Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

Public meeting

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

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

Commission Members present

Commissaires présents

Dr. Michael Binder
Dr. Moyra McDill
Mr. Dan Tolgyesi
Dr. Sandy McEwan
Ms. Rumina Velshi
Dr. Ronald Barriault
Mr. André Harvey

M. Michael Binder
Mme Moyra McDill
M. Dan Tolgyesi
M. Sandy McEwan
Mme Rumina Velshi
M. Ronald Barriault
M. André Harvey

Secretary:

Secrétaire:

Mr. Marc Leblanc

M. Marc Leblanc

Senior General Counsel:

Avocat général principal :

Mr. Jacques Lavoie

M. Jacques Lavoie

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Ottawa, Ontario

--- Upon commencing at 9:05 a.m. /

L'audience débute à 9h05

Opening Remarks

M. LEBLANC: Bonjour, mesdames et messieurs. Bienvenue à la continuation de la réunion publique de la Commission canadienne de sûreté nucléaire.

We have simultaneous translation this morning. Please keep the pace of speech relatively slow so that the translators have a chance to keep up.

Les 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 the Web site of the Commission next week.

I would also like to note that this proceeding is being video webcasted live and that archives of these proceedings will be available on our Web site for a three-month period after the closure of the proceedings.

I would also 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.

THE CHAIRMAN: Thank you, Marc, and good morning and welcome to the continuation of the meeting of the Canadian Nuclear Safety Commission.

Mon nom est Michael Binder. Je suis le président de la Commission canadienne de sûreté nucléaire et je vous souhaite la bienvenue.

Welcome to all of you joining us via the webcast.

I would like to introduce the Commission Members that are here with us today.

On my left are Dr. Sandy McEwan, Ms. Rumina Velshi, Dr. Ronald Barriault and M. André Harvey. On my right is Dr. Moyra McDill. and we have already heard from our secretary, Marc Leblanc. And we also have Jacques Lavoie, our Senior General Counsel to the Commission. with us today here at the podium.

MR. LEBLANC: As indicated, this is the continuance from yesterday's meeting. The agenda was approved yesterday and we refer to Agenda 13-M39.A for the complete list of items to be presented today.

Mr. President.

THE CHAIRMAN: Okay. The first item on the agenda is the Fukushima Omnibus REGDOC Amendments Project, as outlined in CMD 13-M35. I understand that CNSC Staff will make the presentation, followed by a presentation from representatives from the industry.

So I understand that Mr. Colin Moses will make the presentation. Please go ahead.

6. Decision Items on Regulatory Documents:

6.1 Fukushima Omnibus REGDOC Amendments Project

13-M35
Oral presentation by
CNSC staff

MR. MOSES: Thank you.

Good morning, Mr. President, Members of the Commission. My name is Colin Moses, Acting Director General for the Regulatory Policy Directorate.

With me here today are Mr. Gerry Frappier, Director General of the Directorate of Assessment and

Analysis, and Dr. Greg Rzentkowski, Director General of the Directorate of Power Reactor Regulation, as well as the extensive team of CNSC staff who are involved in this important project.

We are here with you today to present the proposed revisions to existing documents in our regulatory framework. These include targeted amendments to address lessons learned from the Fukushima accident.

As was reported to you yesterday, this project is a key element of our overall regulatory framework improvements as part of the Fukushima staff action plan.

Today, I will provide some general background on the project and the unique approach we have taken for public consultation, outline the general feedback we received from our stakeholders and go on to discuss the specific improvements that are proposed for each of the four regulatory documents you have before you today.

Finally, we will finish the presentation with a discussion on implementation of these improvements and CNSC staff's conclusions and recommendations.

The purpose of our presentation this morning is to request your approval to publish the following regulatory documents: REGDOC 2.9.1.,

Environmental Protection Policies, Programs and Procedures; REGDOC 232, Severe Accident Management Programs for Nuclear Reactors; REGDOC-2.4.1, Deterministic Safety Analysis, and REGDOC-2.4.2, Probabilistic Safety Analysis.

These documents include proposed amendments to existing regulatory document standards and guides to address the lessons learned from the event at Fukushima.

As you heard yesterday, this omnibus REGDOC amendment project is part of the broader integrated action plan that includes other improvements to the regulatory framework and processes, and that was reported in CMD 13-M34.

The specific improvements here before you address diverse technical areas and clarify our regulatory expectations for environmental protection, severe accident management, safety analysis and probabilistic safety assessments.

In addition to these improvements, CNSC staff are also exploring changes to our regulations, including amendments to the Class I nuclear facilities regulations to require submission of offsite emergency plans as well as the radiation protection regulations to clarify our emergency dose provisions.

With respect to the latter, the specific

proposals are currently out for public input as part of a broader discussion paper on improvements to the radiation protection regulations.

In addition, staff have developed regulatory documents that outline regulatory expectations for accident management and nuclear emergency preparedness and response, both of which were released for public consultation earlier this week.

These were released in concert with the invitation to comment on draft CSA Standard N1600, which was developed through CSA's process, including representatives from the CNSC, as well as offsite authorities like first responders, municipal and provincial emergency management authorities and other federal departments and licensees.

The CNSC has recently developed a consistent framework for all regulatory documents which clarifies the inter-relations of individual documents and facilitates stakeholder access to our regulatory expectations. This structure is shown on this slide.

The documents before you today fall under the operating performance, the safety analysis and the environmental protection series of the framework. The specific documents are highlighted here.

The draft documents include improvements to

a series of existing regulatory document standards and guides. These documents have been updated to reflect our new nomenclature numbering scheme and the existing content, with applicable amendments, were consolidated into four draft documents.

For ease of reference, this table maps out our current publications to the proposed publications.

It should be noted that REGDOC-2.4.1, Deterministic Safety Analysis, combines three existing documents into one. The final draft document includes content from GD-310, Guidance on Safety Analysis for Nuclear Power Plants.

This document was originally published in March 2012 and already included specific changes driven by the lessons learned from the Fukushima accident. As a result, it was not included as part of the Fukushima omnibus amendment project. However, the existing content has been integrated into the draft documents.

This consolidation is consistent with the Commission's general guidance to co-locate related requirements and guidance in our regulatory documents.

Following the extensive review of the CNSC Fukushima task force, the task force concluded that our framework was robust and comprehensive. However, improvements were identified to further enhance our

regulatory expectations.

The issues identified by the task force were, in many cases, specific and cross-cutting, impacting content from a series of existing documents. This table illustrates some key lessons learned from the task force, showing where they were being addressed in the proposed documents.

As a result of these cross-cutting issues, CNSC staff took the approach of managing these improvements as part of a single omnibus amendment project This was done to ensure a consistent approach to addressing these lessons across our entire regulatory framework.

The CNSC has in place a practice of regularly reviewing and updating all the elements of our regulatory framework, which allows us to ensure our requirements continue to reflect best practices in nuclear safety and the latest developments in nuclear regulation.

The Fukushima omnibus project is above and beyond this regular process, bringing targeted improvements to our regulatory framework that are directly related to the Fukushima lessons learned as well as some specific improvements to ensure our documents remain current.

Despite the proposed changes being focused

only on select and targeted improvements, CNSC staff still followed its standard public consultation process for this project with some unique improvements that I'll highlight on the next slide.

Proposed changes were released for public consultation for an over 60-day consultation period from July to September of last year. When released, a notice was posted on the CNSC's website and a notification was sent to all subscribers of our subscription service, which now includes over 2,200 subscribers.

Following this consultation period, all comments received were posted for additional feedback. Worthy of note during this round is that we received extensive comments from interested members of the public who gave their suggestions for this project as well as feedback on the comments that had been received.

Although we always attempt to reach the broadest stakeholder group possible, we generally only receive comments from stakeholders directly affected by the regulatory document, that is, CNSC licensees.

In all, the CNSC received 109 unique comments from nuclear power plant licensees and CANDU Energy during the initial consultation and 21 additional comments from other stakeholders during the period of feedback on comments.

As mentioned, CNSC staff adopted a unique approach to this consultation. On this slide, you'll see an example of our public consultation document. You'll see that in the first column we provided the current text as it appears in the published regulatory document.

In the second column we highlighted how we propose to amend the text. We took this approach to facilitate stakeholder reviews of the changes, highlighting exactly what and where we are proposing to change, which allowed them to easily compare and contrast the current text with the proposed revisions.

In addition to highlighting the specific changes, staff took the extra step of providing a general explanation of the issues that were being addressed by the changes in each document, outlining how these issues relate to the lessons learned from Fukushima.

This unique approach provided stakeholders with additional insights into the reasons and the intent behind each change, allowing them to focus their comments on the specific issues under consideration.

I will go on to discuss each individual document. However, it is worth mentioning that we did receive some general feedback on the project during our public consultation, most notably with respect to the general scope of the project.

In their comments, industry stakeholders noted in their submissions that they felt several of the proposed changes were not directly related to Fukushima, indicating that these changes might have a substantive impact and therefore require further evaluation. As such, they recommended delaying these changes to future general revisions of the documents.

During the feedback round, however, other stakeholders took issue with that position and recommended that all the proposed amendments be included as well as suggesting some additional changes. Nevertheless, further to these comments, CNSC staff took a step back to review all proposed amendments, reconsidering the rationale and the intent of the change.

Staff gave specific consideration to how the changes linked to Fukushima, recent developments in nuclear safety and regulation, international guidance and the current licensing basis for facilities.

For some proposals, CNSC staff agreed that there was no urgent need to make the change. However, some of the identified concerns were retained.

Additional information on individual amendments is provided in the detailed comments table, which describes the rationale for maintaining or removing the proposed change.

In cases where the comments indicated a lack of clarity around the intent or interpretation of a change, CNSC included additional guidance in the CNSC's response to these comments.

I'll now go on to discuss each individual document, the specific changes being proposed to the document, as well as some of the specific comments that we received on the proposals explaining how CNSC staff have addressed them.

The first document, REGDOC-291, describes the regulatory expectations for environmental protection policies, programs and procedures at Class I nuclear facilities and uranium mines and mills. This document consolidates the content from current regulatory standard S-296 and its associated regulatory guide G-296.

In reviewing these documents, CNSC staff concluded that the current requirements included in this document in the standard were sufficient to address any lessons learned from Fukushima Daiichi nuclear accident. The document references internationally developed ISO 14001 standard for environmental management systems, which include specific provisions for emergency situations.

However, staff did identify opportunities to improve the guidance contained in G-296, and are proposing specific amendments to the guide with respect to

environmental monitoring instrumentation, to recommend consideration of the robustness and the accessibility of monitoring instrumentation, and to recommend inclusion of the layout of equipment in emergency plans.

As noted, CNSC staff had proposed specific inclusion of the recommendation to consider equipment robustness and accessibility during emergency situations. During the consultation, some stakeholders questioned the application of this guidance, noting that in many cases monitoring is accomplished through field staff using mobile survey meters and suggesting consolidation of the two proposed bullets.

In reviewing the comment, CNSC staff ultimately determined that no specific changes were necessary to the text; however, additional clarification was provided in the comment table. Specifically, staff clarified that this guidance should apply to both fixed and portable equipment. Additionally, the proposed additions are separate and distinct concepts in that the first is in regards to monitoring equipment and the second recommends that layouts of the equipment be included in emergency plans. As a result, staff maintained bullets as separate individual bullets.

No other concerns were raised by stakeholders with respect to CNSC staff proposal to amend

Regulatory Guide G-296. Staff are available to answer any additional questions the Commission may have at the end of this presentation.

The second document included in the Omnibus REGDOC Project is REGDOC-2.3.2, Severe Accident Management Programs. This REGDOC includes specific revisions to existing CNSC Regulatory Guide, G-306, Severe Accident Management Programs for Nuclear Reactors.

This document describes a typical severe accident management program and provides guidance on developing and implementing measures to help prevent the escalation of a reactor accident into an event involving severe damage to the reactor core, to mitigate the consequences of an accident involving severe damage to the reactor core, and to achieve a safe and stable state of the reactor and the plant over the long-term. This document is an important tool in guiding licensees in their preparations to prepare for incidents such as that seen at the Tepco Fukushima Daiichi Nuclear Power Plant.

As a result, CNSC staff are proposing amendments to the existing guide that address considerations for multiple unit accidents and include specific reference to the importance of reviewing hydrogen mitigation and equipment survivability. In addition, staff have recommended consideration of events involving

extended loss of alternating current power. The revisions also include additional guidance on validating and testing their severe accident management programs.

With respect to guidance on performing risk assessments to assist in program developments, staff had suggested adding guidance to recommend specific verification of extended station blackouts. In their feedback, stakeholders requested additional information with respect to what is covered by extended station blackout accidents. As a result of this feedback, CNSC staff reviewed the intent of the change and adjusted guidance to clarify what is meant by extended station blackouts or extended loss of alternating current power, specifying that this applies to blackouts lasting 72 hours.

Additionally, staff had proposed highlighting the need to identify essential plant monitoring features and instrumentation for diagnosis of plant states and verify its availability and reliability under severe accident conditions. While stakeholders indicated a general agreement with this change they suggested alternate wording to clarify the proposed text.

CNSC staff reviewed the suggested wording, recognizing that verification has a very distinct meaning in the context of management system requirements. As a

result, CNSC staff agreed with this change and have suggested that it should be demonstrated with reasonable assurance that essential plant monitoring features and instrumentation will function and provide meaningful data under severe accident conditions.

Finally, staff had suggested including a recommendation to conduct a validation exercise, which includes, in part, confirmation of the sufficiency of the staff complement during severe accidents. In their comments, stakeholders made reference to existing CNSC Regulatory Guide G-323, which already includes CNSC expectations for ensuring the presence of sufficient qualified staff at Class 1 nuclear facilities, indicating that the use of the term "staff complement" has a very specific meaning in the CNSC's regulatory framework, thus recommending that this reference be removed.

In reviewing this suggestion, CNSC staff again agreed that the term "staff complement" could be subject to misinterpretation; however, staff remained of the opinion that staffing needs should be considered in preparing severe accident management programs. As a result, CNSC staff have maintained this guidance but have clarified the text to read that the program should be reviewed to determine whether sufficient qualified staff will be available beyond design-basis accidents.

Some additional comments were received on the proposed changes included in REGDOC-2.3.2. These are presented in the detailed comments table, along with CNSC staff's assessment and response.

I'll now move on to discuss REGDOC-2.4.1, Deterministic Safety Analysis. This document describes CNSC expectations for performing deterministic safety analysis, providing requirements and guidance for the selection of events, acceptance criteria against which to assess these events, and on acceptable analysis method and documentation expectations. This document combines exiting regulatory documents, RD-310, which provides requirements for deterministic safety analysis of nuclear power plants; GD-310, which provides the associated guidance; and RD-308, which outlines requirements applicable to small reactors. REGDOC-2.4.1 is divided into two parts, the first for nuclear power plants, and the second applying to small reactors.

With this project, CNSC staff have proposed specific amendments to address lessons learned related to accidents and events, consideration of potential cliff edge effects, review of makeup water and reserve electricity capacities, review of low frequency events, and additional expectations for DBA and BDBA analysis. These changes were applied equally to nuclear power plants

and to small reactor expectations.

It should also be noted that GD-310 was originally published in March 2012 and already included many of the lessons learned from Fukushima. As a result, it was not included in the Omnibus Amendments Project but was consolidated into the current draft document with no substantive changes.

In advance of this Commission meeting, however, staff circulated the proposed drafts to all stakeholders who commented on these documents. They noted that some language included in the current published version of GD-310 could be construed as being regulatory requirements. As a result of this feedback, CNSC staff reviewed and confirmed that the intent of these statements was guidance and subsequently changed five instances of shall statements to clear guidance language in the version you have before you today.

During the consultation period, no specific comments were received on the proposed changes to RD-308, which applied to small reactors. However, it was recommended during a period of feedback on comments that any adjustments made as a result of comments on the NPP portion be equally applied to the requirements for small reactors. CNSC staff agreed with this feedback and have carried over any changes as appropriate.

With respect to the specific comments received, staff had proposed including consideration of low power operation and shutdown modes in the Deterministic Safety Analysis. Stakeholders sought clarification of the intent of the proposed changes which staff have included in the disposition report, noting that this requirement is intended to cover expected operating states for the nuclear power plant.

In addition, consistent with current international developments post-Fukushima, staff have proposed amendments to require identification of margins to potential cliff edge effects. The term "cliff edge" was used to describe situations where a small change in conditions may lead to catastrophic consequences. While stakeholders understood the intent of the change, they expressed the concern that the term "cliff edge" was not fully descriptive of the issue, indicating that they found the term unnecessarily provocative.

CNSC staff were sensitive to this concern and reviewed the use of the term domestically and internationally. Staff noted in particular that the "cliff edge" term was used extensively in international documentation, including recent documents issued by the IAEA. Therefore, staff felt it was necessary to specifically define the term in the Canadian regulatory

context, and it was maintained in both this document and REGDOC-2.4.2. However, a definition for the term was developed to ensure consistent understanding in the Canadian regulatory context.

Regarding analysis of beyond design basis events, text was included to ensure that the long-term availability of cooling water, material and power supplies was taken into account. This was one of the key lessons learned from the event at Fukushima.

During the public review, stakeholders suggested rephrasing this requirement as they felt long-term was not well defined, subject to interpretation. As noted, one of the principle lessons learned from Fukushima was the importance of having means to provide cooling water to the fuel and supply power to deliver this cooling water over the long-term; that is, through the full accident progression and recovery phases of an event.

As such, it was decided that the term should be maintained in the document; however, staff have included additional information to better explain the intent and the purposes of safety assessments for beyond design basis accidents.

In addition to the requirements for beyond design basis accidents, equipment may be necessary to maintain the plan in a stable state following anticipated

operational occurrences or design basis accidents. As a result, staff proposed including this consideration in section 4.4.4 of the document which relates to analysis assumptions.

With respect to this change, stakeholders felt that the proposal was not directly related to Fukushima and that it was redundant to existing requirements for seismic and environmental qualifications.

Reviewing this comment, it was recognized that lessons from the Fukushima event should not be limited to beyond design basis accidents. It is important that analysis should consider the long-term availability of necessary equipment while repairs or recovery actions can be performed.

As such, CNSC staff recommends maintaining this change; however, staff have clarified the text to indicate that the requirement applies to equipment needed to maintain the plant in the stable, cold and depressurized state.

Some additional feedback was received on this document which is included in the detailed comments table along with the results of CNSC staff’s assessment of the comment and the proposed response.

The final document being presented as part of the Fukushima omnibus REG document project is REGDOC-

2.4.2, Probabilistic Safety Assessment. This document defines the regulatory expectations for the conduct of a probabilistic safety assessment for nuclear power plants.

The project amends the older S-294 document and includes amendments to form both level 1 and level 2 PSA with consideration of spent fuel pool and multi-unit events, as well as clarification of external events analysis, specifically for lessons learned from the Fukushima event.

Some additional changes were included to ensure our requirements continue to align with current international practice.

In reviewing the document in advance of public consultation, it was noted that the current standard makes reference to IAEA documents that have since been superseded. As a result, CNSC staff proposed updating these references to the latest documents produced by the International Atomic Energy Agency.

Because stakeholders indicated that this change was not Fukushima-related and required additional evaluation, staff clarified that these documents are referenced as general guidance in the background section of the document and do not impose any additional regulatory requirements.

Given the old references and now obsolete

and unavailable, staff have maintained the change to the latest IAEA publications on performing level 1 and level 2 probabilistic safety assessments.

In the draft amendments issued for public comment, staff had also proposed to include a number of new additions to the requirements for PSA that are listed in section 5.1. These were derived from the current IAEA document for level 1 PSAs.

During the comment period, stakeholders felt that these changes were not directly Fukushima related and proposed those requirements are better suited as guidance.

In reviewing this comment, CNSC staff agreed that in many cases the proposed additions were not appropriate for mandatory regulatory requirements; however, the Fukushima Task Force had recommended that the objectives of the PSA be expressly stated.

As a result, staff have developed a new section outlining the objectives of a probabilistic safety assessment which guide the application of this document. Staff are of the opinion that these objectives provide valuable insights into the purposes and the intent of probabilistic safety assessments. This change separates the objectives of PSA from the high-level, mandatory requirements included in section 4 of the document.

With respect to section 4.1, staff had proposed to require a level 1 PSA in addition to the level 2 PSA that is currently required.

For reference, there are three levels of PSA; each building on the previous, with different considerations and objectives. First, the level 1 PSA reviews all scenarios that could result in damage to the fuel and the reactor. Ultimately the output of the level 1 PSA is a specific value for core damage frequency.

Building on the results of level 1 PSA, a level 2 PSA considers the behaviour of containment and develops estimations of potential small and large release frequencies. Currently the results of level 2 PSA are used to identify plant vulnerabilities and to identify significant contributors to these frequencies so that they may be reduced as appropriate.

In some cases, a level 3 PSA may be performed. This analysis considers location-specific information to assign consequence probability maps around a facility.

During the public comment periods, stakeholders recommended including an additional requirement, performance of a level 3 PSA. Staff reviewed this suggestion, but ultimately concluded that a level 1 and a level 2 PSA were sufficient to provide the necessary

information and insights about accident prevention and mitigation.

Staff further noted that offsite consequences are currently assessed deterministically which is sufficient for our regulatory purposes. As such, staff did not adjust the proposal to include a requirement for level 3 PSA.

Staff also suggested amendments to clarify expectations for management systems or quality assurance related to PSA. In their feedback, stakeholders noted that these changes were not directly related to Fukushima.

Reviewing the proposed change and the intent behind it, staff were ultimately in agreement that the changes did not add substantive value to the document and were in fact redundant to existing management system requirements and the current licencing basis of nuclear power plants.

Because the existing reference standards have since been superseded and in order to ensure the document remains accurate despite any developments in management system expectations, staff have removed all direct references to these standards, noting only that applicable management system or quality assurance program expectations will be established in the licensing basis.

With respect to models for probabilistic

safety assessments, the document currently requires that these models be updated every three years. In practice, this has shown to be challenging without providing meaningful additional information.

Stakeholders did note that this change was not directly related to Fukushima. Some even expressed the view that it was actually counter to the lessons learned from Fukushima.

Further to these comments, CNSC staff re-examined the proposal; however, concluded that the original rationale remained valid. Experience in analysis has shown that a 5-year update frequency gives sufficient time to provide better quality analysis information. Staff would, however, like to emphasize that the document still requires updates at any point when there are significant design changes to the facility.

Regarding staff’s proposal to include a requirement that PSA models be developed using assumptions and data, including deterministic safety analysis, stakeholders indicated that the change was not related to Fukushima and suggested additional clarification.

CNSC staff did maintain the change in order to continue to be consistent with international practice; however, the draft text was revised to clarify that engineering assessments are acceptable, referring in the

comments table to IAEA document “Specific Safety Guide 3 Development and Application of Level 1 PSA for Nuclear Power Plants” for additional guidance.

For the consultation drafts, staff had also proposed including specific requirements for the repeatability of PSA and for maintenance of relevant documentation. Further to stakeholder comments, staff revisited this proposal, recognizing that the sections had been included for clarity purposes only and were elements of a more general requirements for management systems in another area of our framework.

As a result, staff removed these additions in the final proposed draft documents.

In addition to providing feedback on the specific amendments being proposed by CNSC staff, some stakeholders offered suggestions for additional amendments or changes to the regulatory framework that they felt were warranted. As with all comments received during public consultations, staff gave these suggestions due consideration in finalizing the amendments.

Specifically, stakeholders suggested finalizing draft document RD-152.

For background, staff had developed this document and released it for public comment; however, ultimately concluded that the document was not a necessary

element of a regulatory framework for a number of reasons.

This document was intended for general information purposes and did not propose to include any new requirements or guidance on licensee activities.

In addition, many of the elements in the draft document are already found in existing documents. Subsequent to this comment, staff revisited this decision; however, concluded that the rationale for termination of the project remained valid.

Finally, stakeholders recommended several requirements applicable to deterministic safety analysis, including associated reporting requirements that are outlined in Regulatory Standard S-99 be equally applied to probabilistic safety assessments.

Ultimately however, CNSC staff concluded that the requirements for both deterministic and probabilistic safety assessment in this regard were generally consistent and were concerned that the specific suggestions could introduce duplicative and redundant requirements into the regulatory framework.

Given this, CNSC staff did not make any specific change to the proposal as a result of this comment.

In addition to these issues, the detailed comments table outlines other comments that were received

and addressed by CNSC staff.

In particular, the Commission may have noted several references to the intent of CNSC staff to develop additional guidance to support application of this important regulatory document. This project is an existing project on a regulatory framework plan, which will integrate regulatory guidance to support the requirements currently contained in the document.

This guidance is expected to address a number of the lessons learned from the use of this standard, including some of the areas where stakeholders have expressed a desire for additional clarification.

Once sufficiently advanced, the proposed guidance will be issued for a full period of public comment. In the meantime, additional information on specific provisions, where requested, has been included in the detailed comments table.

As illustrated by the earlier slides for each regulatory document, CNSC staff thoroughly reviewed, assessed and responded to all comments received during the periods of public consultation and the opportunity provided to give feedback on the comments received.

The full responses to all comments are outlined in the detailed comments table provided to the Commission for consideration. As appropriate, changes to

the proposed amendments were made and integrated into the final consolidated draft documents you have before you today, which are aligned with the CNSC's new regulatory document numbering, nomenclature and structure.

You should note that in the material provided to the Commission, we have highlighted the specific changes to each document in bold red font to facilitate your review. Should the Commission approve publication of these documents, the highlights will be removed prior to publication.

A new step in our process, further to feedback from stakeholders on other regulatory documents, is to provide draft REGDOCs to stakeholders in advance of Commission meetings in order to give them an opportunity to review CNSC staff's response to their input. We have set a service standard of 30 days ahead of the Commission meeting to send this out.

With respect to this project, CNSC staff maintained the red highlighted text so that stakeholders may review how the amendments have been integrated into the final proposed documents.

Feedback received from stakeholders through this process allowed staff to address the previously noted concerns with respect to the intent of mandatory language that was included in Regulatory Guide G-310 in advance of

submitting the documents to the Commission.

Should the Commission approve publication, the documents will be finalized and posted on the CNSC Web site. A notice will be sent to all subscribers on the CNSC subscription list.

Affected licences and their associated licence conditions handbooks would then be amended as applicable to reference the new documents with specific implementation plans outlined in the LCHs as appropriate.

In conclusion, further to the thorough review of the CNSC Fukushima Task Force, the development of the CNSC staff action plan and the work of CNSC staff to develop the regulatory expectations following an extensive and rigorous public consultation process, CNSC staff are of the opinion that the proposed revisions are appropriate and address all relevant lessons learned from the Fukushima nuclear accident, as identified by the CNSC Fukushima Task Force and the external advisory committee.

As a result, CNSC staff recommend that the Commission approve the proposed regulatory documents for publication.

This concludes CNSC staff’s presentation on this matter and we remain available to address any questions you may have.

THE CHAIRMAN: Thank you.

I'd like now to turn the floor to Mr. Dermarkar for the presentation on behalf of OPG, NB Power and Bruce Power, as outlined in CMD 13-M35.1. Please proceed.

13-M35.1
Oral presentation by
Ontario Power Generation Inc.,
Bruce Power and NB Power

MR. DERMARKAR: Thank you very much, Doctor Binder.

For the record, my name is Fred Dermarkar and I'm the Vice President of Engineering Strategy at Ontario Power Generation. I'm also the Chair of the CANDU Industry Integration Team and I'm speaking in this role today.

As you've noted, with me are Frank Saunders, Vice President of Nuclear Oversight and Regulatory Affairs of Bruce Power, and Mr. Paul Thompson, Manager of Performance Improvement and Regulatory Affairs at New Brunswick Power.

The presentation I am making this morning is on behalf of our three utilities and represents an industry perspective on the omnibus amendment. And I

would like to thank the Commission for giving us this opportunity to share our perspective.

The omnibus amendment was issued for public consultation on July 20th of 2012. Its intent was to capture the major lessons learned from Fukushima, as Mr. Moses has described, as reflected in the task force report.

I'd like to note that the Task Force report had been issued for two rounds of public consultation and industry had ample opportunity to input to the task force report.

We also had a reasonable understanding as a result of what to expect in the omnibus amendment when we heard that the omnibus amendment was targeted to reflect changes from the task force report.

Three of the four documents revised under the omnibus amendment proposed revisions that were very well aligned with the task force report.

The first document, REGDOC-2.4.2, as Mr. Moses has described, included a number of other changes that were not directly related to the task force report. This is a document that pertains to probabilistic safety assessment.

Two months were provided for consultation and the consultation period closed on September 28th. Our

first opportunity to see how our comments were dispositioned came on July 17th of 2013, one month ago.

In general, the Utilities concur with the proposed changes that are directly related to the task force report. And the Utilities are not voicing any concerns with two of the documents that form part of the omnibus amendment, namely REGDOC-2.3.2 on Severe Accident Management and REGDOC-2.9.1 on Environmental Protection.

However, we have significant technical concerns with REGDOCs-2.4.1 and 2.4.2, as I'll be describing in this presentation. And our request today is to ask the Commission to provide for a second round of public consultation for these two documents before considering them for approval, recognizing that the changes that were introduced to these documents, the changes that we are concerned about, were not part of the task force report.

The initial changes proposed as part of the omnibus amendment for RD-310 on Deterministic Safety Analysis were generally aligned with the task force report. However, a major change was introduced subsequent to the closure of the consultation period.

RD-310 was merged with another document, GD-310, to form 2.4.1. While we understand that this change was intended to be transparent and was not intended

to introduce any new requirements, we believe that it has introduced new requirements that have not undergone the benefit of consultation.

RD-310 is a fundamental licensing document and is referenced in all our operating licences today. As such, it has undergone rigorous scrutiny, both within the CNSC and through the public consultation process.

GD-310, on the other hand, has not been referenced in our licence and was not intended to be referenced in our licence. As a result, the document contains some unintended prescriptive language such as inappropriate choice of the terms "shall" and "minimum expectations".

As the Commission Members will be aware, the term "shall" is reserved for a requirement and is not intended to be used in guidance.

We identified these problems by means of a cursory review. Recall that the first time we saw this document was July 17th, so we did not have time for a detailed review. The document is 70 pages in length and we need more time to review the merged document to confirm that there are no other unintentional requirements that have been introduced.

So we request a second round of public consultation to give us this opportunity. We believe that

adding this second round of public consultation should not compromise the CNSC's objective of issuing this document by year-end 2013 consistent with the Fukushima Action Plan.

In the case of REGDOC-2.4.2, the changes made to the document as outlined by Mr. Moses went well beyond the changes identified in the Task Force Report and, as a result, did not have the benefit of prior public consultation through the Task Force Report consultation process.

I would like to note that many of the concerns expressed by the utilities were addressed by the CNSC through the first round of consultation and the document that was issued on July 17th was significantly different than the document that had been issued for consultation because it did reflect a lot of changes to address our concerns.

Nonetheless, we still have significant technical concerns with the document as currently written and we would like the opportunity to put forward our case for further revisions through a second consultation process. I would be happy to offer examples of some of the concerns if you would like me to do so.

Again, consistent with REGDOC-2.4.1, we believe that this second round of consultation will

improve the document and should not compromise the CNSC's objective of issuing this document by year-end 2013, consistent with the Fukushima Action Plan.

In summary, the single round of consultation applied to the Omnibus Amendment was appropriate for the targeted revisions that were aligned with the Task Force Report and which had the benefit of prior public consultation. This was the case for REGDOCs-2.3.2 and 2.9.1 but it was not the case for REGDOCs-2.4.1 and 2.4.2. These documents are referenced in our operating licences today or at least their predecessors, RD-310 and S-294, are referenced in our licences today and their intent must be clear to all parties.

Given that we anticipate that these revised documents will become referenced in our licence, we strongly believe that a second round of consultation is necessary to ensure the requirements are understood by all parties and are achievable.

The industry is committed to treat this review with priority and we request 30 days from today to complete our review. We believe that this additional time taken will improve the documents and will not compromise the Fukushima Action Item due date of December 2013.

Thank you for giving us this opportunity to provide you with our perspective on the Omnibus Amendments

and we would be happy to answer any questions you may have.

THE CHAIRMAN: Thank you.

We have got four documents in front of us here and I want to make sure that we focus our discussion about those documents.

So what I would like to do is I will go through every Regulatory Document individually but, before we do this, does anybody, Commission, want to talk in general, non-document specific?

Any comment about non-document specific or do you want to jump right into the document-by-document?

Dr. McEwan.

MEMBER McEWAN: Thank you, Mr. President.

Could I just follow up on your last presentation?

The opportunity of the feedback you had -- you're right, 30 days -- you had a limited period of time.

What are the implications for your operations of this being approved today?

What would the risks be to you: What would the operating risks be? What would the costs be?

MR. DERMARKAR: For the record, Fred Dermarkar.

We would need to go example-by-example but

let me share with you, the Guidance Document introduces -- sorry, REGDOC-2.4.1 as a result of the merger with the Guidance Document introduces -- we identified three examples of new requirements and one example where the term "minimum expectations" was used.

If we literally interpret "minimum expectations" as a requirement, we do not comply with the document today based on our fundamental design nor can we likely comply with that document.

So it was not intended that this be a requirement. The design is sound as it stands today. It has been thoroughly reviewed by the CNSC.

The term "minimum expectations" which has the appearance of being a mandatory requirement or could be interpreted that way is not appropriate because it does not reflect the minimum expectations based on the fact that we're licensed today.

And we didn't even hazard to guess at the cost but the costs would be prohibitively high because it would require fundamental changes to the designs of our stations that do not offer a safety benefit commensurate with those changes.

I want to add that because these requirements have been discussed for the last 30 or 40 years and the station designs have evolved based on all

those discussions.

THE CHAIRMAN: All right.

Staff, is "minimum expectations" similar to “shall”?

MR. FRAPPIER: Gerry Frappier for the record.

So as we are mentioning this Document GD-310 that's now been added into -- consolidated into the document we are talking about today, it provides guidance. It provides guidance not just for operating plans but also for new designs. And as such, it's important for us to keep in mind that these documents don't just apply to operating plans, they apply to new designs that are coming forward.

But even though it has been amalgamated into this document, it is still clearly guidance material. So our definition of “guidance material” is just that. It is guidance and it is not requirement on industry.

So the particular example that Mr. Dermarkar is making reference to we would not see that as a requirement on new operating -- on current operating plans.

THE CHAIRMAN: But is that a new language, because I can see how, if you are measuring compliance, which the LCH is, and you say: “I'm coming here and I'm

expecting minimum -- I don't know, whatever this example is", I could see how that could be interpreted as a requirement.

What's wrong with what I've just said?

MR. FRAPPIER: I don't think there's anything wrong with what you just said but there is a requirement for there to be judgment in how these are applied.

And because it's in "Guidance", the term "minimum expectation" would be if that particular circumstance that we're talking about which does not apply to current plans was invoked, if you like, by the Applicant looking for a licence.

THE CHAIRMAN: Any other general comment?

MEMBER McDILL: Just if I could?

Where exactly is that? It would save me flipping through.

We'll get to the document when we get to the document but it would be good to read it before we get there.

MR. MOSES: Colin Moses for the record.

The specific reference that I believe Mr. Dermarkar is referring to is on page 29 of REGDOC-2.4.1.

MR. DERMARKAR: I agree with that.

MR. MOSES: In the last paragraph. It's

with respect to trip parameters.

Twenty-nine (29), yes.

THE CHAIRMAN: We have got four documents here, so you've got to be real precise.

Are you looking at the REGDOC or are you looking to the consultation document?

MR. MOSES: I'm looking at the REGDOC and on page 29 of the REGDOC ---

THE CHAIRMAN: So this -- which REGDOC?

MR. MOSES: Two four one (2.4.1), it is not in red because that's language that is in the current published version of GD310.

THE CHAIRMAN: So 2.4.1, I found that. Page?

MR. MOSES: Page 29.

THE CHAIRMAN: Twenty-nine (29).

MR. MOSES: Very last paragraph.

MEMBER McDILL: I'm happy to address that when we actually get to that document. I just wanted to know where it was before we got there.

THE CHAIRMAN: Please address it now. We're not going to look for it again.

MEMBER McDILL: Okay, so we're changing the order of proceedings. Okay.

THE CHAIRMAN: It's hard to move around

back and forth.

MEMBER VELSHI: But we wanted address our questions for that one RD (inaudible)

THE CHAIRMAN: Fine, I mean look -- so you can start with a general –- we're starting with this document but they can also come up with a general comment on the whole process on the whole four documents.

MEMBER McDILL: Okay, then I'll go back to staff in the general area first.

How do you react to industry's request for an extra 30 days in terms of if; is this a living document or is this something that could end up in the Supreme Court of Canada and make everybody unhappy?

MR. MOSES: Well, as seen –- Colin Moses, for the record.

Maybe if it would be helpful to the Commission I can outline the process that we use for our general public consultation and contrast it with the requirements of the CDR and the Cabinet Directive on Regulatory Management.

But if you want me to address your specific question about where –- whether these documents are living documents, we do, on our Web site invite general feedback on our documents at any time.

We have built into our process regular

reviews of all the elements of our regulatory framework where we open them and look at lessons learned from the application of these documents and introduce changes as appropriate. So they are documents that evolve and change as time goes on.

MR. FRAPPIER: Gerry Frappier; if I can add a little bit specifically to the question you asked.

These are very, very important documents. These are fundamental design documents for the analysis, both deterministic and probabilistic. And in the next presentation we'll be looking for design requirements themselves. It's very, very important for us to get these right.

Having said that, we're quite aware of the comments that industry has. I'm not sure that our dispositioning of those comments would be any different than they are today. But it is very important to get these documents right. And if that takes more time, then it takes more time.

But if you want, we can also take a look at the specific comments they have and be able to address them, such as this one here if you like.

MEMBER McDILL: Maybe I'll toss it back to industry. Where does the problem lie in Table 3?

MR. DERMARKAR: In Table 3 at the top of

the table -- and I'm going to have to pull this out -- the problem lies in the use of the word "minimum expectation" and then it goes on to say in Table 3 what the minimum expectations are. I'm just going to pull it out.

But I want to take us away from this specific issue. The more general issue is this: We never reviewed GD-310 through the lens of it becoming a document that will be called up in our licence. It was never intended for that reason and we never reviewed it in that manner.

Merging this document with RD-310 to create a single document that will be referenced in our licence -- we expect it will be referenced in our licence sometime down the road -- changes GD-310.

If you look at the cover page or just after the cover page of this document it is very clear that the word "shall" means a prescriptive requirement. It doesn't put any exceptions that say, except where the word shall is used under guidance, under a section titled "Guidance."

We are not a part; we share a common view with the CNSC on how the -– on what the intent is. The problem is that the language as written today does not line up with the intended use of the document. And we're concerned that sometime down the road a future regulator or potentially an intervenor could come in and say, "How

are you meeting this requirement?" And we would say, "Well we didn't really mean to meet that requirement because it was subject to interpretation."

But then they would take us back to the front page that said it doesn't look like it's subject to interpretation. It's prescriptive. So those are just examples of things that we're concerned about. I don't think there's value to talking individual by individual because the CNSC will agree with us, I think in most cases, just as Mr. Frappier already agreed around what the intention of ---

MEMBER McDILL: It was from up here that the direction to merge the two documents came; is that not ---

THE CHAIRMAN: Yeah, but I'm still very confused. GD-310 has been published. When was it published?

MR. MOSES: It was published in March of 2012.

THE CHAIRMAN: Okay. So we have been now here a year later. What did you expect? What does GD-310 mean to you when it was published?

MR. DERMARKAR: Our understanding was that GD-310 was a guidance document.

THE CHAIRMAN: Right.

MR. DERMARKAR: To guide the regulator as to how to interpret whether or not the requirements of RD-310 had been met.

THE CHAIRMAN: Well, in my understanding nothing has changed; guidance is guidance.

MR. DERMARKAR: Our understanding was that there was room for interpretation with GD-310. It was not absolutely prescriptive, whereas RD-310 is prescriptive.

THE CHAIRMAN: So when it was standing by itself you had no problem with it. When you merge it into a REGDOC all of a sudden there's a problem here. Something doesn't compute in my mind.

MR. SAUNDERS: Sorry; Frank Saunders for the record.

The issue is in the preface to the documents that the REG Documents have a preface that defined what the words mean very clearly. The Guide Documents didn't have that initially.

So when you now add this in our licence it has the effect of regulation or law. So you say "shall" is mandatory and it has "shall" in the document that means I need to comply. It is no longer guidance.

So we think those words need to clarified. And anything that has a "shall" in front of it needs to be clear and concise as to what it means.

THE CHAIRMAN: I thought staff agreed with that and I thought they expunged all the “shall” that were there.

MR. FRAPPIER: Gerry Frappier, for the record.

Perhaps we were not clear enough.

We did take account of the comment associated with the word “shall,” and we agree with industry; the word “shall” is not appropriate. And we have done a search now of that document and there was, I think, five cases where the word was left in for whatever reasons. Certainly not the intent to make it a requirement and replaced the word with “should” which is what the word should have been at the start.

THE CHAIRMAN: Dr. McDill.

MEMBER McDILL: It’s difficult to know where to go from here without actually having all of them outlined in front of us. But I have some sympathy for another 30 days. That’s what I’ll say that outright and that my colleagues go on.

I guess there are two documents with issues and two documents without.

THE CHAIRMAN: You guys are forcing my hand here. Okay, we will go through one by one. Let me start with the two REG Documents that I hear there’s a

consensus. And let's start with REGDOC-2.3.2, Severe Accident Management Program for Nuclear Reactors. Comments from Commissioners. Who wants to go first? Ms. Velshi.

MEMBER VELSHI: Just a very short one, on Slide number 16 of staff's presentation.

So, in your disposition of this comment on evaluation of systems and equipment where you agreed with the stakeholder comment and you said -- changed the wording to "demonstrate with reasonable assurance", as I look at the comment which is on page 99 of your disposition document, the comment actually was "demonstrate with a high level of confidence".

I wondered why you changed the "high level" to "reasonable level".

Do you see the two points?

MR. FRAPPIER: Gerry Frappier, for the record.

So, in general, when it comes to conditions that are severe accident conditions, we're generally looking for reasonable confidence that systems will operate as designed, that the severity of the accident would be controlled.

That is a little bit different than the wording we use for design-based accidents. And this is an

example where it should have been the other one.

But for more detail I'll ask either Mr. Viktorov or Chris Harwood, whoever has got that.

MR. VIKTOROV: Alex Viktorov, for the record.

Reasonable confidence still means very high confidence but not as high, not extreme as we formally demand for design-based accidents.

It certainly indicates some degree of difference between our requirements for instrumentation, in this case, used for design-based accidents and severe or beyond design-based accidents.

But it still remains to be very significant.

MEMBER VELSHI: Okay, let me ask it a little differently.

Is there a probability that –- or a number that goes with a “high” and a “reasonable” or is this, you know, something that is reasonable for me would be high for you?

MR. VIKTOROV: At this time, unfortunately, no. It's a work in progress.

We are working to define what we exactly mean by various concepts associated with the whole spectrum of events put in the beyond design basis

category.

MR. FRAPPIER: Gerry Frappier, for the record.

Just to make sure we understand, like, it's more than just whether there's a number from a confidence perspective. It's much more about the how do you validate that that number is correct.

So, for instance, with respect to equipment or instrumentation, for design-based accidents, they have to have a whole environmental qualification program associated with that instrumentation where they will be taking –- they have to ensure that that instrumentation has been tested in the environment that could be –- could occur after an accident, whether that’s, you know, major steam and all that sort of stuff.

For the instrumentation that's going to be needed for severe accident management, we want to make sure there's reasonable confidence that it'll survive and be there.

But we would not require industry –- and as importantly the instrumentation manufacturers and what-not -- to go through a whole program into these very, very extreme conditions that, in fact, might be quite debatable as to exactly what they are.

MEMBER VELSHI: I think my question was –-

because industry has said there would be –- they would prefer –- and they recommend a high –- and it's just a little odd for the regulator then to go with something a bit lower.

But if you are happy with that, I am sure industry is fine with “reasonable” then.

MR. FRAPPIER: Gerry Frappier, for the record.

We're actually working to align our terminology with the international community. In particular, the US NRC is quite –- also taken by this –- and have started a whole bunch of projects with respect to survivability of instrumentation and what-not.

MEMBER VELSHI: Thank you.

THE CHAIRMAN: We are still on document 2.3.2 “Severe Accident”.

Anybody?

Dr. Barriault?

MEMBER BARRIAULT: Just briefly.

If I understand correctly the 30 days that you want is on 2.4.1, not on this document.

Is this document acceptable to industry?

Okay, that's all. Thank you, Mr. Chairman.

THE CHAIRMAN: Thank you.

Anybody else?

MEMBER McDILL: If there are typos, et cetera, where will they be addressed?

At what stage?

MR. MOSES: Colin Moses, for the record.

We welcome feedback at any time but we do put all our documents through a final quality assurance and quality control process prior to publication.

MEMBER McDILL: And that hasn't occurred yet, presumably?

MR. MOSES: The final check? No it hasn't. It's done prior to publication.

MEMBER McDILL: Then I don't need to exercise my big red pen.

THE CHAIRMAN: But if you found one, let's not waste time. Become very efficient. An email will do, or the secretary, absolutely.

Okay, anything else?

Okay, I think we are done with 2.3.2. Let me move to 2.9.1. This is “Environmental Protection Policies Programs and Procedures”.

Any questions about –- again, here is where the industry –- I understand the industry is okay with the proposed document.

MEMBER McDill: Where does the other part of the public sit on this?

Has everything that the public has –- the other –- let's call them “intervenors”.

MR. MOSES: Colin Moses, for the record.

In their comments, we didn’t' receive any specific comments relevant to this document.

MEMBER McDILL: I think there are only about 20 lines that are different from the previous version; right?

THE CHAIRMAN: Comments?

Okay.

So we are now back to the two documents, 2.4.1. So let me start with 2.4.1, “Deterministic Safety Analysis”.

Monsieur Harvey?

MEMBER HARVEY: Just one general question.

When you mentioned that -- between “shall” and “should”, you cut some, should every “should” or “shall” have been taken out of the document -– would be taken out of the document?

MR. MOSES: Colin Moses, for the record.

There are still “shalls” in the document. Those are the –- that is the content that is considered regulatory requirements and was previously included in REGDOC-3.1.0.

The instance of “shall” that we are

referring to were in the guidance portion in the published document GD-310, and all instances of that have been removed from this proposed version.

MEMBER HARVEY: And I suppose you are okay with those “shall”?

MR. DERMARKER: Frank Dermarker, for the record.

We're okay with the “shalls” that were in the RD-310 document and got merged into the REGDOC-2.4.1. We are concerned with the “shalls” that were in the GD-310 document and got merged with REGDOC-2.4.1.

MR. SAUNDERS: Frank Saunders, for the record.

A fundamental kind of point is that major changes in these documents and not much chance to review. We're not even quite sure what we agree with and what we don't agree with. All we know is we haven't reviewed it to enough detail to be sure.

Maybe when we're done we will be happy with it, but we do need to have the time to do that.

MEMBER HARVEY: A small question about the cliff edge. In French it is « l'effet falaise ».

Est-ce que c'est un terme reconnu en français aussi ou?

Because you mention that cliff edge was a

recognized term internationally but “effet falaise”?

MR. FRAPPIER: Gerry Frappier, for the record.

Je dirais que, non, c’est quelque chose un peu nouveau. Toutes les conversations internationales qui utilisaient le mot « cliff edge » étaient des conversations en anglais.

Puis, je sais pas, peut-être quelqu’un connaît ici mais j’ai aucune idée si, en France, ils utilisent un mot français. Toutes mes relations avec eux-autres disent -- même en français, ils utilisent le mot « cliff edge ».

MEMBRE HARVEY: Quand je suis arrivé là, j’aurais été ---

M. FRAPPIER: Puis, apparemment ---

MEMBRE HARVEY: --- tombé en bas de la falaise, vraiment.

M. JAMMAL: C’est Ramzi Jammal.

Pour appuyer Monsieur Frappier, c’est exactement la discussion au niveau international parce que je fais partie intégrale de la Commission de Safety Standards à l’agence internationale et puis la discussion jusqu’à date c’est on utilise toujours le « cliff edge », en français et en anglais.

Mais la définition, c’est ce qui compte

ici. Mais comme Monsieur Frappier a déjà mentionné qu'on va vérifier au niveau de la traduction comment ça sera fait.

Mais la définition de « cliff edge » c'est ce qui compte ici.

MEMBRE HARVEY: Si « cliff edge » est utilisé en France, par exemple, je serais aussi bien de le prendre ici aussi.

M. JAMMAL: Exactement.

Alors, comme, il y a beaucoup et plusieurs mots techniques qui sont pas traduits, ils sont utilisés de cette façon-là.

LE PRÉSIDENT: O.k., c'est tout, Monsieur Harvey?

Alors, Dr. McEwan?

MEMBER McEWAN: So again, if somebody can help me with the use of English in trying to understand the request?

And if I just take the example that you have given, recognizing it's representative of other concerns, I mean, if I read minimum expectations, my interpretation is your interpretation, that in Table 3 you have to have these mechanisms in place.

Am I wrong in that interpretation? Can a minimum expectation be interpreted as less than the

minimum expectation?

MR. FRAPPIER: Gerry Frappier, for the record.

So if you look on page 29, first of all, the title is "Guidance for shutdown means". The second paragraph starts with:

> "To help better understand trip parameter expectations, Table 3 can be used..."

So it's -- "to determine the minimum expectations". So in our thinking -- the idea behind guidance is that this would be, in our thinking, this is how we would determine whether, in this case, there is need for additional trip parameters or not.

If somebody wants to propose a different way of thinking, then that would be reviewed and could still meet the requirements, which are -- which this does not represent, and that would be acceptable to ourselves.

The intent of guidance is for an awful lot of, in this case, designers, if you like. They are -- they don't want to try to guess what the regulator might be thinking of in those requirements. They want to see some viable way of achieving those requirements, and this would present them with one of those ways.

Sorry; if I could add. But that doesn't

change the fact that the intent here, the requirement is to make sure we understand what is the number of trip parameters you're going to get and how did you come about calculating the minimum trip set -- minimum trip parameters that you were using in your design.

MR. THOMPSON: For the record, Paul Thompson.

I think there's always a challenge when we're trying to talk about expectations or requirements for new plants with those with existing plants. And what we see over time, and I've got a lot of OPEX on this, is a migration from one to the other. And they should be very clear.

And in some cases, it is appropriate to do, but those should be handled very specifically on a case-by-case and justified.

Other OPEX that we've had is, over time, interpretations change and hence what is generally agreed as interpretation of the term this way may not be what that interpretation is two, three years down the road.

And this -- we use the term "ratcheting". Maybe that's not a nice term, but that's what we have seen with all the best intentions from everybody. And then we come in and there's a compliance inspection done.

And these are taken very seriously by all

parties, both CNSC staff who are doing the compliance inspection and for us that are committed to ensuring that we're not only meeting but exceeding our compliance requirements, and then these are found as significant directives that then have to be acted on. And that can then result in now you're down into redesigning a reactor or spending lots of money on it.

So that's, again, a little bit of perspective. And it may be when we have more time to look at the document maybe we can convince ourselves no, that’s not such a risk.

We're just concerned that we haven’t had enough time to just properly vet it. And because of that significance of what it might cost us down the road, that's really what we're seeking right at the moment.

Thank you.

MEMBER McDILL: Thank you.

I guess I've been up here long enough to remember when there was confusion over language, and the fallout from that was not good all around.

What exactly did the -- we don't have GD-310 in front of us. What did it say?

MR. FRAPPIER: Gerry Frappier, for the record.

GD310 said exactly this.

MEMBER McDILL: Okay. So the wording, it's been -- it has literally been merged. That the difficulty then is simply what did the preface say in GD-310. Did it also have shall, should, may, can?

MR. FRAPPIER: I think the key point that industry is bringing forward here is that GD-310 was not called out in their licence, right, so now with it included in this document, it will be called out, as Mr. Dermarkar said.

Dr. Rzentkowski at some point will be putting these into the licence, at which case perhaps now GD-310, although it always talked like this, they're all of a sudden much more concerned with the details in it.

THE CHAIRMAN: So I think there's a bigger issue here. And I've been a regulator for many, many years in other fields, and I think I'm sympathetic to where all things failed, the industry goes to -- even if it's a guidance, if that's what your regulator wants to hear, that's what we're going to give you. So that becomes the ratchet effect.

But the guidance that I thought with our staff will use guidance when you know there is more than one way of doing something.

So, in fact you should have at least two ways of doing something. If you do not know of more than

one way, it's not guidance. It's a requirement.

I'm being black and white here.

So guidance should say, look, here's a way we think you can do it, but we also know there's other ways of doing it. If you cannot do it and you don't leave the inspection, then I think they are right.

MR. FRAPPIER: Gerry Frappier, for the record.

In general, I'd agree with you, although sometimes designers can surprise us with some innovations that they have that we hadn't thought about.

In this particular case, that's exactly why this chart was put together because we do know there's several different designs. In particular, we were trying to ensure that this document would be acceptable for a non-CANDU design.

THE CHAIRMAN: Sorry to interrupt, but I think for clarity of language, you may actually want to say, "Look, we know there's other ways of doing it, but here is one way" so it's absolutely clear it's guidance.

MR. FRAPPIER: M'hm. And again, we believe that our current operating plants essentially meet this requirement as -- this requirement -- this guidance. And -- but I take your point.

But in general, all of the guidance come

with that clarification, that guidance is not mandatory.

THE CHAIRMAN: Mr. McEwan?

MEMBER McEWAN: So just a process question because I've come to this document process very late.

If you have a document which merges both regulation and guidance -- and I can see there are advantages in that -- but you have very specific definitions at the front of that document defining what a word set means, does that, by definition, mean that those definitions apply to everything in that document or only to the regulatory part of the document and not to the guidance part of the document?

MR. MOSES: Colin Moses, for the record.

The descriptions, for example, what's included in these documents in the preface apply throughout the entire document.

Essentially, if you look at the box in the preface, it says "important note" and explains how to apply and how to interpret the document.

MEMBER McEWAN: Okay. So a "shall" that appeared in a paragraph that says "Guidance" would follow the definition in the box at the front of the document?

MR. MOSES: To be frank, a "shall" should not appear in a guidance portion. And I can't speak to the current published version, which is why the staff very

quickly addressed that change when it was highlighted to us.

THE CHAIRMAN: Go ahead, please.

MR. DERMARKAR: Fred Dermarkar, for the record.

I just want to emphasize that it was a cursory review by the industry that caught these "shalls". Why we're asking for more time, because it's very easy to use a word search and in five minutes find all the instances of "shall".

Why we want more time is because we want to make sure that there are not other examples of unintended changes that have been introduced.

The merger of the guide with the RD, while we have no objection to it, it does require us to do a thorough vetting of the guide document to ensure that it has not -- the merger has not introduced unintended requirements when it gets called up in the licence, so that's our concern.

And it's not a trivial undertaking given the size of the document and the complexity of the document.

THE CHAIRMAN: Dr. Barriault, you had a follow-up on this?

MEMBER BARRIAULT: Just briefly.

What I'm hearing is the whole issue of informed consent, and you want to be informed as to what you consent to, is what's going on. And I think -- legally, I think they're entitled to this. Maybe I'm wrong.

Can we have legal counsel to explain this? No?

I'm talking the issue of informed consent, that they want to be informed so that they know what they're consenting to. And they're asking for 30 days. And I'm sympathetic, really, basically.

MR. LAVOIE: That's a good point, Dr. Barriault, but the issue is really one that has been around for a long time.

MEMBER BARRIAULT: M'hm.

MR. LAVOIE: Which is the issue of what does "shall" really mean in the guidance document and the informed consent is another issue altogether.

MEMBER BARRIAULT: But not going from guidance, it's going to regulatory is what I'm hearing.

MR. LAVOIE: Yes, it's an issue that our friends that are doing the presentations, staff is very well aware, and like Colin Moses has mentioned, the "shall" appearing in a guidance document has to be looked at carefully, so that it doesn't create an expectation

that it becomes a regulatory requirement, but in general -- and the president has made that very clear in the past.

MEMBER BARRIAULT: But would giving 30 days create a problem and maybe this is not the place to discuss this.

THE CHAIRMAN: We can decide to do whatever we want to do here. But it does bring one point to me, I'll tell you, is that merging the guidance with the regulatory is absolutely the way to go because you guys ignored GD-310 where it was a standalone with all the "shalls" in it. For a whole year you didn't pay attention to it, so it really was not a good guidance document.

So I think I take your point about the time, but I also take your point that we've got to scrutinize exactly what we mean by those terms in some of those guidance documents, like this particular table, you want to make it -- you may want to make it a "shall", if that's -- if you like the design requirement here.

I'm just giving a silly example, but I think it's making sure that the regulator and the licensee understand on the requirement is crucial to this business.

So Ms. Velshi?

MEMBER VELSHI: I'll try not to belabour this, but given that the amalgamation or the consolidation happened after your comment process, I too think it's only

right that you get an opportunity to look at this carefully and make sure the language is clear.

But I echo what the President says, that I think this is a heads up, better read those GDs very carefully because they are going to get consolidated into RDs going down the road and then it's no excuse that, oh, it was just a GD and we didn't pay attention to it.

My other question to staff was, requirements for small reactor licencees, have they signed off on it? I couldn't see from the comments if they had concerns on this.

MR. MOSES: Colin Moses, for the record.

We didn't receive extensive comments on the proposed revisions to this current -- through this project, but we did through the initial publication of RD-308.

Just to add that one operator of a small reactor, AECL, which is operating the NRU reactor did provide, in the feedback on comments, note that the comments should equally apply to that content. So we received that feedback.

MEMBER VELSHI: Thank you.

THE CHAIRMAN: Any other comments on 2.4.1?

Okay, let's move on to 2.4.2, the PSA.

Anybody?

Go ahead, Ms. Velshi.

MEMBER VELSHI: I'll ask staff a more general question first. When you have issued regulatory documents for review, I just want to understand your standard consultation process, if you receive extensive comments, do you then say, you know, it probably makes sense to have a second round of comment to make sure we've dispositioned them appropriately?

MR. MOSES: Colin Moses, for the record.

We do have, as part of our process, a check following the public consultation period on whether an additional consultation is warranted. Generally, what we -- the test we apply there is whether as a result of the feedback, the document is changed in very substantive ways has significantly being rewritten or a different approach.

So for example, two instances in the past, one is with respect to guidance documents on site access security clearance.

The feedback really said -- made it clear that the guidance wasn't particularly useful and wasn't clear and so we significantly rewrote that document and reissued it for another round of consultation.

In this instance, if you look at our disposition table, we did make a number of adjustments to the proposal, but they were directly driven as suggested

by the commenters. So when we applied this test, whether it was substantially different, we decided that it was appropriate to move forward into publication at that point.

MEMBER VELSHI: Thank you.

So moving on to the licensees then, am I correct in understanding that your issues with this REGDOC-2.4.2 are more on making sure there's clarity on requirements as opposed to the scope of changes?

MR. DERMARKER: Fred Dermarker, for the record.

That is correct and in the majority of cases, the intent, as reflected in the comment disposition, the CNSC's intent is reasonably well aligned with industries. The problem is that our concern is that the words in the REGDOC do not reflect that with the clarity or unambiguity that we would like. One example that I would offer, Dr. Velshi, is section 4.9 on page 3 of REGDOC-2.4.2.

In that section, it states that ---

THE CHAIRMAN: We're going real slow here. It's paper, 2.4.2, what page?

MR. DERMARKER: Page 3.

THE CHAIRMAN: M'hm, okay.

MR. DERMARKER: In that section, 4.9, it

states that all -- include all operational states of the NPP high power, low power and shutdown.

We indicated a concern with low power. We didn't know what it meant, and actually, Mr. Moses mentioned that in his presentation. The CNSC, in their dispositions, indicated that low power was not intended to apply to existing reactors.

So their intent is aligned with ours. We're not doing low powere PSAs today. We do not see a safety benefit of doing them. The CNSC concurs, based on their comment dispositions, but the words here are unambiguously requiring that low power be included.

We would like to -- the opportunity to propose revised wording that aligns with the intent of the CNSC in -- as identified in the comment disposition, but that clarifies that, for us, it does not apply today. That's an example of the kind of change we'd like to see.

I would also like to note that -- and I mentioned this in my presentation, the CNSC did make many changes. I don't want to leave the impression that they did not listen to our concerns. They did make many changes but there are still some significant changes that we want to see made.

To put it in perspective, Mr. McEwan asked, what are the financial implications. If we were to do

another low power -- another PSA, each PSA typically costs us -- it depends, but typically in the range of $2 to $3 million. For OPG, with three reactor designs, it would be close to $10 million.

So for us it's important that the words are very important to ensure that there is safety benefit commensurate with financial impact.

MEMBER McDILL: Staff, you want to comment on that specific item?

MR. FRAPPIER: Gerry Frappier, for the record.

As Mr. Demarker said, we're in total agreement with industry on this, but the CANDU design is not the only design that we have to consider when we put these documents together and that was part of the work that's been going on the past few years, if you like.

So other designs do operate in low power, and so when we're saying to include all operational states, if your design includes an operational state called low power, then we would expect that to be analyzed.

THE CHAIRMAN: So again, I see room for maybe clarification about what you just said.

MEMBER VELSHI: So besides the clarification, in your Slide 3, you say several changes

not directly related to Fukushima have been introduced and staff went through great lengths to explain what the rationale was for the changes and, you know, some was sort of international practice.

So getting to my question on scope, do you have -- do you still have any residual concerns after that -- after you've seen the disposition of the comments around the scope of changes? So set aside the clarification.

MR. DEMARKER: Fred Demarker, for the record.

I believe that with the second round of consultation we can resolve our concerns of the changes that were made. The intent for emphasizing that this went beyond the task force report recommendations is that the Task Force report recommendations went through several rounds of public consultation we were given opportunity to comment at that point. So when we heard there was an omnibus amendment, we expected to see targeted revisions that were aligned with the Task Force report when we commented. We were taken aback when we saw large-scale revisions that were not fully aligned with the Task Force report and where we had not had prior opportunity to provide input.

So that was really the intent, but if we're

given this second opportunity, given the residual issues that are left, I believe that they can be resolved with a second round of consultation.

MEMBER VELSHI: But I want to make sure that the scope of the second round of consultation is well-defined. So it's not, “Here is an open thing; go ahead and give us your round of consultations.” It is, “Where do we need clarity to make sure that there is no ambiguity on what the requirements are?” As opposed to staff has said, “Look, we've added requirements because, you know, it's international practice or that's what the IAEA new document says,” or whatever it is. For the licensee then to say, “But hey, that wasn't part of the Task Force report.” So are other issues around that?

MR. DERMARKAR: Fred Dermarkar, for the record.

The CNSC has introduced a number of industry improvements; we acknowledge that. Although they're not related to the Task Force report, we -- at this point, we do not -- we are not raising that as an objection. We're accepting it. We're accepting that in the interest of moving forward and implementing, improving this document, that this is an opportunity. So we're no longer putting that as an issue, but we're saying if you're going to make a large change we really do need more

than one round of consultation, and that's what we're asking for.

MR. SAUNDERS: Frank Saunders, for the record.

I think I might clarify a little in saying that right now we don't object. After we have that 30-day review there may be some we object to. So the issue really is we need to look at them more closely. Some of them may be fine, some of them may not, right, but we just really haven't analyzed it properly at this stage and so we don't understand entirely the impacts on us.

We have, you know, because of the Fukushima work, a tremendous load on our analysis and other staff who are trying to move through all of these new requirements, and quite frankly, some of this stuff could be very difficult to do in a reasonable timeframe. So we do need to understand it better. Once we understand the impact, we will provide the comments and staff will react to them. So in some cases we may say this is too much too soon. You need to let us finish some of the work we've already started.

THE CHAIRMAN: Dr. McDill?

MEMBER McDILL: In fairness to other intervenors, though, if it's opened up, it's opened up to everybody, is it not?

MR. MOSES: It’s Colin Moses, for the record.

Just in past practice, for example, on a document on regulatory reporting. What we did, further to guidance from the Commission, is we sent it out to all stakeholders who did participate in the initial consultation period. So I imagine that would be what we would do this time.

THE CHAIRMAN: Monsieur Harvey?

MEMBER HARVEY: What would happen after that? Suppose we've got -- we give 30 days and then you will come back with another document that could support major changes to, I don't know, but so what will happen after that? Will you be obliged to consult again or...?

MR. MOSES: Colin Moses, for the record.

To be honest, I don't really have an answer for you. When, if we were to consult again, we might make additional changes and then there would again be -- we could discuss them with the Commission and -- so it could be an iterative process. The intent is though just to resolve the final outstanding issues as suggested by industry. I wouldn't suggest that we would go for additional iterative rounds of consultation without moving forward with an ultimate publication.

MR. FRAPPIER: Gerry Frappier, for the

record.

Just to add a little bit to that. I think at this point in time industry, as Mr. Saunders was just saying, not necessarily against anything that's in here, they believe they need more time to review it and really understand it. So presumably next time that we come here, if that's the decision of the Commission, we would have some pointier things which might be, “Industry would like it to be done this way,” and your staff is recommending, “No, do it this other way,” and I think the tone or the discussion here would be quite different.

So we believe though at the end we're quite happy with the document, perhaps with some clarification that should occur, and we will be definitely trying to ensure that industry sees it that way too, and all the other stakeholders for that matter.

THE CHAIRMAN: Well, what I glean from this is that I think, I'm guessing, I take your point that you may find some unexpected hardship here, but let's be positive. Let's assume it's purely clarification and definition. So I can see the Commission maybe agreeing to approve this if it's purely administrative clarification. If there is some real substantive issue you come back to us, right? Anyhow, we'll have to deliberate about this but I see such process like that, if members agree.

Go ahead.

MEMBER VELSHI: Sir, in many of the hearings we have heard the members of the public express concerns that they don't have access to PSAs that have been conducted. I'm sorry, I didn't look through the document to see if that now is a requirement for the licensee to make these public. Can you comment on that, please?

MR. FRAPPIER: Gerry Frappier, for the record.

PSAs, we generally do not allow the detailed analysis to be made public. There's a very important reason for that. Of course, the Probabilistic Safety Assessment is looking at all the potential failure combinations that might be very low, low probability of occurring but have consequences and that detail down to each valve and that sort of description of how to make a very bad accident at a nuclear plant. We would not want that to be available to people who might have malicious intents.

And so, although we encourage a discussion in general about the PSA, when it comes to actually having the description down to the detailed valve and pumps and all that sort of, we -- and I believe industry concurs as well, that that's not information that should be made

available publicly.

MEMBER VELSHI: So how do you balance that with the need for transparency in this area? I mean, I hear what you are saying, but you know, just with our recent Pickering hearings, I mean, there was a whole lot that was made public, and so what is the expectation of the licensee in this area then?

MR. FRAPPIER: Gerry Frappier, for the record.

So I think I've described in general as to we would allow some level of description and -- but as far as the specifics, I'm not sure if you do, Mr. Rzentkowski.

THE CHAIRMAN: Well, I've just been told that we've actually made a decision, the Commission has made a decision about not -- this material is not releasable for security reasons, but even in Pickering hearing the actual result of the probability of the safety, safety goals are published.

MR. JAMMAL: Ramzi Jammal, for the record.

That's to confirm what you've just said is exactly correct. So the results are made public to include the Executive Summary, and the methodology is well-known. But as Mr. Frappier said, we're not disclosing the gory details on how these things. So Executive Summary, methodology, and the numbers are

public.

MEMBER VELSHI: And does the REGDOC state that as a requirement or guidance?

MR. JAMMAL: Well, I'll have to look for that decision. I don't -- I'm going by memory. I'll ask Mr. Moses to assist me on this one.

MR. MOSES: Colin Moses, for the record.

No, there's no explicit reference to that requirement within this standard, but there is another regulatory document that's very important with respect to public information and that's RD/GD-99.3, and that outlines our expectations, both requirements and guidance, for public information programs and disclosure.

THE CHAIRMAN: But it may be -- again, I -- if we're going to go -- if you're going to go through another round there may a lot of bad explanation up front, some of the security issue associated with PSA.

DR. RZENTKOWSKI: Greg Rzentkowski, for the record.

Just to add to this discussion as a matter of clarification. Later on today we will be discussing another document which is the mandatory reporting requirements. Eventually, we can include this mandatory reporting requirement there for disclosure of a summary document which will not only summarize the approach but

also would provide some numerical results like, for example, probabilistic safety goals.

There exists already a requirement for the deterministic safety analysis so we can expand it to include probabilistic safety analysis as well.

MR. ELLIOTT: Mark Elliott, Chief Nuclear Engineer from OPG, for the record.

Just wanted to reiterate that it is our intent to publicize -- make public as much as we can from these probabilistic safety evaluations.

On our OPG Web site, we have the Darlington and the Pickering B summary. They're over a hundred pages each and they describe in a lot of detail the results and we intend to do that when we finish the Pickering A one as well.

THE CHAIRMAN: Okay.

Anything else? Yes, go ahead.

MEMBER McEWAN: Sorry, I just want to make sure: 30 days is unequivocally enough time?

MR. DERMARKAR: Fred Dermarkar, for the record.

That's what we're asking for, 30 days. We've initiated the review process already.

THE CHAIRMAN: Okay.

Go ahead.

MR. DERMARKAR: Sorry, just for clarification, that's 30 days for our review, not 30 days for the entire cycle to get it issued. Yes.

THE CHAIRMAN: Oh, you're suspicious; aren't you?

(LAUGHTER/RIRES)

THE CHAIRMAN: I don't want to start because this can start a whole new conversation here but, you know, I'm really struck by the complexity of the PSA.

It takes five years to update. Did I hear you right? Did you say it takes $2 million to make a run?

If that's the case, this is not an agile tool to do sensitivity analysis.

Please.

MR. DERMARKAR: Fred Dermarkar, for the record.

To build a PSA model is a very large undertaking and we have invested very heavily over the last five years.

In fact, if you had to do a three-year update, you would need to start the three-year update before you finished the first update.

That's the situation we found ourselves in because when we say "PSA", there are many different elements to a PSA and they're all separate. So we do PSA

for internal events. We do PSA for outages. We do PSA for fire, another one for flood, another one for seismic.

Multiple it by Level 1 and Level 2 and, in all these cases, you're building methodology, you're building models, you're analyzing the results because, like any piece of analysis, when you get a first result, you need to iterate, to understand what the results are telling you and then go back and fine tune the modelling.

So it is a very large engineering effort.

THE CHAIRMAN: No, I understand all of this, but once you've built it -- I'm more concerned, once you've built it, in the use, I just don't understand why you cannot do sort of quick and various simulations on excursion and sensitivity analysis on any mitigation that you want to contemplate.

MR. DERMARKAR: Fred Dermarkar, for the record.

If the update is simply a case of updating the data, you're quite right; it's not a large undertaking.

One of the things that we have yet to discuss with the CNSC is: What does "update" actually mean?

Does update mean revising the methodologies and so on or is it simply reviewing our failure data, you

know, the reliability data that we report on through RD-99 and using that updated data to update the models?

But your understanding is correct. If it is a simple matter of updating it to reflect new data, it should not be a huge undertaking.

THE CHAIRMAN: But I'm not even talking about update. I'm talking about running, if you like, a sensitivity analysis.

I'm back to you're doing a Fukushima mitigation; pick one, whatever you've decided to.

Why can't you do a quick analysis of the implication?

MR. DERMARKAR: Fred Dermarkar, for the record.

Sensitivity analysis for things that are already modelled so, by sensitivity analysis, if it already exists in the model and we're changing what already exists -- so, for example, we're doubling the failure rate or halving the failure rate -- it's fairly straightforward to do.

Sensitivity analysis where you're revising the model to put in new elements that don't exist today is a significant undertaking.

THE CHAIRMAN: Just to give an example, if you put an offsite mitigation for emergency management,

why can't you then look at the model as is, the impact on that?

You don't have to give me an answer now, I'm just trying to -- I don't see this as a very difficult, very expensive excursion.

Go ahead.

MR. SAUNDERS: Frank Saunders, for the record.

Let me just kind of have a go at it. You have a basic PSA model and there's a lot of material in it and so its real value as a tool is in doing the kind of comparisons you're saying.

So I'm going to replace a pump or a piece of pipe or change a logic. I put that in the model, I can tell: Does it make it more safe? Less safe?

And that's really the value of PRA or PSA as a tool.

The problem is, these days with Fukushima, we're asking the PSA model to do things it was never built to do. So it has no input for emergency response in EME.

So what we've been doing for the last several months is figuring out how to build that input into the model, quite frankly, and once you build it then you've got to validate it and verify that it's correct and understand how you're going to test it and so forth;

otherwise, your staff and CNSC will tell us we haven't done our job in adding the new piece in the model.

So, you know, and then every time you update it five years from now, I've got to rerun all of that in the new updated system and republish it all.

So that's why we want a certain period of stability so we can actually use the models for what they were intended for which is to compare changes.

If you're changing them all the time, it just becomes, you know, you've got nothing to compare it to, quite frankly.

So a very high-level description, it's kind of like, you know, looking at computers where they were back in 1995 and where they are today. You really can't compare what a computer could do then and now; there's just no basis for that.

So if you continually change your models then, you know, the comparison is really hard to deal with.

But we do have to update based on Fukushima and the external events are quite a different thing now than they were in the past and some of them are giving us a real challenge.

I'll give you one example and why it's a challenge. Typically, PRA models look at something like

events that happen in 100,000 years or one in a million years and try and model those things. Well, if you look at high winds, for example, sustained high winds, if you try and do a model and what is the highest wind you get once in a hundred thousand years; well, that includes an ice age and a few other things with very extreme weather and all kinds of stuff which is not likely to be relevant in the life cycle of a nuclear plant.

So your traditional way of doing that in a PRA which is to draw it out over a hundred thousand years, put the probabilities in, give you answers that are just simply crazy. Like, they suggest you can have 200 mile an hour winds sustained for a day. Well, there isn't anywhere on the planet these days that you get that, so it would seem kind of unlikely you want to build to that criteria.

So you have to then look at how you're going to build that model into the PRA, what it's going to look like, what the methodology is going to be, CNSC has to agree.

It all takes months, sometimes years to do.

MR. ELLIOTT: Mark Elliott, Chief Nuclear Engineer for Ontario Power Generation, for the record.

Part of developing a model for this emergency mitigating equipment will be to consult around

the world. How is this being done around the world?

When we submit the methodology for the last few years as we've been updating the PRAs, it's all been industry-wide approaches. We use the best techniques from around the world. There are no techniques on emergency mitigating equipment right now.

So what we would want to do to implement this is consult with the best experts around the world. What are other people doing?

One way of understanding why it's so difficult is when you have detailed procedures -- and I mentioned this yesterday -- detailed procedures and equipment that you've used for years and years and the failure rate is very clear on it and detailed procedures on how to use it, it's quite simple to go through a PSA process and put it into a model.

When you've got brand new equipment without experience and failure-rate data on it, a kind of different approach was this flexible approach where you have guidelines as opposed to detailed procedures where many different people can operate it. Putting a model together that will do that, that can stand the test of international, that we want to have the best thinking from around the world and that thinking hasn't been done yet is quite a challenge for us.

So when it was said yesterday that that's going to be challenging to meet this hold point by next May; that's why.

THE CHAIRMAN: Look, I'm quite familiar with some large-scale simulation -- there are even bigger industries. If you go to the military, there's all kind of schemes to do some of those sensitivity analysis. It's just that we are stuck with some protocol that require methodology.

I'm digressing into a different subject here, but I still believe that you guys need to know the impact of the mitigation on Fukushima that you're putting in place and even have an approximation as to the increase in safety margin. Because, otherwise, why are you doing it? It begs the question.

So you can do it deterministically, you can do it probabilistically, and I just don't believe it's that complicated.

I understand the complexity.

I don't want to belabour this and I'd like to move on. I have one last question, and that is severe accident.

The severe accident REGDOC, there are three documents being consulted on emergency management. How does the severe accident relate to those three documents

in the public?

I thought they were dealing with the same kind of subject.

MR. FRAPPIER: Gerry Frappier.

So, currently, we have a document called G-306, which is severe accident management. This document that's before you is to implement fairly quickly the lessons learned from Fukushima into that document.

We're also renumbering that document so it fits into the framework moving forward, regulatory framework moving forward.

However, we are also, as you're discussing, working in conjunction with emergency management folks and the CSA personnel to have a better overall suite of documents for emergency management which would have the three key sort of things, if you like, one being how do you manage the accident within the plant, which this document would become part of.

So this one here deals only with severe accidents. The document that’s out for consultation now deals with accidents, both non-severe and severe, and then the other two documents.

So this document that's before you will be amalgamated in with the document that's out for consultation when that document finishes its process of

being updated.

THE CHAIRMAN: Okay, thank you. Thank you for that.

Anybody else?

Okay. Thanks a lot. Good time to take a 10-minute break. We'll reconvene at 11:10.

--- Upon recessing at 11:01 a.m./
L'audience est suspendue à 11h01
--- Upon resuming at 11:19 a.m./
L'audience est reprise à 11h19

THE CHAIRMAN: Okay. We are back and into the next item of the agenda, which is dealing with the regulatory document REGDOC-2.5.2, Design of Reactor Facilities: Nuclear Power Plants, as outlined in CMD 13-M36.

And I understand that CNSC staff will make the presentation, followed by opportunity for Bruce Power and OPG.

So is it Mr. Frappier this time? Go ahead.

6.2 Regulatory Document REGDOC-2.5.2, Design of Reactor Facilities: Nuclear

Power Plants

13-M36
Oral presentation by
CNSC staff

MR. FRAPPIER: Thank you, Mr. President.

For the record, my name is Gerry Frappier and I'm the Director General of the Directorate of Assessment and Analysis.

With me today is Colin Moses, Acting Director General of Regulatory Affairs, Dr. Greg Rzentkowski, Director General of Power Reactors and a whole bunch of technical people, depending on how much you want to get into this design document.

The presentation outline is an overview of Regulatory Document 2.5.2, Design of Reactor Facility: Nuclear Power Plants.

The purpose of the document is to provide background information including where the document fits into the overall document framework structure, the key improvements that we've done to this document, the results of the public consultation, including key comments that were received, and information on the publication and implementation of the document. And finally, a

recommendation on the path forward for this document.

REGDOC 2.5.2 has been drafted to update requirements for the design of new water-cooled nuclear power plants, implement recommendations from the Fukushima task force report, provide guidance to licensees in understanding and complying with these requirements.

This regulatory document is intended to assist applicants, licensees and reactor vendors in their design activities and preparations for potential construction of new nuclear power plants.

It is also intended to assist CNSC staff with their review of those applications for new nuclear power plants.

Although primarily used for new nuclear power plants, REGDOC 2.5.2 will also be used as a modern standard and guidance for the design of nuclear power plants when we undertake integrated safety reviews.

CNSC's regulatory document RD-360 contains requirements and guidance for integrated safety reviews. This includes a review against modern standards to determine reasonable and practical modifications. Upgrades that are safety significant and practicable would be expected.

The purpose of REGDOC 2.5.2. is to set out the CNSC set of requirements and guidance for the design

of new water-cooled nuclear power plants. This regulatory document is risk informed and aligned with accepted national and international requirements, including the International Atomic Energy Agency's SSR-2/1, Safety of Nuclear Power Plants Design.

This is a chart that you've seen before and I think probably see often over the next few years. It's the overall document framework.

The document that we're talking about today is 2.5.2. That's in red and is part of the series of documents associated with physical design of facilities that are regulated by the Commission.

The document was drafted following the CNSC staff identification of the need to update the existing regulatory document which was named RD-337, which was published in 2008.

I'd like to make a point here that, unlike the documents we were just talking about, this one here had been in the cycle to be updated independent of anything to do with Fukushima but, of course, as we were updating it, we also included Fukushima events.

This update of RD-337 was warranted given that RD-337 itself was written in a passive voice using non-mandatory language that made it difficult to identify requirements versus guidance material.

Many of the technical codes and standards in RD-337 were becoming outdated and RD-337 did not contain any guidance to assist licensees in understanding and complying with the requirements.

So reviewing RD-337 also provided CNSC staff with an opportunity to implement the recommendations from 2011 Fukushima Task Force report that pertained to the design of new reactors.

And just as a bit of a prelude to perhaps some of the discussions that will happen, so just to be clear, REGDOC 2.5.2 used to be called RD-337. So I think a lot of people will fall into that accidentally.

But REGDOC 2.5.2, which will supersede RD-337, is based on content from two draft documents which were released for public consultation in 2012, draft document RD-337, version 2 -- at that time we had not made the decision to change the nomenclature -- and a guidance document, GD-337, which was the newly-developed guidance for design of new nuclear power plants.

Following a CNSC decision on realignment of regulatory documents, the new numbering systems defined that RD-337 would be renamed REGDOC 2.5.2.

In order to make this document available as soon as possible to stakeholders preparing for potential new build activity and to help the CNSC meet its

commitment to implement the Fukushima Task Force recommendation by the end of 2013, it was decided to present this document to the Commission in English only. There will, of course, be a French version in time. No comments that were received on this regulatory document in French.

If the REGDOC 2.5.2 is approved by the Commission, the French translation will be ready for publication, along with the English version, in the fall of 2013.

So some of the key improvements: One of the key improvements made to this regulatory document is to align it with the international community. REGDOC 2.5.2 adopts the principles of the recently updated IAEA publication SSR-2/1, Safety of Nuclear Power Plants; Design. Key changes adopted from that document are:

The expansion of the nuclear power plant's fundamental safety function to include cooling of all fuel, not just fuel in the core, to make sure we capture the irradiated fuel bay; added requirements for the design to explicitly consider the construction phase; added requirements for fuel to remain usable after anticipated operational occurrences.

In addition, the CNSC conducted a benchmarking study comparing RD-337, version 1, to

regulatory requirements in the United States, in the United Kingdom, in France, in Finland, and with the West European Nuclear Regulatory Association, WENRA.

The study found two significant differences that we have used for improvements:

First, the Canadian requirements for electrical power systems were limited to only the emergency power systems, whereas foreign regulators had more comprehensive requirements in place and included station blackout and alternating current power supplies, AC power supplies.

Secondly, Canadian requirements for operator action time, which are the ability for the design to withstand accident progression without any operator actions, were less stringent in Canada than internationally, and so we have made -- and we'll talk about that in a minute -- we've made changes to them.

The CNSC is also proposing to align this regulatory document with the international community by strengthening the requirements of the electrical power systems, as I mentioned. Foreign regulators have more comprehensive electrical power system requirements than was found in RD-337, version 1. As a result, the CNSC is proposing to expand the electrical power requirements to include normal power supply, the standby power supply,

emergency power supply, and AC power supply.

The CNSC is proposing to amend operator action times, as I mentioned, so that they are comparable with the international community.

The nuclear power plant must -- just to explain a little bit about what we mean by "operator action time" because it's a little bit inverse thinking here. The nuclear power plant must remain safe without any operator action for a period of time known as "operator action time." Automated actions and inherent safety characteristics must ensure safety for this period. So the longer the period that you're giving for operator action time, the tougher it is on designers to design a reactor that will not need any operator intervention for that operator time.

The revised requirements for REGDOC 2.5.2 would require designs to be more stringent and be able to withstand incidences without any operator action for long periods of time. In particular, it would change it from 15 to 30 minutes for actions inside the control room and change from 30 minutes to 60 minutes for operator action outside the control room.

Most incidents ultimately require operator action, for example, to cool and depressurize the reactor and establish normal shutdown heat sink while repairs are

being made, but note that a longer time, as I mentioned, is allowed for actions outside the control room, as operating staff need to access that location.

A second key improvement to REGDOC 2.5.2 is the implementation of recommendations from the Fukushima Task Force, including improved requirements for spent fuel storage, new requirements for portable equipment for use during emergency situations, including redundant connection points to provide water and electrical power in severe accident situations, setting the time for which the plant must be self-sufficient without mobile equipment. The nuclear power plant must remain safe for eight hours before connections of onsite mobile equipment is needed and must be able to have 72 hours before offsite services where support is needed.

More comprehensive coverage for design extension conditions is also included.

Other key improvements made to REGDOC 2.5.2 include updated terminology and, in particular, the concept of Design Extension Conditions. Design Extension Conditions are a subset of beyond-design-based accidents that are considered in the design process of the facility. A Design Extension Condition is an unlikely event and may include fuel melt. An extended loss of AC electrical power is an example of a Design Extension Condition.

This figure shows how the Design Extension Conditions relate to other plant states and conditions. I want to draw your attention to the right-hand side where there is the beyond-design-based accident area. Fukushima has taught us that we need to pay more attention to small probabilities that have high consequence events. And so this has led us, along with the international regulatory community, to introduce additional terminologies into regulatory space to better control the area before referred to simply as "beyond-design-based accidents."

So just to clarify some of the terminology, a design-based accident is an accident condition for which a nuclear power plant is designed according to established design criteria and for which the damage to the fuel and the release of radioactive materials are kept within authorized limits.

A beyond-design-based accident is accidents less frequent than design-based accident. A beyond-design-based accident may or may not involve fuel degradation, but the probability of its occurrence is much less than a design-based accident.

A severe accident that you'll see there is an accident more severe than a design-based accident and involving severe fuel degradation or fuel melting in the reactor core or in spent fuel pools.

And the design extension conditions is a subset of beyond-design-based accidents that are considered in the design phase of the facility in accordance with the best estimate methodologies to keep releases of radioactive material within acceptable limits. Design extension conditions may or may not include severe accident conditions.

I'm sure we'll talk a little bit more about that later.

Next slide. Other improvements include complementary design features. REGDOC 2.5.2 also updates the way in which complementary design features are classified. Complementary design features are components in the design of nuclear power plants that are necessary to address design extension conditions. They have different design requirements than those features considered for design-based accidents.

And actually we were just talking about that this morning when we were talking about instrumentation under severe accident conditions versus under design-based accidents.

REGDOC 2.5.2 requires the availability of fundamental safety function for design extension conditions. To fulfill the fundamental safety function, complementary design features are provided for design

extension conditions. Some examples of complementary design features could be provisions to cool core debris; provisions to remain in a safe shutdown state to prevent criticality; recombiners and igniters of hydrogen control; provisions to preclude unfiltered releases; and alternate AC power supply or an alternate water supply beyond what would be required for design-based accidents.

This regulatory document also benefits through the addition of a new section on cyber security to reflect new developments in industrial control systems and current practices in industry, including a transition from analogue technology to digital technology; the wide use of computer-based systems for new designs of nuclear power plants; the increased need to protect computer-based systems and equipment from cyber threats and cyber attacks.

This section includes a high level requirement for a cyber defensive program, for instrumentation and control architecture, and cyber security program.

Sorry, let me re-read that:

This section includes a high level requirement for a cyber defensive instrumentation and control architecture -- so that's for designing the architecture of the I&C in a way that helps prevent cyber

attacks -- and a cyber security program for areas other than instrumentation and control.

The details for how to do this are going to be included in a CSA standard that we are working with the industry and CSA community to develop a cyber security standard.

Finally, REGDOC 2.5.2 assists licensees in understanding and complying with requirements by providing updated and additional references to technical codes and standards, enhanced guidance section, additional information sections which are lists of publications in which additional information may be found.

The document listed in the additional information provide useful information and guidance and the selection of design codes and standards is the responsibility of the designer. The CNSC verifies if the set of standards is acceptable during its review process.

With respect to the public consultation that has already been done in association with this update to the document, as noted earlier, REGDOC 2.5.2 is based on two draft documents, RD-337 Version 2, Design of New Nuclear Power Plants and GD-337, Guidance for New Design of New Nuclear Power Plants.

RD-337 Version 2 was issued for public consultation from July 26th to October 4th of 2012. GD-337

was issued for public consultation from August 27th to November 9th of 2012. In total, 138 comments were received on RD-337 Version 2 and 186 comments were received on GD-337. The stakeholders who commented on the documents included licensees, reactor vendors and international experts.

RD-337 Version 2 and GD-337 were issued for feedback on those comments from October 24th to November 8th, 2012 and December 14th, 2012 to January 8th, 2013 respectively. No feedbacks on the comments were received.

I'd like to now take a look at some of the key comments that we did receive during that process.

The first key comment the CNSC received on this regulatory document is regarding operator action time. The CNSC is proposing to amend operator action times from 15 minutes to 30 minutes inside the control room and from 30 minutes to 60 minutes outside the control room.

These requirements increase the amount of time the design must withstand an accident before which the safety analysis can credit operator actions to halt or mitigate the accident progression.

Reviewers requested the rationale for the change in operator action time and they also requested that the current standard of 15 and 30 minutes inside and

outside of the control room be maintained for the new designs.

In response to those comments received on this item, the CNSC notes that new designs reviewed in Canada, such as ATMEAs ATMEA1, Westinghouse's AP1000 and CANDU Energy's EC6 already intend to meet these longer times. REGDOC 2.5.2 does not apply to existing nuclear power plants as we mentioned.

The revised requirements were also aligned with current international practices such as those of the Western European Nuclear Regulators' Association, the United Kingdom and the United States. They also allow for more flexibility for technology neutral application of this REGDOC. And REGDOC 2.5.2 does permit alternative operator action times if they're justified. The longer operator action times brings Canada into line with other countries and provides a greater safety margin.

The second key comment area the CNSC received on this regulatory document was regarding design extension conditions. The CNSC is proposing to replace terminology such as "selected beyond design based accidents", which were used in RD-337 Version 1 with the term "design extension condition". So again, this is not a new concept, it's just new terminology.

Design extension conditions are adopted

from the new International Atomic Energy Agency's publication for the design of NPPs SSR 2/1, Safety in Nuclear Power Plants and Design.

Reviewers submitted that the term "beyond design based accident" is already well established in Canada and the introduction of the new term "design extension condition" is unnecessary. They also suggested that design extension conditions may represent an extension of the design basis and that there was inadequate guidance for design extension conditions in the draft versions of RD-337 Version 2 and in the GD-337 document.

In response to those comments received, the CNSC notes that design extension conditions are already a subset of beyond design based accident, specifically those beyond design based accidents considered in the design. The adoption of the terminology is not a significant change, it replaces selected beyond design based accidents.

This change in terminology improves the clarity of the requirements for a selected beyond design based accidents that was originally in RD-337. Design extension conditions do not expand the design basis that is used for design based accidents. The conservative rules that address design based accidents continue apply

to only those accidents that are within the design based accidents.

CNSC staff accepts that the draft documents contains insufficient guidance on design extension condition. We've expanded it, but in fact we're going to continue with workshops further this fall with industry. Not so much with respect to the definition of design extension conditions or what's in the document at this time but to provide better clarity as to what the design rules are going to be around them and how they need to be taken into consideration.

The next key comment received was in response to the CNSC's proposal to classify complementary design features as high safety class -– in the high safety classification.

Reviewers questioned whether complementary design features should be in this high safety classification. They proposed classifying them relative to their safety significance. The CNSC is in agreement with the reviewer's suggestion and the classification scheme now in REGDOC 2.5.2 takes safety significance into account.

As a result of the comments received on this issue, REGDOC 2.5.2 has been revised to allow for classification of complementary design features relative

to their safety significance as per the safety classification system used throughout the design.

A number of additional specific comments and suggestions were received from reviewers and were accommodated by CNSC staff where appropriate. No concerns were brought to the attention of CNSC staff regarding undue impact on industry.

The final draft of REGDOC 2.5.2 was issued for a further 30 days prior to this Commission meeting meeting -– Commission meeting to permit stakeholders to review and comment.

If approved with respect to implementation, REGDOC 2.5.2 will be used by CNSC staff when reviewing applications for constructions to build a new nuclear power plants. They'll be used to assist stakeholders including those involved in preparing for potential construction of new nuclear power plants in the design activities. And as was mentioned by OPG yesterday, yesterday evening, there is several vendors right now that are preparing design for a potential construction in Canada.

The document will also be published on the CNSC Web site and it will replace RD-337, Design of New Nuclear Power Plants that was issued in 2008.

So conclusions and recommendations.

Overall, CNSC staff concludes that REGDOC 2.5.2, Design of Reactor Facilities, represents a significant improvement in clarifying regulatory expectations for the design of new nuclear power plants. As a result, CNSC staff recommend that the Commission approve REGDOC 2.5.2 for publication and use.

We are available for any questions that the Commission may have regarding this document.

THE CHAIRMAN: Thank you.

I'd like to turn the floor to Mr. Frank Saunders from Bruce Power. I understand you wish to make some comments.

MR. SAUNDERS: Yeah. Frank Saunders, for the record. And with me is Albert Lee from CANDU Energy and Fred Demarkar from OPG.

We don't have a presentation for this and I mean, quite frankly, ran out of time to put them all together, so I'm going to like talk about it verbally.

I think to set the context a little bit, this document and the two that we talked about this morning, 2.4.1 and 2.4.2, really work hand and glove. They are in fact the basis of our license there, the licensing basis and the design basis there, the foundation for the whole concept upon which the reactor operation is based.

As such, it is important. And they cross-reference each other, I mean, 2.4.1 you will find, if you read it, references this document. And you'll find that in SAMG and other places.

It is really important in these three documents that we understand their relevance, not only to new plants, but to existing plants and how they'll be applied. It's been CNSC policy for some time, when documents are issued on new plants, that when we do our integrated reviews and other things that we take these documents into consideration and there's an expectation that we will implement the pieces that we can even though they are actually for new plant designs.

So this creates uncertainty in the process, so important to us that we get the clarity.

So come to this document, we did comment on this early, both the guide and the RD.

We didn't expect them to come out as one document. We literally got this two weeks ago. There's 94 pages of comments and questions.

We tried to get through the thing. We just, frankly, gave up in the time that we had available.

So there is the same issue we had with 4.1 and 4.2, which is, really, you need to be able to read this. It's important. We need to understand the

relationship to 4.1 and 4.2 as well as to other documents and make sure that the definitions and all that stuff line up and make sense.

And there are differences. For example, the definition of “design basis” is different in 4.1 than it is in 4.2 -- or in this one; right?

So not hugely different but a few extra words and it changes the -- and they're both different than what the IAEA definition is.

So our view was that we really do need to spend a little more time with this document and go through it very quickly. There are a couple of fundamental areas where we don't agree with staff's interpretation of the international standards that exist today and we really feel that some sort of a workshop to clarify those things is important so that we all have a clear understanding of what they mean and can get the right words around it.

So, you know, I can start to go into more detail on it but, in a nutshell, that kind of lines it up. But some of the stuff like the timing issues on operators, for example, very significant issue; right? It's not trivial in that you're now expecting the plant to have an automatic response in the field that will take care of everything for 60 minutes.

In an ideal situation, that may work. It's

very difficult to do in current designs. So understanding what the intent is of that in applying it to current designs is very important.

So I really -- our petition to the Commission is we need some time to do this. We need to go through it properly. Thirty (30) days won't cut it on this one, for sure. This is a more substantive discussion and review.

But it is an important document and we do want to see it issued, quite frankly, but we just want to make sure that we got all the clarifications sorted.

THE CHAIRMAN: Thank you.

Mr. Dermarkar, you want to add anything to this?

MR. DERMARKAR: Thank you, Dr. Binder.

For the record, Fred Dermarkar for Ontario Power Generation.

The only additional thing that I would add is the issue of design extension conditions is an evolving issue on the international stage. There isn't -- a consensus has not yet emerged.

Certainly at the IAEA, there are differing views on design extension conditions. I believe that Canada is playing a leadership role in helping to bring clarity to this, how they are managed.

And I agree with my colleague, Mr. Saunders, that we do need some more dialogue before this document gets finalized.

I would support a public workshop, an opportunity to bring in experts, international experts, and reach agreement on the best way to manage design extension conditions, ensure that whatever we do in Canada, which I think is leading, is not out of step with where the rest of the world is headed.

That's it. So to summarize, I agree with the notion of having a workshop to discuss this. The workshop should include international experts. Of course, it should be open to the public and, essentially, that will require a little bit more time for review.

Thank you.

THE CHAIRMAN: Okay.

Let's open it up for discussion. Who wants to go first?

I have a list here. Dr. McDill, you're at the top of my list here.

MEMBER McDILL: Public consultation occurred between -- well, I guess last year; right?

So why the concern now? What's happened?

I mean, there's not that much that's in red between the last one. There's some from CANDU Energy that

I've read and some from you, but ---

MR. SAUNDERS: So two bits. One, again, combine the guide and the REGDOC, so we need to look at that.

The second issue is the first time we see the disposition on the comments is when we'd seen this document and some of those dispositions we don't agree with, quite frankly.

So -- and some of them are substantive in terms of content, so there needs to be some discussion on it.

THE CHAIRMAN: Staff?

MR. MOSES: Colin Moses, for the record.

Just to clarify, in the -- we did recognize and know of our intent to combine these documents at the time of publication but, practically, we had the Requirements Document ready before -- ahead of the Guidance Document.

So in the release when we did notify subscribers, we clarified that our intention was to combine the documents. However, they were issued separately to receive feedback.

We also made sure that the consultation periods aligned or overlapped so that -- and provided English versions of the Guidance Document at the time of

the initial release of the Requirements Document.

So we made it very clear up front that our intent was to publish this as a single document.

MEMBER McDILL: If this document doesn't apply to existing facilities but the 4.1, which does apply to existing facilities, references 2.5.2, is there some way around that?

MR. FRAPPIER: Gerry Frappier, for the record.

So this document does not apply to existing plants.

However, we do have or the Commission does have a policy that, when plants come up for an integrated safety review, we will compare them to modern standards. So this would be the modern standard that we would compare it to.

However, in our whole process for -- under RD-360, that comparison is not that this document would be taken as requirements. It's that where the current design does not meet the requirement here, that gap has to be specified and then we go through a separate analysis to see about how we can minimize that gap, get the same level of safety as a modern plant but probably through something very different than you would do if you were designing from scratch, as this document's intended for.

So I don't see that there's going to be an issue with respect to applicability to operating plants and if there is any particular issue for a paragraph or a line, there's already a mechanism within the way the Commission proceeds on this that fully expects there to be gaps that have to be discussed and dispositioned separately from what the requirements in the document say.

MEMBER McDILL: Where is the methodology for using -- or going to a gap analysis?

Where does it sit in terms of Reg Documents or Guidance Documents or is it just a memo of understanding between nuclear power plants and ---

MR. FRAPPIER: So I'll ask Dr. Rzentkowski to provide details but, generally, it's in RD-360 where we talk about integrated safety reviews and how to proceed with them.

DR. RZENTKOWSKI: That's correct. Greg Rzentkowski, for the record.

The process for integrated safety reviews is described in the Regulatory Documents RD-360, and this process starts from the comparison of existing design against -- not only design, but also operating procedure -- against modern standards.

In this particular situation, this standard, which is applicable only to new builds, will be

used as a benchmark to compare the existing designs.

So any gaps identified will have to be dispositioned in the proper way and we will use predominantly cost benefit analysis to disposition any gaps identified between the existing design and modern standards.

And there's one more point, I would like to stress here that clarity of regulatory requirements is extremely important for effective implementation of regulatory framework. So if we have a mandatory document which is design, which is deterministic safety analysis, which reference a non-mandatory document, I think this clarity is lost.

THE CHAIRMAN: Anybody else on this?

Dr. Barriault?

MEMBER BARRIAULT: I'm confused. It doesn't take much, I'll tell you.

But the reason I'm confused is because we're told that this only applies to new nuclear power plants. On the other hand, what I'm hearing from industry is that, if something is new and it's working, then we will apply to the other plants when they do refurbishments or whatever.

Can you clarity that for me?

You know, is it just me that's confused?

MR. FRAPPIER: Gerry Frappier, for the record.

I think that is a very difficult sort of area when the requirements or the standards -- it applies to technical standards as well -- when they evolve due to lessons learned or whatever the reason might be. The back-fitting rule is the terminology they use in the NRC is always complicated, so you have a current design if we look at Darlington or Bruce. So it's there, it's working. You now have a fundamental design document that makes some changes for a whole bunch of good reasons looking forward to the next generation of plants.

Then there has to be some judgment as to how it's going to apply or whether it does and so we have, as Dr. Rzentkowski was just explaining, a formal process by which we go through to do that.

So we don't want operating plants to not continually improve the safety and industry is in agreement with that, so how do you gauge whether they're keeping up with where the design requirements are going or whatever the safety issue is that you're talking about.

So the way you gauge it is you take a look at modern standards and you say how far away are you from those. And to be honest, our plants are very well designed and we can usually find a very pragmatic way of

closing any gap that's identified.

MEMBER BARRIAULT: Can we ask industry to expand because if I understand this was one of your concerns?

MR. SAUNDERS: Yes, that is the process and we agree and understand the process and that's why it's important that when you put a requirement in here that it be a legitimate requirement and properly reflected. Because even if in the end of the day we decided we don't need to do anything on our current plants, we do a lot of work to show that.

So very important that area is where we disagree with the fundamental requirements get that discussion and get it aired so that we get to a point where we all -- we're probably all going to get to the right point, I'm just not sure we're there yet. So I don't disagree with the process; it's exactly what I was describing. I agree 100 percent.

I also agree that we knew that these documents were going to get merged. I did expect a little more than two weeks to read them though before I got in front of the Commission to have this discussion quite frankly.

It doesn't allow me to prepare and I feel very unprepared sitting in front of you today because I

don’t have the detailed backup that I would like to have while I’m having this discussion.

MEMBER BARRIAULT: Thank you.

My next question really ---

THE CHAIRMAN: Can I jump in on this one? So I think it’s really important that the relationship between the new design and the old design be described somewhere. What my concern here is that there will be certain interpretation by certain people that will say, “See I told you we’re not safe because you are now dealing with lower standards, whereas the new standards require, I don’t know, higher seismic and tsunami and, you know, aircraft so you obviously don’t meet it. You’re obviously unsafe”.

And I think somewhere along the line this crosswalk between the new standard and the old standard as it relates to safety is to be articulated somewhere. Where would somebody find that?

MR. FRAPPIER: Gerry Frappier, for the record.

So RD-360 is the document that talks about that and perhaps I’ll pass it to Dr. Rzentkowski.

DR. RZENTKOWSKI: Thank you for this question.

As a matter of fact, yesterday we discussed

that we are preparing for implementation of periodic safety review starting from relicensing of Darlington site next year and we will also prepare supporting regulatory documents.

In those regulatory documents, we will describe the process for gap identification and disposition, so that the clarity will be provided and the guidance will be provided not only to the CNSC staff, but also to the Applicant.

It's important to understand that in many instances we cannot completely reconcile the existing design with modern standards, but nevertheless, anything what is state-of-the-art, anything what is practicable will be considered, and to the maximum extent implemented.

THE CHAIRMAN: But don't you think it would be useful at least for the readers -- I'm not talking about the industry reader necessarily -- when they read this document, there'll be an explanation up front of how you do the crosswalk to existing facilities. You've got to go to 360, let's say; something along that line?

DR. RZENTKOWSKI: Actually, we can do that because there's another document which we discussed already this morning which is RD-310.

Originally RD-310 was a part of the design requirements for new power plants; that's how this was

developed. Then we created a separate document which was intended only to describe the safety analysis -- the deterministic safety analysis for new reactors but then the decision was made to apply this document also for the existing reactors.

So there's a preamble in the document saying that those requirements should be applied only in a graded manner. So I think we can use a very similar preamble in the design requirements as we already applied for the deterministic safety analysis.

THE CHAIRMAN: Just a general comment: I think we should wherever possible, we should do the crosswalks between the various regulatory documents.

The framework is simpler the way it used to be. It's still pretty complicated to navigate and I think you should not be afraid to put a lot more explanatory kind of a text in the preface or somewhere that explains the real purpose of this document which the emphasis is on new and how we're going to use it on old, go to another document; something along that line.

Dr. Barriault?

MEMBER BARRIAULT: Just one more question. In the scope of this document on page 1, second paragraph, it goes on to say that to the extent practicable, this document is technology neutral with respect to water cool

reactors.

What does that mean that it's technology neutral? You don't apply new technology to it or it's got nothing to do with it or whatever?

MR. FRAPPIER: Gerry Frappier, for the record.

Good question, an important concept. In the past, the Canadian regulator, if you like, was certainly expecting that any new nuclear power plant would be a CANDU design. CANDU design is a very specific design, a pressurized heavy water reactor. There is a lot of other kinds of designs.

When we started preparing this document, actually, the original RD-337 -- so several years ago -- it was made clear to us by OPG and other operators that CANDU would be a consideration, but that we should be ready for other kinds of designs; pressurized heavy water reactors, light water reactors of all kinds.

And so in going through this document, the original one, RD-337 Revision 1, a very key driver was to make sure -- and the term we used would be that it would be technology neutral in a sense it wouldn't drive that one technology would have an advantage over another one because of the regulatory system in Canada.

MEMBER BARRIAULT: Thank you.

THE CHAIRMAN: Monsieur Harvey?

MEMBER HARVEY: Merci, monsieur président.

The period or action times must be giving us an example of the potential difficulties. What is the old period or action time for the CANDU fleet here in Canada?

MR. FRAPPIER: So currently it's 15 minutes for actions within the control room and 30 minutes for actions outside the control room.

So our intent is to double those to 30 minutes for inside the control room and 60 minutes for outside the control room.

MEMBER HARVEY: Okay. So it is the same thing for all the CANDUs as well as Point Lepreau and Bruce, and there's no difference. Okay.

And do you have an idea of the importance to go from 15 to 30 minutes to the capacity of all the new reactors to go to 30 minutes, and why at the end, on your slide number 18, you put alternative operator action times are permitted if justified?

MR. FRAPPIER: Gerry Frappier, for the record.

So currently in our design reviews that we have done with the other designs -- because again remember this is primarily geared for new designs -- those

requirements have been stated. Certainly the AP1000 and ATMEA, we're quite comfortable with those as requirements. CANDU Energy said their design can be made to meet it. But it is different than what our current fleet is, I agree with you.

So part of that last line that you were talking about is perhaps there is one incident or one situation where that timing is not appropriate or cannot be met. Then we would expect a justification that would indicate that the safety case is still maintained, but we did want to explicitly have that because of course this is a broad statement that applies to any procedure. And so we wanted to make sure that there was an avenue there for us from a regulatory perspective to see that there's a justified reason why a certain time is not met.

MEMBER HARVEY: So I'm trying to -- well, to find why you are -- I wouldn't say afraid, but why did you get concerned about that point?

MR. LEE: For the record, it's Albert Lee from CANDU Energy.

I'd like to offer a little bit of insight into that particular issue.

There are some events that -- possible events that can happen where there will not be an automated response by the plant to terminate the event and

we have to examine those events with respect to the ability of the operator to diagnose the event and to be able to take the appropriate action to terminate it.

And for some of those cases, a 30-minute rule may not be the appropriate because it's something that could be more reasonably done in a shorter time. And we would like to be able to, for some of those events, be able to acknowledge that there's a good rationale justification for the operator to be able to take the appropriate action with a shorter time.

And if you look in international practice, in particular in the American nuclear standards sponsored by the American National Institute of Standards, ANSI-58.8 identifies that, depending on the frequency of the event and the complexity of the event, different amounts of time should be allotted for the operator to make the appropriate diagnosis and different amounts of time should be allotted for the operator to be able to execute a procedure to terminate the event and place the plant in a stable condition.

And it's well-founded and it's based on human performance studies that were done over a period of about half a dozen years. It involves operating experience from North American utilities and it provides a lot of statistical information about how to judge

appropriate human factor performance and allocate appropriate times.

And from the position of CANDU Energy, for the majority of the events, we could probably make some design changes such that we give the operator more time. There will be a small number of events where it will not be practical to make design changes to do that but we know that those events are more benign and where the operator has been demonstrated to be able to diagnose the event, take corrective action in shorter time.

And if it's proven and justified that the operator is able to do that, we should be allowed to take credit for that.

MEMBER HARVEY: But doesn't the last sentence on that covers that point?

MR. FRAPPIER: Gerry Frappier, for the record.

That's the intent of that last point and I think, as Mr. Lee was just saying -- first of all, just to be clear, we want the design to be able to withstand having an operator doing nothing for 30-minutes. That doesn't mean we expect that the operator will do nothing for 30-minutes; right?

So obviously, if he can fix things within five minutes, he will go ahead and do that.

But I think as Mr. Lee has mentioned, if we can get to the point where most of the design events, most of the situations have this additional time -- as he referenced, the ANSI standard that he's talking about is also the one that we reference in our document here, does provide that perhaps on a few on those occasions that's not going to be the case but, overwhelmingly, the design will be able to handle that -- that's an improvement in safety that we'd like to see.

MEMBER HARVEY: Thank you.

THE CHAIRMAN: Ms. Velshi?

MEMBER VELSHI: I have a question on process, on comments, disposition, and whether there's a need to revisit this. So this is the second time we're hearing it today.

The licensee say it was a couple of weeks before today's meeting that they got to see how their comments to a disposition. I think in the slides we say 30-days.

So for a document this fundamental, you know, I think what one needs to look at and I know, Mr. Moses, you did mention earlier this morning that you look at the nature of the comments, the disposition and then make some kind of a call on whether there's a need for another round.

But, clearly, your judgment's not necessarily lining up with how the licensees think they should happen.

So I'll put that out there, that perhaps this -- for substantive documents like this that maybe two rounds of consultation should be the norm and not something that's optional.

But getting back to the licensees' concerns: This document or the review process appears to me was different than the ones we heard this morning on the deterministic safety analysis. When the RD-337 and GD-337 went out, you knew these were going to get merged.

So when you reviewed those -- and this was last year, with more time, more than 30-days to review -- you knew what was going to be requirement as opposed to guidance.

So, hopefully, that clarity is not an issue when it comes to these documents.

MR. SAUNDERS: Frank Saunders, for the record.

I believe you're correct. But having not read it all and checked for errors and misinterpretations and so forth, I really can't answer the question.

So I agree the intent was to put the guidance in as guidance and the requirement in as

requirements, but I think on a document that is as impactful as this one is there needs to be time to read it and make sure mistakes weren't made.

I mean, I don't think anybody's trying to hoodwink us or pull something, you know, fast here but it is a very, very significant document. You can't get much more significant than this one, quite frankly, and I just find it totally inappropriate that you give us a final version with only a very short period of time to read it and no opportunity other than to appear in front of the Commission to say, you know, we think we found some errors; right?

And there are still a few fundamental issues that we don't agree with. We don't entirely agree with the interpretation on operator timelines, or at least the way it's written. I think we could write it so that it's much clearer and much better understood.

So, fundamentally, it's a little bit about process here. In reality, when we read the whole document maybe a lot of our concerns will go away, but I can tell you, honestly, we have not read this whole document.

MEMBER VELSHI: So, I mean, I share your concern about needing more time to see how your comments have been dispositioned.

I don't think you're making quite as

compelling an argument on whether you had sufficient time to review the first draft of the document, because there was enough time given and, certainly, the comments, I didn't see: Folks, we need time. We haven't had sufficient time to review this and do this thoroughly.

Or did I miss that comment?

MR. SAUNDERS: Sorry, you may have misunderstood.

We did comment on the two separate documents fairly thoroughly. We didn't see the final product of these documents put together until two weeks ago.

MEMBER VELSHI: Right.

So when you reviewed the first two documents there was enough time to review them, to review them thoroughly, and so issues of clarity around “Is this guidance?”, “Is this mandatory?”, that issue shouldn't be there for this document as it did for the deterministic safety analysis one.

Is that correct?

MR. SAUNDERS: Assuming that the merging happened flawlessly and there was no errors, yes.

But I do think we deserve a chance to actually check for errors.

But yeah, the difference on 2.4.1 was we

hadn't even reviewed the guidance in this respect, so it was a more significant issue there.

THE CHAIRMAN: … to say something?

MR. LEE: Well, yes.

There's one important aspect of this that I think the Commission should take into consideration.

As you said, this is a very fundamental document that underpins the safety basis for all new nuclear power plants that are planned to be built in this country and in -- there have been changes and the CNSC staff have done a very extensive job in taking into account all the comments from all of the people that submitted comments.

However, one of the things that hasn't been done by the people that submitted the comments -- and we haven't time to do -- is to look at the final revised text to confirm that, in making the changes, has there been an unattended change to something that was not intended to be changed; okay?

And, you know, so I can share with you some experience that came out of the pre-licensing reviews, where we put into practice our interpretation understanding of the requirements of RD-337, the current approved version and not the new version, wherein the dialogue with the CNSC staff in gaining clarity on

confirming that our understanding of the requirements met the CNSC staff expectation.

We also identified that there were statements in RD-337 which are not entirely consistent with other regulatory documents or with existing CSA nuclear codes and standards.

And we've had the discussion with the CNSC staff. We've identified to the CNSC staff a need to provide additional clarification such that those inconsistencies and discrepancies will be ultimately resolved before deliberation is made for the application to construct a new nuclear power plant and ---

THE CHAIRMAN: Okay, you guys. We get all of this.

MR. LEE: Yeah.

THE CHAIRMAN: None of you are saying how much time do you need. And here I don't want to hear about we don't know if we're going to agree, period. I mean, a time to review and send formal yes or no and whether you agree or don't agree.

MR. SAUNDERS: Two things on this document, I think.

It's more substantive and it's going to require a little more coordination, so you're looking at probably at least 60 days to review it. But I do think

there's a need for a bit of a workshop on some specific areas.

That's not the whole document, but on some of the concepts that exist in a couple of areas like operator times and other things to make sure that we've got a common understanding of what the requirements actually are, so ---

THE CHAIRMAN: But you're going now -- to Ms. Velshi's point, you're going now to fundamental questioning of a particular concept here that I would imagine you should have raised during the consultation process on the two documents before.

I mean, so there's a difference between fundamental disagreement with particular concept or clarification. I'm all for clarification but why -- but I'm worried about fundamental disagreements.

MR. SAUNDERS: Well, we did raise them in the previous, and in some cases we don't agree with the disposition, so they still exist in our mind.

THE CHAIRMAN: Staff?

MR. FRAPPIER: Gerry Frappier, for the record.

I think it's important to understand that this is an update to RD-337. I mean, we've changed the nomenclature and that, but basically it's an update.

The changes, we've given you some indication of what the key changes are and, really, that's most of the changes. There's been very minimal set of changes compared to the document that's already been out there for several years, since 2008.

I think the other thing is that the -- while I certainly take the concerns of those who are operating -- who have operating plants and want to understand how this is going to apply and whatnot, as we mentioned, that's really a separate process.

What we have to make sure of is that the people -- the vendors who are designing right now -- and, as we know, OPG is going through a process. There has been designs that have been submitted. We've done vendor design reviews based on this document, if you like, and many of it was in the draft that we knew we were going out with.

We've got to make sure we've got some certainty for those folks as well, and certainly Mr. Lee can talk to that because he's one of those folks, if you like.

Having said all that, it's a very, very key document and we have to make sure that it's right. But for the comments that we've already received and we've already dispositioned, I'm not sure we're going to

disposition them differently, so if there's some clarity ---

THE CHAIRMAN: Well ---

MR. FRAPPIER: --- that's going to happen, you know ---

THE CHAIRMAN: --- the one thing that this day brought forward is we may want to think about -- you know, we have two rounds of consultation, comments and comments, but we have no much time on the final product consultation, which I could see we may want to make sure that we give a lot more time for the final -- particularly such a substantive document -- a little bit more time for the industry to have the final say.

MR. MOSES: Colin Moses, for the record.

Certainly we can take that feedback. As I mentioned, this new process of sending out to industry is new because of feedback received before.

THE CHAIRMAN: Right.

MR. MOSES: And I'm hearing that we can maybe adjust our practice and adjust our process, and we're certainly open to that.

THE CHAIRMAN: Okay.

Ms. Velshi, I interrupted you.

MEMBER VELSHI: Sorry. I don't think you've got an answer to your question on how much time.

Is it 60 days to -- and it really is to come back with a disposition by staff that you may want to have further discussion on.

MR. SAUNDERS: Yeah. From our point of view, in 60 days we could identify where we have real issues with this document and where we don't. And that would -- if -- and maybe that will be sufficient or maybe there will be a couple of issues where we feel we need a little more in-depth work. But I think 60 gives you that.

Now, we do have three other documents and another one that's coming out in a week or two and another one the week after that, so there is a pile of documents to review in the next little bit. But at least ---

THE CHAIRMAN: At least you can tell all your bosses that we are no longer the bottleneck; right?

MR. SAUNDERS: Happy to tell them that in this case, yes.

MR. DERMARKAR: Fred Dermarkar, for the record.

Just before we close out this issue, Mr. Saunders mentioned and I had mentioned the importance of having a dialogue on some of these points.

There's only so much you can do in writing in the consultation process. When both the CNSC and the utilities are looking at the same fundamental operating

experience and we're coming to different conclusions as to what is reasonable, we can both put together a case to say we're right because of the following data set, and it's the same data set that we're both looking at.

I think there needs to be as part of whatever extension we give, the 60-day extension, there does need to be an opportunity for a face-to-face discussion bringing to bear some other external parties that have experience in these areas that can help sway the decision, that can help us reach agreement.

These are very fundamental points. Operator action time -- for example, the same standard, the ANSI standard that's quoted by the CNSC as the basis for 20 minutes, it allows for the very high frequency events, a 5-minute response time, for less -- other events 10 minutes and other events 20 minutes.

So we don't disagree with the 20 minutes, but there's room to discuss the -- what is the right number.

It's also really important to point out and -- that although the standard has a provision for us to make a case, as Mr. Saunders, to deviate for existing plants, there -- as Mr. Saunders pointed out, there's a large amount of effort that goes into making the case.

So we really want to make sure that the

standard is right and we're minimizing the need to make the case to deviate. And the standard will be used for existing plants, so a large amount of our objections are -- to this are rooted in how will this apply to existing plants.

And although I agree with Mr. Frappier that that will be the subject of another process, the fact remains that whatever we decide in this document, it will set the bar for whatever comparisons we make. And it will really drive a lot of work and a lot of discussions if we set the bar too high relative to the existing plants.

Industry supports raising the bar. Industry supports evaluating our plants to a higher bar. But that higher bar has to have a sound basis and we -- and we need to have confidence that whatever we put in here is reasonably achievable for the existing plants.

THE CHAIRMAN: Ms. Velshi?

MEMBER VELSHI: So moving on to some other minor questions.

One was around the term "cliff edge". So this morning, we said yes, that was going to remain in the documents.

Here, in a disposition of comment 129, for instance, I see the term "cliff edge effect" has been removed. So help me understand why it was fine for one

and not for this one.

MR. MOSES: Colin Moses, for the record.

To be frank, we didn't need to use this term in this document. It didn't add clarity. It wasn't a specific issue.

I think there was one -- only one instance in the entire document, so ultimately, we said it's not a necessary term to be included in the final document.

MEMBER VELSHI: Okay. So you weren't shying away from it.

I noticed that one of your commentators appeared to be an international expert. I don't know if it was comments solicited by you -- by staff. But as I was looking at the disposition, it -- the sense I left with is most of those comments were not accepted. So I wondered if you could give me a sense of the value of having received that feedback, or was my assessment not accurate?

MR. FRAPPIER: Gerry Frappier.

So yes we did, we did solicit international review. We let several countries know that we had this new document and that we'd be open to their review, or to their comments rather, and we did get some people who took up on that. As to its value, perhaps I'll ask Mr. Chris Harwood.

MR. HARWOOD: For the record, Chris Harwood; I'm lead for safety analysis in the Directorate of Assessment and Analysis.

The feedback we received was -- from this international expert was only on the GD-337 draft. We got nothing from him on RD-337, version 2. Our feeling was that he hadn't read the RD. A great many of the points that he raised could have been covered had he read the RD, and also, I don't think he was familiar with other regulatory documents such as RD-310, which is now 2.4.1. So a lot of the time his comments were simply from, I think, a lack of context, but some of his comments were valuable and we did read them carefully.

MEMBER VELSHI: Thank you.

And my last question was a comment, it's on page 1 on the comments report around a suggestion not to use the term ALARA. The question was though that the comment says ALARA is vague and not conservative and I wondered if you could comment on that. I'm not quite sure what they were trying to imply about not using ALARA and using ALARS.

MR. HARWOOD: I'll try and answer that question and maybe somebody from -- who knows more about the ALARA principle will have time to come forward. The person who was making these comments was very much against

the linear no-threshold hypothesis for setting dose limits and felt that the ALARA principle was not well founded for that reason.

Our view is to keep an open mind on that and we are maintaining alignment with the ICRP and the UN committee on -- I don't know what UNSCR stands for. Can somebody help me out? It's the committee that works on dose limits and radiation protection.

So we stay aligned with those. If the linear no-threshold hypothesis gets changed by those bodies, then I'm sure CNSC will evaluate that and may move forward, but until then, this document, REGDOC 2.5.2 has to stay in line with the radiation protection regulations and other regulatory documents that require ALARA, and so these comments were not accepted.

THE CHAIRMAN: Just a quick question. You did a study benchmark -- you benchmarked about five countries, I think, trying to assess, so are we consistent with what other countries are doing and did we post that study?

MR. FRAPPIER: Gerry Frappier, for the record.

So as I mentioned, RD-337 was developed and published in 2008, I believe it was. And so part of our getting ready for the second version, which we've been

talking about this for a long time -- it's certainly not 30 days -- that we thought we would put a little project together to compare ourselves against some of the leading countries to understand the regulatory regime they have and so we compare very favourably in the sense of very, very close alignments; as I mentioned in the presentation, we found three or four areas where -- one of which being this operator time that is controversial with licensees; found a few areas where we were not aligned and so, for those that made sense for our regulatory regime, we thought we'd bring them in.

The report itself, I'm going to have to ask for some help, whether it's -- I don't believe it's on our Web site yet and I'm not sure if somebody can tell me where, is it saying -- I'll ask Sang Shim to provide guidance on what's the status of that report.

MR. SHIM: This is Sang Shim, for the record.

To elaborate a little more about the -- Mr. Frappier's comment. There is such a project was commissioned the year 2011 comparing against the five international bodies Mr. Frappier mentioned; Finnish, U.K. -- France, U.S. I think the main difference is found from the study was that although the level of details, level of prescriptiveness may differ depending on the country, CNSC

design requirements are more or less in line with the international requirements as concluded.

However, as mentioned earlier, this research made a recommendation for two significant differences between our approach to those of the other regulators, one in which was the -- we've been discussing. They are recommending 30-minute, 60-minute rules for crediting operator action for safety notices. Secondly, they are asking electrical system requirements to be broadened to include more comprehensive requirements, including normal emergency standby alternative power supply requirements, which you have done -- implemented in this document.

THE CHAIRMAN: I wasn't looking for the substance ---

MR. SHIM: In conclusion ---

THE CHAIRMAN: --- what I want to know is why don't we always get into the habit of posting our studies?

MR. SHIM: I'm not quite sure. My understanding is any of the research projects, when it's completed, it gets posted on our Web page. I need to confirm that.

THE CHAIRMAN: Can somebody find out and let us know, please?

MR. FRAPPIER: Gerry Frappier, for the record.

I'm certainly aware of your direction, that all our research results should be posted and that is a slight change in our habit, if you like, but one that we are embracing. I just don't know about this particular report. So I'll have to check with our research folks.

THE CHAIRMAN: Okay, anybody else? Just a little compliment. I found the little diagram that shows the various beyond design, et cetera, really good. Really, I always like -- I tell you, I'm like a little kid; I like photos and diagrams more than text, particularly when they clarify what we are talking about. So good stuff. Anything else? Okay, thank you.

(SHORT PAUSE/COURTE PAUSE)

THE CHAIRMAN: While you are organizing, I'm reading here. The next item on the agenda is regarding the REGDOC-3.1.1 – Reporting Requirements for Operating Nuclear Power Plants, as outlined in CMD 13-M44.

I understand that Mr. Howden will make the presentation.

MR. HOWDEN: That is correct.

7. Information Items

7.1 REGDOC-3.1.1-*Reporting*
Requirements for Operating
Nuclear Power Plants

13-M44
Oral Presentation by
CNSC staff

7.1 REGDOC-3.1.1-*Reporting*
Requirements for Operating
Nuclear Power Plants

13-M44
Oral Presentation by
CNSC staff

MR. HOWDEN: Good afternoon, Mr. Chair, Members of the Commission. My name is Barclay Howden; I'm the Director General of Regulatory Improvement and Major Projects Management.

With me today are Doug Miller, Director of the New Major Facilities Licensing Division. Soon to join us will be Laura Andrews, Senior Project Officer within the same Division. Greg Rzentkowski, Director General of Power Reactor Regulation is behind me along with Colin

Moses, who is acting as Director General of Regulatory Policy Directorate.

We are supported by the rest of the team involved in this project.

We are here today to provide a status update on work being done to revise and finalize REGDOC 3.1.1, formerly RDGD-99.1, “Operating Nuclear Power Plants Reporting”, as outlined in CMD 13-M44.

You will note in the CMD that the REGDOC is not yet complete but is getting close. The CMD provides the status of the document as well as an outline of some of the key content in order to give Commission members a sense of the progress made to date. Thus, in addition to a status update, we are also recommending a path forward on how to complete the document.

The outline of our presentation is provided here. We'll first start with the history on how we got here today for this status update. Next, we'll outline the fundamental principles that we have followed as we currently prepare the next version of the document. Then, we will indicate how we have resolved these challenges that we were facing last year with this document. We'll then provide the current status and, finally, we'll go over our recommended next steps.

Following extensive discussions at the

September 13th, 2012 Commission meeting regarding this document, the Commission directed CNSC staff to do the following:

Streamline and simplify the documents, and they were known as RD-99.1 and GD-99.1 at that time; consolidate the documents into a single document; identify clearly for each of the proposed safety performance indicators, also known as SPIs, where CNSC staff and the industry are in agreement and where we are not. And finally, outline any points of contention.

To address the Commission's direction, the Executive Vice-President, Regulatory Operations Branch, Mr. Jammal, took on the project authority role.

CNSC staff then commenced work to address the concerns raised by the Commission. The Executive Vice-President established a RD-GD Steering Advisory Committee to direct the work of staff. The Committee is composed of the Operations Vice-Presidents and Directors General from across the CNSC. This led to the establishment of an integrated team, which comprised the project management lead, technical lead, and leads for each safety and control area from across the CNSC. I was asked to chair the committee and that's the reason why I'm presenting today.

In order to tackle the revision of the

document, we established fundamental principles to guide the work. This was essential to consolidate the gains we had made to date and then to move forward from there. The first was to start with S-99 SPIs plus those currently in use by industry. The intent was to avoid reinventing or duplicating existing requirements. The message was: Use what is already available.

Please recall that the S-99 SPIs are currently in use and are referenced in all nuclear power plant licences.

We are to apply lessons learned from the previous work, which is what went well, what didn't, and we had to remember that the SPIs are intended to complement other forms of regulatory oversight and are not a substitute for inspections.

As well, not every safety and control area requires an SPI. There are other ways to obtain regulatory information, such as through inspections, scheduled reporting and unscheduled reporting. An example is provided here: For security, there is no SPI required, as sufficient information is gathered through a periodic operational security report.

Another important step that was taken was to ensure that everyone knew what an SPI was and how it will be used. This then guided the selection process.

Here, we've provided the definition that CNSC SPIs provide information for measuring and monitoring performance of a licensee's ability to manage, control and achieve their programs per their licensing basis.

And for selection, here are the three key points: Selection of SPIs are part of the broader context of reporting an assessment of licensee's performance, and I'll explain this in further detail on the next slide.

An SPI must be measurable and quantifiable, that is, it provides discrete units of data.

An SPI data collected should have clearly defined trending analysis performed, where appropriate, and the use of the SPI in the overall compliance program and assessment of licensee performance must be demonstrated.

This guide was provided to ensure clarity and consistency in how we choose and use SPIs.

This slide is provided to give an overview of where and how we collect all our regulatory information and thus provide context on where SPIs and scheduled and unscheduled reporting fit in. The draft REGDOC deals strictly with SPIs, scheduled reporting and unscheduled reporting.

First, we have our inspection program. This is where CNSC staff, a combination of inspectors and

specialists, gather information directly during inspections. As required, we can go into a lot of depth in our inspections.

Second, we have our onsite staff at each NPP. These inspectors do routine rounds on a daily basis.

Third, we have a scheduled reporting, which includes SPIs, and this is information generated by licensees and provided to the CNSC.

Fourth, we have unscheduled reporting, which deals with events. This information is provided by the licensees but, along with scheduled reporting, can be verified independently by our staff, if needed.

And finally, we have ongoing discussions with the licensees every day on a multitude of topics which also provides valuable regulatory information to us.

As you may recall from last September, there were a few challenges that we were facing. These were caused by a lack of full consistency in our approach which led to the direction provided by the Commission.

So this led us to revisit our process in the revision of the REGDOC. Specifically, we established our integrated team; we established a CNSC/industry working group to provide a consultation and communications platform; and we took a very disciplined approach to these consultations and communications, establishing a clear

protocol that consultation and communication with the industry would be through the working group only.

The next step was to clearly establish our starting point. We started with the S-99 SPIs. Industry itself has a multitude of SPIs that it uses for operational purposes. Across the NPPs, some are the same, some are similar and some are different. So industry came up with a harmonized set of SPIs that could be used for regulatory purposes.

Once we had our starting point established, CNSC staff then, using our fundamental principles, chose which SPIs from S-99 and from the industry list could be used for regulatory purposes.

The same principles were also used to update the scheduled and unscheduled reporting requirements. Then, we had iterative technical discussions with industry to fully understand their SPIs and calculation methods, such that we could then have internal discussions to decide on what information would be satisfactory as regulatory reporting requirements.

So up to now, I've talked about process. Now, I would like to provide the status of the work, focusing on the SPIs first.

As you can see, we had our meetings over the past year. So industry provided its harmonized set of

SPIs. They have yet to confirm all the details in the four radiation protection SPIs but we expect industry to complete this work in August and we expect to be able to confirm that we can use them shortly after, in September.

To date, we have 31 SPIs chosen that meet CNSC reporting requirements. Nine came from the original S-99 Regulatory Document, 22 come from the industry's side.

The next three slides outline the SPIs. I do not plan to review them individually; however, I wish to note that each one has a source. We have the Industry Harmonized List, which is a smaller subset of the broader list. That is actually SPIs that are unique to the Canadian industry that our licensees have put together.

Next, we have WANO, which is the World Association of Nuclear Operators. These are used by our licensees. COG is the CANDU Owners Group. These are used by our licensees. And S-99 is the regulatory standard currently in force.

Also, we have provided an annex to this presentation which provides to the extent possible a layman's guide to what each SPI is used for.

This slide shows SPIs 11 to 20. You will note that No. 19 and 20 are two of the radiation protection SPIs that are not yet confirmed. This slide

shows SPIs 21 to 31 and you'll note that 21 and 22 are the other two radiation protection SPIs that are not yet confirmed.

To give an idea how some SPIs will be used, some examples are provided here. Some are used for benchmarking performance between plants in the CNSC Staff, Integrated Safety Assessment of Nuclear –- Canadian Nuclear Power Plants Annual Report, which you reviewed yesterday, SPI Number 5, the unplanned capability loss factor is used to indicate if important plant equipment is well maintained and reliably operated with few outage extensions.

Number 25 is the industrial safety accident rate is used to indicate overall trend of safety programs and training, as well as compare interplant performance. Others are used for trending to monitor performance over time within a plant and identify areas for a further inspection.

Number 12 is the corrective work backlog, which is an indicator of effectiveness of maintenance program.

And Number 17 is the chemistry index, which is an indicator of adequacy of chemistry control which contributes to keeping equipment in good condition. So minimizing corrosion is one of those factors.

Now, turning to reporting requirements, scheduled and unscheduled. These have been updated based on our internal meetings and the meetings with the CNSC industry working group. In order to reduce administrative burden we have chosen to eliminate duplication in reporting by accepting reports that licensees make to other regulators as is, if they meet our requirements. All we ask is that we be copied on these reports. We have no outstanding issues to report on this topic.

In terms of implementation, please recall that licensees are expected to report against S99 which is currently in their license. The transition to REGDOC 3.1.1 will be completed at an agreed to date and here's the strategy.

First is to introduce the REGDOC into the license conditions handbooks first, work towards full implementation over an agreed to period.

For the most part, the licensees already collect much of the information required. However, in some cases, the licensees will need time to establish the collection and analysis processes and then integrate them into their electronic reporting software.

The next step would be incorporate into the power reactor operating licenses to replace S99. And finally, we need to be prepared to adjust the reporting

requirements as we gain more experience from implementation. So this could mean in the future, adding, subtracting or modifying what is in place.

You are no doubt aware of the extensive public consultations that have been done to date on the content of this document. This slide gives an overview of consultations done on the suite of RD-99 documents.

In particular, you'll see from the slide that extensive consultation was done in advance of the August 2011 and September 2012 presentations to the Commission. This was based on work that was started prior to 2011. Each time only the industry provided the public comments on the content of this document.

So to sum up, full public consultation on the content of this document has occurred twice. Based on this we are of the opinion that we will need not –- not need –- we will not need to go out for full public consultation as we finalize the next version.

With that said, we have outlined the recommended next steps. Complete the final draft and conduct internal and industry review by the end of September. We intend to receive letters from industry on concurrence with the amended document. We're recommending to you today that the CNSC President signs off on the amended document, and then we publish in early 2014.

Again, a reminder, the SPIs and reporting requirements will be regularly reviewed and updated as we gain practical experience.

One final point, we have attached an annex to this presentation with plain language descriptions of the SPIs, scheduled reporting requirements and unscheduled reporting requirements. Once we had finalized the CMD, we realized that some of the information contained therein may not be easy to understand, thus the reason for adding the annex.

I don't intend to go through the annex but we can certainly answer any questions on it.

Finally, that concludes our presentation and we are prepared to answer any questions you may have.

Thank you.

THE CHAIRMAN: Thank you.

So let's jump right into it, starting with Monsieur Harvey.

Sorry; I'm just being reminded that I got to be courteous here. I assume, it was a big assumption, maybe I should test it first. I assume the industry was on this one okay but let me hear from you, your comment on the presentation.

MR. SAUNDERS: Hi. Frank Saunders, for the record.

I thought maybe you'd heard enough from me this morning but yeah, no, I think generally industry agrees good progress on this.

It significantly reduced the administrative overhead that we were concerned about when we brought it up last fall. So it has moved very much in the right direction on the performance indicators themselves were largely in agreement.

There's just a few minor tweaks on the RP ones and those are mostly related to us in the industry getting our definitions aligned more than a disagreement with the CNSC staff. We found that we all measure the same thing but we don't all measure it exactly the same way. So there's little work to sort that.

Scheduled reporting, you know, we're pretty happy with the consolidated table. If you'll recall, last year there was two tables and it was somewhat confusing and we suggested a consolidated table and staff has agreed to that and we're content with what's in that table.

There's still a couple of issues around unscheduled reporting that we need to work through, especially in the environmental area. There's been a request to submit all raw data in the environmental area, for example, as an annual type report. That's thousands and thousands of pages of data, right? So we're really

saying that's more appropriate to an inspection. You can come see how we use it. It's certainly available to CNSC staff. We don't believe submitting that every year is of any particular use.

So there's a couple of those issues but I think we'll work through them. Other than that, we're generally content with where this has gone and the interaction that we've had with staff on it.

THE CHAIRMAN: OPG?

MR. MacEACHERON: Richard MacEacheron; Director for Regulatory Affairs for OPG.

Yeah, I echo what Frank Saunders was saying. And as Barclay Howden pointed out that we are –- although we're not quite complete we are getting close. The safety performance indicators, there's been a tremendous improvement on what we have now in front of us.

The indicators are -– they're consistent with the industry. As you saw, they use international through WANO, some of the OPGs and the utilities harmonized indicators and the S99. And I think that that certainly will allow the CNSC to be able to compare the utilities better. They'll be consistent and benchmarkable. And as well, we will know what good looks like. So tremendous progress has been made on that. A few minor issues of clarification still left, as you

heard.

As for the scheduled reporting and the unscheduled reporting, we were close, back last year on that, so we remain close. There's just some minor clarifications that we're still working on.

Regulatory document, it's critical that the utilities understand precisely and that the language is precise. And I think we're close on this one. So it's been good work so far.

THE CHAIRMAN: Thank you.

Monsieur Harvey?

MEMBER HARVEY: Well, I received my answer, I was to ask them the same thing. And when you say there were a few things, do you think the intention to publish it early in 2014 is appropriate?

MR. SAUNDERS: Yes, we agree it should be doable.

MEMBER HARVEY: Thank you.

MEMBER VELSHI: Thank you. A couple of comments and some thoughts for consideration.

When you look at the Slide 5 or 6 on SPI selection, I wondered how big a role benchmarking or ability to benchmark, not just within the Canadian power plants but externally, how big a role that played. And I know you've got some WANO indicators but there were some

others that I thought -– take dose, for instance, a waste generated whether that was a principle or a selection criteria that was deemed to be important.

MR. HOWDEN: Barclay Howden, speaking.

I'll just introduce and then ask Greg Rzentkowski to fill in, but it was a consideration. You'll note that in the staff annual review yesterday there were comparisons made between ourselves and the international community on a couple of the indicators. Now we are proposing to accept 10 WANO indicators which will provide opportunities for benchmarking.

I'll ask Dr. Rzentkowski to add a little bit more.

DR. RZENTKOWSKI: Greg Rzentkowski, for the record.

As you probably recall, we generally divided the safety performance indicators into the overall ones which can be used for the benchmarking purposes, and as specific performance indicators.

Now, because those specific performance indicators would be identical for all industry players, we can use some of those specific performance indicators for benchmarking purposes as well. And this would be something what we evaluate in preparation of the next year NPP report.

MEMBER VELSHI: Thank you.

And then when I turn to Slides 11, 12 and 13 where you've got your summary of SPIs.

The first one, "Mispositioning Index", I just found the title a little puzzling and then I looked at the description and it talked about human factor events which I really wouldn't have seen as mispositioning, that just means that the switch was off wrong as opposed to any human error type stuff.

So is that an industry term, "mispositioning index"?

MR. HOWDEN: Barclay Howden, for the record.

I'd like to ask André Bouchard to respond to that.

MR. BOUCHARD: André Bouchard, for the record, Director of Human and Organizational Performance Division.

Yes, it is. It was part of the unified index submitted by the industry.

MEMBER VELSHI: So it's a Canadian industry term as opposed to an international term?

MR. MacEACHERN: Richard MacEachern, for the record.

Yes, at OPG, we have a misposition index

that we record and we track and we trend and it's related to components being found in the incorrect position.

MEMBER VELSHI: Right.

So then, it's -- it really is just around components in the wrong position as opposed to human errors?

MR. BOUCHARD: I could provide some clarification around that.

Component being in a wrong position is a simple indication but the point is what left it in the wrong position. It could be either caused by wrong procedures that are wrongfully leaving it there or it could also be by an individual not following the procedure that told them to put it back to the right position.

MEMBER VELSHI: Right, so it -- but it is human error only when it comes to positioning of components as opposed to human error in some other way?

MR. MacEACHERN: Indeed.

THE CHAIRMAN: Just let me jump. I also had a lot of fun with this SPI. I never understood it, and I'm still not sure it's really -- you know, the description was that clear.

But I saw in your annex that you're now putting a little -- a couple of lines about description, about what it's going to be used for and I assume that

you're actually going to incorporate this to the REGDOC eventually?

I just want to make sure that I understood right.

MR. HOWDEN: Yes, that's correct.

The REGDOC is being updated on a regular basis and this description to make it understandable will be in there because, as you discussed on earlier, REGDOCs, the words have to be clear for people to be able to understand exactly what they're measuring and they're not measuring.

THE CHAIRMAN: And what's their use?

What, you know -- Okay, that's fine. Thanks.

Ms. Velshi?

MEMBER VELSHI: Twenty-three (23), 24, 25, all tend to deal with conventional safety, injuries or industrial safety accident rate and I know they're all different in slight nuances and the sources are different.

I would have thought this would have given you a great opportunity to come up with a single measure that could be used for, you know, all the things that you talked about.

We saw that yesterday as we were looking at the annual NPP report and we tripped on, you know, the

comparisons. CI uses it one way and industry use it another way and so on.

But, again, it was just -- it just makes it difficult to compare if the measures are all just slightly different.

Any comment on that?

MR. SAUNDERS: Frank Saunders, for the record.

I can comment a little on this one because we've certainly had some discussion.

The three measures you have there are the one that the industry use and we've agreed to get all our definitions exactly right.

Typically, you look at three things when you look at industry. There are other things, but at a high level you're looking at the loss-time injury rate; so things that actually require you to either not perform your job or be absent from work.

The second one is severity. So if you have a loss-time injury, is it a one day or is it a 20-day?

And then, the third one is what we call sort of all-injury rate or it includes loss time and medically-treated injuries.

But the first two are by far the most accurate in the ability to measure them because you can

measure them quite accurately. The third one gets greatly influenced by policy and availability of medical resources at the site that you happen to be on, and so you can get a lot more variability from site-to-site on MTIs than you will on LTIs because they're largely controlled by legislation and other things.

So we do all three because the LTI gives you -- and severity give you a really good indication of severe accidents. The other one gives you an indication of minor accidents but it is a little less accurate.

So when you put them together, and that's a problem we had yesterday, is we mixed LTIs where the past history was all loss-time injuries, the history they showed from this year was all-injuries. They are two different things. They shouldn't have been shown on the same chart.

So, in the future, I would assume that we will see all three of those indicators with history and so forth and that paints a pretty clear picture of where your safety is at at the location.

MEMBER VELSHI: Thank you.

And then, again, in yesterday's discussion, Mr. Hawthorne said the one indicator that he says tells you the state of the plant is equipment reliability index. And I didn't see that in this list of SPIs.

So is it buried in there or is that just a new measure altogether?

MR. MILLER: Doug Miller, for the record.

And industry can follow up on this. We've taken elements of the equipment reliability index but not all of them. So there is -- some of the WANO indicators address some of that information but, as well, the other key areas that we get an annual report on reliability.

So we looked at the COG equipment reliability index and the elements of it and we compared to what we were currently getting under S-99 plus some of the other PIs and had agreed with industry on the set that you see in front of us.

We found that it was more useful and eliminated duplication.

MR. SAUNDERS: From an industry perspective, we certainly track equipment reliability index. It is a -- it's one of these kind of bag of indicators. You've got three or four sub-indicators that give you an ERI.

And sometimes, for people who aren't intimately familiar with the indicator that becomes problematic because you don't understand all the inputs.

We do have it. We certainly have no real objection to sharing it, we do share it pretty broadly.

But that's really the difficulty with it, is it's a composite indicator and, unless you really have an understanding of the lower-tier elements, it can be confusing to you as to what it means.

But there's no real objection on our part to the ERI so it's perhaps something we should take on as a future look.

THE CHAIRMAN: Dr. Barriault?

MEMBER BARRIAULT: No, thank you, Mr. Chairman. All my questions have been answered.

THE CHAIRMAN: Okay.

Dr. McDill?

MEMBER McDILL: Thank you.

As I recall, when this started, there was a -- maybe you can remind me how many SPIs we were looking at from the sort of the staff side.

And maybe staff can talk a little bit about the convergence within the various parts of staff where SPIs were coming from, being suggested?

MR. HOWDEN: Barclay Howden.

If you'll me to step back in terms of talking a little bit about our regulatory approach and Greg Rzentkowski can add more, if necessary?

When a license is issued it is accompanied by a License Conditions Handbook which contains the

compliance verification criteria that we will be using to determine whether a licensee is in compliance or not. So we gather information from that from many sources.

And I just wanted to remind everyone that inspections is one of our important sources because it is direct observation by CNSC staff but we also have these other pieces of information, the SPIs and the desktop reviews, which include scheduled and unscheduled reports, submission by licensees addressing compliance issues and submissions by licensees relating to follow-up on license reviews.

So in terms of the internal discussions and consultations when we came to the latest list, a lot of it was stepping back and reminding everybody that we get information from various different sources and we want to look at how those sources integrate together to be able to tell us to, you know, come up with our assessment of the performance story.

And that is why you're not -- you don't see SPIs for every SCA but we do get the information through reports and, in some cases, inspections is one of our main tools. We also use the reports and SPIs as triggers to do inspections, focus inspections if necessary.

So that's the big picture to say that when we did that people were able to say: Oh, I'm getting that

information here, here. We have quarterly meetings, I'm going to get that information here. I can actually pick up the phone and call our site staff and say: “Can you go in and check this for me?” and then they can provide it on a regular basis.

So I think it was a really good exercise in how we do compliance and this reporting information we're collecting is a subset of the information that we gathered to determine performance.

Is that going in the right direction?

MEMBER McDILL: Thank you.

MR. HOWDEN: Thank you.

MR. SAUNDERS: And the PR number is a factor. The number of data points that were included in the previous one was somewhere a little over 300, so this reduces it by about a factor of seven, which is why the administrative overhead goes down considerably.

THE CHAIRMAN: And I still am looking forward the experience on how we're going to use 31 SPIs at the Commission level and we'll see how useful they are. We'll see as it goes.

Go ahead.

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

I think Mr. Howden was very diplomatic in

his answer. What I would like to reiterate the fact is when we took on this project, it was very important to mention that the SPIs is not a wish list on what we would like to see, is what is it we need to complement the regulatory oversight. So that's the key elements here.

So if there was a crunching of SPIs into a consolidated aspect, that's where we went back to the fundamental principle, is what is it we're going to use the SPI for and for what is the target.

So as Mr. Howden mentioned, is definitely the compliance activity is one of the elements. The SPIs is to complement the regulatory oversight.

When we went to the fundamental principle is it's not a wish list because there was some philosophy as the SPI were replacing inspection of some sort.

So that's the -- your question is very valid; how did we crunch them and what was it? And that's the principle.

We went back to the fundamental principle, is it is not a wish list that we would like to see. So we'll gain the experience with what we have and we amend them accordingly as we go; either, as Mr. Howden mentioned, we remove or we add accordingly.

THE CHAIRMAN: Just to add, your principle -- list of principle on page 3, it’s pretty impressive. I

-- pretty good articulation. It may even apply to other endeavours as to why you're doing certain things because very clear what was the purpose and what not to do. I was very impressed with that.

Dr. McDill, are you finished?

Okay. Dr. McEwan?

MEMBER McEWAN: Just a couple of, again, use of English and precision questions relating specifically to the table of unscheduled reporting events.

There is a requirement for a preliminary report to be issued immediately. Does "immediately" need to be defined? Is there an area there that could lead to compliance questions or compliance issues?

The second question is, when I look at some of these, there's an immediate report and then a final report 60 days later. Should there be a requirement for an intermediate report?

I would like to think that there was at least some formal follow-up occurring, at least for some of these events.

And then, pedantically, number 4, "misuse of anything intended to protect" is a very, very broad brush and, to me, it doesn't mean anything.

And I think there's a typo in number 18.

MR. HOWDEN: Barclay Howden speaking.

So as we go forward with the document, the document contains extensive information and in terms of how to calculate when you're using SPIs and what the expectations are for the scheduled and unscheduled reports.

In terms of unscheduled reporting, we do talk about preliminary and final reports, but again, we do have on-site staff that maintain and track these issues as it goes along, so there's opportunities there to track how -- let's say they're doing a root cause analysis, how that is going or not going such that we're up to date and then they can provide that to our Ottawa project office staff, who are then managing the issues to determine what needs to come in front of the Commission and what doesn't.

In terms of the language, as Colin Moses said earlier today, these things have to go through really top-quality quality assurance reviews to make sure that the spelling and grammar is correct to reflect the intent of each of the sentences that's written.

MEMBER McEWAN: So you don't think there is a need for a definition of "immediate." You don't think that there would be value in a formal requirement for an intermediate report.

And if I can't understand number 4, then that QA wasn't very well done.

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

There are -- you're asking a very valid question, and we'll add to complement what Mr. Howden has said.

There are requirements in the regulation in the event of incident that you should be immediately notifying the Commission about the report, so we have an early information report that triggers the reporting immediately based on the event itself. And then as we have more information, based on the event itself, we will come before the Commission and provide either the event has been reported and closed or there are follow-up such as root causes or any other updates through CMD process.

So we have the regulation that states clearly that the licensee must notify the Commission. The regulation states up to 21 days. And then we have the reporting process in place which you're going to hear this afternoon with respect to the updates on events. And we will be giving you a verbal update on an event that just occurred within the last 24 hours.

So we have the early information reporting and then the regulatory requirements and then the root cause analysis and everything else to follow.

So if it's not clear, we can clarify it in

the text itself, but it stems from the regulatory requirements.

Did I answer your question?

THE CHAIRMAN: If I understand correctly, you're saying that it's really immediately is well defined. It's right away the event happens, right away it's due to be reported.

MR. JAMMAL: That's correct. As ---

THE CHAIRMAN: So I don't ---

MR. JAMMAL: --- Mr. Howden mentioned, our staff gets right away the information that the event is taking place.

THE CHAIRMAN: It can be a phone call, can be an email, it can be whatever.

MR. JAMMAL: It could be a phone call, could be verbal and then ---

THE CHAIRMAN: And then the formal. That's the way I understood it.

MR. JAMMAL: Correct.

THE CHAIRMAN: I just don't know if you need to explain this in the regulatory document.

And what about, first all, the typo in 18? Everybody figured out how is that not addressed in the licensing basis? Is that what it means? Missing "in the" or something like that?

You figure it out.

And number 4, the misuse, okay. So is that clear? What did you mean to say in number 4?

MR. MILLER: Doug Miller, for the record.

So it is misuse of anything intended to protect health, safety of the persons.

The actual regulatory document cites specific clauses from the *Nuclear Safety Control Act* with further detail, and there are also regulations under the general Nuclear and Safety Control Regulations, 17(b), for example:

> "Every worker shall comply with the measures established by the licensee to protect health, safety and environment."

So it's essentially being compliant with your licensing basis, following the procedures, wearing the proper respiratory equipment, taking the appropriate actions, not doing an inadvertent release, unauthorized release to the environment.

It's a very, very broad term that does need some interpretation.

THE CHAIRMAN: It will be done in the regulatory document.

MR. MILLER: Yeah.

THE CHAIRMAN: Okay. Anything else?

Just one final point on the raw data. I don't know where the requirement for the raw data, but it seems to be there's some intervenors wanted direct access to the raw data so they can monitor in their own real time. I don't know if that's feasible, but I didn't think it was our people requirement.

Am I mistaken on this?

MR. HOWDEN: Barclay Howden.

It was earlier. I don't think Mr. Saunders has been fully updated that we've rescinded that request and we're just looking for the SPI information, but we reserve the right to review it through inspection if necessary.

THE CHAIRMAN: But some of your close neighbours would like access to the raw data. Trust me on that one. I've read it many, many times.

MR. SAUNDERS: Yes. We're actually planning to put some of that stuff on the website, but there is a great deal of data behind that which is extensive, right, and no -- you wouldn't be able to make any use of it anyway, frankly, unless you know all the details. But the raw data they're looking for, I think, is releases from the site, what's the air conditions and that stuff.

And we're not disagreeable. We just don't have an automated system on that one at the moment. But as it becomes automated, we will make it available to people.

I think the misunderstanding the intervenors said there was they assumed that we had an automatic system that was churning this out every hour, but that's not actually true. However, we are going there and we will do it.

THE CHAIRMAN: It's a high tech organization. I thought you would have such a system.

MR. SAUNDERS: Yes. I won't say too much on that.

THE CHAIRMAN: Okay. Anything else?

Thank you. I think we're breaking for lunch. Forty-five (45) minutes; so 2 o'clock. We'll be back at 2 o'clock.

Thank you.

--- Upon recessing at 1:17 p.m.

L'audience est suspendue à 13h17

--- Upon resuming at 2:10 p.m.

L'audience est reprise à 14h10

LE PRÉSIDENT: O.k. Le prochain sujet à

l’ordre du jour est un rapport initial d’événement au sujet d’une surexposition d’un membre du public par les Laboratoires d’essais Mequaltech, tel qu’indiqué au numéro de document 13-M33.

Des représentants de la compagnie sont disponibles dans la salle pour répondre à des questions et d’autres sont disponibles par téléconférence.

Alors, je vais essayer la téléconférence. C'est monsieur Robert Desautels. Est-ce que vous pouvez entendre? Monsieur Desautels, est-ce que vous êtes en ligne? Toujours la technologie.

M. LEBLANC: Selon Jenny, ils étaient en ligne. On va essayer de rétablir la communication. On a quand même des représentants ici dans la pièce.

LE PRÉSIDENT: Alors, on va commencer avec staff. Monsieur Régimbald, vous avez la parole.

7.2 Rapport initial d’événement:

7.2.1 – 13-M33
Les Laboratoires d’essais
Mequaltech Inc.: Surexposition
d’un membre du public

M. RÉGIMBALD: Merci, monsieur le

président, et bonjour. Bonjour les membres de la Commission.

Je m'appelle André Régimbald. Je suis le directeur général responsable de la réglementation des substances nucléaires.

J'aimerais vous présenter mes collègues. À ma droite, monsieur Henry Rabski qui est le directeur de l'inspection des activités autorisées; à ma gauche, madame Lucie Simoneau, coordonnatrice et inspectrice de notre bureau de Laval. Derrière moi, monsieur Peter Fundarek, directeur des autorisations de substances nucléaires et d'appareils à rayonnement, et monsieur Diego Estan, agent en radioprotrection.

Il y a d'autres membres du personnel de la CCSN qui sont présents dans la salle et ils peuvent répondre aux questions au besoin.

L'incident dont fait l'objet le CMD 13-M33 s'est produit le 2 mai 2013 lorsqu'un opérateur d'appareil d'exposition accrédité employé par la compagnie Mequaltech effectuait l'exposition radiographique d'une large conduite d'acier dans une installation de fabrication de métal à Montréal à l'aide d'un appareil de gammagraphie et d'une source scellée radioactive contenant 1,3 terabecquerel d'iridium 192.

Au cours de cette opération, l'opérateur a

soumis par inadvertance un travailleur de l'installation de fabrication à une dose de rayonnement d'environ sept millisieverts. Le travailleur en question n'était pas un travailleur du secteur nucléaire et se trouvait dans la conduite au moment de l'exposition.

Étant donné que l'exercice de la gammagraphie présente des risques plus élevés en comparaison avec d'autres activités impliquant des substances nucléaires, les limites de dose réglementaire pour les membres du public se trouvant à proximité de travaux de radiographie sont fixées à 0,1 millisievert par semaine et 0,5 millisievert par année, ce qui fait que le travailleur membre du public impliqué dans l'incident a reçu une dose de plus de 10 fois les limites permises.

La compagnie Mequaltech est ici pour expliquer ce qui s'est passé et fournir des renseignements sur la cause de l'incident, ainsi que les mesures correctives qu'elle a mises en place pour éviter qu'un tel incident ne se reproduise.

Avant de passer la parole à Mequaltech, j'invite Monsieur Rabski à faire quelques commentaires sur les mesures prises par le personnel de la CCSN en lien avec cet événement.

Merci.

M. RABSKI: Pour tous les membres de la

Commission et pour le bien de l'enregistrement, mon nom est Henry Rabski et je suis le directeur de la Division de l'inspection des activités autorisées.

Les inspecteurs de la Division de l'inspection des activités autorisées prennent très au sérieux les incidents impliquant une surexposition potentielle des membres du public. Des informations additionnelles doivent être fournies concernant l'incident survenu le 2 mai 2013, dont nous discutons aujourd'hui.

Suite à la soumission par Les Laboratoires d'essais Mequaltech Inc. de l'estimation initiale de la dose reçue par le membre du public, le rapport d'incident a été révisé. Un spécialiste en radioprotection de la CCSN a également confirmé qu'un membre du public avait bien été exposé à une dose supérieure à 0,1 millisievert. Cette limite de dose hebdomadaire est uniquement applicable dans le contexte des opérations de radiographie industrielle.

Suite à la révision du rapport de 21 jours soumis par le titulaire, le personnel du bureau de Laval a tenu une réunion le 18 juin avec le président de la compagnie, ainsi que le responsable de la radioprotection.

Les personnes présentes ont été informées clairement des attentes de la CCSN suite à cet incident et des actions à entreprendre par l'entreprise Les

Laboratoires d’essais Mequaltech Inc. afin d’éviter la récurrence d’un tel incident.

Le 21 juin, le titulaire a soumis à la CCSN les actions correctives que l’entreprise devait prendre, soit: premièrement, embaucher un consultant pour réviser les procédures opérationnelles en tenant compte de l’incident; deuxièmement, organiser une réunion avec les travailleurs du secteur nucléaire de l’entreprise pour réviser l’incident ainsi que les procédures à suivre lorsque des travaux de radiographie sont réalisés chez des clients; et finalement, embaucher un responsable de la radioprotection qui occupera cette fonction à temps plein.

Une des responsabilités du responsable de la radioprotection sera d’effectuer des audits des travailleurs en chantier opérateurs d’appareils d’exposition afin de s’assurer que ces derniers suivront bien les procédures de l’entreprise.

Les inspecteurs du bureau de Laval se sont assurés de faire un suivi efficace concernant les modifications que les Laboratoires d’Essais Mequaltec Inc. se proposaient d’apporter au sein de l’entreprise.

Les inspecteurs se sont également assurés d’évaluer l’analyse des causes profondes de l’incident effectuée par le titulaire. Le 31 juillet dernier, une inspection a été réalisée afin de vérifier si les mesures

correctives proposées par le titulaire avaient été mises en œuvre. Les conclusions de cette inspection ont été satisfaisantes. Nous sommes donc satisfaits des mesures correctives prises par le titulaire.

Des inspections non-annoncées seront effectuées dans les prochains mois pour s'assurer que le titulaire a bien mis en œuvre toutes les mesures correctives inscrites à son rapport pour les opérations en chantier.

Finalement, nous avons recommandé que le fonctionnaire désigné responsable de l'accréditation des opérateurs d'appareils d'exposition retire à l'opérateur d'appareils d'exposition impliqué dans cet incident son attestation d'accréditation lui permettant d'opérer ces appareils.

Ceci conclut mes commentaires à la Commission. Merci.

LE PRÉSIDENT: Merci beaucoup.

Alors, si j'ai bien compris, le représentant des Laboratoires d'Essais Mequaltech avait une présentation que Monsieur Côté aimerait présenter.

Alors, Monsieur, vous avez la parole.

M. CÔTÉ: Monsieur le président, Messieurs et Mesdames de la Commission, mon nom est André Côté.

Je suis le représentant aujourd'hui pour

les Laboratoires d'Essais Mequaltech, et de ce fait-même, je suis le nouveau responsable de la radioprotection aussi depuis juillet.

Donc, la demande a été faite à la Commission le 18 juillet, je crois, dernièrement, qui a été acceptée par monsieur Miro Petrovic.

M. LEBLANC: Monsieur Côté, juste pour votre information ---

M. CÔTÉ: Oui?

M. LEBLANC: --- on n'a pas réussi à rétablir la communication avec votre bureau.

M. CÔTÉ: C'est pas grave, je vais me défendre tout seul.

M. LEBLANC: D'accord, parfait.

On essaie toujours d'ailleurs.

M. CÔTÉ: N'inquiétez-vous pas. Je vais répondre à vos questions.

Donc, je voudrais juste vous dire que les Laboratoires Mequaltech existent. C'est une industrie qui existe -- bien, je veux dire, qui est au service de l'industrie au moins depuis de plus de 25 ans.

Nous employons présentement 90 employés dans nos trois bureaux que nous avons. Nous en avons un à Montréal, un à Québec et un à Bécancour. Là-dessus, nous avons au total 42 travailleurs du secteur nucléaire qui

travaillent pour nous, autant stagiaires qu'opérateurs qualifiés.

La dénomination de l'entreprise est d'ailleurs révélatrice. Là-dessus, nous, on fait des essais destructifs, les essais non-destructifs ainsi que nous avons aussi une école de formation pour les soudeurs. On fait aussi, excusez, des essais en métallographie. Donc, les essais non destructifs, on a la gammagraphie et le rayon X.

Puis je crois qu'aujourd'hui c'est qu'est-ce qui nous intéresse c'est l'incident qui s'est passé à la surexposition d'un membre du public.

Je vous ai préparé un petit montage pour vous préparer à ça. Et de ce fait, je vous fais une petite description qui est que la gammagraphie industrielle est une activité qui utilise des rayonnements ionisants pour créer des images radiographiques sur tous genres de matériaux de densités différentes. Pour créer ces images, une source scellée radioactive de haute intensité contenue dans un contenu blindé communément appelé -- nous on les appelle « les caméras » -- et blindé par de l'uranium appauvri est utilisé.

Durant une exposition, la source est extraite et rétractée au moyen de câbles d'exposition par manivelle. Dépendamment de la densité de cette matière à

radiographier, un temps d'exposition est calculé, le temps que le rayonnement ionisant traverse la matière.

Si je vais trop vite, c'est ma première fois, excusez-moi.

M. LEBLANC: Oui, si vous pouvez aller juste un petit peu plus lentement?

C'est pas tellement parce qu'on comprend pas, c'est parce qu'on a des traducteurs -- des interprètes ---

M. CÔTÉ: O.k.

M. LEBLANC: --- et tout ça c'est sur Webcast. Donc, c'est diffusé partout dans le monde.

Fait qu'il faut qu'ils aillent la chance de pouvoir traduire.

M. CÔTÉ: Partout dans le monde, excusez-moi.

M. LEBLANC: Je veux pas rajouter à votre stress là.

(RIRES/LAUGHTER)

M. CÔTÉ: Excusez-moi. Oui.

Voulez-vous que je répète?

(RIRES/LAUGHTER)

M. CÔTÉ: Je vais vous faire un petit rappel des évènements, donc, qui a été fait par les personnes de la Commission.

Le 2 mai 2013, un de nos opérateurs d'appareils d'exposition accrédité, qui est un OAEA ou un CEDO (ph), est mandaté pour des travaux de radiographie chez la compagnie H.C. Vidal qui est un fabriquant en métallurgie aux alentours de Montréal. Le travail étant de prendre une radiographie sur une longueur de soudure d'une large conduite d'acier, comme il a été expliqué, utilisant la technique de l'extérieur vers l'intérieur.

Ce qui veut dire c'est que le technicien en tant que tel va -- est allé mettre son film à l'intérieur de la conduite pour « shooter » de l'extérieur avec la source.

Fait que, donc, il a placé son film radiographique à l'intérieur de la conduite. Ce faisant, il a vu -- il a vu l'employé qui était là qui faisait du marquage dans la conduite. L'employé a été mis au courant que la radiographie était supposée d'être faite à l'heure de pause; la pause étant à 9h00.

Se préparant pour la radiographie, le coordonnateur de l'atelier, celui qui est responsable de l'atelier, aurait devancé le temps de la radiographie. Donc, l'opérateur a donc érigé son périmètre de sécurité. Ils ont eu la confirmation du coordonnateur que le personnel avait été évacué et a refait le tour du périmètre et a procédé à son exposition qui était de deux

minutes.

Une fois l'exposition terminée, il est allé chercher son film à l'intérieur du conduit pour s'apercevoir que l'employé était toujours à l'intérieur du conduit.

Ça lui a donné un choc. Je peux vous dire, ça lui a donné un choc. Mais une fois son choc passé, il a réalisé -- donc, il a mis au courant l'employé du fait qu'il avait été exposé et a immédiatement appelé la responsable de la radioprotection en ce temps. La responsable de la radioprotection en ce temps a immédiatement fait part à la Commission de cet incident, qui devrait être enregistré dans vos documents au numéro 4143183.

Un petit rappel aussi, la dose reçue par le travailleur selon les facteurs donnés a été une exposition de deux minutes. La paroi du conduit avait 13 millimètres d'épaisseur, la distance étant calculée à 70 centimètres.

L'activité de la source d'iridium-192 était de 1,3 terabecquerel.

Donc, selon les rapports remis à la Commission, la dose reçue de ce travailleur a été établie par la Commission à 7 millisieverts, dépassant la dose annuelle quotidienne et mensuelle pour un membre du public, qui est de -- annuelle est de 1 millisievert, 0,1

millisievert semaine et 0,5 millisievert par mois.

Les causes probables que j'ai -- disons que j'étais pas en poste à ce moment-là, c'est arrivé au mois de mai. L'opérateur, malgré l'affirmation du coordonnateur de l'usine, il s'est pas assuré visuellement que l'employé était toujours à l'intérieur de la conduite. C'est la seule cause qu'on peut y trouver. C'est un moment d'inattention, un moment -- je ne peux le dire.

Les mesures correctives, dans ces temps-là, ça a été que un avertissement verbal a été émis à l'opérateur et l'employé exposé a été contacté par l'entreprise.

Bon, de ce fait, à ce jour, il y a eu des mesures supplémentaires des Laboratoires d'Essais Mequaltech. Depuis juin 2013, il y avait un nouveau responsable de la radioprotection à plein temps qui ont été demandé par la Commission. On m'a demandé si je voulais avoir le poste et j'ai pris le poste.

J'ai été accepté par la Commission, je crois, dans les alentours du 18 juillet. J'ai fais mes cours de « source retriever » et puis mon cours pour la radioprotection aussi. J'ai aussi une nouvelle agente administrative qui est très expérimentée en madame Liane Cyr pour m'aider dans ce rôle.

Fait que les premières choses que j'ai

fait, le 22 juin, j’ai réuni toutes les TSN disponibles, autant Québec que Montréal. J’ai fait un ordre du jour, j’ai expliqué l’incident. J’ai fait faire la lecture des obligations du travailleur, la lecture des obligations de l’opérateur qualifié aussi. Je les ai rappelés comme un peu à l’ordre.

Plusieurs audits surprise sur le terrain. Depuis juin, j’en ai fait 12. Autant de nuit que de jour. J’en ai fait quatre à l’opérateur qui a été mis en cause dans l’incident. Lui, ça été comme aux semaines.

J'ai apporté des modifications aussi aux opérations de radiographie sur le terrain. J'essaie aussi d'emmener une sensibilisation autant à mes travailleurs TSN que la clientèle. Je me présente chez les clients et je fais une sensibilisation au point de vue de la radioactivité.

Le métier qu'on effectue, le métier qu'on fait parfois est très difficile, très difficile à gérer, ce qui veut dire qu'il y a plusieurs personnes qui parfois sont hors-normes. Ce qui veut dire hors la loi, ce qui veut dire c'est qu'ils vont passer en-dessous de nos barrières puis ces choses-là.

On n'a pas de contrôle là-dessus. Parfois, c'est de là que je trouve que mon rôle est important pour aller voir ces clientèles-là où est-ce que j'ai reçu des

plaintes de mes TSN et que certaines personnes passent quand même en-dessous des barrières.

J'ai des nouvelles rencontres aussi -- j'ai fait une nouvelle rencontre aussi avec le monsieur qui a été l'employé de H.C. Vidal, que j'ai rencontré dernièrement, et je l'ai mis comme en poste sécurisé.

J'ai eu des questions. Les travailleurs aussi qui étaient là se posaient beaucoup de questions au point de vue de la radiation en me demandant si une fois que les "shots" sont faites si le matériel reste radioactif.

Donc, on voit que, à plusieurs places, ça a besoin de sensibilisation, de mieux connaître les choses. Je pense que c'est des choses que je peux apporter à cette compagnie-là. C'est mon devoir à moi de protéger aussi le public autant que mes travailleurs qui sont des travailleurs sous le rayonnement.

Je peux vous assurer qu'aujourd'hui ça va très bien. J'ai des visites qui sont assidues sur le terrain. J'ai fait des visites surprises. Mes petits amis m'attendent pas du tout et je prends mon rôle très au sérieux.

Et soyez assurés que les Laboratoires de d'essais Mequaltech aussi prend cet incident très au sérieux. On ne veut plus que ça se reproduise.

Merci.

LE PRÉSIDENT: Merci beaucoup.

Alors, passons maintenant aux questions.

Monsieur Harvey.

MEMBRE HARVEY: Première question: Comment était établie la dose?

Le type dans la conduite, est-ce qu'il était assis à côté du film ou il marchait dans la conduite?

Comment avez-vous pu établir la dose?

Je vais demander au personnel de la Commission d'abord.

M. RÉGIMBALD: André Régimbald ici.

Nous avons reçu l'information dans le rapport d'incident que nous a fourni la compagnie et on a passé le rapport en question au spécialiste de la radioprotection pour l'évaluation des doses en se basant sur l'information qu'on a eue.

Et je vais demander à M. Estan de fournir des explications sur la façon dont la dose a été calculée.

M. ESTAN: Diego Estan, pour la Division de la radioprotection.

Alors, pour calculer la dose, on s'est servi de l'information du titulaire de permis. Alors, il y avait la source, l'activité et la distance ainsi que

l'acier, l'épaisseur d'acier.

Alors, ces informations-là sont données par le titulaire de permis. Avec ces informations-là, on a pu calculer la dose. On l'a calculée avec des références qui sont publiées ainsi qu'avec un logiciel.

LE PRÉSIDENT: Pour mieux comprendre, est-ce que c'est la conduite?

C'est ça dans la photo?

Est-ce qu'il y a une photo des conduits? Qu'est-ce que c'est le conduit?

M. CÔTÉ: Ce n'est pas le conduit. Ce n'est pas le conduit en question parce que quand j'ai demandé au client si je pouvais prendre des photos pour un petit peu vous situer oùsqu'était -- comment est-ce qu'était la compagnie, sur la photo que vous voyez présentement, c'est l'intérieur de la shoppe.

Je ne pouvais pas prendre des photos du conduit en tant que tel parce que, pour chaque compagnie, parfois il y a des secrets qu'il faut garder. Il y a des designs ou des dessins qu'il ne faut pas que ce soit -- puis vu que c'est une audience publique, bien c'est comme ça.

Donc, c'est pas, non, je voulais juste vous montrer dans l'ensemble l'usine où justement était le conduit.

MEMBRE HARVEY: Mais quelle était la dimension de ce conduit-là?

M. CÔTÉ: Elle était de -- je crois que c'était -- je crois qu'il était 39 pouces.

Excusez là, je crois que c'était une dimension de 39 pouces.

MEMBRE HARVEY: C'est pas haut.

M. CÔTÉ: Non, ça c'est l'épaisseur.

MEMBRE HARVEY: Oui, Madame?

MME SIMONEAU: Lucie Simoneau.

Selon vos documents, c'était trois pieds, neuf pouces.

MEMBRE HARVEY: Ah, c'est mieux que trois pieds -- bien, trois pieds neuf pouces, qu'est-ce qu'il faisait le type dans la conduite?

Celui qui est demeuré là?

M. CÔTÉ: Le monsieur faisait du marquage à l'intérieur.

Il faisait du marquage et, selon ce que j'ai su, le monsieur avait été mis au courant que l'exposition était pour se faire au break.

Donc, probablement, il a continué son marquage puis il a regardé son heure puis il disait que c'était pas le temps du break. Ça a été devancé par le contremaître de plancher.

Donc, même mon technicien, lui, m'a dit qu'il avait fait le tour deux fois de son périmètre, qu'il avait crié pour s'assurer que tout le monde était dehors puis semble-t-il qu'il l'aurait pas entendu.

MEMBRE HARVEY: Mais il est pas entré dans la conduite?

Il a fait le tour du périmètre.

M. CÔTÉ: Exactement.

MEMBRE HARVEY: C'est ça.

M. CÔTÉ: Exactement.

C'est là qu'est son erreur.

MEMBRE HARVEY: Puis c'est l'individu qui était dans la conduite qui a donné une approximation où il était au moment de la radiographie?

M. CÔTÉ: Sur ce, si vous voulez que je vous réponde réellement franchement, ça, ça a été fait par l'ancien RSO, qui était en place à ce moment-là qui, aujourd'hui, ne travaille plus pour nous.

C'était un ingénieur qui s'occupait justement de la radioprotection.

Si vous voulez -- bien, disons que qu'est-ce qui est marqué là a été fait en disant qu'il fallait toujours prendre les extrêmes quand on faisait les calculs pour la CCSN.

Donc, probablement, la distance sur ce film

elle est exacte, 16.5, qui donne au film. Ce qui veut dire qu'il était à 16 pouces du tuyau.

MEMBRE HARVEY: Dans le fond, vous avez assumé qu'il était vis-à-vis le film puis vous avez pris le maximum. Donc, c'est la dose maximum qu'il a pu recevoir.

O.k., ça va pour ça.

Est-ce que ce genre de travail était nouveau ou c'est un travail que vous faites souvent, ce type de conduite?

M. CÔTÉ: C'est le genre de travail qu'on fait assez souvent.

MEMBRE HARVEY: Il y a combien de techniciens qui font le même genre de -- ce travail-là, qui font un travail identique chez vous?

M. CÔTÉ: Je vous dirais tous les techniciens.

MEMBRE HARVEY: Donc, 46, c'est ça?

M. CÔTÉ: Non, on n'a pas 46.

Tantôt, je vous ai dit qu'on avait 46 employés qui étaient du domaine -- du secteur nucléaire comprenant les stagiaires plus les OAE.

Les OAE, je crois que j'en ai 18, j'en ai 18. C'est simplement eux qui font ---

MEMBRE HARVEY: Dix-huit (18).

M. CÔTÉ: C'est eux qui font le travail.

MEMBRE HARVEY: La formation que vous avez donnée, est-ce que les gens avaient eu une formation préalablement et est-ce qu'il est prévu qu'il va y avoir régulièrement de la formation?

M. CÔTÉ: Tous les techniciens du travail qui vont s'en venir au secteur nucléaire, tous ceux que j'embauche comme stagiaire ou quoi que ce soit, je leur fais une formation de sensibilisation à la radiographie.

De toute façon, moi, je fais aussi une formation pour les opérateurs qualifiés et, de ce fait, je me sers de mon PowerPoint que j'ai préparé pour donner un résumé total de, je vous dirais, la formation qui attend les opérateurs qualifiés.

MEMBRE HARVEY: Je vais tourner vers le personnel.

Quel genre d'obligation avez-vous vis-à-vis ce type de -- pour une formation de cette nature chez ces laboratoires?

M. RÉGIMBALD: André Régimbald ici.

Il y a deux volets. Premièrement, lorsqu'on reçoit la demande de permis du demandeur, il y a une évaluation qui est faite du programme de formation pour les employés de la compagnie pour s'assurer avant qu'on donne -- pour pouvoir donner le permis -- pour

s'assurer que le titulaire est compétent et qu'il a les moyens nécessaires d'assurer la santé et sécurité dans le milieu de travail et de respecter les exigences réglementaires.

Au niveau de l'accréditation du personnel de la compagnie, c'est-à-dire les opérateurs qualifiés, il y a un fonctionnaire désigné ici à la Commission qui s'occupe d'accréditer les opérateurs et cette personne-là doit recevoir une preuve de la formation de la personne et aussi doit recevoir la preuve qu'il a réussi l'examen qui est donné par Ressources Naturelles Canada concernant les opérateurs qui veulent devenir des opérateurs accrédités.

Le fonctionnaire désigné prend l'information en délibéré et prend une décision d'accréditer ou non la personne.

Et ensuite, il envoie un certificat d'accréditation à la personne.

MEMBRE HARVEY: Par la suite, est-ce qu'il y a un suivi de fait à ce niveau-là, au niveau de la formation?

M. RÉGIMBALD: Au cours des inspections de conformité, il y a toujours des suivis qui sont faits concernant les documents.

Donc, l'inspecteur va vérifier les documents de formation pour les travailleurs et va aussi

observer sur le terrain comment le travailleur fonctionne et si il s'acquitte bien des tâches qui lui sont assignées selon les procédures établies sous le permis.

Au cours des dernières années, nous avons mis beaucoup d'emphase sur les inspections sur le terrain parce que c'est vraiment cet -- à ce moment-là -- durant ces moments-là qu'on peut évaluer visuellement les travaux effectués et s'assurer que le travailleur respecte toutes les exigences règlementaires.

LE PRÉSIDENT: Alors, combien d'inspections on a fait chaque année pour cette -- est-ce qu'on a trouvé des choses irrégulières?

M. RÉGIMBALD: Je vais demander à Madame Simoneau de répondre.

Mme SIMONEAU: Lucie Simoneau.

J'ai ici le relevé des inspections qui ont été faites depuis 2008.

En considérant les inspections des dossiers, les inspections de chantiers et les inspections de type 1 qu'on nomme « audit », il y a environ 15 inspections qui ont été faites, que ce soit sur tous ces domaines-là.

Et en ce qui concerne la formation, il y a aucun non-conformité qui avait été observé spécifiquement concernant la formation des travailleurs.

LE PRÉSIDENT: Alors, cet incident c'est vraiment un incident extraordinaire?

Mme SIMONEAU: Par rapport à -- si on en déduit la formation puisqu'on a observé de façon générale en chantier, oui, ça pourrait être exceptionnel.

MEMBRE HARVEY: Une autre question c'est: Vous avez mentionné quelque chose, Monsieur Côté, tantôt, qui disait que beaucoup de vos clients veulent passer en-dessous de la barrière.

Qu'est-ce que ça veut dire?

M. CÔTÉ: C'est que, dans ces industries-là, parfois, vous avez des employés qui sont comme -- je vous dirais, qui réagiraient -- ils sont drôles, c'est des drôles de bonhommes.

Ils vont simplement dire: « Ah, j'veux pu d'enfants », ou : « Je m'en vais chercher mon marteau. »

Dans mes 30 ans -- j'ai 30 ans de radiographie industrielle, donc, j'en ai vu des vertes et des pas mûres; ça je peux vous le garantir. Puis c'est très difficile pour nous en tant que techniciens quand on est seul parfois sur des travaux de pouvoir dire qu'on le voit le gars qui s'en vient, mais il est en arrière là puis on le sait là puis probablement qu'il va passer.

On a beau dire quoi que ce soit, c'est pas grave, ils vont aller chercher leur marteau puis ils vont

ressortir.

C’est juste ces petites choses-là que je voulais apporter aussi à la Commission que, parfois, il faut savoir regarder les deux côtés dans la médaille de nous, là, de la façon qu’on travaille aussi. On n’est pas tout le temps des hors-la-loi, c’est pas nous les hors-la-loi là, tu sais, c’est quand même ---

LE PRÉSIDENT: Dr. Barriault.

MEMBRE BARRIAULT: Merci, monsieur le président.

L’employé, c’était un employé de H.C. Vidal qui a été exposé?

M. CÔTÉ: Effectivement, Monsieur.

MEMBRE BARRIAULT: O.k.

Est-ce qu’il y a eu un rapport fait à la CSST au point de vue de l’incident?

M. CÔTÉ: C’est une question qui m’a été posée ce matin. J’ai parlé avec le monsieur, je crois que c’est voilà trois jours, il y a pas aucun rapport qui a été fait sur la CSST, à ce que je sache.

MEMBRE BARRIAULT: O.k.

M. CÔTÉ: Je ne peux pas vous -- mais si vous voulez, je peux quand même y retourner et lui demander, mais ---

MEMBRE BARRIAULT: Ça vaudrait la peine

parce que ---

M. CÔTÉ: --- on cherchera pas à ---

MEMBRE BARRIAULT: Normalement, pour un incident, on va l'indiquer au CSST, seulement pour le suivi à long terme; si jamais qu'il y a des problèmes quelconques.

Pas qu'on en croirait avec ce dosage-là, mais, quand même, ça vaudrait la peine de notifier la CSST.

L'autre question: Je sais que vous avez des problèmes avec les employés qui suivent pas vos directives. Avez-vous un moyen de vous assurer que les directives sont suivies?

M. CÔTÉ: Je fais beaucoup de réunions.

Là, j'en ai une autre de prévue pour -- au retour des vacances, la première semaine de septembre. Ça se situe dans les alentours du 6 ou du 7, qui devrait être prévue. Si c'est pas le 6 ou le 7, ça va aller dans l'autre.

J'attends simplement que tous les travailleurs qui sont présentement en vacances reviennent parce que je les prends tous. Et puis la direction a donné, vraiment donné comme directive que les employés récalcitrants ou quoi que ce soit, c'est -- on leur montre le chemin de la porte.

MEMBRE BARRIAULT: Les industries, comme cette fois-ci, H.C. Vidal, est-ce qu'ils vous aident dans domaine-là de tenir les employés au courant de qu'est-ce qui se passe puis allouent le temps pour l'éducation?

M. CÔTÉ: C'est là-dessus que vient -- je force aussi la note là-dessus.

Ça m'a déjà été demandé aussi pour une autre compagnie à Sorel. On m'a demandé d'aller faire un léger briefing le matin. Ils ont tous pris les employés, j'ai donc fait un briefing parce que je travaillais là assidument sur le pont de la A30. Et puis, non, après ça, j'ai pu eu de problèmes.

C'est qu'est-ce que j'essaie de faire aussi. C'est pas juste de sensibiliser mes travailleurs, mais de sensibiliser aussi le public qui se trouve à être aussi ceux qui travaillent en métallurgie ou quoi que ce soit. Ça c'est mon travail que je me suis donné comme mission aussi de plus les informer au sujet des dangers que ça peut représenter.

MEMBRE BARRIAULT: Au point de vue de dosimétrie pour vos employés, avez-vous aucun problème?

M. CÔTÉ: Pour l'instant, non, ils suivent vraiment les directives qu'on s'était mis.

Il y a parfois ça dépasse légèrement. Je prends comme acquis que c'est des personnes qui étaient là

avant moi qui ont mis les doses.

Nous, chez Mequaltech, on a la devise de pas dépasser -- on essaie de 0,4 millisieverts aux deux semaines, 1,6 par mois pour les travailleurs. Mais c'est très difficile, c'est très difficile.

On peut avoir -- des fois, je reçois de la dosimétrie, les rapports qui se trouvent à être 0,42, 0,44, j'aimerais l'élever un petit peu plus à 0,50 parce que le métier qu'on fait, on est quand même partout là.

On travaille dans les raffineries, dans les réservoirs. On essaie de s'exposer le moins possible, mais parfois on est exposé quand même.

MEMBRE BARRIAULT: Merci, monsieur le président.

LE PRÉSIDENT: Autres questions?

Pas de questions?

MS. VELSHI: Question for staff, sorry, I have to ask it in English.

So the CEDO has been decertified, what's the process for getting certification?

MR. RÉGIMBALD: André Régimbald here.

The CEDO has not been decertified yet. In accordance with the regulations, a proposed decision to decertify was sent to the person and the person is being offered an opportunity to be heard, which will occur next

week.

Then, once the hearing is done, the designating officer will make a decision.

And just to address your second question, the decertified person can return and go through the certification process again; so, therefore, get training, pass the exam and apprenticeship and all that just to make sure that the person returns in good shape.

LE PRÉSIDENT: Autres questions?

On m'a informé que Monsieur Robert Desautels est maintenant sur la ligne.

Alors, ---

M. DESAUTELS: Oui.

LE PRÉSIDENT: Alors, vous avez manqué toutes les discussions.

Bon, ma dernière question c'est pour le personnel: Est-ce que vous êtes d'accord qu'on pourrait maintenant fermer le dossier ou s'il y a des choses qu'on doit faire encore?

M. RÉGIMBALD: André Régimbald ici.

Présentement, nous sommes satisfaits des mesures correctives que le titulaire a mis en place.

Et comme Monsieur Rabski l'a indiqué, nous allons effectuer une inspection non-annoncée dans les prochains mois pour s'assurer que les mesures sont bien

mises en œuvre.

À ce moment-ci, on peut fermer le dossier. Si nous rencontrons des problèmes plus tard, on peut revenir ici ou on peut vous faire un suivi par écrit.

LE PRÉSIDENT: O.k.

Alors, merci beaucoup. Merci beaucoup.

As a clear demonstration that life is never dull in our space, I understand there's two very new events to report on. Well, one and one update.

So, Mr. Jammal, over to you.

MR. JAMMAL: Thank you, Mr. President.

For the record, my name is Ramzi Jammal.

I would like to take advantage of the Commission members being here at this meeting and inform you of an early initial report pertaining to the NRU.

CNSC staff were informed -- and we have the information to date -- that during normal work activities on Tuesday, August 20th, a spill of heavy water from the fuel rod flask occurred at the storage block area within the NRU facility. The fuel rod flask is an equipment that's been used for the fuelling of the reactor.

AECL took immediate actions to contain the leak. Our inspectors on site did confirm, and were informed immediately, and they went to the area itself and confirmed that appropriate actions were taken to protect

the workers; and our inspectors will continue to monitor AECL's ongoing clean-up activities.

The majority of the heavy water was contained inside the reactor building. The early report provides an estimation roughly of 11 litres of heavy water -- which, of course, contain amounts of tritium -- was captured in the ventilation system and released from the NRU stack.

Again, initial information from AECL is that the tritium releases are well below their administrative or action levels. Again, we are still monitoring the situation; however, in accordance with AECL proactive disclosure, AECL will be proactively disclosing this event to the public today and as soon as I'm finishing this verbal update to the Commission, the CNSC will be posting on its Web site that I did inform the Commission of this early event, and information and inspections are ongoing in order to obtain more information.

So this is a verbal update and I will provide you with a written EIR as we gain more information.

THE CHAIRMAN: But, just to clarify, you did say that AECL will post something or we are posting, or both?

MR. JAMMAL: To clarify, AECL is posting, we are posting, and at the end, both will be posting by the end of today.

THE CHAIRMAN: Okay, any questions? Dr. Barriault?

MEMBER BARRIAULT: Thank you.

The follow-up, are we going to have a root cause analysis as to what happened?

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

It's a very good question. I cannot confirm root cause or not, but as our inspectors determine what actions taken, what happened, and will ask appropriately what the regulatory action or information.

Let me rephrase. We will ask for the proper information for us to give us adequate conclusions. If we need to request a root cause analysis, we will ask for it.

MEMBER BARRIAULT: And this -- this is not a leak produced by corrosion or whatever like we've had in the past. This is, as far as you know ---

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

It is not a leak that's caused by corrosion. This is a leak from the fuelling machine

itself.

MEMBER BARRIAULT: Okay, thank you.

Thanks, Mr. Chairman.

THE CHAIRMAN: We will wait for the announcement and the further information?

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

That's proof to Dr. McEwan's question today, what is early notification means or how immediate the reporting is.

(LAUGHTER/RIRES)

THE CHAIRMAN: That's what "immediate notification" means. That's immediate. That's as immediate as it gets.

I guess there's another option update that we're going to get briefed on by Dr. Thompson?

DR. THOMPSON: Bonjour, monsieur le président, mesdames et messieurs les commissaires.

My name is Patsy Thompson; I'm the Director of the Environment and Radiation Protection and Assessment Directorate, and I am also the designated officer for the Dosimetry Service licences.

I am accompanied by Mr. Alan Du Sautoy, the Director of the Radiation and Health Sciences Division, as well as Mr. Tristan Barr on the left here, who is a

licensing specialist for the Dosimetry Services.

This is an update to the update, the initial event report we had provided to the Commission on May 15th following the discovery that 1,650 dose records had not been reported to the National Dose Registry by AECL's Dosimetry Service.

And so just a quick update. You will recall that AECL submitted a detailed event report on May 8th, 2013. In that report, AECL had identified immediate actions that were taken to verify and submit the backlog of doses to the NDR. And so, the update is that all the doses have been submitted to the NDR.

The report submitted by AECL also identified three corrective actions. CNSC staff accepted their corrective actions as actions that would be preventing a recurrence of that event and, to date, one action has been completed. The remaining two actions are scheduled to be completed on September 30, 2013.

Following the implementation of the corrective measures by AECL, CNSC staff will be conducting an inspection of AECL's dosimetry services in November of this year, and AECL has also made a commitment to assess the effectiveness of their corrective measures within six months of their implementation and we will be getting that report and taking further actions if necessary.

And so this completes my update and we can answer your questions.

Thank you.

THE CHAIRMAN: Okay, questions?

So why are you coming now and not waiting until September the 30th when they supposedly complete all their actions?

DR. THOMPSON: Patsy Thompson, for the record.

At your request, Madams and Sirs. But more seriously the option was to provide a quick update today and with the intent to submit a written update to the Commission, when all of this has finished, in the form of a memo.

THE CHAIRMAN: While we're doing all of this, we also are dealing with Health Canada making sure that the records there are being kept up to date and continuously are available to our people to do some of those studies -- ongoing studies?

DR. THOMPSON: Patsy Thompson, for the record.

I'll provide some information and then I'll ask Mr. Barr to talk about the meetings that take place between the CNSC and the National Dose Registry.

And so the first part of the answer is, we

have meetings with Health Canada under the auspices of the Memorandum of Understanding. The NDR and availability of NDR records to CNSC staff was discussed while NDR was transitioning their system. We have had full access to NDR information for the last, at least, year.

On a regular basis, there are meetings between our staff and their staff, and Mr. Barr can provide some information on that.

MR. BARR: Tristan Barr, for the record.

We do have quarterly meetings with the NDR and discuss issues of accessibility if there are some that come up. The current status is that we -- the CNSC doesn't have online access, but there's a project that they're working towards at the moment in order to allow us that online access, but because of privacy concerns, they have to be very careful about how that happens.

So we're currently working with them to establish that connection. For the time being, if we do have requests that we want to submit to them for queries within the system to identify doses to individuals or groups of individuals, we submit them and they return them in a timely fashion.

DR. THOMPSON: Perhaps -- Patsy Thomspon -- just a bit of additional information.

The NDR has also identified that they have

a computer work station available for CNSC staff, should we need it. Also, the NDR has gone through a change in the system on which it's based, and there's extensive quality assurance and quality control work that's going on and there's dedicated staff whose job is to ensure that the doses in the NDR have proper quality control.

THE CHAIRMAN: Okay. Anybody; question?

Okay, thank you. We'll look forward to reading the full report.

M. LEBLANC: C'était le dernier item pour les fins de la réunion publique.

So this concludes the public meeting component of the Commission.

We would ask everyone to leave the room as soon as possible. We will have closed sessions -- the closed session in this room starting in five minutes once we've been able to vacate the room.

Thank you.

--- Upon adjourning at 2:57 p.m.