction licence, operating licence for new build.

We haven't had a new build application. But are you saying now that you -- the Commission will entertain one licence to cover construction and operating?

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

record.

Yeah. Okay, we would qualify that the applicant has presented the information we need to recommend to the Commission to issue --

**THE PRESIDENT:** Yeah, but that's on every licence.

**MR. JAMMAL:** Fine. So the answer is yes, plainly yes. So, if someone comes in and said, "I want a licence to construct and operate" then the answer is yes. You can provide the licence based on the information provided and, of course, the final decision lies with the Commission.

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

Okay. Thank you. Thank you very much. Any other final comments that industry want to share?

Silence is golden here, okay. Thank you.

--- Pause

**THE PRESIDENT:** So this concludes the public meeting of the Commission. The Commission will now move to a closed session for the last item pertaining to threat assessment and the design basis threat.

Thank you.

**MR. LEBLANC:** So we will resume in five minutes in Room 14-022. It's restricted to only those that have been previously identified.

Thank you.

--- Whereupon the meeting adjourned at 3:06 p.m. /

La réunion est ajournée à 15 h 06