Canadian Nuclear Safety Commission

Commission canadienne de sûreté nucléaire

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

Commission Members present

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

Commissaires présents

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

Secretary:

Mr. Marc Leblanc

Secrétaire:

M. Marc Leblanc

General Counsel:

Ms Lisa Thiele

Avocate générale :

Me Lisa Thiele

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Ottawa, Ontario / Ottawa (Ontario)

--- Upon commencing on Thursday, August 21, 2014 at 9:01 a.m. / L'audience débute le jeudi 21 août 2014 à 9 h 01

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. We would ask that you keep the pace of speech relatively slow so that the translators have a chance to keep up.

Des appareils de traduction sont disponibles à la réception. La version française est au poste 3 and the English version is on channel 2.

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

La transcription sera disponible sur le site web de la Commission probablement vers la fin de la semaine prochaine.

I would also like to note that this proceeding is being video webcast live and

that archives of these proceedings will be available on our website for a three-month period after the closure of the proceedings.

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

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

President Binder...?

THE PRESIDENT: Merci, Marc.

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

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

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

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

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

We already heard from our Secretary Marc Leblanc and we also have with us Ms Lisa Thiele, General Counsel to the Commission.

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

The agenda was approved yesterday. We would ask you to please refer to the agenda 14-M38.A for the complete list of items to be presented today.

Today is a busy schedule. We have 11 items to go through today, so bear with us. Thank you.

THE PRESIDENT: The first item on the agenda is the Regulatory Document REGDOC-2.3.2, Accident Management, as outlined in CMDs 14-M52 and 14-M52.A.

I understand that Mr. Frappier will make the presentation.

Please proceed.

CMD 14-M52/CMD 14-M52.A

Oral Presentation by CNSC staff

MR. FRAPPIER: Thank you.

Bonjour, Monsieur le Président, Membres de la Commission. Merci pour m'avoir invité pour faire cette présentation.

My name is Gerry Frappier, I am the Director General of the Directorate of Assessment and Analysis here at the Canadian Nuclear Safety Commission.

With me today are Raoul Awad, Director General of the Security and Safeguards Directorate; Brian Torrie, the Director General of Regulatory Policy Directorate; Mr. Alex Viktorov, Director of the Reactor Behaviour Division; Colin Moses, Director Regulatory Framework Division; Luc Sigouin, Director of Emergency Management Division; and many other technical specialists and licensing officers to answer any questions you may have.

We are here today to request that REGDOC-2.3.2, Accident Management, be approved for publication. If approved, this document will be used by the CNSC staff in assessing the acceptability of licensees' accident management programs.

This slide shows where REGDOC-2.3.2 fits into the overall CNSC broader document

framework. It is situated within section 2.3 on Operating Performance.

An overview of the main portion of the presentation is outlined here. The remainder of the presentation provides contextual information, explains the consultation process and outcome of that consultation before moving on to explain how the document, if approved, would be implemented.

Finally, we will finish with CNSC staff's conclusions and recommendations.

First, I would like to give a little bit of an overview.

To sustain CNSC's confidence in their ability to safely operate reactor facilities, licensees need to demonstrate that they have an appropriate accident management program to manage accident conditions from relatively benign accidents all the way up to severe accidents.

REGDOC-2.3.2 will assist licensees to meet the CNSC expectations on developing, implementing and validating an integrated accident management program. The document addresses accident management principles, high-level

requirements and supporting guidelines. Particular emphasis is placed on requirements that address severe accident management. This is part of the overall lessons learned from the Fukushima accident included in our Fukushima action items.

The following diagram provides an overview of the key emergency management components and how they are addressed in two documents that will be presented today.

The first one is REGDOC-2.3.2, Accident Management, which I am leading the presentation on, and right after you will be discussing REGDOC-2.10.1, Nuclear Emergency Preparedness and Response.

The pillars here represent the pillars of emergency management and give in general which pillars which document supports.

As can be seen from the figure, accident management focuses on prevention and mitigation measures, while REGDOC-2.10.1 in general addresses emergency preparedness, response and recovery. All the five pillars support the overall capability to respond to emergency situations at nuclear facilities.

A different way of looking at this

is in general the REGDOC-2.3.2, Accident Management, focuses on operational actions associated with the reactor itself, while REGDOC-2.10.1 deals with actions associated with the emergency response teams inside the plant and interfaces with offsite authorities.

To continue with this, this slide provides a more detailed explanation on the subjects addressed in REGDOC-2.3.2 and REGDOC-2.10.1.

At a high level, accident management deals with nuclear facility off-normal events and measures to be taken to prevent an incident from escalating into a more serious event. Should an accident occur, overlapping provisions are ensured in place to minimize radiological releases, bring the accident under control and prevent releases of radioactivity outside of the facility.

Emergency preparedness and response addresses measures that need to be taken in the highly unlikely event that accident management measures are not successful and release of radioactivity cannot be ruled out.

The key point of this slide is

that while accident management and emergency preparedness are distinct, the two programs complement each other, support and interact with each other.

I would now like to turn the presentation over to Dr. Alex Viktorov.

MR. VIKTOROV: Thank you.

Good morning, Mr. President, Members of the Commission. My name is Alex Viktorov, I am the Director of Reactor Behaviour Division. This division is involved in evaluation of accident management provisions at nuclear plants and we also contributed significantly to the development of this document.

Let me stress that the development of this document was not initiated due to any concerns over existing accident management programs at nuclear power plants.

Prior to the Fukushima accident, licensees already had robust programs in place. Such programs consist in general of Emergency Operating Procedures for more likely events as well as Severe Accident Management Guidelines to manage the unlikely events with core damage.

In response to the Fukushima

accident, licensees further strengthened the accident management provisions. Nevertheless, the CNSC Fukushima Action Plan identified an opportunity for improvement in this area by consolidating the CNSC requirements and guidance into a single document and implementing lessons learned from Fukushima with regards to multi-unit power plants, spent fuel pools and the importance of viewing all accidents as part of a continuum.

REGDOC-2.3.2 provides requirements and guidance regarding development, implementation and validation of integrated accident management programs.

More specifically, the REGDOC specifies the overall goals of accident management, defines general requirements as well as requirements for equipment and instrumentation, procedures and guidelines, and for human and operational performance. The requirements are supplemented by more extensive guidance.

Thus, this document addresses recommendation 9(b) from the CNSC Fukushima Task Force to formulate specific requirements and supporting guidance for accident management that can be referenced in nuclear reactor licence and

Licence Condition Handbooks, as appropriate.

One of the key features of REGDOC-2.3.2 is that CNSC requirements for accident management form a continuum through establishing common underlying principles and requirements for managing a wide spectrum of accidents from relatively likely design-based accidents, DBAs, all the way to extremely unlikely beyond design-based accidents, or BDBAs.

Previously, expectations for management of design basis accidents and BDBAs were treated almost in isolation. Nevertheless, the essential differences in requirements for management of design basis and beyond design basis accidents are acknowledged and reflected in the current document, where appropriate.

We note that the concept of integrated accident management is in line with current, that is, post-Fukushima, international practice. Such approach combines current good practices and recommendations from post-Fukushima studies. It incorporates all arrangements needed to manage any accident that may occur at the reactor facility.

Defence-in-depth is an overarching

safety principle and is applied to all organizational, behavioural and design-related safety and security activities.

Application of defence-in-depth ensures that there are overlapping safety provisions to address any even remotely likely situation involving risk to the public and workers.

Accident management is an element of the overall commitment to defence-in-depth. It aims to ensure availability of design provisions, materials and trained personnel to bring any accident under control. Thus, accident management is an important component in assuring that the risks that may arise from nuclear reactor operations are appropriately low.

Once implemented, REGDOC-2.3.2 will further assist in establishing and maintaining operational procedures, guidelines, adequate physical capabilities and human resources to deal with accidents.

REGDOC-2.3.2 went through the usual CNSC consultation process with a 60-day consultation period. This was followed by an additional 15 days where stakeholders could offer

comments on the input provided to CNSC. Through that process 82 comments in total were received.

In July of this year a supplemental set of comments was received from industry, predominantly requesting that guidance for verification steps associated with design basis accidents and assessment for beyond design basis accidents be made clearer. The consultation report prepared in accordance with the CNSC process summarized all comments received during the consultation period and provided detailed CNSC staff responses.

The next few slides highlight several key stakeholder comments.

The predominant issue raised in public comments focused on combining design basis accidents and beyond design basis accidents into a single accident management approach.

This approach was seen by some of the commenters as different from the traditional practice in treating DBAs and BDBAs separately, as not being in line with the early IAEA documents in which accident management focused only on beyond design basis accidents, and thus creating a potential for confusion with respect to the effort

required for implementation.

CNSC staff very carefully reviewed the arguments from stakeholders. While we did not modify the essence of the proposed integrated approach, staff explained in detail our reasoning.

CNSC staff noted that international and national views on accident management are currently being updated in response to the Fukushima accident to include both DBAs and BDBAs into an integrated accident management approach. We also note that the IAEA guide mentioned in the comments from stakeholders is currently being revised.

Thus, we believe that the approach taken in REGDOC-2.3.2 is:

- in line with international post-Fukushima practices;

- is fully aligned with the CNSC Fukushima Task Force recommendation 9(b) calling for a dedicated regulatory document on accident management;

- will best assist licensees in demonstrating that they have an appropriate accident management program to manage all spectrums of accidents; and

- will facilitate smooth and seamless transition between accident states.

Stakeholders also commented that the draft document implied that licensees would be required to develop a new set of documents for the Integrated Accident Management Program. They noted that several documents already in place in Accident Management Manuals would amount to an integrated accident management program already. Thus, development of additional documentation from their viewpoint would result in unnecessary administrative burden, without any health, safety or security benefit.

In response to the stakeholder inputs, CNSC staff clarified that additional Integrated Accident Management Program documentation would not be required. However, a demonstration may be needed that the existing manuals contain components to meet CNSC REGDOC-2.3.2 requirements.

As this was not perhaps sufficiently clear in the consultation draft, the text was clarified to state that essential accident management documentation already exists at operating nuclear facilities.

Further additional feedback was received in early July this year. Industry sought additional clarification on a small number of issues, especially related to verifying information within the context of beyond design basis accidents.

A draft document required licensees to verify accident management options and instrument readings, including during severe accidents. Stakeholders indicated that due to inherent uncertainties in severe accident situations it may not be possible to meet the same verification rigour as in the case of design basis accidents.

In response to this feedback, CNSC staff made additional wording changes to improve clarity and reflect the intent.

We also know that the comments from industry in July of this year didn't question the continuum or integrated approach but rather sought to ensure differences between the DBAs and BDBAs were clearly identified, in particular when it came to verification versus assessment activities. Thus, CNSC staff feel that the modified text adequately addresses the additional

input from stakeholders.

REGDOC-2.3.2, Accident Management, will, if approved by the Commission, replace the existing document REGDOC-2.3.2, Severe Accident Management Programs for Nuclear Reactors, which was published in September last year.

The September 2013 document was published as an interim measure to incorporate the immediate recommendations from the Fukushima Action Plan while work continued on the larger accident management project. In particular, an integrated accident management approach was developed and further guidance was added to information found in the earlier document.

The September 2013 document itself superseded the guidance document G-306, Severe Accident Management Programs for Nuclear Reactors, which was published in 2006.

If approved by the Commission, REGDOC-2.3.2 will be published on the CNSC website and made available to licensees and stakeholders, in accordance with existing practices.

This regulatory document will be applied to the operating nuclear power reactors, the AECL Chalk River Laboratories National

Research Universal reactor and any future Class 1A nuclear facilities.

As part of the implementation process, licensees will be expected to perform a gap analysis of existing practices against the requirements of this document with a view to be able to reference this regulatory document in the Licence Conditions Handbook by December 2015.

As with many other CNSC regulatory documents, a graded approach commensurate with the risk posed by a facility will be used when applying the requirements of this REGDOC.

Mr. President, Members of the Commission, to conclude, we believe that REGDOC-2.3.2, Accident Management:

- will strengthen and modernize the CNSC accident management regulatory requirements;

- aligns with the international post-Fukushima trends;

- will promote an integrated approach to treating accidents of various severity as part of a continuum, while maintaining distinction between the design basis and beyond design basis accidents; and

- it will be applied on a case-by-case risk-informed basis.

We believe it is ready for approval by the Commission and for use by CNSC and industry.

CNSC staff believe that REGDOC-2.3.2, Accident Management, represents a regulatory framework improvement in providing clarity of regulatory expectations or requirements for accident management at nuclear reactor facilities in Canada.

CNSC staff recommend that the Commission approve REGDOC-2.3.2 for publication and use by CNSC staff in assessing the acceptability of licensee accident management programs.

We thank you for your attention and remain available for any questions that you may have.

THE PRESIDENT: Thank you.

So let's start the question session with Ms Velshi.

MEMBER VELSHI: Thank you.

From the comments disposition table it looks like you have taken all the

comments that you have received very seriously. I see we have a number of people from industry here. I would like to hear from them on what their thoughts are on the final draft that has been presented to us and if you have any residual serious concerns or comments, please.

--- Pause

MR. SAUNDERS: Frank Saunders, for the record. Thanks for the invitation.

You know, I think we do have a number of comments and it's an important area and one that has been undergoing a lot of change of course over the last couple of years. So, you know, we struggle a little bit with this ourselves in terms of really how to comment on the document and how to be effective.

And we certainly commented, and staff certainly took our comments seriously from what I can see and made efforts to resolve. But there's an underlying uncomfortableness with this area, I think partially because we're really just finalizing what this looks like.

We certainly agree on an integrated approach. In fact, our view would be that this is not integrated enough. We would

actually join 2.3.2 and 2.10.1, the next one you're going to look at, together in a single document because that's in fact how we actually treat them.

And then the -- you know, some of the -- I guess some of that you can see when you look at the -- there's a figure in the back here if I can find it which kind of shows the relationship between -- and it's on page 23 of my version anyway. And it's in -- it's in 2.10.1 as well, right, which attempts to show the relationship between these two documents, right?

And so our view would be that this clearly indicates to you that there's actually not enough integration in this process rather than too much. So to some degree it doesn't really capture the fundamental approach that we're using, especially with the emergency mitigating equipment that we do not reserve that for severe accidents. You know, we use EME anywhere it's appropriate. Our basic philosophy is to prevent accidents and then mitigate if you need to.

But on the other hand we do recognize it's kind of an important document and it needs to get out. We certainly would like to

see some rather significant workshops to work the kinks out in this stuff and, really, maybe produce a better document in the end.

So there are a few things which we think absolutely need to be changed before the document can be issued, just simply because they are non-compliances. Otherwise, we would be okay with some kind of an 18-month period with some workshops and other things and then a good review of the document and consideration of integrating this with the planned document at the end.

The two really hard points we have is in section 3.5, bullet 4, and the same issue exists in 2.10.1. It says you need to have an onsite facility outside the protected area of an onsite. That actually isn't the way it is. That's a tens of millions dollars hit.

We'd have to move our facility about 2 kilometres and set it up onsite, in our view move it in the unsafe direction and set it up. Immediately it would be out of compliance on that one, right? So I don't agree with that.

And we have talked with staff and I don't actually think the intention was that we should move our facility. But, you know, that

needs to get -- because we put it out there on purpose. It used to be onsite. We moved it out on purpose cause we thought it was better.

There is a couple of other areas like section 3.3, bullet 2(b) where it gives a list of things that you have to measure and estimate and so forth. Some of them like combustible or, sorry, the non-condensable gases and these things, there actually isn't a methodology to do this today. So we ought to really talk about how some of these things would be done before we make them a regulatory requirement.

I mean I can point out too, you know, the PSA document that we talked a bit about yesterday. We brought in the licence back in '09. Five years later, $24 million and 39,000 pages we finally managed to make a submission to bring us into line with that.

So sometimes a bullet or two is a very expensive proposition and ought to have some well thought-out approaches to how you're going to do it before we make it a regulatory requirement, right, and whether the risk is appropriate.

So like I say, I do think though

it was our view that this is important to get started on. We would be willing to accept, you know, a trial period. That would be our recommendation to you with a solid review of what implementation actually looks like and what changes might be appropriate to make it work better.

So that's our comment, I guess, from Bruce Powers' perspective.

MEMBER VELSHI: Thank you.

Before I turn it to staff, can we hear from Lepreau and then OPG, please?

MR. THOMPSON: For the record, Paul Thompson, Performance Improvement Regulatory Affairs Manager for a Single Unit at Point Lepreau.

Thank you for the opportunity to make some comments. I am very concerned on the administrative economic burden that this document as it currently is written would produce on us with little or no safety benefits.

I'd like to -- I need to explain this comment quite a bit. And really, I think it's coming down to on page 15 of the presentation, the CNSC staff presentation.

We indicated our concerns that we really have, in principle, all these covered already in the management system but to then go through and rigorously demonstrate that every one of those requirements and guidance aspects are measured is no small task at all. In today's day and age of compliance verification, i's dotting and t's crossed is what compliance verification is all about.

So while at the, if I could say, the 50,000 foot view, I could relatively easily pull together probably a five or maybe 10-page document to show that effectively we've got this, all these aspects covered at the high level. To then take that, though, in today's compliance regime and say, yes, but prove to me this aspect is done, is where the economic burden comes with next to no safety benefit.

So I think that this needs, I believe, either a better way to more clearly articulate that for existing reactors that do have a well-developed framework that it's the higher level principles that are important. I understand words like graded approach but I also understand that they are interpreted very many ways by very

many people.

And when this does come into the licence then it is subject to the compliance reviews and that's when it's subject to interpretation and that's where, yes, something that's sort of documents at the high level, where it all fits together, I think there's benefit to that. But then to drive that down into the rigorous show me that there's actually no gaps, that's where the burden really tends to happen.

So in our view we saw this transition from G-306 which was fairly straightforward, at each time in the transition that it got more burdensome.

So I think if there was a better way to address the issue that we had on page 15 of the CNSC staff's presentation, then I think we could probably agree that, you know, the underlying principles are good. The intent of where this is driving to is sound and we would agree, but it's in the -- it's really in the demonstration of absolutely no gaps.

Thank you.

MEMBER VELSHI: Thank you. But I also notice in slide 16 where it says CNSC staff

may request an analysis be conducted that you're actually in compliance, that your IMP is. So is it that word "may" that you think it may?

Okay. Okay. I just wanted to make sure I understand. It's not a requirement but it may require it.

MR. THOMPSON: Well, it does -- and I guess the -- you know, yesterday was a good example of part of what we do. When the CNSC staff evaluate the licensee's performances there is a large number of inspections. I can't remember of the top of my head how many inspections were done in the nuclear industry.

So these inspections come in and they evaluate, "Well, how was your program? How is your program doing? Does it align with the requirements and how are you carrying out your program? Are you carrying out your activities in accordance with your internal documents that meet the program?"

So when they go through -- when they go through those assessments that is when they start to say, "Well, I can't see where. You need to tell us. You need to tell us".

That very quickly can drive you

into, well, your five-page document that sort of maps this out is not sufficient. It needs to be a 500 or 5,000-page document. And that's where I've lived this. So that's where it's going.

So again, it's a careful message I'm trying to deliver. The principles of what the document is trying to do, I think, is very sound.

I think, though, we sort of went overboard in the application to an existing reactor, particularly for a single unit. This is not an eight-unit station, not a 16-unit station. And these types of administrative burdens add up and the reality is that means that dollars are not going to other things such as improving equipment performance. That has some real safety impact.

So when we look at, really, the benefit versus the cost, as that document is currently written, I feel actually it's counterproductive because resources would be redirected into demonstrating rigorously these aspects.

MEMBER VELSHI: Thank you.

OPG?

MR. MANLEY: For the record, Robin Manley, Director of Nuclear Regulatory Affairs and

Stakeholder Relations.

OPG supports the general intent of the document and the obvious importance of having a good accident management program. The comments that were made by others related to flexibility, integrated approach, you know, we would support that.

For example, the point of you know where an emergency response facility is located onsite or offsite, I think that the licensee needs to have the capability to put it in the right place and not be too specific. So as long as the words provide sufficient flexibility to enable us to do the right thing we're good with that. But we don't want it to be so prescriptive that it forces you to do something that doesn't make sense.

Certainly, I would agree with the point that when we come to implementation of the regulatory documents we need to be able to demonstrate typically to the regulatory programs divisions that we have -- that we're complying with them. They would typically look for specific aspects of those documents to be described in our documentation so that through the compliance

verification criteria we do find ourselves needing to demonstrate that.

We would typically do a gap analysis in order to prepare an implementation plan for a document such as this. And that kind of gap analysis typically takes a considerable amount of time and then usually results in revision of a variety of documentation.

So there's a certain amount of work that has to be done to implement this kind of requirement. So the concept of having a workshop down the road to look at how we're doing and what's proven to be practical, what could perhaps be improved in the REGDOC, that also makes sense to us.

Thank you.

MEMBER VELSHI: Thank you. Staff, any comments?

MR. FRAPPIER: Gerry Frappier, for the record.

I think I sort of understand what the industry is proposing here. We are certainly not against the idea of having the workshop down the road. We're certainly supportive -- I think we've made it very explicit that we expect to have

a graded approach both in sort of eventual end-state plus how we get there.

But I would point out that in general everybody is in agreement with what's being said within the document. The document is an important document because we believe there is a hole in our regulatory framework right now if we don't have a document such as this. So we still would like to proceed with the document.

I think most of the comments you're hearing is concerns about what the implementation and what the compliance verification program is going to be like and those are very valid in the sense that they can be problematic -- if we go too hard in compliance verification that can cause administrative burden that is out of line.

I think the challenge here, though, is that's not a challenge about the document. That's a challenge about how we're going to be implementing it down the road and, in particular, what we're going to require is compliance verification.

And those discussions as normal would be occurring more at the licensing stage --

Licence Conditions Handbook, what exactly is it going to say.

So we certainly would support an idea of having a workshop that would better define that and from that perspective we're in agreement. I don't believe that's a reason not to publish the document, though.

THE PRESIDENT: Mr. Jammal...?

MR. JAMMAL: Thank you, Mr. President.

It's Ramzi Jammal, for the record.

As the Chief Regulatory Operations Officer responsible for the implementation of this document there is one thing I would like to go on record to say. Even though we are putting this in writing as a regulatory document, but currently the Severe Accident Management Guidelines has always been a requirement from the CNSC that the licensee will have at their facilities.

I'd just like to emphasize the fact that the document itself is a requirement for us to publish. It's a good document. The points being raised by the industry will be very much taken in our compliance verification criteria. Hence, we will put in place a site-specific

requirement on how the licensee will be meeting the CNSC requirements.

Our philosophy is performance-based and prescriptive oversight. So in other words, if the performance of the licensee provides an equivalent safety measure; for example, the emergency management centre if it's outside the fence because for a design reason it provides the same functionality and equal safety requirements, we accept it. We will inform the Commission with respect to how the licensees are performing in the compliance or and require -- compliance against the requirements of the document.

So the document itself as is, I think you should fully support the fact that we can work with the industry for specific compliance requirements but the performance of the industry against the requirements will be demonstrated because it's irresponsible to provide to us the assurances that safety is maintained.

THE PRESIDENT: You know, I'd really like to go down to basic. Forget about philosophy. Everybody is onside on a philosophy.

I'd like somebody to tell me how -- when at the point about the hard facility is in

or out, is it mandatory, is it not? Is it flexible? Somebody, please.

MR. FRAPPIER: So Gerry Frappier, for the record.

So if you want, we can go through the comments that they made, the detailed ones.

THE PRESIDENT: Well, just give me an example how flexibility is being exercised here because I've got to tell you one other thing. Everybody, both sides here, view our regulatory document as something like a Bible's 10 Commandments. Thou shall never ever change them.

If there is any provision in it that doesn't make sense, I don't understand why you guys don't raise it up the line. If in compliance you don't agree with the compliance approach, raise it up the line.

We've said this for many, many times that those documents are easily amendable by the Commission. So if something doesn't make sense in those big, big documents, I don't understand why you guys don't raise it.

So with that I'd still like to get down to, bottom line, as to that it'll help us make a decision whether this is ready to go or

not.

MR. FRAPPIER: Good. Gerry Frappier, for the record.

Okay. Well, I think there's two key items that were raised, one with respect to the section 3.3 associated with instrumentation available for; management if you like of severe accidents, design-based accidents and in particular the bullet 2(b). So I think you'll find that on page 7 of the actual document.

And I would ask Alex Viktorv to comment on that.

MR. VIKTORV: On this particular issue, there are two aspects that I would like to bring to your attention.

The requirements for instrumentation are not for the sake of instrumentation or information. The intent of this requirement is to satisfy the need in information as necessary for measurement. So it's up to the licensee to define what they need and then to show that there are means of satisfying this need.

So we are not being rigid and prescriptive that they have to measure various

parameters at various places. We are telling them that they have to meet the information needs as appropriate.

But just one specific point that technology doesn't exist. This is a very rapidly developing field. The technology for measuring combustible gases actually exist and are being commercially offered by several international suppliers. So the technology exists in principle. Perhaps it will not be cheap but, again, it's up to the utility to define what they actually need.

MR. FRAPPIER: Gerry Frappier, for the record.

So, as you can see in item 2 of the requirements, we're really saying that the requirement is you have to address the information needs for accident management. We give some areas that you have to address. The one in particular we're talking about it obtain information on key parameters. That's the key aspect of the requirement, if you like.

And then we have such as in the sense of giving some examples to give some flavour to that, but there's a lot of room for industry to discuss what information, what are the key

parameters that they have or that they need for their management strategy and that meets this requirement.

THE PRESIDENT: I guess, the way I read this is the angst is it's all under the shell provision rather than sub-guidance. You guys are -- you know, you always differentiate between the shell and the guidance. I don't know if you cannot put guidance inside a sentence under the shell that "such as main guidance" rather than the shell.

I think we are too preoccupied with legalese here, but to the licensee whatever you put under the shell looks like there is no deviation from what is required. That's the way I understand it, the concern.

And can you tell me about the onsite and offsite, please?

MR. FRAPPIER: So, the second piece that was raised is onsite/offsite. I think you'll find it's also part of the next document, REGDOC 2.10.1 but perhaps we can talk about it a bit right now.

And Luc Sigouin, I give it to you.

MR. SIGOUIN: Luc Sigouin, for the

record, Director of Emergency Management Programs at the CNSC.

So the issue about location of onsite emergency response facility is in section 2.2.6 of REGDOC 2.10.1. I don't think it's specifically called out in REGDOC 2.3.2. Within that --

THE PRESIDENT: Is that at page -- can you guys look, page 9 --

MR. SIGOUIN: Yes.

THE PRESIDENT: -- item 4, top of the -- top of the page.

MR. SIGOUIN: Two, two six (2.2.6).

Bullet -- page 13 --

THE PRESIDENT: Page 9. Page 9.

MR. SIGOUIN: Oh, is it in your REGDOC? Okay.

--- Pause

MR. SIGOUIN: So, page 9, bullet 4, the section in brackets consisting of a technical support centre and onsite emergency support centre.

A similar requirement is laid out in 2.10.1 which talks of the need for an onsite

support centre. The fact that we're referencing that it should be onsite within the facility within the land controlled by the licensee is consistent with international practice. It's consistent with IEA guidance, consistent with practice in other regulatory regimes such as the U.S. NRCs and there are significant advantages to having the site, the response facility being located onsite.

However, we recognize that there are existing situations. And, I think, as Mr. Frappier already alluded to, many of the implementation issues here would be addressed in Licence Conditions Handbooks either by phasing in some approach or there's always an opportunity, I believe, for a licensee to request from staff the opportunity to demonstrate how the existing system, the existing facility meets the intent of and the capability or capacity of having an onsite facility. So if they can demonstrated that they are meeting the intent of that requirement, I think staff would certainly consider that.

MR. FRAPPIER: Gerry Frappier, for the record.

So just as a point of reference,

if you like, what this document really requires is to set up emergency support facilities. That's where in the document -- the part that's in brackets there with respect to how exactly it's set up, is really just we cut and pasted out of the other document.

So we would certainly be willing to, as part of our sort of -- before publication -- is to cross out, if you like, the stuff that's in brackets, leave that as a discussion with the overall sort of emergency management.

What we want to make sure of is that there is such a facility, the details around it is actually not something that's controlled by this document.

MEMBER McEWAN: Can I ask a question? I must confess, I read that entirely differently. I read that as a requirement for two separate facilities; one on site and one could be anywhere which was the major control centre and the emergency on site could well be a small communication centre which would facilitate activities on site.

So I think by putting that brackets in -- as I say, I read it as a

requirement for two separate facilities. So I do think that the use of English there is important.

MR. SAUNDERS: I think, you know, just to provide a licensee perspective, I mean, the rationale for these things is -- I understand, right. However, when we review Fukuskima and look specifically at their emergency on-site facility and the conditions they had to work in while they were there, it was our conclusion that that was exactly the wrong place to have this facility, right.

And it was a fair ways from the station, it was up on the hill, didn't suffer the damage from the water, but they had radiation fields that were significant and contamination that was significant even though it was a hardened silt, right.

So, you know, we would strenuously object to any words that says it should be on site. It should be in the right place. I mean, plain and simple, that's what the document should say. It should allow you to exercise command and control and it should allow you to be able to respond in an appropriate way.

And that location can vary,

dependent on the geography that you're dealing with. And on the Bruce site with the Escarpment, you know, we're 50 to a hundred feet up in the air above the site looking down on the site and, you know, I've sited a lot of command posts in my life, it's exactly where you put them, right.

THE PRESIDENT: But I think that's -- look, I hear exactly that that's what the Staff intention is and the debate is you interpreting it under the "shall", there's no room for manoeuvre; they interpret it this is the beginning of a conversation.

I think you need to be a little bit more careful about when it's truly a "shall", there's no deviation and whether you can explain, even within a "shall" sentence that it is -- there's many, many provisions, so it doesn't get misinterpreted, misunderstood. That's the way I hear it.

MR. SAUNDERS: Yeah. And I think, though, it points out to the issue between these two documents that we suggest. And if you read through these two documents, you find there's requirements repeated in both of them in a number of places, right, and they maybe have slightly

different intents in the different...

So there is the issue, would these two documents be in one way very close and in some ways very separate, right, which I think ought to be sorted.

That's why we'd like to see a mandatory review at some point, you know, sort of 18 months out because this world is still changing, we're still evolving and changing the way we do certain things. So I think there's some time and some thought needs to go into this before we nail it down.

THE PRESIDENT: Well, I thought that's why they put in the 2015 as kind of when this is all being implemented.

MR. SAUNDERS: Yeah. But, you know, as a licensee, from our perspective, I mean, it's great that people will interpret it and write it in the LCH for this licence, but in five years I'm back for another LCH, the Staff may not be here then, some will retire, some will move on to other jobs, get a different interpretation and suddenly I'm in another big argument over what this ought to look like.

And this does happen, right. I

mean, we see it in different documents. So I think the documents ought to be precise about what it is you actually want and not be overly prescriptive unless it's necessary to be overly prescriptive.

And so, I do think -- like say there's certainly many things in this document we don't disagree with, right. We do disagree to some degree about how they're organized and how they're put together because we don't think it's consistent really with how we're doing business, but I do think it would really benefit from some very thorough and thoughtful review.

As we kind of wind down the Fukushima action items and get everything in place and all the detail worked out here, it would be really worthwhile to sit down and look at this again, in my view.

THE PRESIDENT: Ms Velshi, we interrupted you.

MEMBER VELSHI: No, I just want to -- I think we've had the discussions, clearly shown that we've listened and Staff have heard you and with the suggested changes, the workshop, making sure the compliance verification criteria

are jointly developed or understood.

I just want to make sure then with that you're okay with this document getting issued now.

So the changes were: one on 3.3.2(b) to clarify what's the requirement versus guidance; under 3.5.4, take away the stuff in brackets around support centre and location; agreement to workshop and on compliance verification criteria to be clearly developed.

Does that address your concerns?

THE PRESIDENT: And maybe a final update and edit at the end of 2015.

MEMBER VELSHI: And fifteen, yes.

THE PRESIDENT: Something along that line, or a review.

MR. SAUNDERS: Yes. I mean, I think that what I'm looking for is that kind of hard commitment for a review in sort of 18 months or in that ballpark. So that would be fine with me.

MR. THOMPSON: I guess that depends what that compliance verification document looks like. So until that's developed, this is a significant risk for us, certainly at Lepreau

because with the right compliance verification guidelines it is, as we would say, high level, we can demonstrate mapping, that is good.

If it isn't, then all those interpretations of the "shalls" and rigorous and just -- you know, words make a big difference.

> "Perform systematic reviews and assessments to demonstrate..." (As read)

Those are very powerful words and two people can come away that says that's not a very detailed, very large task and another one can come away and say, whoa, that's about a two-year, very extensive job and rigorous documentation and validation. And those two universes are very, very far apart.

So these words again, and I'm sort of reiterating, you know, when they're in the "shall" department, that can be very easily interpreted in vastly different ways and over time as well, so -- and the initial interpretation may be fairly flexible, but in time you come up with another inspection, we're constantly going through these inspections.

So I think in the end, yes, if the

compliance verification guidelines to us seem to be reasonable, then certainly yes, it would be amenable to us, but until I see that it's a big risk.

Thank you.

MEMBER VELSHI: Thank you.

MR. FRAPPIER: Gerry Frappier, for the record. From Staff's position, we certainly don't have a problem with perhaps coming back in 18 months and giving you guys an update as to how this workshop and discussion on verification is evolving.

All the documents, as per mandated by yourselves, get a review every five years, so certainly within five years this document will be updated. If there's major holes in it one way or the other, those will be corrected as part of, you know, normal business.

I think what we're really talking about here, and I certainly understand the angst of industry, but it applies to every single one of our REGDOCs and every single technical standard that is needed to ensure that you have regulatory oversight.

There is ongoing discussions all

the time with respect to what is the intent of this paragraph, but more importantly is, how is it being demonstrated that industry is meeting the regulatory requirements?

THE PRESIDENT: Dr. McEwan...?

MEMBER McEWAN: Thank you, Mr. President. There were a couple of areas that I thought were understated in the document. One related to communications.

I mean, it seems to me that the major risk in any of this is that the communications break down and I thought that some of the very limited comments about communications were understated.

And it is interesting, in Appendix A, which is a little daunting but I think is a very useful appendix, doesn't mention communications at all and that surely is going to be the fundamental underpinning of anything.

And I hate to add in a "shall", but in the communications interfaces in the last sentence of the second paragraph, there's something in the first as well:

> "Measures should be taken to ensure the effectiveness..."

(As read)

I mean, it seems to me that must be a "shall" to ensure that there is pre-work done on all of that because if that's working smoothly, then the reactions are likely to be...

The other thing that I didn't really see mentioned in either of the two documents in any great detail was site security. And again, that presumably is going to be a critical part of managing this internally and also with external agencies.

So those will be my two comments.

MR. FRAPPIER: Gerry Frappier, for the record. I think those are good comments, but I think they apply more to the next document coming up in the sense of, that's where we're really going to talk about the interfaces with the various response organizations, the various authorities.

This document is a little bit more tightly focused into the sort of actually management of the reactor itself.

MEMBER McEWAN: And that's what I found really difficult reading the two documents, was that I was flipping backwards and forwards and

there was sort of some lack of continuity. I think I'd agree with Mr. Saunders there.

MR. VIKTOROV: To emphasize the same point -- it's Alex Viktorov, for the record.

This document is really directed for plant operators, so people who will be taking action in the field and assist in the actions that should be taken in the first place.

So while communication and security are important aspects they are not really key, top priority questions that those people will be facing, that's people who will have to go and open a valve, measure radioactivity.

So, relatively speaking, communication is really better caught in the other document.

THE PRESIDENT: Thank you. Monsieur Harvey...?

MEMBER HARVEY: Just a comment. If we publish a document I think that document should be clear by itself and not subject to interpretation because interpretation will come as well from the licensees or the CNSC and they will be subject to discussions and I don't see how we can verify compliance if it's too open.

So I don't know. I mean, the obligation should be in bold character. I don't know -- you should define a way to express what is some sort of obligation and what is suggestion.

So this is my comment. Thank you.

MR. FRAPPIER: Gerry Frappier, for the record.

I think in all documents that’s always the balance as to how prescriptive do you get versus how sort of a little bit higher level you get.

I think from industry you’re hearing perhaps we’ve erred a little bit on being too prescriptive. At the same time, the more prescriptive you are the more clarity there is as to exactly what the regulator wants, so there is a challenge to get that balance right.

We still believe that this is about the right balance. It’s a lot more descriptive as to what is required than we’ve had in the past and it will allow some progress to be made. Whether in, like I say, a few years, which might be 18 months or might be five years, if there’s need for additional clarification then the document of course can always be updated.

MEMBER HARVEY: I don't mean that we should not be prescriptive. I don't have anything to put, obligations to put in the document, but it should be clear. That's my point. What has to be done should be done.

MR. VIKTORV: To this effect, requirements are separated and they are essentially not that numerous. They fit on essentially one page.

Section 3 of the document is requirements and I believe that's sufficiently clear, stated concisely. The requirements in section 3, supplemented by guidance in sections 4, 5, 6 and 7, that's where we go into some detail in interpretation and our description of how the requirements can be met.

THE PRESIDENT: Go ahead.

DR. RZENTKOWSKI: Thank you very much, Mr. Chairman.

I am Greg Rzentkowski, for the record. I am Director of Reactor Regulations and I am ultimately responsible for the implementation of this document in the licensing framework of operating NPPs. In my opinion and in my experience I know that a requirement has to be

extremely clear in order to be implementable, so I would like to act on the last comment received from the Commission. This is extremely important.

Also, my take-away from this discussion is that there is too much ambiguity in this document in order to develop an implementation plan. I do understand the expectation of the Commission is that this document will enter the licensing space through the next relicensing hearings. That means it will be implementable for Bruce Power and Darlington. We are not at this point yet. In my opinion, the workshop which is being discussed here should be held prior to a finalization of these documents so that we have clarity versus all regulatory requirements which are stated in this document.

Thank you.

THE PRESIDENT: You're saying this document is not ready for publication right now. Is that what you just said?

DR. RZENTKOWSKI: It's not ready for the implementation plan to be developed. Based on the workshop which is being proposed, I think some of the requirements will be revised so the question is how I'm going to implement a

document where the understanding of the requirements is different versus that which is written in the document.

THE PRESIDENT: That puts a question to all our regulatory processes. I thought there were consultations ad nauseam on this. Here we are ready to publish it and all of a sudden it’s not ready. I don’t know why when this document was put on our website we didn’t get a -- even if there is internal disagreement, why is this now on this agenda?

DR. RZENTKOWSKI: Because during the consultation process we noticed we have diverse opinions on different subjects and in the end --

THE PRESIDENT: You shouldn't have this -- you shouldn't wash those dirty linen in public.

DR. RZENTKOWSKI: I do agree.

THE PRESIDENT: Okay.

Monsieur Harvey, c'est fini? O.K.

Monsieur Tolgyesi...?

MEMBRE TOLGYESI : Merci, Monsieur le Président.

My question about communications

was addressed by another commissioner. I found that on these requirements for human organization performance on page 9.4, my understanding was that there are two centres and it should be separated. They are on one site. Now, today, I understand that the question is not that; the question is if it should be onsite or offsite. That's what you are saying.

MR. SAUNDERS: I think the little clarity you need you'll see in the next document, where the requirement is actually stated as having one centre inside of the station area, right, which we normally call an emergency op centre, it's a relatively small centre which drives the actual implementation in the station, and then the one that is being discussed in this document is the emergency management centre which controls really more of the site response and makes sure the station has the wherewithal to deal with the emergency internally, right? It performs the liaison with the outside world, it makes sure that the resources and the capability that the stations need to deal with the issue is available to them.

In this document, we're really talking about that emergency management centre.

There will always need to be a centre somewhere in the station or near to it in order to deal with the specifics that are within the station. We have kind of multiple ways of doing that. I think if you actually look at Bruce B we have seven different places that that EOC can be, right, you know, so you provide capability to deal with it.

It's a little confusing. In my view, you probably shouldn't mention it in this document at all because it doesn't need to be in this document, it's in the other one, right, and that would save the confusion as far as 3.2.3 is concerned.

MEMBER TOLGYESI: My last is kind of secretarial.

When you're looking at the consultation report where on the left side it's English and the French is on the right side, there is, on page 2, the second paragraph, in the French version an English paragraph and it should be translated.

No, it's before that, Mr. President, just before. Yes. That's page 2. Look there on page 2, the right-hand side, the second paragraph, "Further feedback was received."

Okay?

I will not have other comments because I think that all was addressed.

THE PRESIDENT: Okay. Let me start with just an observation.

I don't know if it's by design, our regulatory document should not be boring, grey. I know that you've put some pictures in there. I thought your Slide 6 was terrific. I don't know why you didn't put it in the document. It's the clearest way to connect all the dots here between emergency management, et cetera. I don't know why you didn't put it in, even Slide 7. I don't know if you wrote it for lawyers or you wrote it for other people besides lawyers that need to read those documents. I know you have some diagrams in there. I don't know why you don't add some other explanatory diagrams.

The diagram in the back that was pointed out, if you thought it was designed for clarity, that's good. You have to spend a lot of time trying to understand that little diagram.

That's just my comment.

The question I have is on your Slide 19, and in the document, and I didn't want

to go into the document now, tells me that SLOWPOKE will get a different treatment altogether. I really would like you guys to sit down and make sure that we're not imposing some regulatory requirement on something like -- and I'm using SLOWPOKE as a proxy for anything else -- that it will be that this graded application will be clear.

MR. FRAPPIER: Gerry Frappier, for the record.

Yes, very clear. That's why we are sort of stating it in the slides here as being it will support our overview. It's not intended to be something that's going to be a requirement on SLOWPOKE or anything like that but it will educate, if you like, the CNSC staff involved in looking there so they're a little more understanding in depth of how accident management should occur.

THE PRESIDENT: Any other questions? Go ahead, Dr. McEwan.

MEMBER McEWAN: Someone, in one of the two documents (off mic) megawatt or greater, which would take SLOWPOKE and McMaster out. Why is that in there then?

MR. SIGOUIN: Luc Sigouin, for the record.

In *Regulatory Document 2.10.1* on emergency preparedness response there is a clear distinction made for reactor facilities above or below 10 megawatts thermal. That was put in specifically to explicitly exclude SLOWPOKE reactors, small reactors, where something like this would not apply as a response to feedback from reviewers.

MEMBER McEWAN: But in the slide you say, “will support reviews of SLOWPOKE and McMaster”.

MR. VIKTORV: Alex Viktorv, for the record.

What Luc was referring to is the second document that we represented. For this document, again it’s rather theoretical completeness to include SLOWPOKE reactors and other very low power reactors. In principle, even those reactors should be able to manage accidents. However, in practice that will be very trivial, like pushing a button and any accident will be managed by this.

THE PRESIDENT: Again, I refer

there to -- you just stated a profound statement that when it's translated into a document with a lot of shell may not be interpreted this way, so you've really got to make it clear, your expectation for SLOWPOKE. You know, I wouldn't mind even a statement that said: look, not likely to apply to you guys.

You've got to make it really clear about --

MEMBER McEWAN: Shall not apply.

THE PRESIDENT: Again, you know, the point here is they may find a place where they actually want to do it and if it does not apply exempt them from this document.

MR. FRAPPIER: Gerry Frappier, for the record.

As I mentioned, this document does not apply to anybody unless it's put into their licence and we would not have the intention of putting this into a SLOWPOKE licence, but this would be available as a guide for them --

THE PRESIDENT: So what is the matter with actually saying something like this in the documents somewhere?

MR. JAMMAL: Ramzi Jammal, for the

record.

We will amend the document. You asked the question previously about is this document ready for publication and you didn't get the right answer -- you did not get the correct and direct answer.

The answer is, yes, it's ready for publication because we cannot go on perpetual discussions. As you mentioned, we have a quite extensive consultation period and every time there is last minute issues being raised.

There is the process -- you're asking very valid questions: does it apply to the SLOWPOKE, does it apply for smaller reactors, and does the industry have clarity with respect to implementation?

Dr. Rzentkowski mentioned about a workshop. We will commit to the Commission, and I will commit to the Commission, as part of the implementation process we will put in each LCH, as it pertains to every facility, the guiding principle for this document. Hence, we come back and amend the document if it needs to be amended during that period in the LCH guidance, because we do not issue an LCH without sharing the

requirements or the guidance in the LCH with the licensee. So these pretentious surprises are not taking place because every LCH for relicensing, the guidance and compliance verification is exchanged with the licensee for them to have clarity on what is our requirement.

With respect to the exemption, we have the implementation process so, yes, the document should be very clear on what -- you know, the process of the implementation through the licence condition should be clear, we will clarify this, but at the same time if it's not in the licence of the operator it's not applicable, so it can be used as a guidance or for clarity.

But to go back to your question, is this reg doc ready for publication, the answer is yes, and we will commit to work with the industry to establish the guidance principle and the implementation in every LCH so it's very clear for everybody and then go back and amend the reg doc accordingly because, as you said, it's a living document.

THE PRESIDENT: I think you have heard enough comments here that I think you can take a week or two to do some slight tweaking of

some of the issues that were raised and insert some further clarification about the process and then go ahead and publish it. I would think that would be a good outcome. Then we will review it as you normally review, during compliance. Again, I implore the industry to never comply when it doesn't make sense to comply. You should raise it up -- I sure as hell hope that if you don't think it makes sense you should raise it up the line and have somebody take a look at it one more time.

Any other further kind of a discussion on this? Okay. Thank you.

Maybe you shouldn't go away. We're moving to another file that we will probably ask you the same kind of questions on.

The next item on the agenda is a regulatory document, *REGDOC 2.10.1, Nuclear Emergency Preparedness and Response,* as outlined in CMD 14-M53 and CMD 14-M53.A.

Before turning to the CNSC, I understand we have people from the Office of the Fire Marshal and Emergency Management (Ontario), available for questions. I understand they are online.

Is it Mr. Kontra that's online?

MR. KONTRA: Good morning, Dr. Binder. It's Mr. Kontra here. We are just inviting Mr. Wieclawek to join us for this particular item.

THE PRESIDENT: Okay. Thank you. Anybody else online? Okay.

Let's turn the floor to -- I understand Mr. Awad will make the presentation. Please proceed.

CMD 14-M53/14-M53.A
Oral presentation by CNSC staff

MR. AWAD: Thank you very much.

Monsieur le Président, Membres de la Commission, bonjour. My name is Raoul Awad, Director General of the Directorate Security and Safeguards.

With me today is: Mr. Gerry Frappier, Director General of Assessment and Analysis; Mr. Brian Torrie, Director General of the Regulatory Document Directorate; Mr. Luc Sigouin, Director of the Emergency Program Division; and Mr. Alex Viktorv, the Director of Reactor Behaviour.

We are here today to request that REGDOC 2.10.1, Nuclear Emergency Preparedness and Response, be approved for publication and used by CNSC staff in assessing the acceptability of an emergency preparedness and response program.

As Mr. Frappier mentioned, where this document is situated is under the emergency management and file protection framework.

We will start with an overview and provide contextual information, explain the consultation process, the outcome and finally we will give our recommendations.

An effective emergency preparedness and response program is critical to protect workers, the public and the environment in the highly unlikely event of a nuclear emergency.

This REGDOC will assist Class 1 nuclear facilities' and uranium mines' and mills licensees to develop, implement and validate an effective emergency preparedness program by providing requirements and guidance.

The document was developed through an extensive consultation process with licensees and other stakeholders.

To go back to the same figure that

you liked, Dr. Binder, emergency management includes the prevention, mitigation, preparedness, response and recovery of a nuclear emergency.

The prevention of a nuclear emergency is the responsibility of the licensee. The CNSC regulates nuclear facilities to ensure that adequate provisions are in place to prevent an accident or emergency.

The CNSC further regulates to ensure that in the event of an accident or emergency in the facility, mitigation equipment, procedures and protocols are in place to reduce the potential magnitude or impact of an event.

As Mr. Frappier mentioned, this diagram will provide an overview of the key emergency management components and how they are addressed through both Regulatory Documents Nos. 2.3.2 and 2.10.1.

Again, this is the same slide that we saw this morning. This is to explain the relationship between both documents and how they complement and support each other and interact with each other.

To be clear, the development of 2.10.1 was not initiated due to the CNSC concern

of our existing emergency management programs at Canadian nuclear facilities.

Previous to March 2011, licensees had robust programs in place and in response the Fukushima accident the licensees further strengthened their programs.

In addition, in June this year *CSA Standard N-1600*, which is entitled, "General requirements for nuclear emergency management program", was published. The standard will strengthen the emergency program through establishing criteria for the emergency management program of onsite and offsite organizations.

While there has been a positive development, there is opportunity to strengthen and standardize emergency response in Canada through 2.10.1.

If we go back to the Fukushima accident. The CNSC launched a review of all major nuclear facilities in Canada through the creation of the CNSC Fukushima Task Force. The task force concluded, however, that there is opportunity to improve the emergency preparedness and response effectiveness, including within the CNSC regulatory framework. While licensing emergency

preparedness and response expectations, the Fukushima Task Force noted that there was no regulatory requirement or standard that ensured consistency among licensees. The example of the multi-unit emergencies and blackout conditions were not adequately addressed in the existing framework.

In addition, the document will address the need for pre-distribution of iodine thyroid blocking or KI tablets and improving information sharing. The last two points will be discussed in detail in the next few minutes.

The document provides a clear, high-level requirement and supporting guidance to assist licensees in developing, implementing and validating emergency programs.

The document sets down requirements applicable to all licensees and additional requirements for reactor facilities with a thermal capacity greater than 10 megawatts thermal. This 10 megawatt thermal threshold aligns emergency preparedness requirements with the potential risk posed by the facility.

The threshold is in line with the IAEA guidance for emergency planning.

For reactor facilities below 10 megawatts thermal, the IAEA Safety Guide GS-G-2.1, concerning nuclear or radiological emergencies suggests a primary emergency planning zone of 500 metres or a half-kilometre radius, which is the minimum distance listed. Due to the lack of potential consequences, the IAEA notes that there is no need to establish a larger emergency planning zone for such kinds of reactors.

In providing the requirements and guidance that licence applicants and licensees need to implement and consider in the design of their emergency preparedness program, REGDOC-2.10.1 explains four foundational components: planning basis; response plan and procedures; preparedness; and program management.

REGDOC-2.10.1 introduces enhanced provisions for offsite activities at applicable facilities, including requirements for pre-distributing of iodine thyroid blocking agents and providing additional emergency preparedness information. This represents a step forward in protecting the health and safety of individuals living and working within the immediate vicinity of large nuclear power plants should a nuclear

emergency occur.

Approaches to pre-distribution of iodine thyroid blocking agents vary both domestically and internationally. Some countries like France, the Czech Republic, Finland, Sweden and Switzerland require pre-distribution. Others such as the U.K. and Hungary stockpile KI pills at certain locations to be distributed by emergency services at designated locations only at the time of an emergency.

In the United States, the NRC requires consideration of the use of potassium iodine as a protective measure for the general public but the decision to pre-distribute is left to individual states.

In Canada, there is currently no standard for the pre-distribution of iodine thyroid blocking agents. KI pills are pre-distributed to all residences within a 20-kilometre emergency planning zone around Point Lepreau Nuclear Power Plant in New Brunswick. In Quebec, KI pills are pre-distributed to all residences within an 8-kilometre emergency planning zone around Gentilly.

REGDOC-2.10.1 contains

strengthened provisions requiring the distribution of public information related to emergency preparedness and providing emergency planning information to regional and provincial offsite authorities. At recent Commission hearings, issues related to the distribution of emergency management public information and ensuring that multijurisdictional emergency response plans are effectively integrated were discussed. REGDOC-2.10.1 addresses each of the issues and includes requirements associated with these issues and other guidance.

As I mentioned at the beginning, the REGDOC has gone through an extensive round of public consultations.

A draft version of 2.10.1 was provided to stakeholders for consultation from August 20 to October 19, 2013. During the consultation period, the CNSC received 125 comments from 11 reviewers. Eight reviewers were from industry and an additional two from government, which is Environment Canada and the Office of the Fire Marshal and Emergency Management, as well as environmental nongovernmental organizations like Canadian

Environmental Law Association, the CELA. No additional comments were provided during the comment period.

Following the initial consultation period, some additional requirements and guidance were added to the document due to developments which followed the initial drafting of the consultation version of REGDOC-2.10.1.

The pre-publication final draft of CSA Standard N1600 acknowledged the role of iodine thyroid blocking agents in emergency response but remained silent on requirements for their pre-distribution. As a result, CNSC staff felt it important to provide clarity on the issue through REGDOC 2.10.1.

In addition, stakeholder feedback on the consultation draft and discussions at recent Commission proceedings indicated a need for additional requirements.

Due to the additional requirements, CNSC conducted additional consultation activities to engage stakeholders on the new provisions.

Stakeholders who commented on the consultation draft REGDOC-2.10.1 were informed of

the additional requirements via email on April 10, 2014. This resulted in 28 comments from seven reviewers. The reviewers included four from industry, the Ontario Office of the Fire Marshal and Emergency Management, CELA and Greenpeace.

The Consultation Report summarizes the key comments received during the consultation period and provides the CNSC's responses.

The next few slides highlight key stakeholder comment.

The first key comment is regarding document scope.

REGDOC-2.10.1 had requirements applicable to all licensees with additional requirements for reactor facilities with thermal capacity greater than 10MW. Uranium mines and mills and Class 1B licensees noted that the document's scope was unclear.

CNSC staff did not alter the scope of the document but clarified the distinction between universal requirements and those applying only to applicable reactor facilities with thermal capacity greater than 10MW.

The second key comment is regarding the venting notification.

The draft document stated that the CNSC had to be notified ahead of any venting actions. Circumstances may require immediate venting to maintain containment integrity that would preclude notifying the CNSC before taking action.

CNSC staff acknowledged the concern and modified the text to add a caveat stating that if prior notification of venting could not be made due to exigent circumstances, notification was to be made as soon as possible after venting.

Other key comments related to additional requirements.

As I mentioned a few slides ago, the CNSC conducted additional consultations on new requirements for REGDOC-2.10.1 which were not in the initial consultation draft. The new requirements added after the first consultation are related to the pre-distribution of KI pills, the distribution emergency preparedness information to the public and ensuring that multijurisdictional emergency response plans are effectively integrated.

Stakeholder comments on the new

requirements necessitated additional consultation. Stakeholders requested a meeting for further discussion and clarification related to the additional requirements.

On June 23rd, a meeting was held to discuss how stakeholder comments on the additional requirements were treated and dispositioned. It also provided an opportunity to answer any residual stakeholder questions or offer clarifications in advance the Commission's consideration of the document.

The meeting was well attended with 21 representatives including 10 from industry, 5 from non-governmental organizations, 4 from Health Canada, one member of the public and one from the Office of the Fire Marshal and Emergency Management.

Concurrent with the meeting, OPG, on behalf of industry, submitted additional comments on the post-consultation draft of the document that was sent to all who had commented on the initial draft.

The results of the meeting are included as part of the disposition table.

The final key comment was related

to the iodine thyroid blocking agent pre-distribution, including comments provided at the June 23rd meeting.

These comments were:

- jurisdictional issues have to be sorted and recognition provided on the key roles and responsibilities of offsite organizations;

- pre-distribution of ITBs, or KI pills, has to have an accompanying information program if it is to be effective -- communication and education are critical to success;

- geographical and legislative differences have to be considered when developing pre-distribution plans; and

- the most effective means of pre-distribution is not established.

As we discussed earlier, the international and domestic experience shows that pre-distribution of iodine thyroid blocking agents is safe and feasible to implement. It represents a key mitigating measure in the event of a nuclear emergency.

The version of REGDOC-2.10.1 before you addresses the concerns raised at the June 23rd meeting and in supplemental industry

comments.

CNSC staff modified the text to address:

- the role played by provincial authorities clarified;

- the guidance section was updated to note the importance of an associated public information program; and

- licensees provided the latitude to develop the most effective means of distribution of the KI pills to suit local circumstances.

For implementation, the Fukushima Task Force recommended that existing CNSC emergency preparedness guidance documents G-225, Emergency Planning at Class I Nuclear Facilities and Uranium Mines and Mills, published in 2001, and RD-353, Testing the Implementation of Emergency Measures, published in 2008, be strengthened through the creation of a consolidated REGDOC for emergency preparedness.

This document, if approved, will replace these two previous documents and will be published on the CNSC website and made available to the licensees and stakeholders.

If approved, REGDOC-2.10.1 will:

- be applied to existing Class IA, Class IB and UMM facilities as well as any future such nuclear facilities;

- be included, as appropriate, in licences or Licence Conditions Handbooks as either part of the conditions and safety and control measures or as part of the safety and control measures to be described in a licence application and the documents needed to support that application;

- reactor facility operating licenses will be amended at the stage of relicensing; and

- use a graded approach commensurate with risk when applying the requirements.

It is expected that should REGDOC-2.10.1 be approved the pre-distribution of KI pills or iodine thyroid blocking agents within applicable primary zones would be completed by December 2015.

In conclusion, as REGDOC-2.10.1 was developed through extensive research and broad-based consultations with stakeholders, CNSC

staff affirm that the proposed document:

- will strengthen and modernize the CNSC's emergency preparedness and response regulatory framework;

- balances the relative risks posed by various facilities with the actions required;

- improves public preparedness through the pre-distribution of KI pills and provisions related to emergency planning information;

- went through an extensive consultation process; and

- is ready for final approval by the Commission and for use by CNSC staff and licensees.

Based on our conclusions, CNSC staff believe that REGDOC-2.10.1, Nuclear Emergency Preparedness and Response, is ready for final approval and publication and use by CNSC staff in assessing the acceptability of licensee emergency preparedness programs.

Thank you for your attention and we remain available for questions.

THE PRESIDENT: Thank you.

Monsieur Harvey, start us off please.

--- Pause

THE PRESIDENT: Okay.

Dr. McEwan...?

MEMBER McEWAN: Thank you, Mr. President.

I will make my comments again. I think that the communications and site security is understated, requirements in this document, as it was in the other documents.

I would like to focus, to begin with, on the potassium iodide distribution. I was disturbed by your bullet on slide 20 of your presentation implying that there are jurisdictional issues related to the distribution of potassium iodide tablets.

This to me is nonsense. It is well established in the literature that this is a very effective way of preventing future issues with thyroid cancer, particularly in children, which is the population at risk. I think the French experience absolutely shows that it can be easily distributed to individual households.

I truly cannot imagine the chaos

on the announcement of a major accident and all 200,000 people in an area trying to go to the three pharmacies that are stocking them. So I think that there should be a much clearer direction that there should be individual household distribution.

I think that we need to be very clear also in the type of information that is given to the households with the potassium iodide tablets. The French, again, established a very effective education program, and this was seven years ago now, eight years ago.

So I think we need to have much more clarity and I think we really need to involve the licensees in that distribution. They are clearly the people who have the biggest communication pathways to the communities and I would be interested in your comments on that.

There is also, which you may -- I found, as I was preparing for this, a very good review published in April or May of this year that I think will be very good reference for this. It does address the distance of distribution for potassium iodide tablets, which may be helpful, and it suggests a differential geographical

distribution for adults and for children.

I would be very happy, Mr. President, to give that reference to staff if they felt it would be helpful to review, but I think that part of it needs to be clearly more prescriptive. I would be interested, both staff and industry.

MR. SAUNDERS: Well, from Bruce Power's point of view, this is a relatively straightforward discussion, right. In our 3-kilometre zone, sir, there are eight households, so pre-distribution would be a pretty simple task, I would just need the authority to do it. As a private company we don't actually have the authority to go distribute things to households.

And yes, certainly, you know, our view would be you would put it in a hard plastic case, you know, much like you would buy in an electronics store, with instructions down the side about how they would -- you know, who would tell you to take it, where you find out and all that sort of stuff. So I think it can be done.

It's quite a different challenge for, you know, somebody like OPG who has a much larger population but I will let them speak to

that.

Is it entirely necessary in a place again like Bruce County? I think probably not necessary. I would be surprised if we could not move people out of the way rather than give them KI pills, but I mean from our point of view, you know, if the two authorities who have jurisdiction in this make up their mind how they want it done, we will be more than happy to oblige. So no real challenge from our perspective.

MEMBER McEWAN: The only two comments I would make to that are 3 kilometres is certainly not a wide enough zone. I think this says 10, some people would argue a little bit more, but I think a minimum of 10 is what we should be looking at.

And I think the other important piece is the effectiveness of potassium iodide as a thyroid blocking agent dissipates quite rapidly with time of exposure, so early administration is important.

MR. AWAD: Raoul Awad, for the record.

Thank you for the comment for the

jurisdiction. Actually, we are translating what has been said by the stakeholders. It's not our opinion. It's clear that this is a nuclear emergency and should be treated as a nuclear emergency.

And for the effectiveness of the pill, you are right, as long as it is given before the exposure, it will be effective.

And we agree with you that the French set the standard maybe. Their model or approach for pre-distributing, I think it could be applicable here and it's very easy.

And to mention a comment that we received during the consultation process that the distribution of the pill should be given or should be accompanied with public information.

The French, they will send a coupon to the household and they will ask them to go to the pharmacy and the pharmacist will explain exactly how it should be taken and all the circumstances where. The pharmacist will educate the public about it.

And the French authority, la préfecture, after six months they will receive what has been received from the public. If

somebody didn't go to the pharmacy and take it, they will go door to door and give them the pills and explain to them how to use it.

THE PRESIDENT: I think OPG still was to be heard from.

MR. NADEAU: Yes. For the record, Paul Nadeau, I am the Vice President in charge of Security and Emergency Services for Ontario Power Generation.

First of all, I just want to say that we are fully committed to support this effort. We are already doing some research through a request for information to identify different issues and address them.

We recognize that as a company we don't have the legal jurisdiction. Having said that, we are collaborating with other stakeholders such as the Province of Ontario, the Durham Region, City of Toronto, to make this happen and we have had some very, very positive discussions, I could say, in the last few weeks here.

So I guess the bottom line, we are cautiously optimistic that we can meet this requirement by the end of 2015 and that's what we are aiming for. We are focused on that.

THE PRESIDENT: I would like to address the jurisdictional issue.

What we have learned from Fukushima, one of the issues in Fukushima was the governance model and the inter-agency lack of clarity who does what, and as in many, many jurisdictions where there is a major accident -- I don't know, take Katrina, BP, Fukushima -- the first to get fired is the regulator.

I have no intention here to not exhaust all the things that we need to do because some authority feels that we don't have the jurisdiction.

I have a letter here from the Ministry of Health and Long-Term Care who tells us, "You don't have jurisdiction." I beg to differ. I believe that you guys, there is nothing preventing you, you don't need legal authority to put pills in the mail and mail them, and if somebody disagrees with this, well, let's hear from them.

My point here is that we really for the last two years, three years I think, we wanted cooperation. In fact, we wanted the Office of the Fire Marshal and Emergency Management to

lead the charge and do all of these things. I just don't want to get caught.

Some of you may remember the siren. Does somebody remember siren issues? It took us 12 years to get some sort of agreement between the local municipalities, the Emergency Management, the Government of Ontario on this. I have no intention for us to wait for 12 years.

So what we thought we are doing here is putting a bottom line that by December 2015 we would like it to be done. We quite don't care how it's done because we would like to see in fact the authority, the medical authority and the Fire Marshal and Emergency Management people take the lead and do it.

But if they have no resources or ability to do that, you guys have all the resources and the ability. And I would love it to be in a cooperative way, but if there is no cooperation or whatever, then I think that you guys should deliver it all by yourself.

So forgive me for this outburst but the point here is that we have been talking about it for so long and at the eleventh hour to get a letter telling us we have no jurisdiction

was a bit precious.

So staff, any final word on jurisdiction here?

MR. LEBLANC: If I may, before.

The letter that the President just alluded to is now available at the reception desk if there is interest and will be part of the record, as will a letter we received from Greenpeace identifying some of the elements that they wanted to discuss today. So both will be part of the record, thank you.

THE PRESIDENT: Sorry, I forgot something very important.

I think we have the people from the Office of the Fire Marshal and Emergency Management. Maybe this is a good time for you to speak on this subject. Mr. Kontra...? Are you guys still --

MR. KONTRA: Good morning, Dr. Binder. We are here at the Office of the Fire Marshal and Emergency Management.

We were very interested in hearing your direct views, which we suspected was behind this document and the wording. If you do not agree with the fact that there are jurisdictional

issues here, it is difficult to discuss this.

There are some serious issues. There is no worldwide standard, there is no Canadian standard as you have stated, and there are no agreed-to principles here. So obviously, as OPG and Bruce have indicated, we are -- we, the provincial, the municipal authorities and the licensee, are cooperating to gather to best meet all requirements.

The technical wording as you push forward is obviously going to leave us in different locations. To take your comment from earlier, if it makes sense we will definitely do it and if it doesn't make sense then I guess we will have to argue further.

THE PRESIDENT: If it doesn't make sense, you can argue with us, but I have to tell you, we are putting this now in the Licence Conditions Handbook of the operators. And while we would like this to be a cooperative initiative, they will deliver and they will comply with this by December 2015.

MR. KONTRA: If you permit, Mr. Wieclawek would like to speak to this issue.

MR. WIECLAWEK: Yes. Good

morning, Dr. Binder. This is Ted Wieclawek, Ontario Fire Marshal and Chief of Emergency Management.

I entered just a few minutes ago and I listened to what you referred to as your outburst and, first of all, I want to acknowledge, I can understand why you are very firm and very passionate on this issue.

And you mentioned a few things. You mentioned collaboration and you mentioned that you really don't care how you get it done and you are looking through the lens of previous examples where -- you mentioned the sirens where it took an inordinate amount of time to get things done.

So I just want to offer to you, my reality is that I have to deal and work in collaboration with the Ministry of Health, who within Ontario does have the jurisdiction within our provincial nuclear response plan to take a lead role on the whole issue of KI distribution.

We also have to work within the legal jurisdiction that municipalities -- it is their jurisdiction -- must take a lead role in ensuring that any process that we put in place is successful.

That being said, I think -- I believe what you're -- your outcome or your desire is that in a fairly rapid timeframe, end of December 2015, that all local operators, licensees, in collaboration with the province, can come up -- and municipalities -- come up with a plan that provides you with the confidence that we have a robust pre-distribution plan in place.

And I can make that commitment to you. I have dealt with this in the past. I need to have the support of the Ministry of Health as well as local municipalities in ensuring that our mutual desire and objective is achieved.

So I would like to make the commitment and really strongly advocate for the fact that a statement from yourself to say that licensees must or shall work in collaboration with the province and local municipalities to put together a very robust plan for the distribution. That is something that needs to be done.

I understand you have the purview and you can put whatever you feel you need to in a regulation but you are going to leave us with the operational reality of trying to get it done, and at the end of the day I would really like to

harmonize our efforts so that at the end of the day or at the end of December 2015 we could actually provide you with a detailed report as to how we are going to do this and it will reflect the unique needs and circumstances of each impacted municipality, as well as respecting, you know, authorities that have that local jurisdiction.

THE PRESIDENT: Well, those are very encouraging words and that's exactly what we would like to see, but I would like more than just a plan, I would like to actually have been told the distribution already occurred.

And I have to tell you just one more thing. It would have been nice -- we invited the Ministry of Health to appear in front of us today, invited them a couple of times. Sending me a little letter and not showing up does not give me a lot of confidence that that will happen.

So, lastly, while we would welcome and we will insist on cooperation between all parties, we are putting a bottom line that if such cooperation doesn't work by December 2015 the licensee will do whatever they can do and I will defer to our lawyers to decide whether they are

allowed to put some things in the mail and mail it.

MR. KONTRA: Yes. So, Dr. Binder, my response would be that obviously, you know, it's a free country, anyone can put anything in the mail and send it out, but I can assure you that -- and I'm not saying -- I really believe that in collaboration we are going to get this done, but operationally, in a practical perspective, if you put something in the mail and it is received by individuals and it's not supported by the municipalities, nor supported by our office and, as your staff mentioned, with a really strong public education program explaining why this needs to happen and what they need to do, I'm afraid that at the end of the day our true objective is not going to be achieved.

The licensee may be able to send all these pills out to everyone via mail, but how do we know at the end of the day it's actually going to be successful in doing what they are supposed to do? And that would be my concern. Because if it was this easy as that, then we would have done that ourselves. But the fact is it's not that straightforward, so we need to recognize

those realities.

But that being said, I really believe that we don't need to wait 12 years or 20 years to put something in place and I think end of December 2015 is achievable and that will be my goal and my commitment.

THE PRESIDENT: I think we are not that far apart and I would welcome the discussion to continue and being informed on progress.

MR. KONTRA: Absolutely. I --

THE PRESIDENT: Sorry, we lost you.

MR. KONTRA: Yes, we lost you for a second.

THE PRESIDENT: We are hearing whispering there.

MR. KONTRA: No, sorry, I was being reminded that there is a time lag here.

I would like to continue the conversation but also make a commitment.

I have already asked my staff to provide a status update on the status of plans for pre-distribution reflective of individual licensee holders and municipalities and my goal is I really would welcome a strong statement from yourself to

say that license holders must work or shall work in collaboration with local authorities, with the province and with municipalities and, you know, including, you know, providing a stock of these KI pills, and my commitment is that by December 2015 we will be able to produce a report that has some very detailed specific processes or details as to how this would work during an actual emergency.

THE PRESIDENT: Okay.

Dr. McEwan, we interrupted you.

MEMBER McEWAN: So I think that was helpful, but I suspect the French actually did more than produce a report within 18 months and I would be interested if somebody could find out how long it took them from beginning to end of the process. I think it was a lot quicker than that.

Secondly, this is not a nice-to-do, I mean this is a critical piece of our responsibilities to the public and I would hate to see it lost because of jurisdictional issues.

THE PRESIDENT: Staff?

MR. AWAD: Raoul Awad, for the record.

Actually, the pre-distribution is already done in Canada, in New Brunswick and in

Quebec and the experience exists. And Hydro-Québec, they used to have a very good education and information program that accompanied the pre-distribution of this pill. The French model is very valid but we may look to our Quebec model which is also very valid. And we are ready to work with the Fire Marshal's office.

We did already a comparative study between Switzerland, France, Germany and all other jurisdictions how it's been done and we are ready to work with them to establish the right approach that ensures that information and education to the public is done with the pre-distribution.

THE PRESIDENT: Again, I don't think that the Fire Marshal and Emergency Management will be the issue, it's going to be the rest of the Ontario government and we have to bring them onside, but if they are not onside we have to find a different method of distribution.

I wasn't too happy with this letter. You should read the letter yourself. I wasn't happy with the tone and I wasn't happy that the individual decided not to show up here for this particular hearing. So I don't think we should continue to negotiate and develop the plan

here.

But I think that at least, if I understand, we are very, very close to having an agreement with the Office of the Fire Marshal and Emergency Management about the way ahead. So let's take it on and work together to see what we can do with this.

Okay. I'm sure there are other provisions in this document that we would like to discuss, so I would like to move on to Ms Velshi.

MEMBER VELSHI: So I still have some other questions on KI distribution and it's the zone for distribution. I know the document currently says it's the primary zone or whatever other terms that are used for it. Dr. McEwan said it should be 10 kilometres, I think he said as a minimum, but it should be 10 kilometres and the document that I know that Dr. McEwan has passed around actually mentions a much larger zone.

I was interested to hear staff's position on it, particularly because the requirements, besides the pre-distribution, talks about additional supplies available for other than the primary zone but I couldn't see any specifics on how much and for whom and how that was going to

work. But can you talk about outside the primary zone and pre-distribution and its efficacy?

MR. SIGOUIN: Luc Sigouin, Director of Emergency Management Programs at the CNSC.

Yes, those are very good questions, Ms Velshi.

The issue of how broad the pre-distribution should be made was discussed and we felt that the fact that there existed a predefined emergency planning zone in every jurisdiction -- it varies in name depending on the province, but nominally this primary zone, 10 kilometres around the nuclear power plants in Ontario, 8 kilometres around Chalk River, 8 kilometres around G-2 and 20 kilometres around the Point Lepreau plant.

We felt that that pre-existing defined zone is well understood and offered a natural -- naturally sized zone that would allow a logical pre-distribution to take place.

We also understand that the use of KI might be beneficial beyond that zone, but that is a zone that by definition is where the municipalities, provinces, other authorities, will take preparatory action to put in place systems to

mitigate the effect of an accident. It doesn't preclude KI from being used further out from that zone, but we felt that at this point in the early adoption it might be too much to ask to do pre-distribution beyond that zone.

However, considering the importance of KI further away potentially, we address that by requiring that additional KI be stocked and be available to be distributed at the time of the emergency if the accident was of a size that required that distribution beyond 10 kilometres.

MEMBER VELSHI: You have been at a number of hearings we have had -- and I can't remember whether it was the Pickering or Darlington or it could have been both -- recently, where there were a number of members of the public who expressed concerns that they lived just outside the primary zone and they cannot get access to KI pills, and the literature seems to support that, you know, those that have concerns, those who are vulnerable, they will be highly beneficial.

I just think that it's an area that probably needs -- and I understand, you know,

maybe right now it may be a bit premature, but it definitely needs further study and the document probably needs to reflect that, that, you know, this is it for now but we are looking into it and probably see opportunities for expanding that zone.

THE PRESIDENT: I assume that the Fire Marshal and Emergency Management people, when they say there's going to be a comprehensive plan by 2015, will take this into account in terms of not only their primary zone but the other zones, how you treat that, places like schools.

And also, let's remind everybody that right now as we speak there are already pharmacies that have the pills and they may be needing more of a communication. For those who really are concerned, they can probably go and get it like right now as we speak.

Am I correct in all of this? I thought they just didn't know where to get it. It's not in -- they may have to travel closer to the primary zone to find those pharmacies but you can get them. I mean I'm not saying it's easy. Is that right or not?

MR. SIGOUIN: Luc Sigouin, for the

record.

Yes, Dr. Binder, that's our understanding. Maybe our colleagues from the Province of Ontario on the phone can clarify, but our understanding is that anyone can go to one of the pharmacies within the Durham Region to request the KI. I'm not aware that the pharmacist would verify their residence and turn them down, but I believe -- maybe we can ask Mr. Kontra to clarify.

THE PRESIDENT: Mr. Kontra, can you clarify for us?

MR. KONTRA: Yes. The designated pharmacies have the stock of pills and they have it for the designated zone. So technically, you should have your address within that zone. In the City of Toronto it's a different office but the same principle applies, the stocks are there, the individuals just have to ask for it.

THE PRESIDENT: So it's really a matter of communication, just outreach and let more people know exactly.

MEMBER VELSHI: No, but the issue here is if you're not within the zone you cannot access the KI pill.

MR. SAUNDERS: I don't think

that's correct from our research. It's not a -- this is not a prescription drug. I could go to a pharmacy today and ask them to bring it in to me. As long as I'm willing to pay for it, they can do that, right, they are not restricted in giving me the KI pills.

I think the issue would be most pharmacies probably don't carry this because there wouldn't be a big demand for it in general terms. So I think the issue here is more about the free issue and having the stock where people can easily get to it.

THE PRESIDENT: How much stock do you carry as licensees?

MR. SAUNDERS: Well, at Bruce County there's about 25,000 pills stored in Kincardine at the Emergency Centre and we have sort of something equal to that on the Bruce site for our own staff. I don't remember the exact numbers onsite.

MR. NADEAU: I can say for OPG, we have 700,000 KI pills currently available in the primary zone.

THE PRESIDENT: Point Lepreau, you have already done the pre-distribution. You

yourself did the pre-distribution; is that correct?

MR. THOMPSON: For the record, Paul Thompson.

There is pre-distribution of potassium iodide thyroid blocking agents to all the residents within the 20-kilometre planning zone. That is done every five years, so the pills are refreshed.

It is controlled by the Emergency Measures Organization of New Brunswick and the actual door-to-door distribution -- as you recognize, it is a very small population, so we don't have the logistical challenges as they do in Ontario -- is done by a combination of the local emergency measure organization Wardens that are members of the community in conjunction with the Musquash Fire Department.

So the jurisdictional emergency response organization, which is well known to all the members in the community and good, close working relationship. So it is a combination as well of updating their Census numbers of who is in which homes. So they take advantage in the distribution to update their records to also know

if there are additional changes in someone's health for the purposes of evacuation later. So it's sort of they do it for two purposes.

So they hand out the new pills, take the old ones, have the discussion on the instructions on use of the pills and update their information in terms of any special needs that they might need to be aware of in the case of a nuclear emergency and the need to evacuate.

It is not done -- to my knowledge, that does not include businesses. Now, businesses within a 20-kilometre zone is a little different context than businesses in Ontario. So the businesses are things like restaurants, garage stations, lobster storage ponds. So I'm a little concerned that if we be too prescriptive about what we do and how we do it, we can take something that works well and is fairly easy to administer and turn it into a nightmare.

So I certainly support that the actual distribution needs to reflect the complexities or the realities of the localities. So I think that answers your question.

THE PRESIDENT: Thank you.

Go ahead, Mr. Nadeau.

MR. NADEAU: So just for clarity here, I said there's 700,000 KI pills available. I think we need to clarify where they're available.

We have them in schools, in childcare centres, in healthcare facilities, youth detention centres, with emergency response organizations, Durham Police, EMS, Municipal Fire Services. We also have them at five different pharmacies in the Durham Region and we have them with the City of Toronto at their emergency management office.

And in Toronto they are in the process of finalizing an agreement to stock KI pills in 16 pharmacies within the primary zone. So there are pills out there in large numbers at these locations as we speak.

THE PRESIDENT: Okay.

Mr. Tolgyesi...?

MEMBER TOLGYESI: Merci, Monsieur le Président.

Well, I should say once again that there is a little reference to communications to the public. It is clearly understated. I think that when an emergency happens one of the main problems or main challenges to communicate to the

public and now maybe we should do just a reference to communication plan or something like that that it should be in.

The other one is on page 8. We are talking about emergency categorization, activation and notification.

We are saying that additional requirements for all Class 1 facilities ensures CNSC is notified within 15 minutes of activation of ERO. Does it mean that other than Class 1 facilities should advise or communicate, notify offsite authorities within 15 minutes, CNSC, for these other sites than nuclear power plants over 10 megs?

What is -- when should they be advised or notified?

MR. SIGOUIN: Luc Sigouin, for the record.

So page 8, 2.2, the additional requirement, I'll just point out that it's an additional requirement for all Class 1 facilities so that includes 1Bs. It includes 110 megawatt thermal. What this effectively does is it excludes uranium mines and mills. I'm sorry, it excludes mines.

It came as a request that came out of the consultation and that was put in because there was recognition that there was less of an urgency for a mine-type emergency that they would -- they could report to the CNSC under the existing arrangements for reporting to the CNSC.

So we expect that we would be notified promptly under existing arrangements but that there was no need to impose an additional requirement for them to respond within 15 minutes.

MEMBER TOLGYESI: It's a similar question on page 16 when we are talking about preparedness and 17.

Once again, on page 17 we are saying specifically that reactors over 10 megawatts that they should develop and submit emergency drills and exercise schedules. And in the guidance when we go before the last bullet, it specified that schedules, procedures and assessments for the conduct of familiar drills and exercises should be submitted. That means this is specific once again to these reactors.

That means -- because on the page, previous page, training and qualifications, there is no mention besides the radio protection. There

is no mention of drills and schedules and programs.

So does it mean that -- I know that for mines, for instance, there is a provincial regulation just coming in; emergency preparedness, emergency drills, et cetera -- that we accept or we agree or we support these other jurisdictions, emergency plans or should we mention something here that there is something for them under other jurisdictions' regulations and it should be -- it should be followed? Or I don't know how we should put them together.

MR. SIGOUIN: Luc Sigouin, for the record.

So Mr. Tolgyesi, the 2.3.1 and, I guess, we're referring to bullet 2 which is on the top of page 17, those requirements, the reference to drills and exercise schedule there is in relation -- is to provide staff an idea of the activities that are taken to qualify the personnel.

So part of qualifying the emergency response organization is to train them but also to ensure that they do drills and exercises. The theme here was really on the

qualifications of the personnel and that there is additional requirements for qualifying emergency response organizational personnel for those facilities above 10 megawatts.

The point of exercising is addressed more broadly on page 18 in section 2.3.3, where the CNSC's requirement is for all licensees to test the implementation of the emergency measures and the emergency plan.

So our expectation is that all licensees will do some type of testing commensurate with the level of risk of their facility.

So for example, a Slowpoke facility will certainly not do an exercise at the same scope as Bruce Power or OPG would. They may do a tabletop-type exercise that will test their system.

So we left the language more generic for those smaller facilities that are lower risk.

THE PRESIDENT: Back to Dr. McEwan.

MEMBER McEWAN: This is really following Mr. Tolgyesi's last comments.

My sense of this is that this is a clumsy document because you're trying to incorporate the power reactors and the Slowpokes. I found that when I was reading it very difficult to do and, in particular, the guidance. It was very difficult to work out where the guidance applied to everybody or whether the guidance applied only to the power reactors.

So I wonder if there is advantage in considering in the fullness of time, splitting it into two documents that are targeted at the specific licensees.

MR. SIGOUIN: Luc Sigouin, for the record.

Yes, we recognize that the fact that the document is -- we've tried to craft the document to apply to all licensees that might require emergency preparedness programs -- makes it challenging to read and understand at times. Certainly, we're open to considering whether it would be more appropriate to have a document that is more than one specific document for the different risk types of categories.

MR. TORRIE: Yeah, I'll just add to that. Brian Torrie, for the record.

I think what we could do is perhaps break it down into chapters within the document itself. That way it'll be clearer to follow.

THE PRESIDENT: While we are being sort of reconsidering all of this, does it still -- is it at this time -- I'm even fearful to raise it. Is it a good time to consider putting this one and 2.3.2 together with all different chapters?

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

So I'll give you the staff's point of view from a 2.10.1 standpoint and maybe Mr. Frappier and Mr. Viktorov can talk about 2.3.2.

I think a good way to look at this is, yes, there is a certain level of integration and connectedness between the two documents. But all nuclear accidents are emergencies. All significant nuclear accidents are emergencies. But not all emergencies are nuclear accidents.

So REGDOC 2.10.1 its main function is to describe how the licensee needs to structure a program to support mitigating a nuclear accident from an operational standpoint as described in

2.2. But it's also used in the protection of the personnel for other hazards.

If there is a tornado onsite or a fire onsite, a large fire onsite, a large natural disaster that is not affecting reactor buildings but is affecting, for example, several office buildings that house several hundred employees, they would still use the principles of this emergency preparedness and response planning document.

THE PRESIDENT: But they are all using DBA, you know, and BDBA. So look, I understand the differences. I'm just saying if you are going to cut this into two and going to put some different chapters in, you may want to look at the whole ball of wax. I'm not saying yes or no.

I think you need to put in communication and security or we've already had it twice in both documents somehow. There's always security somewhere else in a document, but you may want to make reference and cross-reference. So you have to amend this text anyhow.

And you also when you -- may want to look at the text that goes, "We heard from the

Ministry of Health. We heard now from the Office of the Fire Marshal and Emergency Management" you want to make sure that the text and the commitment that they've made somewhere along the line is consistent with the text there.

And last but not least, I don't know why we never mentioned in the regulatory documents how those will be translated into the licensing and LCH as part of the -- I don't know where you put it. You put it as guidance, how it's going to be implemented. Why is there no more information about that fact?

Mr. Jammal, do you want to jump into this?

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

I'm glad you raised this issue because, yes, the implementation will be through the licence conditions and the LCH.

Just for clarity sake, though, I had to add a complexity to this discussion. I just want to request clarification especially the EMO is on the line, the licensees in the room with respect to what we have requested yesterday as staffing the LCH; were requested that to fulfil

your direction, our expectation as staff is the distribution will take place by December 31st, 2015, not a plan to be developed by December 31st, 2015.

I just want to make that clarity because I heard the discussion is they will provide the Commission with a plan by December 31st, 2015.

So from staff's perspective, we are maintaining our recommendation yesterday, with respect to the LCH, that the pre-distribution will be done at 10 kilometres zone by December 31st, 2015.

As a matter of fact, you touched on the implementation and the updates to the Commission, because for everybody's knowledge and the commitment to the Commission that the next year's MPPs update report will be reporting on the status of the plan and the -- not capacity, but the status they are to fulfil the commitment that all the KI pills will be distributed within a 10 kilometre zone during the MPP annual report.

My point here, I do not want to leave any gaps in the update on the status to the Commission so that we come on, as you always say,

the 11th hour and say, "Oops, we're not ready to do it" or "It's not clear. What is it you're asking for?"

So it's very unequivocally clear from staff's perspective that pre-distribution will take place December 31st, 2015 at a 10 kilometre zone. And then we will update you on the status of the development of this plan and the fulfilment of the requirements in the LCH at the next MPP report at minimum or we'll provide you updates during the status report of the MPPs that were before you on a monthly basis.

So my point here, I want to provide clarity. If there are any deviations or slippage you are aware of it as a Commission.

THE PRESIDENT: Look, we shouldn't negotiate text here, but all I'm trying to factor in what you said, yes, we should continue with this LCH amendment but as we -- our preferred outcome -- our preferred outcome is that the Ontario government would be the lead in this.

But we will not accept forever, powerless by analysis. In other words, we still would like to see that the Office of the Fire Marshal and Emergency Management actually come up

with a distribution that can can be done by December 2015.

And I'm hoping we can -- you can negotiate an arrangement that everybody will be happy with. But if you can't, then I think the bottom line that you just mentioned of the licensee, in my opinion, still stands.

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

I fully agree and that's the intent of it. It's to provide an update of what --

THE PRESIDENT: Right, but we also need a plan, a communication plan that goes with it. They all -- like they are selected pre-distribution. Do we want to deal with beyond the zone, beyond the primary zone? What do we do with schools and access to other pharmacies? It should be in the plan.

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

As one would speak of a plan, it's a comprehensive plan and that the segments of the implementation we would provide it to you. That's my point. But I'm not going to let it slip so

that there will be no plan, no pre-distribution and no comprehensive review of it.

MR. FRAPPIER: Gerry Frappier, for the record.

Sorry. Just to come back to the question as to whether the documents should be combined into one document or not, personally I would really be against that.

I think that it's very important to realize that document 2.3.2.1 Accident Management is mostly geared towards what to do with the reactor, what to do to mitigate the occurrences that are happening that could lead to a significant source term. It's geared towards operators and emergency procedures that are operating procedures.

Whereas the other document is really geared, as you could see from the discussion, an awful lot of interface with outside agencies, a lot of actions that might need to occur because there is a fire. Fire is not a reactor accident management scenario but there is very much an emergency that needs to be managed.

So that the target group, if you like, is quite different between the two documents

from my perspective. and I think there's a clarity that comes from that, one being more about operational issues, the other one being more about emergency response.

THE PRESIDENT: Well, I didn't jump to a conclusion about whether you should do it or not.

All I'm saying is you now already agreed to open up the 2.3.2 for some amendments and I hear that we will need to do some amendments here. You may want to look to see what else you can -- for example, you know, this hardened offsite/onsite you may want to clarify between the two documents. I don't know how you do this or you want to remove one from another.

I don't want to give you an answer. I think you should give us the answer what makes sense after you heard the Commissioners express some concerns and from the industry.

MR. FRAPPIER: So Gerry Frappier, for the record.

So again, just as per our previous conversations, it's actually two fairly small changes that we are saying need to be done to 2.3.2 and that's even after all the discussions.

One is to strike out, which was probably put in error in our document, where the emergency centres have to be. That's not of concern to this document. We just want to make sure that the accident management for the reactor itself mentions that there's these things.

And then the second one, to be clear, about what is a requirement versus what is guidance with respect to specific instrumentation that's going to have to be put into the reactor at different places.

THE PRESIDENT: Well, those are the only two we discussed, but I'm sure they may be -- you may want to do a re-read again and satisfy your colleague, Mr. Rzentkowski, who is to implement it. Let's not negotiate here.

Mr. Harvey...?

MEMBER HARVEY: Well, just to add too that the pills distribution, I think we are too often here talking and hoping to have a plan. So the goal should be to have a distribution.

And for sure, we have to have a plan. We should start from -- even despite the fact that Point Lepreau is different that even Gentilly-2 in Quebec is quite different than the

area here. I think that could be a starting point to accelerate things and to get something. If it's not completed, at least it be a certain start done before December.

Yes, exactly. So I hope that it be done like this.

MEMBER TOLGYESI: No, it's not a question. It's just a comment.

We should make sure that when we are talking about 2.3.2 as accident management is directed to nuclear power plants, whereas the 2.10.1 is a Class 1 mines and mills. So if you put them together we should make sure that should we do that or how do we do that, because it will be a kind of quite heavy document for those who are not covered for power plants or some other ones.

MEMBRE HARVEY : Juste pour mentionner que la version française n'était pas paginée.

THE PRESIDENT: You guys -- you raised your hand. Do you want to say something?

MR. SAUNDERS: Yeah. You didn't give us a chance to comment on this.

So Frank Saunders, for the record.

We do have a few issues with the document that, I think, need to be dealt with. I mean, just to deal with the combining of these things, from a plant point of view we really look at the way this thing works. I mean it's just really prepare, respond, prevent and mitigate, right? And these things are not separate.

Unfortunately, SAMGs are somewhat misnamed because it gives everybody the impression that they are only for severe accidents. Severe accident management actually starts back in the prevent mode because your desire is not to have a severe accident in the first place.

You know, so this whole notion that these are separate, distinct things is not really true. Sure, there are some emergencies which don't turn into planned emergencies, which is fine, right, but the same structure, the same organization deals with all of that.

But to -- you know, so from our point of view much easier done in one document. I might suggest that perhaps internally there is some jurisdictional issues as well within CNSC and we do sometimes see that from group to group, right? Everybody trying to solve their problems.

And a couple of issues in this one in particular. This is where the emergency onsite facility is actually discussed. It's in section 2.2.6, bullet 4. It's very specific. I recognize it, as CNSC has indicated that, you know, prior to Fukushima everybody had their facilities onsite. So if you do a search around the -- search around the world about where everything is you'll find them onsite.

If you really look at the Fukushima and ask the questions, you really conclude that you need to look at your geography, your site, the number of units you have, the kind of things that might happen and place the facility where it makes sense. And so it's not sensible that you add prescriptive here, quite frankly, you know.

THE PRESIDENT: But hold on a second.

But you see here is where if the experience globally is that it's one way and then you now believe it should be another way, you may be right. But we've got to go through the understanding as to why and we've got to go through the due process.

So I think this is what they should put in the shell until you convince them otherwise or you should put it as a guidance until they are convinced it should be a shell.

MR. SAUNDERS: I think you know which one I would pick.

THE PRESIDENT: I know what you would prefer but I think that this is -- if this is a brand new approach to where you want to keep your emergency offsite, then I think there is flexibility on both sides on how to deal with this.

Whether it's a shell or not, you'll have to do -- you'll have to have a talk with staff.

MR. SAUNDERS: Yeah, I guess we feel pretty strongly on it since we already spent somewhere in the range of $15 to $20 million establishing it off site, right, so we would be a little irritated if you let us spend all that money and then told us it was a "shall" it had to be on site.

And, quite frankly, it's a pretty simple, look, yeah, I know everybody did it different pre-Fukushima, that doesn't mean you

should stay with that.

I think the action we had out of Fukushima was to look at what went wrong there and find better answers and this is one of the better answers.

So, quite frankly, I was surprised that this was in the document because it's well known where these facilities are.

THE PRESIDENT: So, Staff, what's your answer to this?

MR. SIGOUIN: Luc Sigouin, for the record. We recognize that the document requires an emergency response facility to be on site and we recognize that OPG has an existing one that is off site.

Our view is that current international best practice and guidance is, there is an emergency response facility near the main control room to give immediate support; there's a second emergency response facility at the site to ensure that all site activities are coordinated; and, finally, there's one away from the facility.

In the case of Bruce Power, there's obviously this distinction about whether it's on site or not. We understand it's not very

far. We believe there are significant advantages to having it on site.

Obviously located on site so that it's like the rest of the plant, it is not affected by whatever external hazards such as flooding. There's more than one way to address flooding than moving something off site above the Escarpment, not the least of which are issues related to security and access, either nuisance or malevolent access to the emergency response facility during an emergency and the ability to have another level of back-up of communication if the facility's located on site.

So believe there's some risks in having it off site. There may be some benefits, but our position is that there are some risks in having it off site.

If Bruce Power can present a case to us that that existing, that situation is acceptable and meets the intent, that's fine, I'm sure we can consider that through the implementation.

Having said that, we think that the document should lay out what the expectation is and currently the expectation is that an

appropriately designed and located facility on the site should be there to support the emergency response.

THE PRESIDENT: Okay. The only thing I'm saying is that I think before you -- I don't believe that's your intention, but if your text is such that they would interpret it that you "must now dismantle this and move it", which is not your intention, then somewhere along the line you should find some language to deal with existing facilities, particularly existing new facilities that you may want to consider is okay.

So you've got to find some way that they will never believe that you forced them to move it necessarily.

MR. SAUNDERS: Yeah, I guess I can only stress, this would be an absolute. In our view, we would certainly fight any effort to put this in our licence if it's stated like this, right.

You have the power to overrule us, but you would have to, I guess that's our...

Section 2.4 we get into the management system. We see this all the time now in REGDOC, everybody wants to restate the

management system. It's already a requirement under N286 in our licence, it tells us how these things need to be rolled out.

You know, every area likes to have their own special statement on this, but you can imagine how disjointed our management system would be if we were trying to put the pieces together from every specialist area that comes forward.

So, in my view, that section just really shouldn't be there, it should just simply say we should meet the requirements of N286 and have the proper levels of authority and stuff for that. N286 requires these kind of things.

The specific statement about the policy is, again, a little confusing. That's not normally the way we would do this, right. So, in my view, we shouldn't restate requirements that are already required by other documents within the licensing framework that are clearly laid out.

Having said that, it is not the end of the world, but I just see that repeatedly in our Ds these days where everybody wants their bit to be a policy statement and this and that, right, and in the end of the day you end up with a management system that looks very confusing if you

do that, right.

THE PRESIDENT: Well, Staff, you want to reply to this?

MR. AWAD: The requirement in 2.4 is totally in line with N286 and we just clarify what we need to see from emergency management perspective, but it doesn't mean that they have to revise or change what they are doing for N286, it's totally in line with what is required by the management system.

MR. SAUNDERS: But my view, it doesn't need to be there then, or it should simply be guidance, right.

THE PRESIDENT: Anything else?

MR. THOMPSON: For the record, Paul Thompson from Point Lepreau. I just have one -- we've had a lot of good discussion about more contentious points in the document. Mine is more just standing back philosophically.

We now seem to be in a situation in which we have two documents providing requirements on nuclear emergency preparedness and response, the CSA document N1600 and now 2.10.1.

So I guess I'm personally disappointed that we put a lot of effort into

developing the CSA document and now we've got two and that I find is going the wrong way, should be having fewer than more and certainly no duplication.

So that's -- it's an unfortunate development, but I'll leave it at that.

THE PRESIDENT: No. Yeah, it's a mouthful statement. So, Staff...?

MR. AWAD: Actually, both documents are complementary, there is no requirement that contradict the CSA standard. Both documents will work hand-in-hand in compliance and the licensing.

It doesn't mean that we will -- if you look through the CSA document and our document, this is totally a complementary document. It's not one or the other, or one override the other.

THE PRESIDENT: But are they duplicative?

MR. AWAD: It's not duplicative. The how to do --

THE PRESIDENT: I think that's what he's implying, he's implying that you could have -- it's implication that both are another

layer over N1600.

MR. AWAD: Actually, the CSA document will lay out exactly how all the organizations, basically off-site organizations should work together.

This document will talk about the licensee how will interact with the off-site organization and both of them are complementary. We are not redoing what's been done in CSA standard. The CSA standard put all the requirements that all organizations, including the licensee, a broader audience, if you like, of the CSA standard, but this one is specifically for the licensee.

THE PRESIDENT: Okay. Any other comment? Anybody else?

Okay, thank you. Thank you very much.

We are going to take a break for -- yes?

MR. LEBLANC: One would think it's lunchtime, but it isn't.

--- Laughter / Rires

MR. LEBLANC: So, just a 10-minute break. We're going to come back. We're going to

try to do one or two items and try to break for lunch around 1300 hours.

THE PRESIDENT: Okay, thank you.

--- Upon recessing at 11:45 a.m. /
Suspension à 11 h 45
--- Upon resuming at 11:57 a.m. /
Reprise à 11 h 57

THE PRESIDENT: Okay. The next item on the agenda is regarding the adoption of CSA PCP-09 for the Certification of Exposure Device Operators as outlined in CMD 14-M43 and 14-M43.A.

I'd like to acknowledge Ms Karen Fahey, that she's on line; is that correct?

MS FAHEY: Yes, I am. Thank you.

THE PRESIDENT: CSA?

MS FAHEY: Yes.

THE PRESIDENT: Okay, welcome. So I'll turn now the floor to CNSC and I understand, Monsieur Régimbald, vous avez la parole.

CMD 14-M43/CMD 14-M43.A

Oral presentation by CNSC staff

M. RÉGIMBALD : Merci beaucoup, Monsieur le Président, et bonjour, Membres de la Commission. Je m'appelle André Régimbald. Je suis le directeur général responsable de la réglementation des substances nucléaires.

With me today are: Mr. Henry Rabski, Director of the Operations Inspection Division; Mr. Chuck McDermott, Special Advisor in the Directorate of Safety Management; and Ms Kathleen Heppell-Masys, Director General of the Directorate of Safety Management.

I'd also like to thank the representative from the Canadian Standards Association joining us by videoconference and there are also representatives from the industrial radiography industry and also a colleague from Natural Resources Canada present with us today who all took part in the development of this important initiative.

So the CMD provides an update with respect to the certification process for exposure device operators in Canada.

Exposure device operators provide an important service to the industrial sector

across Canada, in particular, non-destructive testing of essential infrastructure and materials fabricated for industry by using a radiation device approved by the CNSC which contains a radioactive source.

CNSC Staff has worked closely with industry over the past several years to update the current exposure device operator certification requirements and will be presenting a summary of the key elements of the new operator certification guide known as Canadian Standards Association PCP-09 that will be replacing the current CNSC Guide Document G-229 in the coming months.

So I'd like to now turn it over to Mr. Rabski and Mr. McDermott who will be making the presentation on behalf of their respective Directorates.

Thank you.

MR. RABSKI: Thank you. Good afternoon, Members of the Commission.

The presentation of the new Guide PCP-09 will begin with an overview of how the current certification process evolved and the reasons why CNSC Staff and industry stakeholders initiated with the help of the Canadian Standards

Association the development of the guide known now as PCP-09.

PCP-09 takes into account current regulatory, safety and security requirements for the safe operation of exposure devices.

With the publication of the guide by the CSA, CNSC Staff has developed a plan to adopt the guide over the coming months, recognizing the need to transition the industry so that exposure device operators are not negatively impacted as the guide takes effect.

As you can see in this slide, industrial radiography equipment has evolved from the first devices used for performing radiography known as hand-held fish poles to the more modern and safer self-contained apparatus like the ones shown on this slide. They are examples of typical exposure devices that are certified by the CNSC and used by licensees.

The portable exposure devices displayed in these photos would typically contain an Iridium 192 source with activity up to 5.5 terabequerels and weigh in the order of 25 kilograms. They are also certified as Type B packages by the CNSC and are designed to withstand

severe accident conditions during transport.

In this slide here we're presenting a cross-sectional view of a typical exposure device known as the QSA Global 880 model.

Several key components of an exposure device are highlighted. The source is attached to what is known as a source holder. The tube through which the source travelled is S-shaped, as seen in the diagram, and shielded by dense material to attenuate the radiation from the source and limit exposure when the source is not in use.

The assembly to which the source is secured to is manipulated by an external drive cable 10 to 15 metres in length. The manipulation of the source is performed by a crank attached to the end of the drive cable.

Radiography is very much like taking an x-ray of the human body to identify the bones and even internal organs. Instead of using an x-ray machine, a radioactive source which has sufficient energy to penetrate the object is used to examine and produce an image on a photographic film. The object you want an image of must be placed between the radioactive source and the

photographic film.

The radioactive source is exposed for a period of time sufficient for the gamma rays to penetrate the object and create an image on the film. When done, the radioactive source is shielded, the film is developed and can be interpreted by a technician.

To provide the Commission with a perspective of the radiography industry, currently there are 111 radiography companies licensed to operate across Canada by the CNSC. The majority of the licensees are located in Western Canada. The company structures are varied since they typically perform a variety of other services for the industrial sector involving non-destructive testing.

In Canada the companies range from small to large multi-nationals. They are organized through branches or regional offices that can typically be set up across provinces as well as across the country to provide services to industrial facilities throughout.

For the information of the Commission, there are currently 16 device models certified by the CNSC and there are approximately

1,065 devices that are available to operate across Canada by exposure device operators.

Challenges faced by the operators of exposure devices are varied and sometimes unique to the specific job they are tasked to perform. As demonstrated in this slide, the working conditions are typically less than ideal, subject to change in weather conditions and can often be performed in locations such as a confined space or a significant elevation aboveground.

I'd like to briefly provide the Commission a background regarding our certification process at the CNSC.

Back in 1974, the Atomic Energy Control Board decided that radiography device operators needed some type of certification comparable with other non-destructive certification that existed at that time. It was decided to follow the Canadian General Standards Board IS0 Standard 9712.

In 1983, the AECB then decided to increase the expectation of operating exposure devices due to the risk posed to workers and the environment creating what was known as the Qualified Operator Certification. This involved

the AECB conducting examinations of potential operators and the issuance of a certificate.

In 1997, the CNSC transferred the administration of the exam to NRCan and continued on its own motion to issue the certificates.

With the passage of the *NSCA Act* in 2000, the exposure device operator certification became a regulatory requirement under the Act specifying requirements for the safe operation to the expectations that were identified at that time. These expectations were subsequently published as a regulatory guide known as G-229.

CNSC Staff updated the Commission from time to time with respect to the incidents involving the performance of radiography and in 2009 initiated a working group comprised of industrial representatives and CNSC Staff to advance the safe operation of the industrial radiography.

The working group put together a strategy to improve safety in the industry and identified at that time that G-229 needed to reflect those expectations along with the changes to the regulatory regime that took place over

time. The task of developing the guidance document was given to the CSA which had a long-standing relationship with the CNSC supporting standards used in nuclear power reactors was well as the expertise in developing certification requirements in other comparable regulatory regimes.

The CSA approach to engage key stakeholders was accomplished with the creation of a Scheme Committee in June, 2011. Job task analysis was initiated and meetings of technical groups resulted in a draft version of PCP-09 containing knowledge and skills expectation, proposed examination evaluation for new exposure device operators and re-certification requirements for current CEDOs.

So why did we need to go under change? Since it was initially published in 2004 G-229 had not been revised, even though CNSC regulations and expectations with respect to the safe operation of exposure devices had changed over that period.

In addition, security measures for the storage and use of devices were enhanced and all the changes needed to be reflected in the

current certification guide.

In addition, the number of incidents involving the devices indicated that there was a need to place more emphasis on improving the safety culture in the industry.

Finally, the certification issued to CEDOs was indefinite; that is to say, no expiry or renewal requirements for the operators raising concerns within the industry as well as the regulator as to how operators were maintaining their proficiency in the continued safe operation of these devices.

PCP-09 describes the systematic process for a candidate to follow to achieve certification as an exposure device operator. The knowledge and skill requirements are described in the document, along with the various evaluations and testing that will need to be performed when conducting the on-the-job training component of the program.

For the vocational institutions and licensees, guidance is provided with respect to the knowledge fundamentals to be addressed regarding radiation fundamentals, measurement, radiation safety, regulatory expectations,

security requirements and safe operational procedures.

PCP-09 also describes how an exposure device operator can maintain his or her certification after the certification period of five years expires. Expectations are specified for continuous training, minimal practical experience requirements and the re-testing as part of the re-certification requirements.

The process to develop PCP-09 utilized the experience of industry and other key stakeholders with the formation of a Scheme Committee. The Committee provided essential input into the verification of the key tasks performed by the exposure device operator and what became the basis of the guide and the certification evaluation.

CNSC throughout the process conducted significant outreach to ensure that the industry was engaged, participated in the technical working groups and provided feedback throughout the development of the guide.

CSA also brought in their psychometric experts from Kryterion Global Testing to facilitate the task analysis and the exam

development.

Over a period of 18 months, the scheme committee met and developed a draft guide document by November 2013. The job task analysis performed by the scheme committee technical group identified the necessary knowledge and skills needed to operate an exposure device safely.

In addition, the new examination to evaluate candidates was developed through workshops involving experts from within the industry and representation from the CNSC and other regulatory bodies. A bank of questions was developed to evaluate the candidates against the expectations described in PCP--09.

The scheme committee has worked with the CSA since 2012 to evaluate, or what the terminology calls beta test, the question bank against the new expectations identified in the guide to ensure that a fair and transparent exam will be put in place to evaluate new candidates.

At this point, I'd like to pass the presentation over to Mr. Chuck McDermott.

MR. McDERMOTT: Good afternoon, Mr. President and Commission members.

On this slide here you'll see a

comparison between what is in place today in G-229 and what will take place once PCP-09 is brought into effect for every requirement either not in place now and what would be in place in the future or what's changed.

For the most part, not very much has changed. I won't talk any more about what's in G-229, but I'll move onto the next slide and talk about what will be required to become a CEDO under PCP-09.

The first thing that someone will have to do is pass an NRCan math test or some demonstrated equivalency. This is a new requirement and we found that over time a number of mistakes were made in the field due to mathematical errors, so hopefully we'll catch some of those things earlier on.

The next requirement is continuous education. That's for current CEDOs. If we are talking about becoming a CEDO, right now you have to do 320 hours of apprenticeship, and that continues in the future.

The practical exam has to be done. There is a practical exam now. That practical exam is not much different going forward. What

has changed is a new written exam. Right now there is a written exam with 60 multiple choice questions and a couple of essay questions.

Going forward, there is a new exam which right now will consist of 148 multiple choice questions. The exam will still be administered by Natural Resources Canada. Instead of being written before the apprenticeship as it is now, it will be written after the apprenticeship. As mentioned earlier, certification is valid for five years.

For renewal of certification there are two requirements that are being introduced.

The first is a requirement for 40 hours of continuous education over the five-year period. We are quite flexible on what that is. We haven’t been very prescriptive in what that is. It can include safety briefings, it can include new equipment, the sort of things that licensees are expected to do on a regular basis now.

The other requirement is that they actually perform radiography in the field for 320 hours over the previous two-year period. There is an alternative that’s offered and that is to write the exam again.

Also, we are expecting that for every renewal of certification you will have to pass a practical exam again.

How will these roles and responsibilities be divided among the various organizations?

The Commission staff do oversight of that and we continue to issue the certification to exposure device operators.

Natural Resources Canada does two important jobs on our behalf. The first is they verify the candidate activity in a process similar to how you would go about getting a passport. They also administer the written exam on behalf of the Canadian Nuclear Safety Commission through their extensive network of test centres across Canada.

The Canadian Standards Association do the independent standards development and they will oversee a scheme committee that will be assessing the effectiveness of PCP-09 going forward. We expect that committee to meet annually.

Industry also doesn’t get off the hook. They are expected to ensure that their

CEDOs meet PCP-09 and that they provide knowledge and skill development. They are responsible for administering the practical exam. That's no different than today. Of course, if they have any feedback on the standard we expect to receive that through the scheme committee or through the development process.

How are we going to roll this out? Our expectation is that we'll be able to require or offer certification under PCP-09 effective the 1st of November, 2014.

We have ongoing outreach to CEDOs, licensees and trainers that has been going on over the last two years to do this. That will continue.

The transition to the new process, so people who are in progress right now will have the option of doing the certifying under G-229 or certifying under PCP-09 until the 1st of March, 2015. Effective March 1st, 2015, the only way that designated officers will certify someone will be if they've followed PCP-09.

Also, the first renewals of certification come up in March 2015, so we gave updates at the spring meetings in May 2014 and we

will give new updates May 2015.

In due course, CNSC *REGDOC 2.2.3, Personnel Certification*, will be updated to include the requirements in PCP-09.

In conclusion, the certification of CEDOs is updated with a continuous emphasis on safety and security. PCP-09 will ensure a periodic review with the establishment of a review committee which will be managed by CSA on our behalf.

Industry supports these changes to the certification process and have in fact been instrumental in driving some of the changes.

The new examination is completely computer-based and should result in a quicker turnaround time for results. We believe that there is some impact on current CEDOs and licensees, but that impact is minimal.

Staff is available to answer any questions you may have.

THE PRESIDENT: Thank you.

Let’s start the questions with M. Tolgyesi.

MEMBRE TOLGYESI : Merci, Monsieur le Président.

For this new certification, which is a math test, 40 hours training, 350 hours apprenticeship, plus a practical and written examination, is there a time frame limit? If I start, I pass the exam, I pass this 40 hours of training and after those 320 hours of practical, it will take me five, six years, will I be certified or not?

MR. McDERMOTT: It's Chuck McDermott.

There is nothing in the standard that says it has to be completed within a certain period of time. There is some discretion given to the Commission on whether to make a certification or whether to certify someone or not. Our expectation is that once someone starts the process they'll go through it fairly quickly, so 320 hours of apprenticeship translates into about eight weeks of full-time work.

When someone is a trainee, their pay is significantly lower than when they're certified, so there is a financial incentive for them to move through the process quickly.

THE PRESIDENT: I was remiss. Sorry, Monsieur Tolgyesi; I should have given the

floor to Ms Fahey in Mississauga, if you have any comment on the presentation?

MS FAHEY: This is Karin Fahey. No, I don't have any comments at this time, but I'm available here for any questions that you do have.

THE PRESIDENT: Okay. We also have a member of the industry, as was mentioned ---- Technical difficulties

THE PRESIDENT: Oh, hi. We now see you. Before we didn't see you, so welcome again.

We also have members of the industry here that are available, maybe you should identify yourself, and somebody from Natural Resources.

Okay. Thank you. I'm sure we'll have some questions for you.

Mr. Tolgyesi.

MEMBER TOLGYESI: There is a new requirement which is a test, a math test. Is there a prerequisite that it should be, I don't know, high school grade five or something like that, prior to going there, because you are saying that there is -- most affairs are mathematical, so

if to pass an exam and pass the test is there a prerequisite to have some level of knowledge?

MR. McDERMOTT: It's Chuck McDermott. I'll ask P.K. Yuen from Natural Resources Canada to describe the math test.

MR. YUEN: Hi. I'm P.K. Yuen and I'm the manager for Natural Resources Canada's certification body for non-destructive testing. I think a similar discussion and background on the math test was actually -- because we offer also certification for what we call the Canadian General Standards Board certification for NDT, the math test has always been a prerequisite for the technicians that are getting their NDT certifications.

I think when the CEDO document requirements were developed, I don't know, about 10, 12 years ago, the math test wasn't written in as a prerequisite, so in that aspect the math test requirement has always been something that if a technician is going to be working in the field of non-destructive testing in addition to being a CEDO but also an NDT inspector they would probably already meet the prerequisite.

In terms of a minimal education

requirement, this has always been a slightly contentious issue, even in the general field of NDT certification because we model our Canadian system, even the CGSB standard, after the ISO system. The *ISO Standard 9712* also does not have an educational minimum requirement, so we find it hard as even a federal program, a federal program to institute an additional requirement of the minimum education if ISO and our own national standards body has not asked for it.

You have raised a very good comment in terms of the minimum would require some sort of math requirements that might go hand-in-hand. How we developed our math exam is, you're quite correct, that we are actually using some sort of a -- similar to a high school graduation type with some additional technical type of math in there in a math exam. But the simple answer to your question is, no, there is no intention from the NDT industry to require a minimum education to supplement the math.

I hope that helps in clarifying the situation.

MEMBER TOLGYESI: But I assume that the math test, if somebody wants the

information to log on, somewhere in the information you can tell them, look, to pass this test you probably need, I don't know, grade 11 high school kind of a knowledge, and if they acquire it in some other way, fine. The test is the entry point. I guess that's okay.

MR. McDERMOTT: It's Chuck McDermott.

The math test is based on the math that the exposure device operators will actually have to use in the field, so there's nothing about differential equations or imaginary numbers or that sort of thing. It's about how to do dose calculations and how to figure out those sorts of things. It's based on the expectations of the math they're going to do in the field.

MEMBER TOLGYESI: Those calculations are pretty sophisticated calculations the last time I've seen.

MR. LEVEY: If I could comment? Tom Levey, for the record. If I could comment on that statement

I was part of the scheme committee, on the EDO scheme committee. One of the reasons that we had implemented the test on

the math was we've had a lot of challenges in our industry with people not doing well on the math. That was sort of a sorting tool to sort of give the educators an opportunity to improve the training directly. If they can't pass the math test it sort of pushes them, rather than spending a lot of time in the 40-hour training course, to kind of go back and take a short math course. That would be about an eight-hour course separate from that. We left that to the educators to work on. Then when they enter the course, now they're ready to do the training.

THE PRESIDENT: Thank you.

Ms Velshi.

MEMBER VELSHI: Just a quick question first. Why the name scheme committee? Is it an acronym? I've seen it with a capital "S" and a small "s".

MR. McDERMOTT: Perhaps our CSA representative could answer that question.

MS FAHEY: So sorry; on the scheme committee your question is...?

MEMBER VELSHI: Is why the name "scheme".

THE PRESIDENT: It sounded like a

plot, like a dark plot.

MS FAHEY: What it is, the programs are developed using *ISO 17024*. I believe that's like a generic type of terminology. They're all called scheme committees as you go through the process, so when you're going through the process a scheme committee is put together to go through all the processes, procedures and meetings.

MEMBER VELSHI: Thank you.

MS FAHEY: Does that answer your question?

MEMBER VELSHI: Yes, it does.

First, it was good to hear the presentation because what was not clear from the written submission was some of the drivers behind this training were the number of incidents and some of the causes behind those, so it was good to hear that's why you've come up with that.

I read in the report that the beta testing was not the most successful beta testing, so I guess it's a two-fold question, one is to understand why you didn't get greater participation in that and the second one is to industry to see what you see as challenges with

this program and a likely success rate of the existing CEDOs.

Maybe first we'll get some comments on the beta testing.

MR. McDERMOTT: It's Chuck McDermott. I'll start and then I'll ask CSA to continue.

When we created the new exam, one of the expectations was that the exam would be validated; that is, that someone who passes the exam has the requisite knowledge and someone that does not pass the exam does not have the requisite knowledge to become an exposure device operator. That is one requirement for validation.

The second requirement is that we didn't want an exam that was terribly onerous; we wanted an exam that people could do in a reasonable amount of time, and we also wanted multiple exams so that if someone failed the exam the next time they wouldn't be presented with the same exam exactly again. In order to do that, there are two aspects to the validation.

One is you get some typically qualified people, qualified under the old system, that seem to know what they are doing and they

pass the exam. Then you know you've got the pass mark right, so the first part of the validation was to get the pass mark right. My understanding and my review, as the person responsible for certification, was that the pass mark that the CSA came up with is correct. They validated that and I've accepted that validation.

The second part was you have a question bank. Right now we have a question bank of 148 questions. How do you create multiple exams from that of say 80 or 60 questions that are equally valid so it doesn't matter which exam you take, you take the exam and it's representative of the knowledge required. That is where we fell slightly short in terms of the number of people that CSA's methodology required for us to do that separation with enough confidence.

Now I'll turn it over to CSA and perhaps they can explain that part of the aspect some more. Then I'll come back maybe and talk about the approach we took and why we fell short.

MS FAHEY: Karin Fahey again.

That's correct. We did fall short in the number of candidates. I believe we're approximately halfway through the number of people

that we need for this to be statistically sound.

We have moved to a live beta exam, so as more people are put through we will get more results. Once we get more results we can determine the types of questions that are I guess valid/non-valid and we will be able to come up with two sets of exams, as Chuck mentioned, that whole process of being able to do one exam and if there was a fail there would be another exam set for the candidate to go and challenge. That's going through right now. That is available.

Hopefully, that answers the process question. Let me know if you need more of an answer on that.

MEMBER VELSHI: That sounds like a work in progress. I mean you're hoping to launch this imminently, so do you not have two sets of exams that have been tested and validated yet?

MR. McDERMOTT: It's Chuck McDermott.

I think the question you want to know is if we launch this on the 1st of November and someone writes the exam is it a valid exam. The answer to that is yes. The reason for that is they are required to challenge the entire question

bank of 148 questions. CSA has determined and I am satisfied that someone who passes that exam has the requisite knowledge.

Going forward we would like to change it so that the person doesn't have to sit and answer 148 questions, they only have to answer 80 questions.

Once we've had the right number of people go through answering 148 questions, then CSA should be able to do their work and create the multiple sets of exams.

THE PRESIDENT: What's the time difference between the 148 and 80? Do you gain much by that, do you?

Go ahead.

MR. LEVEY: For the record, Tom Levey.

I would say the challenges we had from the industry side on the beta testing was just getting people out there to write the exam. You know, they have to take the time out of their day, so we're looking at radiographers that are working, extremely busy in our industry, trying to take them away and come to write a beta test, something that they don't really have to do, so

the company would have to pay them for their time.

For those radiographers to write the full 148 questions would be about four hours; to write about 80 would have been approximately two hours. I think there might have been more opportunity to get more questions or the beta testing done better if we would have had less questions for them.

THE PRESIDENT: But presumably, as time marches on and they know they have to renew their licence, there will be an incentive for them to get going, right, with the test?

MR. LEVEY: Yes. That's correct.

MR. McDERMOTT: Also, new candidates taking the exam can also be figured into the ongoing beta test, so we have -- you know, in 2013 we certified 173 new exposure device operators, so each of those exam takings will be incorporated into the beta testing as well so we expect that probably sometime in 2016 we'll be able to revise the requirement to have an 80-question exam for certification.

THE PRESIDENT: Dr. McEwan.

MEMBER VELSHI: Sorry. There was a second part to my question, which was what big

challenges does industry anticipate in implementing this?

MR. LEVEY: Tom Levey, for the record.

I think the greatest challenge is the number of questions at the start. I was on the scheme committee and I think we've got a very, very good bank of questions. We had subject matter experts at the table. They far exceed the quality of the examination questions that were in the old G-229. Some of those questions were very outdated. We have very new questions and those questions are excellent questions.

I think going with the 80 questions right off the start is the way to go. If we need to make more questions, then we make more questions, and do that through the scheme committee again, or if we're having problems with test questions that aren't testing their competence, then we change those questions, simple as that.

Other challenges that I see? I think just maybe the certification process, a few things to iron out, the smoothness of it and how long it takes to get the certification done from

the time that they go through their apprenticeship to the testing questions to the certification, and where we have always had challenges is in the certification when they submit all of their applications. So we really need that timeframe cut down very, very short.

Thank you.

THE PRESIDENT: So the five-year renewal, that's not a problem?

MR. LEVEY: No. I think that's great to have a five-year renewal. We had -- in the past we had no renewal and we didn't even -- you know, we would have a CEDO that came to us or a qualified operator, as they were called, that may not have worked in the industry for 10 years and all of a sudden he still has his valid QO card and, you know, we have to question his skills.

THE PRESIDENT: Thank you.

Dr. McEwan...?

MEMBER McEWAN: Thank you, Mr. President.

A couple of simple questions. You said the practical testing is done by industry. Is that standardized or can companies vary how they test practical skills?

MR. McDERMOTT: So it's Chuck McDermott.

PCP-09 does give the requirements for what the practical test has to use, has to include, and the practical test must be done by someone who is either a certified exposure device operator and typically it is done by company radiation safety officers.

MEMBER McEWAN: But it could be a different package of testing from company to company to company?

MR. McDERMOTT: Chuck McDermott.

That's correct because each company may have its own specific procedures and that is what we are expecting people to be tested on, the actual equipment that they are going to be asked to use, using the actual procedures that they will be asked to follow.

MR. LEVEY: If I may comment on that as well.

The PCP-09, it details actually the practical test, so it's very structured. And that was one of the things that we had asked for from the industry side, is that it is thorough, that it tests their competence on a practical

scale and all companies should be doing it the same. So I disagree, I think that it is very laid out and very, very detailed.

MEMBER McEWAN: And is there a maximum number of times a candidate can fail?

MR. McDERMOTT: Chuck McDermott.

There is no finite limit laid out. However, we do have an expectation that if someone has failed a number of times, that before they go back to try the test again that they do some additional training. So we don't have it laid out in law, but my expectation is certainly that someone who has failed the exam five times, I would expect to have seen them taking additional training before they try again.

THE PRESIDENT: Go ahead.

MR. LEVEY: Again, Tom Levey, for the record.

I believe it is written into the standard and it's detailed how many times they can fail. We put that in there.

MR. McDERMOTT: Chuck McDermott.

That's correct, but it is actually not a standard, it is a guide.

MR. LEVEY: Okay.

MR. McDERMOTT: So it is not a legal requirement but we do expect training to take place if someone fails.

THE PRESIDENT: Well, it would be interesting to see how industry applies if one of their -- let's assume you have to do the test. Remind me again, you have to do the test again upon renewal or not?

MR. McDERMOTT: So it's Chuck McDermott.

So if someone has been actively working as an exposure device operator, for renewal they just have to do continuing training of 40 hours over the five years and pass another practical test.

THE PRESIDENT: They have to pass another practical test?

MR. McDERMOTT: Just the practical.

THE PRESIDENT: Can we have a scenario where they have gone through all of this and not passed the practical test, so I think it's the industry who will have to deal with those issues?

MR. LEVEY: Yes. And I believe

the standard details they would have to go back and redo -- they start the whole process over again. So they have -- we wrote that into the standard, that if they failed that they would have to go take a 40-hour training course and re-enter apprenticeship.

THE PRESIDENT: Do you really represent the whole industry? There are hundreds of them, right?

--- Laughter / Rires

MR. LEVEY: Well, I am with a very large company. So no, I don't represent everyone, but I have been a very active participant within the industry. I know a lot of my co-licensees and I speak quite well for them several --

THE PRESIDENT: I didn't want to be pejorative about this but we normally don't have a problem with the large operators.

MR. LEVEY: Okay.

THE PRESIDENT: But this one guy in a truck with a thing that normally would be a challenge, so you feel that they will feel the same way as you do about this initiative?

MR. LEVEY: Yes, thank you. And there was a very good opportunity for the industry

to be involved. There were several stakeholders at the table when we developed this committee, so there was equal opportunity for each licensee to be involved. So if they weren't at the table, what the standard came to be, that's what it was. So those that were directly involved were some large companies and some small companies.

THE PRESIDENT: Thank you.

Monsieur Harvey.

MR. RÉGIMBALD: Mr. President, I would just like to -- André Régimbald here. I would just like to mention that Mr. Levey and Mr. Hanna, who is sitting next to him, are members of the Joint CNSC Industry Working Group on Radiography. So they participate in that capacity as well.

THE PRESIDENT: Okay, thank you.

Monsieur Harvey...?

MEMBER HARVEY: Who pays for that? Is there a cost for CEDOs or it's paid by CNSC or NRCan?

MR. McDERMOTT: It's Chuck McDermott.

Nothing comes for free.

--- Laughter / Rires

MR. McDERMOTT: So there are a number of requirements. So the vocational training, the candidate must pay for or the company must pay for if he works for a good company. There is a cost to take the written exam and each time you take it there is a fixed price. There is also the cost of getting the identification validated by NRCan and then there is a cost under the cost recovery regulations to become certified as an exposure device operator.

MEMBER HARVEY: What's the total cost for the CEDOs if you pass the exam?

MR. McDERMOTT: It's Chuck McDermott.

So each vocational school, so each college and all that stuff has their own fee, which we are not involved in. Larger companies may offer the vocational training themselves and so that's a cost that's covered by the company. So it's $1,000 to become a CEDO. That's the cost recovery fee regulation. That's a one-time cost. I believe the cost to write the exam is -- right now it's $250, I believe, and it's going to be in the order of $300 to write the exam going forward.

MEMBRE HARVEY : Merci.

MR. McDERMOTT: It's Chuck McDermott.

I should also mention that certified exposure device operators are reasonably well paid once they get certified.

THE PRESIDENT: Okay. Any other questions?

Ms Velshi...?

MEMBER VELSHI: A question for staff. Are the other groups of workers that we certify that their training and certification may also be outdated?

MR. McDERMOTT: It's Chuck McDermott.

The answer, the simple answer to that question is no. We have reviewed all of the other certifications that we issue for personnel in the last five years.

MEMBER VELSHI: Thank you.

THE PRESIDENT: Anybody else?

So I have only one question and that's always about the implementation. Why are you guys making things so complicated? I assume you consulted, everybody is ready to go. Why do you have to come back to the Commission to

implement this?

MR. McDERMOTT: So it's Chuck McDermott.

I don't think we have to come back to the Commission to implement this. Our plan is that --

THE PRESIDENT: On page 6 it says:

> "In early 2015, CNSC staff intends to propose to the Commission for their consideration that all licensees issued for the purpose of conducting ... [blah blah blah] be amended..." (As read)

MR. RÉGIMBALD: André Régimbald here.

Yes, because we want to include in the licences the requirement for licensees to have their CEDOs performing radiography, that they do this with the expectations of PCP-09. We cannot, on our own motion, amend these licences, about 100 licences.

THE PRESIDENT: Right.

MR. RÉGIMBALD: So that's why we

will go forward to the Commission with a request that the Commission amend on its own motion these licences. It can be done secretarially --

THE PRESIDENT: So why can't we do it now?

MR. RÉGIMBALD: -- or during a hearing, then the process of opportunity to be heard for the licensee and all that. So it can be done very straightforwardly.

THE PRESIDENT: The question is always I'm trying to reduce work and regulatory burden. Why can't we say as a result of today's hearing that the Commission agrees, go ahead and do it? And I know there are lawyers involved and I know there are all kinds of complexities --

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

THE PRESIDENT: -- but why can't --

MR. JAMMAL: I'm sorry to interrupt you. I'm not a lawyer, I'm not going to pretend to be one, but I will try to find a solution here.

The amendment of the licence can take place under two motions, the Commission on

its own or we can request the licensee to apply for an amendment of the licence, hence, that the request for the licence amendment is triggered by the applicant themselves.

So we will look into this process and then request --

THE PRESIDENT: No, but that's really -- that's really, you know --

MR. JAMMAL: But we have to follow the procedural process that I didn't make, I'm sorry, but we will be able to protect the process itself. So we can request of our licensees, after this discussion, that as they go through the licence renewal, or before, to apply for a licence amendment. Hence, we can amend it directly.

THE PRESIDENT: Look, my lawyers, you know, always send me notes, the opportunity to be heard. I figure that the industry has been heard more than they want to hear. We have CSA here. So all I want to know is can we find a way that when we get through all of this we can get a decision, if that's what the Commissioner will agree, that subject to everybody coming or not opposing it, it will be done on our own motion?

MR. RÉGIMBALD: Yes. André

Régimbald here.

We can certainly do this in a streamlined fashion. It can be by way of written submission. We can establish a short timeline for response and I believe that can be done in the most efficient way.

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

--- Pause

THE PRESIDENT: Okay. The next item is a presentation on the financial guarantee program for nuclear substance, prescribed equipment and Class II nuclear facility licences -- that's a mouthful -- as outlined in CMD 14-M44 and 14-M44.A.

I understand c'est toujours monsieur Régimbald.

M. RÉGIMBALD : Oui. Merci, Monsieur le Président. Est-ce que vous pourriez nous laisser juste peut-être une minute pour nous installer?

LE PRÉSIDENT : Absolument.

M. RÉGIMBALD : O.K. Merci.

--- Pause

CMD 14-M44/CMD M44.A

Oral presentation by CNSC staff

M. RÉGIMBALD : Peut-être que je peux commencer pendant que nous préparons la présentation PowerPoint.

Alors, je suis André Régimbald, encore une fois, directeur général responsable de la réglementation des substances nucléaires.

With me today are Mr. Peter Fundarek, Director of the Nuclear Substances and Radiation Devices Licensing Division; Mr. Paul Matthews, Licensing Project Officer in Mr. Fundarek's Division; Mr. Daniel Schnob, Director General of the Finance and Administration Directorate; Mr. Pierre Souligny, Director of Accounting, Systems and Controls Division; and Mr. Benoit Labelle, who is the Chief of Internal Control of Accounting in Mr. Souligny's Division.

Today marks an important step in a process of bringing financial guarantees to all licensees. This has been an admittedly long process due in large part to the considerable efforts CNSC staff made to consult with licensees, solicit feedback and work with interested parties

to determine an appropriate solution satisfying to both the CNSC and industry.

As a result, staff is proposing a financial guarantee mechanism that is robust, affordable and one which will provide a sufficient level of protection to the CNSC and Canadians, while keeping with the direction of the Commission that all licensees establish a financial guarantee in relation to their regulated activities and facilities.

The presentation today will be made by Mr. Paul Matthews and is for the information of the Commission, as there is no regulatory decision to be made at this time.

The presentation will outline the details of the proposed financial guarantee program and this information provided today will be shared with all licensees as part of the continuing comprehensive outreach program.

Through this process, licensees will be able to make informed submissions to the Commission when CNSC staff come forward with a request to the Commission that the financial guarantee provision be added to all licences, as you will hear during the presentation.

So please, Mr. Matthews. Thank you.

MR. MATTHEWS: Good afternoon. It's Paul Matthews, for the record. I am a Licensing Project Officer in the Directorate of Nuclear Substance Regulation.

In today's presentation I will be reviewing the concepts of a financial guarantee and why staff from the Directorates of Nuclear Substances Regulation and Finance and Administration are here today.

Staff will review the initial approach, as published in Discussion Paper DIS-11-01 -- which I will simply refer to as the "Discussion Paper" from now on -- as well as outreach efforts, consultation and feedback.

Based on the results of consultation and valuable feedback obtained, CNSC staff undertook a review of the initial financial guarantee approach with respect to alternatives available that would meet the requirement of the Commission, but would also address concerns expressed by stakeholders.

The result of this new reconsideration is a new approach for financial

guarantees which I will present today.

A CNSC licensee is expected to meet all regulatory requirements from the issuance of a licence up to and including the revocation.

A financial guarantee is seen as a tangible commitment that funds will be available for potential future remediation in situations such as bankruptcy.

The Commission has the authority under the *Nuclear Safety and Control Act* to require a financial guarantee from any licensee to ensure that a licensee can meet, financially, their future obligations to protect the health and safety of persons and the environment.

Financial guarantees are currently in place for major facilities such as power and research reactors, uranium mines and mills, waste and other facilities. The financial guarantees associated with these facilities continue to be adequate and robust and are not part of this new financial guarantee program.

Financial guarantees avoid transferring a licensee's obligation to the Crown and, by extension, the Canadian taxpayer.

Although financial guarantees have

been in place for some time with respect to the major facilities, they have not been extended to licensees in the Directorate of Nuclear Substance Regulation.

Enviropac was a former CNSC licensee where strong regulatory action had to be taken, culminating in the revocation of the licence in 2008. Disposal of nuclear substances and radiation devices through an order of the Federal Court was not completed until early 2011. The events surrounding Enviropac focused the Commission's attention on Crown liability as a result of costs associated with this type of clean-up.

In December 2010, the Commission directed CNSC staff to consider financial guarantees for all licensees.

The desired outcome of a financial guarantee is the assurance that funds will be available, in case of licensee default, for the safe termination of activities, including:

- disposal of all sealed sources;
- disposal of all radiation devices;
- disposal of any unsealed nuclear

substances; and

- remediation and return of areas where unsealed nuclear substances were used for public use.

The existence of a financial guarantee does not remove the obligation of a licensee or a trustee to safely terminate licensed activities, but it assures that funds will be available.

The discussion paper was published on the CNSC website in March 2011 with the stated policy aim that all licensees were to have a financial guarantee. The discussion paper laid out an initial model for a financial guarantee program, which I will now describe.

The program was formula based for ease of calculation, it was flexible for those licensees that did not meet the model and, most importantly, the model was robust.

The program allowed for calculation of a financial guarantee that was based on a licensee's inventory of sealed sources, radiation devices, prescribed equipment, as well as rooms and laboratories where open source nuclear substances were used.

The cost factors associated were based on information provided by external experts who offer disposal services, as well as CNSC staff experience.

Three thousand dollars was the factor associated with any sealed source or a radiation device. This includes ultimate disposal of the material, as well as interim storage pending a ruling from the Federal Court of Canada on the ultimate fate of this material.

Four thousand dollars was the factor associated with each room or laboratory where open source material is used. This would include removal of and storage of any open source material, as well as confirmation that the rooms met the prescribed levels for return to public use.

Additionally, there was a $10,000 administrative fee that was meant to cover direct costs of CNSC staff performing associated compliance and licensing activities if a financial guarantee was called upon.

Finally, the model recognized there was a distinct difference between public institutions and private enterprises. Public

institutions are backed by some level of government and this same government would ensure the proper termination of licensed activities.

As part of the consultation process, CNSC staff from the Directorate of Nuclear Substance Regulation and Finance and Administration Directorate conducted unprecedented outreach across Canada.

This outreach was conducted between September and November 2011 with 21 presentations coast-to-coast, as well as offering four webinars for those who were unable to attend an in-person meeting.

These presentations were designed to familiarize licensees with the proposed financial guarantee program and to encourage licensees to make their comments known related to the proposed program.

The comment period closed November 30, 2011. In the consultation period 87 comments were received from individuals and organizations, as well as informal comments received during the outreach sessions.

Based on comments received through the outreach sessions and the formal consultation

process it was clear that licensees understood their regulatory obligations.

However, there was a lack of support for the approach as presented in the Discussion paper.

Comments from stakeholders illustrated a number of concerns related to the program fundamentals that included the requirement potentially for large amount of money to be tied up;

There was a lack of history of occurrence to justify having such a large amount of money potentially tied up as either cash or credit;

There would be an overriding negative impact on business as a result of large amounts of money being tied up;

or the impact it could simply have on the ability of a licensee to borrow money.

And the formula did not consider low-risk situations such as small radioactive check sources short half-life material.

In part based on feedback CNSC staff also undertook a review of the associated cost factors presented in the Discussion Paper.

CNSC staff identified a number of areas that, from a risk informed principle, presented a different risk scenario with respect to the health and safety and the financial guarantee program.

CNSC staff determined that sealed sources or devices containing less than 50 megabecquerels of a nuclear substance presented less of a radiological risk.

As a result, these types of sources or devices, which include check sources, would not be considered as part of the financial guarantee program.

Rooms or labs that use exclusively short lived isotopes would also not be considered as part of the financial guarantee program.

This type of nuclear substances would auto-remediate after approximately 10 half-lives and based on this CNSC staff determined that rooms or laboratories where nuclear substances with half-lifes of 72 hours or three days or less is used exclusively would not be part of the financial guarantee program.

CNSC staff also determined that the CNSC administrative fee would be removed and

any costs associated would be borne by the CNSC while conducting licensing and compliance work.

Finally, in addition to what was indicated above, CNSC staff have also identified self-shielded irradiators as devices that would not fit the financial guarantee model. Self-shielded irradiators are large devices that are used principally in the medical and research world and they contain very large amounts of Cs-137. Due to the size of the devices and the large quantity of nuclear substances present, the cost to dispose of these items is estimated at $90,000 per device.

All other factors remain unchanged from the Discussion Paper.

As a result of the comments received as part of the consultation process, as well as informally through the outreach sessions, CNSC staff undertook a review of the alternative approaches to financial guarantees.

All alternatives had to respect the principles of certainty, liquidity, adequacy and continuity of value.

The objectives had to provide coverages for possible liability that would not

require sequestering of funds and would minimize financial impact on licensees

With these objectives in mind CNSC staff worked closely with industry groups to consider alternatives.

As part of the review of additional financial instruments, CNSC staff identified four possible instruments that broadly met the requirements. The four financial instruments were chosen and the advantages and disadvantages are highlighted here. An initial liability of $50,000 was assumed.

The four instruments identified were, from the top left, counterclockwise:

- letters of credit;
- bonds;
- licensee subscribed insurance; and
- CNSC insurance.

The annual cost of these instruments ranged from $250 up to $2,000.

After careful consideration of each of the instruments, comparing the strengths and cost of each, it was the determination of CNSC staff that the CNSC Insurance offered the best

value and flexibility. It is this model that CNSC staff is recommending as a financial tool that can be used by licensees to meet the requirements of financial guarantees.

In response, in part, to feedback received from licensees and stakeholders, CNSC staff is presenting a new model of financial guarantees for holders of nuclear substances and Class II nuclear facility licences.

It is important to note that this new model does not replace the model currently being used by the nuclear power plants and other facilities which continues to be robust and entirely suitable for that sector.

This model is referred to as CNSC Insurance, with the CNSC as the sole insured party. This is not group insurance, but it's an insurance plan to cover the direct costs to the Crown as a result of the CNSC having to exercise its regulatory authority to protect the health and safety of persons and the environment as a result of taking control of licensed material and ensuring this material is properly disposed of.

The identifiable situations where this may occur are financial impairment of the

licensee or due to the CNSC taking regulatory action. The cost of this program will be borne entirely by fee-paying licensees.

Licensees that meet the requirement of section 2 of the cost recovery regulations, such as hospitals, universities, government departments, will meet the requirements through the mechanism outlined in the discussion paper.

The terms of the insurance policy are outlined here. Over the 24 months of the policy the maximum claim is $1 million per claim or claims. CNSC staff considers this an adequate and sufficient level of coverage.

For interim storage for situations where the CNSC is required to store licensed material pending a decision on disposition from the Federal Court of Canada, $250,000 in addition to the $1 million indicated above.

The premium, which will be recovered from licensees, is .4437 percent of the assessed liability of approximately $54 million. There is no deductible.

The cost to a licensee will range from a minimum $25 to $4437 for a $1 million

liability.

A licensee with a liability greater than $1 million will pay $4437 and CNSC staff will risk manage these cases.

This policy is for the safe termination of licensed activity, which includes storage, processing, transport, decontamination and disposal of licensed material.

This is an example of how the discussion paper would apply to a licensee who has four rooms where open sourced material is used:

- three devices and five sealed sources;
- four rooms are assessed at $4000 each;
- three devices at $3000 each;
- five sealed sources also at $3000 each.

Plus, if you remember, the CNSC administrative fee of $10,000.

This licensee would have a calculated liability of $50,000.

This licensee would be expected to have a financial surety to cover the liability with an approximate annual cost of $750, plus

resulting impact on business assets.

Now, using the same licensee scenario as presented in the previous slide, all factors are the same except the CNSC administrative fee has been removed. This has the result of reducing the liability from $50,000 to $40,000.

Based on the insurance policy, the annual premium for the coverage of $40,000 can be calculated as 40,000 times .4437 percent or $177.48 with no impact on business assets as a result.

In this scenario the licensee has eight laboratories of which three exclusively use nuclear substances with a half-life of less than three days or 72 hours.

As part of the review of cost factors, CNSC staff has determined that laboratories or rooms where nuclear substance with a half-lives of less than three days are used would not factor into the calculation. Thus, the number of laboratories that factor in the calculation are reduced by three to five at $4000. The cost to this licensee for the annual premium would be .4437 percent of $20,000 or $88.74.

In this final example we have a licensee with 12 irradiators. As part of the review of the cost factors, CNSC staff have identified irradiators, with their large radiation sources, as an item that does not fit into the cost factors as put forward in the discussion paper.

Based on information from a company that offers disposal services for these and similar devices, CNSC staff have determined the cost for disposal of an irradiator would be $90,000

Thus, 12 irradiators at $90,000 would be $1,080,000. However, the cap on any claim is $1 million and, as a result, the licensee would pay a maximum annual contribution of $4437.00.

Licensees that choose not to adopt this insurance approach to a financial guarantees, or for who it does not fit, will be required to set up an alternate financial guarantee acceptable to the Commission. This will all be reviewed on a case-by-case basis by CNSC staff.

All alternatives will have to respect the principles of certainty, liquidity,

adequacy and continuity of value.

Public institutions, that meet the requirements of section 2 of the cost recovery regulations, will meet their obligations by recognizing and acknowledging the total liability for safe termination of licensed activities. This would be carried out simply through the use of a form supplied by the CNSC which the institution could use to calculate its liability and include a declaration that the liability is recognized by the institution's management.

In conclusion, the Commission has the authority under sub-section 24(5) of the *Nuclear Safety and Control Act* to impose a financial guarantee.

The new model presented here to today by staff is robust, flexible and addresses comments made by stakeholders to the discussion paper through the consultation and outreach process.

The new model is based on insurance where the CNSC is the sole insured party and with the premium paid by fee-paying licensees.

This program will provide licensees with a low-cost means to meet the

obligation of a financial guarantee in a manner acceptable to the Commission.

A licensee may choose to provide an alternate type of financial guarantee that is acceptable to the Commission. They may be considered on a case-by-case basis.

Going forward, a licence condition will be added to all licences requiring a financial guarantee.

CNSC staff, as part of this process, will provide licensees with information regarding the insurance-based approach as part of the required opportunity to be heard.

CNSC staff will solicit stakeholder feedback by way of written submissions and disposition the written submission from stakeholders on this new approach and provide it to the Commission for its consideration.

Thank you very much and I will now turn this back to Monsieur Régimbald.

THE PRESIDENT: Thank you.

MR. RÉGIMBALD: We are available for questions.

THE PRESIDENT: Thank you.

So let's start with Ms Velshi,

please.

MEMBER VELSHI: Thank you.

Thank you for an excellent presentation and for coming up with something so innovative.

What do you see as the biggest exposure to the CNSC with this proposal?

MR. RÉGIMBALD: André Régimbald here.

That's a loaded question. I will have to break it into pieces.

I can speak from an operational point of view. For us, we will be incorporating the program as part of our licensing and compliance verification activities. So as explained in the CMD and in the presentation, we will have a new condition in all licences requiring licensees to have financial guarantees in place. And for the purposes of compliance, if the licensee pays their proportionate contribution for the premium under the insurance policy, then they will be deemed to have complied with the licence condition. Those who don't pay, we will have a plan -- we will have measures to deal with regulatory actions in those respects.

Perhaps I can ask my colleagues to supplement information and also my colleagues from the Finance and Administration Directorate to provide additional information on the financial aspects. Thank you.

MR. FUNDAREK: Peter Fundarek from the Directorate of Nuclear Substances and Radiation Devices Licensing Division.

Actually, this program will reduce the liability facing the CNSC for any instances where there are unclaimed sources or sources that fall outside of a licensee's control. So we will have the opportunity to take action immediately, with funds being available to rectify that situation. So we see this as a bonus for us in terms of reducing the liability that the CNSC faces.

MR. SOULIGNY: Pierre Souligny, Director of Accounting, Control and Systems at the CNSC.

From my perspective, this represents minimal risk financially to the CNSC and here are three of the reasons.

One of them is obviously the quality of the insurer we always have to worry

about, and based on the A.M. Best rating the insurer is rated A-, which is considered excellent on the insured credit scale rating.

Secondly, the design of the policy is tailored for CNSC's requirements. So the experts here have all had a chance to input into exactly what would be claimable and have had a chance to discuss these directly with the broker and with the insuring company.

Thirdly, the $1-million limit essentially provides full coverage for all licensees, but less than a handful that have more than $1 million in financial guarantee requirements.

So for all these reasons, we consider the risk to be minimal.

MEMBER VELSHI: Thank you. That's very good.

What adoption rate do you have to have as a minimum to proceed with this? I mean I don't know whether you have had a chance to test this with your licensees, but is there a minimum number who need to sign up for this for you to proceed?

MR. SOULIGNY: Pierre Souligny,

for the record.

No. It's an agreement between the CNSC and the insuring company. So CNSC is -- by default all licensees will be covered irrelevant of the take-up. It becomes more financial matters within if there is less than a take-up. I'm talking from a financial perspective here.

MR. RÉGIMBALD: André Régimbald here.

From an operational perspective, as explained in the presentation, the difference between the licensee paying $750 minimum to have some kind of surety from the bank is much more than perhaps the $25 or $80 they would pay annually. So right there, there is a great incentive for licensees to embark on the program.

MEMBER VELSHI: So you are expecting 100 percent sign-up then?

MR. RÉGIMBALD: Yes. Virtually, yes.

THE PRESIDENT: Well, just to follow up, you keep talking about alternate. Do you foresee anybody actually going a different way and why? I mean even if hypothetically or theoretically they are allowed to go another way,

where else would they get a better deal?

MR. FUNDAREK: Peter Fundarek, for the record.

There is, for example, one licensee who deals with small tritium sources and has 3,000 of these that could fit basically into one paint can, and so their costs wouldn't be $3,000 times each of those 3,000 sources. They could conceivably have a much lower rate for disposal. So they could in fact opt out in terms of looking at an alternative approach that would cost them less than what is proposed under the current model.

So there would have to be certain circumstances where this kind of situation would have to be recognized, but we don't expect there is going to be a large number of licensees that are going to opt out of the program because it is financially attractive for them. Since the financial guarantees will be required of all licensees, it's financially attractive for them to take part in the program.

THE PRESIDENT: But even if they can show us that they can get a better deal, they also have to allay all our fears about them going

bankrupt.

MR. FUNDAREK: Peter Fundarek, for the record.

Yes, absolutely. That is not going to change and, as we have noted through the presentation, this does not change the licensee's obligations to safely terminate their activities. They still are obligated to conduct their activities safely while they are in operation and safely terminate them, and there are already existing strong provisions in the *General Nuclear Safety Control Regulations* requiring licensees to notify us of any bankruptcy actions or impending bankruptcy actions.

THE PRESIDENT: Thank you.

MR. RÉGIMBALD: And if I can add. André Régimbald here.

Any alternate proposal by the licensees would have to be acceptable to the CNSC with our finance folks.

THE PRESIDENT: Okay. Just a clarification. If I understand correctly, Ms Velshi, if everybody went alternative, CNSC will have to pay the fee, the $240,000 to the insurance people, don't we?

MR. SOULIGNY: There is a cancellation clause, but obviously there would be a fair chunk to pay to cancel out, obviously.

THE PRESIDENT: Right.

Dr. McEwan...?

MEMBER McEWAN: A question for public institutions.

Are we right in our assumption that public institutions will never default on their responsibilities and how do you -- I mean I don't know if that's likely. I can imagine it in the current financial climate for universities in particular that that might well become a problem. If they decided that their risk management strategy required them to have some form of insurance, would they be able to come into this?

MR. FUNDAREK: Peter Fundarek, for the record. I will answer your question in two parts.

The first part is, yes, it is a reasonable assumption that public institutions will not default on their obligations. It has been our experience through the licensing process that we have had and the compliance verification process that we have that public institutions are

very aware of their obligations and have resources dedicated to dealing with these regulatory obligations on an ongoing basis.

Public institutions carry out remediation of rooms and commissioning of new rooms on a regular basis. They start using new approaches as researchers change direction on things. So they are in a constant state of flux in terms of their applications of radioactive materials.

Hospitals have a regular program for radiation safety and it is well known and it is robust. So we do have an expectation that they will be based and will be able to satisfy the regulatory obligations.

Some of these public institutions have been in place longer than Canada for example. Like the University of Toronto was incorporated before Canada became a country. So we don't have any concerns that institutions like that are going to be going anywhere. So it's reasonable for us to assume that they will be able to honour their obligations as necessary going forward.

The second part of the question is in regards to can they opt into the program. Yes,

they could. They could choose to opt in if they so desired, yes.

THE PRESIDENT: What about municipalities? I'm not worried about universities but I am worried about small municipalities that have some material now and then. I am less reliant on their ability. So what's the story there?

MR. FUNDAREK: Peter Fundarek, for the record.

The vast majority of municipalities who have radioactive material have it in the form of portable gauges which they use for civil engineering works. Those devices are very discrete, very easy to locate, very easy to manage.

I think that the CNSC would be able to effectively risk manage the kinds of situations where a municipality would go bankrupt. Also, municipalities are creatures of the provincial government and so we could look to the provincial government to backstop the financial obligations of a municipality that is unable to meet its obligations.

THE PRESIDENT: Thank you.

Now, to Monsieur Harvey.

MEMBRE HARVEY : Une seule question. À partir du moment où il y a une assurance, est-ce que ce n'est une sorte d'incitatif pour certaines compagnies de disparaître et de dire, bien, il y a une assurance, je ne m'occupe pas de mes obligations? Est-ce que ça ne peut pas accroître le nombre de fuyards?

M. RÉGIMBALD : André Régimbald ici.

C'est une possibilité, mais il faut mettre l'emphase sur les obligations réglementaires des titulaires de permis. On a insisté beaucoup durant les séances d'information et au cours de nos interventions régulières avec les titulaires qu'ils ont l'obligation de gérer les substances nucléaires de façon sécuritaire, conformément au règlement et à la loi, et certainement que s'ils voient l'assurance, on ne va certainement pas rendre acceptable qu'ils... Ils ont des obligations sous la loi et le règlement. Donc, l'assurance n'est pas une porte de sortie pour eux. Nous pouvons entreprendre des actions réglementaires contre eux s'ils ont

l'intention de faire ça ou s'ils le font, par exemple, émettre des ordres ou bien...

Aussi, lorsqu'un titulaire de permis va en banqueroute et que le syndic de faillite prend contrôle, eh bien, on peut prendre des actions réglementaires contre le syndic de faillite pour avoir un permis ou pour transférer les substances nucléaires ou les appareils.

Donc, il y a toujours des mécanismes sous la loi et le règlement pour obliger les titulaires à se conformer à leurs obligations. Donc, l'assurance sera pour nous, disons, un coussin de sûreté si jamais ça en vient à une situation que, comme on a présenté, on doit intervenir parce qu'il n'y a plus d'autre moyen. Donc, c'est en dernier recours que la Commission va intervenir, et on va se faire rembourser par l'assurance.

Mais je veux insister sur le fait que les titulaires ont des obligations réglementaires à respecter.

MEMBRE HARVEY : Mais j'imagine que la compagnie d'assurance aussi doit prévoir des coûts comme ça et puis ceux qui se sauveraient avec la mise. Est-ce que ce problème-là a été

abordé avec l'assurance?

MR. SOULIGNY: Pierre Souligny, for the record.

En termes de discuter avec l'assurance, on a discuté au point de vue des montants de garantie financière. Il n'y a pas eu de discussion spécifique sur une augmentation possible liée au fait qu'il y avait des cas de fuite ou de délit dans ce sens-là de se sauver de certaines de leurs obligations. Non.

MEMBRE HARVEY : Merci.

LE PRÉSIDENT : Monsieur Tolgyesi...?

MEMBRE TOLGYESI : Merci, Monsieur le Président.

Vous avez marqué le facteur de .4437 première année. Est-ce que ça va évoluer avec le temps, ça va changer en fonction des montants?

MR. SOULIGNY: Pierre Souligny, for the record.

Oui, c'est un élément qui va évoluer avec le temps. Pour la période de 24 mois, c'est l'estimé qui nous est donné présentement sur la base des inventaires

d'appareils que l'on a présentement.

MEMBRE TOLGYESI : C'est quoi le potentiel des réclamations d'en haut d'un million? Est-ce qu'il y en a?

MR. SOULIGNY: Pierre Souligny, for the record.

Oui, il y en a. On a un, deux, trois, quatre détenteurs de permis au-dessus d'un million, dont le plus élevé étant 2.7 millions de dollars, les autres étant 1.2 million de dollars et les autres entre 1 million et 1.1 million de dollars.

MEMBRE TOLGYESI : Ça veut dire que la partie d'assurance qui dépasse 1 million, ça va être absorbé par la Commission, les 240 000 dont vous parlez?

M. SOULIGNY : Jusqu'à 1 million, le 240 000, on est couvert pour... on est couvert jusqu'à 1 million de dollars. Le montant au-dessus, on ne demande pas de couverture pour le détenteur de permis. C'est de façon... et ça, André peut étendre là-dessus. C'est l'aspect de revue réglementaire de ces gros détenteurs de permis là qui permet de nous donner une certaine assurance de ce point de vue là.

M. RÉGIMBALD : André Régimbald ici.

Aussi, il faut inclure, comme ça été mentionné dans la présentation, les coûts de stockage de 250 000 $ qui s'ajoutent au million. Donc, on pourrait réclamer 1,250 million en tout pour réduire nos coûts.

MEMBRE TOLGYESI : Ma dernière question, Monsieur le Président, c'est : Est-ce que j'ai compris que les organismes gouvernementaux, les hôpitaux, et cætera, peuvent être exclus de cette obligation s'ils apportent une lettre signée par le gouvernement qu'il prend en charge en cas de besoin?

M. RÉGIMBALD : André Régimbald ici.

Pour les précisions, tous les titulaires de permis auront l'obligation de fournir une garantie financière. Ça va être dans les permis, dans tous les permis, incluant les permis pour les institutions publiques, les hôpitaux, les ministères gouvernementaux, et cætera.

Maintenant, la forme de la garantie financière va être différente pour les

institutions publiques. Au lieu qu'ils participent au programme d'assurance ou qu'ils paient leur prime, ils vont simplement nous remplir un formulaire pour reconnaître leur responsabilité financière dans le cas où ils auraient à se départir des substances nucléaires, et on va mettre ça dans leur dossier. Donc, c'est un engagement par écrit, et on reconnaît que l'institution est sous la gouverne du gouvernement fédéral ou des gouvernements provinciaux.

Mais ils vont avoir... tout le monde va avoir l'obligation. La condition de permis pour la garantie financière va être dans tous les permis.

MEMBRE TOLGYESI : Mais ma question est que si ces organismes ne contribuent pas, parce qu'ils ne vont pas contribuer financièrement, ils vont avoir une garantie via le gouvernement, ça veut dire que ces organismes ne contribueront pas à ce 240 000 que la CCSN va débourser. C'est quoi la proportion à peu près de ceux qui ne contribueront pas comme ça? Ça veut dire que le 240 000, il faut le recueillir auprès de ceux qui vont être assurés par nous ou par nous-mêmes?

M. RÉGIMBALD : André Régimbald ici.

Oui, c'est exact. Seulement les titulaires de permis qui paient des frais de permis seront visés par le programme d'assurance. Ceux qui sont exemptés, par exemple, on a dit, selon l'article 2 du *Règlement sur le recouvrement des coûts,* ne seront pas obligés de faire partie de... pour récupérer les sommes qui vont aider à payer la prime d'assurance. Donc, c'est seulement les fee-paying licensees.

MEMBRE TOLGYESI : Mais ça va nous coûter 240 000 par année, non?

M. RÉGIMBALD : Oui. Je vais demander à monsieur Souligny de...

M. SOULIGNY : Le coût de 240 000 est pour les détenteurs de permis qui paient des frais. En dessus de ça, il y a environ une quarantaine de millions de dollars qui va être obtenue, ou dont les garanties financières pour ce 40 millions de dollars là vont être obtenues sous la forme d'autres méthodes comme le formulaire que monsieur Régimbald parle. Ça, c'est pour tous les détenteurs de permis qui sont exemptés de frais.

M. RÉGIMBALD : André Régimbald

ici.

La valeur totale de la responsabilité de 54 millions a été calculée seulement pour les payeurs, les détenteurs qui paient. Voilà!

THE PRESIDENT: Okay. We need to move on. Any other real important questions?

So the only thing is -- and it's exactly the same conversation we had for the last presentation.

By the way, as an aside, I forgot to mention the last presentation decks were very nice, I liked the photos. Are you planning to -- this is for the CEDOs. You may want to think about posting it somewhere on our website. Maybe you don't need the CEDO. I leave it up to you. There were a lot of photos, a lot of stats about the industry, et cetera. It would be nice if it got posted somewhere.

On this one again, it's the same conversation. If the Commission agree that this is a good thing to move on, I would like to use this particular session as the starting point for you to go and do this tout de suite. So we don't have to debate how we are going to do this. We

will ponder internally here how to craft the language if we agree to proceed. So you don't have to come back here to move ahead.

And always respect the duty to be heard or the opportunity to be heard. Okay? Ça marche? Merci beaucoup.

We are going to break for a very short lunch. Two o'clock. Everybody eats very quickly.

--- Upon recessing at 1:32 p.m /
Suspension à 13 h 32
--- Upon resuming at 2:02 p.m. /
Reprise à 14 h 02

LE PRÉSIDENT : O.K. Nous sommes ici.

Le prochain item est une mise à jour au sujet de l’incident à Cliffs Québec Minière limitée concernant une possible surexposition des travailleurs.

On a des représentants de Cliffs Québec. Ils sont ici avec nous, aujourd'hui, par téléconférence. Alors, je vais essayer si la technologie fonctionne.

Mr. Whiteford, are you online?

MR. WHITEFORD: Yes, I am.

THE PRESIDENT: Okay, welcome.

MR. WHITEFORD: Thank you.

LE PRÉSIDENT : Alors, on pourrait commencer avec la présentation de monsieur Régimbald.

CMD 14-M46

Exposé oral par le personnel de la CCSN

M. RÉGIMBALD : Merci, Monsieur le Président. Ce sera une présentation orale seulement.

Alors, je suis le directeur général de la Direction de la réglementation des substances nucléaires.

Ceci est une mise à jour concernant l'incident survenu à Cliffs Québec Minière à Fermont en mars dernier, où un groupe de travailleurs auraient potentiellement reçu une dose de rayonnement supérieure aux limites réglementaires.

Le personnel de la CCSN a fait rapport de l'incident lors de la réunion de la

Commission le 27 mars 2014. Suite à la réunion, le personnel s'était engagé à fournir de l'information supplémentaire concernant cet événement une fois que les causes et circonstances entourant l'incident ainsi que les doses de rayonnement reçues par les travailleurs aient été établies.

Le CMD 14-M46 inclut l'information reçue à ce jour, de même que l'information complémentaire.

En résumé, l'incident est survenu en raison du non-respect des procédures établies par la compagnie pour le cadenassage des jauges nucléaires ainsi que la vérification suivant chacun des quarts de travail. De plus, il n'y a eu aucune vérification effectuée à l'aide d'un radiamètre pour s'assurer que les jauges étaient bel et bien en position fermée.

En ce qui concerne les doses de rayonnement, 10 des 24 travailleurs impliqués dans l'incident ont reçu une dose supérieure à la limite réglementaire de 1 mSv par année pour les membres du public. C'est-à-dire cinq ont reçu une dose de moins de 5 mSv, trois ont reçu une dose entre 5 et 7 mSv, et deux ont reçu une dose entre

9 et 11 mSv, la dose la plus élevée étant 10,5 mSv. Je tiens à noter que les doses reçues sont sans effet ou sans conséquence sur la santé.

Suite à l'incident, et conformément à l'ordre émis par la Commission le 21 mars 2014 à l'endroit de Cliffs Québec, la compagnie s'affaire à mettre en place des mesures correctives afin d'empêcher qu'un tel incident ne se reproduise.

En fin de compte, le problème n'était pas vraiment lié au nombre de procédures en place mais plutôt au fait que les travailleurs n'ont pas suivi correctement les procédures en place.

Pour pallier à la situation, Cliffs Québec a modifié les procédures de travail pour l'entrée dans les cuves et les trémies, impliquant davantage les responsables de la radioprotection pour surveiller les travaux, et a modifié son programme de formation aux travailleurs afin qu'ils comprennent bien les nouvelles procédures, en plus des procédures existantes, et les sensibiliser au travail effectué à proximité des jauges. Aussi, la compagnie a mis en place un plan de surveillance

continu afin d'empêcher toute récidive.

Le personnel de la CCSN est satisfait des mesures correctives prises par Cliffs Québec et surveille régulièrement leur mise en œuvre jusqu'à ce qu'elles soient toutes complétées. L'ordre de la CCSN est toujours en vigueur puisqu'il reste encore quelques travailleurs à former. Nous procéderons à une inspection de conformité cet automne pour nous assurer que les procédures révisées continuent d'être bien suivies par le titulaire de permis.

Afin d'assurer que les activités autorisées pour tous les titulaires de permis utilisant des jauges fixes demeurent sécuritaires, la CCSN a renforcé ses exigences réglementaires concernant l'entrée à l'intérieur de cuves ou de trémies munies de tels appareils et a en informé les 240 titulaires de permis visés par l'envoi la semaine dernière d'une note sûreté à cet effet.

En outre, la CCSN exige maintenant, en plus des autres exigences déjà en place dans les permis, que les titulaires effectuent un relevé radiologique préalable des doses de rayonnement à l'intérieur des cuves et des trémies pour s'assurer que l'endroit est

sécuritaire. Les résultats des relevés doivent être documentés et les travailleurs doivent être informés que l'endroit est sécuritaire avant d'y effectuer des travaux.

Les permis sont présentement en cours de modification pour inclure ces nouvelles exigences. Nous pouvons néanmoins confirmer que 220 des 240 titulaires visés ont déjà des procédures en place pour des contrôles radiologiques avant l'entrée dans les cuves ou les trémies, ce qui facilitera la modification des permis. Le recours à l'intervention de la Commission pour modifier les permis de sa propre initiative se fera seulement au besoin.

Pour conclure ce dossier, nous ne prévoyons pas faire d'autre mise à jour à la Commission, à moins que ça ne soit nécessaire.

Merci et nous sommes à votre disposition si vous avez des questions.

LE PRÉSIDENT : Merci beaucoup.

Alors, avant de passer la parole aux commissaires pour les questions, je vais demander aux représentants de Cliffs Québec s'ils ont des commentaires.

Mr. Whiteford, do you wish to make

any comment?

--- Pause

THE PRESIDENT: Mr. Whiteford, can you hear us?

MR. WHITEFORD: Thank you.

My name is Sean Whiteford. I'm the Vice President.

THE PRESIDENT: I think you are following -- excuse me. I think you should turn off your webcast and talk to us directly, I think.

MR. WHITEFORD: Yeah, there's a delay there. Sorry.

THE PRESIDENT: Right.

MR. WHITEFORD: I'll start again.

My name is Sean Whiteford. I'm the Vice President of Technical Operations for Eastern Canada for Cliffs Natural Resources.

Also on the line we have Carmain Bertrand and Stéphane Houde who will be available to answer more technical questions of the Commission if they choose to ask.

We would like to thank the Commission for giving us the opportunity to speak about the event that happened on March 20th of this year. We want to assure the Commission that

Cliffs is taking this incident very seriously and has since deployed all the necessary measures to act diligently and responsibly.

The health and safety of our employees and those of our contractors is a first core value of our company. This is why we made sure that all efforts have been directed to correct the situation and improve our procedures.

Our internal control systems and incident reporting have been modified to reflect the high standards and the expectations of the Commission.

Since the incident and following the deployment of internal appropriate security protocols, we were in constant contact with the Commission and we worked according to their recommendations. Again, health and safety and respect of the environment are the essence of a permit to operate for Cliffs and our company is committed to take all necessary measures to ensure that an incident like this does not happen again.

Thank you.

THE PRESIDENT: Thank you. Thank you very much.

Alors, j'aimerais commencer avec

monsieur Harvey.

MEMBRE HARVEY : Vous aviez des procédures, je pense, puis les procédures, j'imagine qu'elles étaient conformes à ce que la Commission exige, mais est-ce que les employés avaient la formation, est-ce qu'ils étaient au courant, est-ce qu'il y avait de la formation systématique qui était faite dans votre entreprise?

M. WHITEFORD : Carmain ou Stéphane?

M. BERTRAND : Oui, c'est Carmain. Nos employés avaient été... ont été formés. Ils sont formés aux trois ans sur la radioprotection et les procédures.

MEMBRE HARVEY : Comment les employés ont réagi suite à cet incident?

M. BERTRAND : Les employés étaient désolés de ne pas avoir suivi la fiche et de l'avoir fait de mémoire, puis c'est pas mal ça.

MEMBRE HARVEY : Bon.

Pour m'adresser au personnel, vous avez mentionné que vous feriez une inspection bientôt, à ce moment-là, vous vérifiez si les procédures sont là, mais est-ce que vous vérifiez si les employés sont

au courant des procédures? Est-ce qu'il y a des rencontres avec les employés qui se déroulent?

M. RÉGIMBALD : André Régimbald ici.

Concernant l'inspection que nous allons faire, nous allons certainement vérifier toutes les conditions de l'ordre qui a été émis pour faire certain que les procédures sont bien mises en œuvre par l'observation du travail si c'est possible et aussi pour nous assurer que toutes les exigences que nous avons mises en place et les procédures de la compagnie mises en place sont respectées. Donc, nous allons couvrir le plus possible le matériel pour nous assurer que nous sommes satisfaits de la mise en œuvre correctement des procédures.

MEMBRE HARVEY : À ce que je comprends, il n'y a pas de vérification avec les employés directement?

M. RÉGIMBALD : Oui. Il va y avoir des vérifications, par exemple, du programme de formation, des entrevues avec les employés et avec les responsables de la radioprotection.

MEMBRE HARVEY : Est-ce que vous avez reçu des... Est-ce que les gens vous ont contactés des autres entreprises? Vous avez envoyé une circulaire à toutes les autres entreprises. Avez-vous eu un

feedback de ces entreprises, de certaines?

M. FUNDAREK : Nous avons reçu quelques communications par les autres compagnies, et elles sont satisfaites avec les exigences, les nouvelles exigences, et, pour la plupart, sont en conformité maintenant avec les nouvelles exigences.

MEMBRE HARVEY : Merci.

LE PRÉSIDENT : Mais on va exiger que toute compagnie va suivre cette nouvelle réglementation?

M. RÉGIMBALD : Oui. André Régimbald ici. Oui, c'est exact, et nous avons maintenant... à ce moment-ci, 220 des 240 titulaires de permis avaient déjà en place des mesures pour faire des relevés radiologiques avant les entrées. Donc, les 20 autres vont se conformer. Mais c'est maintenant une condition de permis qu'ils doivent respecter.

LE PRÉSIDENT : Alors, il n'est pas nécessaire de les avoir devant nous, encore une fois. C'est la même histoire partout, n'est-ce pas?

M. RÉGIMBALD : Nous avons procédé comme vous avez suggéré ce matin.

LE PRÉSIDENT : Merci.

M. RÉGIMBALD : Nous allons vous solliciter juste en cas de besoin.

LE PRÉSIDENT : O.K. Merci beaucoup. Monsieur Tolgyesi...?

MEMBRE TOLGYESI : Merci, Monsieur le Président.

Dites-moi -- je m'adresse maintenant aux gens de Cliffs -- quand le cadenas est posé, est-ce que c'est visible si la jauge est fermée ou ouverte?

M. BERTRAND : Ici Carmain. Oui, c'est visible. Il y a une indication qui dit si elle est « on » ou « off ». C'est écrit textuellement sur la jauge, juste à côté du cadenas.

MEMBRE TOLGYESI : O.K. Donc, ceux qui ont vérifié, ils disaient que c'est cadenassé, mais ils n'ont pas vérifié si c'est fermé ou ouvert?

M. BERTRAND : C'est exact.

MEMBRE TOLGYESI : Ma deuxième question. Dans le rapport ici, c'est marqué que le système informatique indiquait que deux des quatre jauges étaient encore ouvertes. Est-ce que vous avez un système informatique qui enregistre la position des jauges?

M. BERTRAND : Ici Carmain. Ces jauges sont des instruments qui sont reliés à un système informatique pour la salle de contrôle, puis nous avons un indicateur de position s'il est en

position ouverte et fermée. Ça fait que oui, ces instruments sont enregistrés pour six mois... L'information est présente et l'information est enregistrée pour six mois ou un an.

MEMBRE TOLGYESI : Alors, dites-moi, comment ça que trois jours après seulement quelqu'un a réalisé que le système informatique indique que les jauges sont ouvertes? Parce que le système informatique, dès que c'est ouvert, l'indique, mais vous avez marqué que c'est trois jours après seulement qu'un superviseur a demandé de vérifier car le système informatique indiquait que les jauges sont ouvertes.

M. BERTRAND : À ce moment-là, ce n'était pas dans nos procédures de faire la vérification par le système informatique parce que ce n'est pas l'élément le plus fiable. L'élément le plus fiable est la vérification avec le radiamètre.

MEMBRE TOLGYESI : Mais le système informatique était déjà en place et le système... je suppose que dans votre système de cadenassage, ce que je connais un peu de cadenassage, normalement, il y a une vérification visuelle. Donc, il y a une série d'employés qui ont fait... ils ont dévié des méthodes de travail. Est-ce que vous avez discuté de ça avec le comité conjoint de santé là?

M. BERTRAND : Oui. Les employés en question ont justement participé au comité mensuel de sécurité pour parler un peu de l'erreur qu'ils avaient faite.

MEMBRE TOLGYESI : Donc, maintenant, les nouvelles procédures sont en place, et vous nous dites que ça n'arrivera plus?

M. BERTRAND : Nous avons modifié nos procédures ainsi que nos fiches de cadenassage et nos permis en espace clos pour s'assurer que les personnes travaillent conjointement et qu'on utilise aussi le système informatique comme contre-vérification.

MEMBRE TOLGYESI : Avez-vous beaucoup de jauges comme ça installées sur votre site ou il y en a juste quelques-unes?

M. BERTRAND : Nous avons neuf jauges installées au site sur des équipements semblables, c'est-à-dire des espaces clos.

MEMBER TOLGYESI: My last one is I hope that inspections... les inspections de conformité ne seront pas annoncées d'avance mais vous arrivez sur les lieux et vous vérifiez qu'est-ce qui se passe.

THE PRESIDENT: Staff...?

M. RÉGIMBALD : André Régimbald

ici. Oui, nous avons des options pour faire des inspections non-annoncées justement pour voir comment se fait le travail.

THE PRESIDENT: Ms Velshi...?

MEMBER VELSHI: So exceeding dose limits is a rare occurrence and a very serious matter. How bad could this have been in a worst-case scenario?

M. BERTRAND : Oui. Nous avons... Lorsque nous avons évalué les doses aux travailleurs, nous avons considéré le scénario, je dirais, le plus critique. Par exemple, nous n'avons pas pris les places où c'était les jambes qui étaient sujettes. Nous avons plutôt utilisé le corps pour être sûr de ne pas avoir cette incertitude.

THE PRESIDENT: Staff...?

M. RÉGIMBALD : André Régimbald ici.

The dose rate coming off the gauges is about 1.8 mSv per hour. So --

I'm sorry? Allez-y.

MS MAYER: Karen Mayer, for the record.

The dose rate coming off the

gauges was about approximately 1.8 mSv per hour. So depending upon how long they had a continued following without checking, verifying and following their procedures, it could have augumented considerably at that time.

MEMBER VELSHI: The highest was over 10 so that's pretty much the maximum they could have got, right?

THE PRESIDENT: I think this is over two days or three days before it was detected.

MEMBER VELSHI: Okay.

THE PRESIDENT: So it's cumulative and you have to be close to it. It's a combination of a lot of factors, if I understand correctly what happened.

MR. FUNDAREK: Peter Fundarek, for the record.

That's correct. The occupancy factor is the key question here: How long would somebody have been in proximity to the gauge in the unshielded position?

MEMBRE HARVEY : Mais quel aurait pu être le maximum de temps sans utiliser ces appareils, sans utiliser les jauges puis les

laisser ouvertes comme ça? Elles auraient pu être ouvertes combien de temps? Est-ce que vous travaillez à toutes les semaines dessus ou...

M. RÉGIMBALD : Peut-être que les représentants de la compagnie...

MEMBRE HARVEY : Oui, oui. Je demande ça soit à monsieur... C'est monsieur Breton?

M. BERTRAND : C'est Carmain qui va répondre à la question.

Les travaux étaient complets lorsque les jauges ont été découvertes en position ouverte, puis à toutes les fois que nous faisons ces travaux, c'est à peu près la même durée. Les travaux consistent à changer des revêtements. C'est le même temps. L'arrêt d'usine a été deux jours plus longs, mais les travaux étaient complets à l'intérieur de ces espaces. Donc, les personnes avaient passé le temps maximum qui aurait été requis pour faire les travaux.

THE PRESIDENT: Okay, we need to move on.

Dr. McEwan, do you have a question?

MEMBER McEWAN: Just one question

which is, I think, a more systemic question.

I mean it's my sense that when something like this happens it's not an isolated incident. It's part of a culture where there is a relatively lax approach to safety issues whether it's radiation safety or non-radiation safety.

Can we have confidence that that isn't the case and that there is a way of monitoring that that isn't the case?

MR. FUNDAREK: Peter Fundarek, for the record.

I think in this situation we have a very good demonstration that the company considers this to be a very serious matter and has responded quickly, actively and completely to the recommendations that CNSC staff put forward. I think that goes to give us some reassurance that there is a positive safety culture at the company.

What happened in this circumstance, why an employee didn't follow the procedure, is something that we're going to continue to review and follow up through the inspection and make sure that the company understands why that happens so that they have proper measures in place.

The measures that we have proposed at this time are effective and would prevent a similar situation like this happening in the future to ensure that there is a radiation survey done inside the area where any person is going to be working and that persons who are entering those kinds of situations are properly aware of what environment is anterior to that and the presence of the radiation gauges and what radiation values are in those locations.

So all that information is now going to be required for any licensee who conducts these types of operations.

THE PRESIDENT: I also think that you installed now a new improvement on the device itself by putting a lock with a positive -- you actually can see when it's on and off, you know, and it wasn't a requirement before. So I think there is a little bit of improvement on the regulatory -- on the regulatory ease of verification, let me put it that way.

MS MAYER: Karen Mayer, for the record.

I believe the measures that Cliffs put in place to change their procedures to be able

to differentiate between the gauge in the closed and open position are substantial in this not happening again.

THE PRESIDENT: That's exactly what I mean, yeah.

MEMBRE HARVEY : Quand aviez-vous fait la dernière inspection chez Cliffs?

M. RÉGIMBALD : On n'a pas l'information présentement, mais on va vous la donner. C'est depuis deux ans peut-être, mais on va vous donner la date exacte.

MEMBRE HARVEY : O.K.

LE PRÉSIDENT : O.K. Merci beaucoup.

And thank you to the Cliffs people online.

MR. WHITEFORD: Thank you.

MR. BERTRAND: Thank you.

MR. HOUDE: Thank you.

LE PRÉSIDENT : Merci beaucoup.

The next item is an update on the Sunnybrook Health Sciences Centre incident involving the loss of low-risk sealed radioactive sources, as outlined in CMD 14-M47.

I understand that we have Mr.

Michael Young and Dr. Curtis Caldwell from Sunnybrook Health Sciences Centre joining us via videoconferencing.

Can we test...? There you are. Gentlemen, welcome.

I will turn it now to Mr. Régimbald for the update.

CMD 14-M47

Oral presentation by CNSC staff

M. RÉGIMBALD : Merci, Monsieur le Président.

André Régimbald speaking.

This update relates to a series of incidents at the Sunnybrook Health Sciences Centre involving missing low-risk sealed radioactive sources which occurred through March and April 2014 where Sunnybrook notified the CNSC on three separate occasions during that period that low-risk sealed sources were missing from their usual storage locations.

The most notable of these events were the reporting on March 22, 2014 of 17 missing sources, one of which was a 3.4 GBq Americium-241

sealed source which is considered a low-risk Category 4 sealed source from the IAEA categorization scale of 1 to 5, with 5 being the lowest risk.

These sources had been stored in a locked cabinet which for some reason had been removed to an unknown location. The licensee was able to locate only one of the 17 sources but the remaining 16 sealed sources, including the Americium-241 source were declared lost.

Following this event, Sunnybrook conducted a site-wide inventory and as a result of this review, reported to the CNSC for the second time on April 23, 2014 that an additional seven sealed sources were unable to be located. The sealed sources were all Cobalt-57 sheet sources, which are very low risk Category 5 sources.

According to the information obtained from the licensee, the room in which they were being stored was being renovated and the Radiation Safety Officer was not contacted prior to the start of these renovations. The licensee reported that the contractor who carried out the work likely disposed of the sealed sources as regular waste.

And following these two incidents, a CNSC inspector conducted an inspection of Sunnybrook, during which time the licensee was unable to account for two additional sealed sources, both of which were considered as very low-risk Category 5 sealed sources.

So in total, the licensee declared a total of 25 sealed sources as lost.

Based on a review of the information available at the end of April 2014, CNSC staff were concerned that the licensee was not able to exercise effective management control over the storage of sealed sources. In early May, CNSC staff met with the licensee to discuss the issues at hand and the actions that the licensee had taken or was planning to take to address the deficiencies identified as a result of these incidents.

CNSC staff concluded that stronger regulatory action was required and issued a Designated Officer order to the licensee at that meeting on May 1st. The licensee was ordered to take seven actions, each by a specific date, to ensure that management control over the storage of sealed sources was strengthened. Sunnybrook

complied with the order within the specified timeline.

The licensee's corrective actions and implementation plan are described in the attachment to the memo prepared by CNSC staff, dated August 5, 2014, a copy of which was provided to the Commission Secretariat for your information.

The attachment details the licensee's actions which will ensure a more effective management control of the internal movement of sources at the Sunnybrook facilities and that access to radioactive source storage areas are properly controlled. These measures have been reviewed and deemed satisfactory by CNSC staff who is closely monitoring their implementation as part of the routine CNSC compliance verification activities.

It should be noted that, as a result of the site-wide search required as part of the order, Sunnybrook was able to recover two sources, one being the Americium-241 source and the other being a Sodium-22 source, both associated with the initial report.

Also as a result of these

incidents, the CNSC issued an Administrative Monetary Penalty to Sunnybrook Health Sciences Centre in the amount of $3,730 for failure to take all reasonable precautions to protect the environment and the health and safety of persons and to maintain security. This penalty was paid in full by Sunnybrook.

We did not formally report these events to the Commission in previous Commission meetings as the missing sources involved were all low risk or very low risk. However, because a CNSC order was issued in relation to the events, along with an Administrative Monetary Penalty, we felt that we needed to report on the events at this time.

The licensee addressed all of our concerns in a satisfactory manner, leading to the successful closure of the regulatory actions taken by the CNSC.

In closing, we do not plan to provide further updates to the Commission on this matter, as we are monitoring the implementation of the licensee's corrective actions, unless something exceptional comes up.

So thank you very much and staff

is available if you have any questions.

THE PRESIDENT: Thank you.

Before opening the floor for questions I would like to turn to Sunnybrook and ask whether you want to make any comment at this time.

MR. YOUNG: Thank you very much. We will make a couple of comments.

I want to thank the Commission for this opportunity to address you. I'm Michael Young. I'm Michael Young. I'm an Executive Vice President at Sunnybrook Health Sciences Centre and at Sunnybrook Research Institute.

With me, as you noted, are Dr. Curtis Caldwell, our Radiation Safety Officer and, as well, Catherine Rosebrugh, our general counsel and a member of our senior team.

Hopefully the Commission will see from our actions that at Sunnybrook we take nuclear safety -- in fact, we take all safety matters very seriously.

We've had an opportunity to review the CNSC staff update that was dated August the 5th. We agree that it's accurate, an accurate reflection of the event and of Sunnybrook's

response.

As it relates to the lost sources, while none of those specific sources posed a meaningful risk to the public, we realized that the fact that those losses occurred indicated that our control systems were not functioning as they should have nor as we expected. We greatly appreciate the assistance of the CNSC staff and their oversight as we've made the necessary changes to enhance those controlled systems.

As it relates to the order itself, as staff have advised you, items 1 through 6 have been completely completed.

Item number 7, I'm pleased to announce that as of August the 18th a couple of days ago, we've now trained 99 percent of our approximately 8,000 staff up from the 79 percent that we reported back at the end of June, so making great progress towards 100 percent. This represents only 96 staff left to be trained.

Furthermore, we've implemented a follow-up process for roughly 550 staff who are unavailable for training because they are away from the hospital on long term absences. When they come back they will be trained. And we've

also now implemented the mandatory radiation training as a part of our new staff orientation. So every new staff member has the exact same training and must complete the training as part of their probationary period.

We've not only addressed the seven actions that were identified in the order. I'd like to inform you that we've actually gone further. We've enhanced the security of our storage area by adding -- we're in the process of adding swipe card technology and security cameras that will be monitored through our internal security system in that area so we'll be able to see what's happening in and out of that storage area.

We've broadened the institutional-wide radiation safety program that we've implemented to include x-ray emitting devices that, while not regulated by CNSC, I think speaks to our commitment to overall safety and radiation safety.

And for now we have implemented a more frequent inventory of our radiation sources. We are inventorying and checking them every three months to confirm our confidence that the changes

that we have made are in fact working.

Thank you.

THE PRESIDENT: Thank you very much. I'd like to start the question period with Dr. McEwan.

MEMBER McEWAN: Thank you, Mr. President. Just a couple of questions.

So the sources that went missing, what percentage of the total sources that you would have in the hospital would that be?

MR. YOUNG: I'll ask Curtis to speak to that.

MR. CALDWELL: Of the sources that went -- numerically it's a fairly large percentage of the sealed sources if you exempt the ones used for brachytherapy.

MEMBER McEWAN: Okay.

MR. CALDWELL: So it would have been at the time on the order of 20 percent of our total number of sources used for research; that is, small sources used for research.

Since then in fact we have gotten rid of a large number of those additional sources because we really did not need to keep those. So, as part of our action, we did get rid of sources

in a safe manner in order to reduce our total inventory to reduce this risk.

MEMBER McEWAN: And of the sources and the brachytherapy sources, are they all stored in different parts of the hospital, or are they all in the same geographic location?

MR. CALDWELL: We have consolidated where we keep sources now, so they're primarily in two separate locations. One is a hot lab associated with brachytherapy, the second is a storage location for sealed sources near our Nuclear Medicine Department, and that's in fact where we store our research sealed sources at this point.

So both of those are secure areas at this point and very easy to inventory sources there.

MEMBER McEWAN: This may be a silly question, but is there a requirement or should the cabinets in which the sources are kept be fixed to the floor or fixed to the wall in some way, or are they free-standing?

MR. CALDWELL: In our -- part of our new -- okay. Part of the improvements that we're making is to have a -- in one of the

locations we're having a storage cabinet fixed to the wall that requires swipe card access to get it open.

Currently they are stored in lock boxes, heavy lock boxes within locked rooms that require security access.

So there is a step-up in terms of making it more difficult for these to walk. To be honest, the first thing that was removed was a very heavy cabinet which was difficult to walk as well.

MEMBER McEWAN: And I guess the final question is, do you have a process in place for training contractors coming onto site who may be working in these areas?

MR. CALDWELL: The requirement for a contractor in these areas would be, in fact, to have someone there with them, to be honest, an approved person.

We're not -- in these areas we're not allowing contractors to work on their own unsupervised.

So the short answer is, no, we're not going to train them, other than we're going to tell them that they're required, and our

facilities planning people are aware of this now, that any work, in fact, in any of our radioisotope areas requires monitoring by someone internal to Sunnybrook who has been trained, and normally that would be a member of radiation safety staff.

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

MEMBER VELSHI: Are these sealed sources labelled, like do they have the trefoil sign on them?

MR. CALDWELL: Some of them do. The largest source that was lost, the Americium source, looks very much like a watch battery and was not in fact marked. It itself was within a lead container itself and that was somehow removed -- it was removed from that.

Most of them, though, did have the trefoil symbol on them.

MEMBER VELSHI: Okay. Staff, as I looked at these actions, did any of these result in any regulatory changes down the road, you know, getting rid of stuff that you don't use, doing this physical inventory or whether, even if it's training requirements, or are all of these really captured already in existing regulatory

requirements?

MR. FUNDAREK: Peter Fundarek, for the record. During the licensing process, whenever licensees are renewing their licences we actively encourage them to review the inventories that they have on hand and to ensure that they only possess the materials that they need for future -- for realistic future opportunities that they're going to be using them for.

So we do encourage licensees already to reduce the inventory that they have as much as possible at the time of renewal, and that's every five years and that's for all licences. So there is that element in there.

The other elements in terms of training, this is something that we're going to have to address. We do have comprehensive elements -- or sorry, comprehensive requirements for training for all staff and it's a case of ensuring that the training is effective and we'll be looking at that as part of the licensing process going forward as well as during the compliance verification.

MEMBER VELSHI: And my last question. Did Sunnybrook -- did you look into why

you had missed the two sealed sources that CNSC inspectors found later on?

MR. CALDWELL: Yes. The two sealed sources involved; one was a brachytherapy source that was removed from a patient years ago. It was probably less -- it was definitely less than a kilobequerel, because at some point had been sealed because of blood and body fluid precautions, was probably discarded inadvertently along with Iodine-131 waste which is, as it happens, stored in that same room.

This is what I think happened. I have no evidence that that happened. In that case it would have been checked by -- the bag would have been checked and it would have probably been thought to be below regulatory limits and discarded as non-radioactive waste. It, in fact, probably was well below regulatory limits.

The other one, which I calculated to be less than a bequerel, was a set of old pet sources that was stored in a hot lab. And, again, that was -- in this case, was definitely my error in that it was useless, obviously, it was less than a bequerel for any radioactive use.

It had been stored in the Nuclear

Medicine hot lab and since Nuclear Medicine had no use for it they likely moved it about from time to time and somehow got lost.

We don't allow Nuclear Medicine to do this anymore and we do store such source, any source securely now.

MEMBER VELSHI: Thank you.

THE PRESIDENT: Monsieur Tolgyesi...?

MEMBER TOLGYESI: Merci. My understanding is that the SRI and the Sunnybrook Health Science Centre are on the same side, you have the same management. Do you have the same radiation safety officer?

MR. CALDWELL: Yes. Yes, I'm the radiation safety officer for both institutions.

MEMBER TOLGYESI: Now, do you have common storage with Sunnybrook?

MR. CALDWELL: There is now common storage. Previously we would have allowed -- the labs at SRI have permits and, in general, a lab -- a senior lab holder of a permit might have been able to store their sealed sources within their lab even if they weren't using them regularly, they would have stored them perhaps in a sealed

cabinet, a locked cabinet.

Now we've changed that to make it -- and since -- and now there's common storage, SRI and Sunnybrook in the same two physical locations.

MR. YOUNG: And just to emphasize, in secured -- now in much more secured common area.

MEMBER TOLYGESI: Now, does Sunnybrook use --

THE PRESIDENT: Before you leave this, I'm always interested, and I think that's where you're going, I'm interested in the governance model. Who is the licensee here? There's two licences, I understand.

MR. CALDWELL: There's two licensees. There's Sunnybrook Research Institute and there's Sunnybrook Health Sciences Centre, two separate licences.

THE PRESIDENT: And does that make sense to have two licensees? You have one RSO, you just said. What I'm really driving at is, and I don't want to put you on a spot here, but do you have the authority to do the job?

MR. CALDWELL: I absolutely have

the authority. I can walk in and shut down any lab at any time.

MR. FUNDAREK: Sorry, I have a question about --

THE PRESIDENT: So who's the named licensee, is it the Institution or the individual?

MR. CALDWELL: Oh, it's the Institution that's the licensee.

MR. FUNDAREK: Peter Fundarek, for the record. There is one licence that's issued to Sunnybrook Research Institute and the remaining 11 licences are issued to Sunnybrook Health Sciences Centre.

The original set-up with Sunnybrook Research Institute being licensed separately in this way is because they hold a different type of licence than the other licences issued to Sunnybrook Health Sciences Centre and they previously were a separate corporate entity, but now it's my understanding that the management of the two is becoming more conglomerated and there is a potential to transfer the licence over.

THE PRESIDENT: So did you mention just 11 other licences? Sorry, I'm asking Staff, just a second.

MR. YOUNG: Yeah. Let me correct the other thing I have, yeah.

MR. FUNDAREK: Peter Fundarek, for the record. Yes, that's correct.

THE PRESIDENT: So is there a hierarchy to those licences or they're sort of -- each one of them are -- what I can't reconcile is one RSO looking after the whole safety case, if you like, and yet we have 11 licences.

Maybe it makes sense, but I really always have problems with proliferation of licences.

Staff, you want to...?

MR. FUNDAREK: Peter Fundarek, for the record. There is a licence, for example, for manual brachytherapy because that's a specific licensed activity.

There's one for diagnostic Nuclear Medicine, one for therapeutic Nuclear Medicine. Each of these licences has different conditions on it because they operate in different ways.

THE PRESIDENT: But there's one RSO overseeing all of it?

MR. FUNDAREK: That is correct. He's the corporate -- Dr. Caldwell is the

corporate RSO and he is overseeing all of it.

The requirements in the regulations remain the same. There are specific conditions for specific licences and the Class 2 licences have specific conditions, again, that are slightly different in their conditions than the nuclear substance and radiation device licences and there is different structure to some of those licences because, in that case, each accelerator has to be licensed separately.

THE PRESIDENT: Okay.

MEMBER McEWAN: I just have a quick one.

THE PRESIDENT: Please.

MEMBER McEWAN: So who does Dr. Caldwell report to; what is the chain of authority up above that?

MR. YOUNG: So, Curtis reports directly to me as Executive Vice President. I'm responsible for radiation safety as well as a broad responsibility at the senior leadership team for the hospital and then I report to our President and CEO.

Just to clarify Peter's comment on the previous question, though, Sunnybrook Hospital

-- Sunnybrook Health Science Centre and Sunnybrook Research Institute are separately incorporated entities. We do have the same management functions.

We have board members who are common, but it's not the exact same board in Sunnybrook Research Institute as it is in the Hospital. There's a commonality to it.

THE PRESIDENT: Thank you. Monsieur Tolygesi...? Monsieur Harvey...? Last one, we've got to move on.

MEMBER HARVEY: I have a few questions. How many employees are authorized to access to those cabinets and to the source?

MR. CALDWELL: Okay. The sources that are stored at the Sunnybrook side at the -- which includes the research side of things as opposed to the other lab which has the Odette Cancer Centre, brachytherapy sources are different.

So if we just look at the Sunnybrook side which includes SRI, the people who can access those right now directly are two individuals.

If we weren't there, if we happen

not to be there -- myself and my assistant radiation safety officer are those two people. If we were not there, then one of the other two radiation safety officers would be given access there.

There are -- within that room there are also stored some nuclear medicine sources that are used for standard calibration or quality control every day. There are 14 nuclear medicine technologists who do have access to that subset of sources, I believe three sources that are used there.

At the other end with the brachytherapy room, there are approximately 15 people who have access at this point, which include brachytherapy physicists, radiation therapy technologists involved in brachytherapy and nuclear medicine -- sorry, radiation safety staff.

MEMBER HARVEY: I suppose you have some sort of procedure and some tracing or registry to follow the sources?

MR. CALDWELL: See, to follow -- sorry, when they leave the room or...?

MEMBER HARVEY: Well, if a source

leaves the room, I suppose you can trace where it goes and --

THE PRESIDENT: At least an inventory control which is --

MEMBER HARVEY: Yes.

MR. CALDWELL: Yes, we have inventory control. If there's anything moved out it would only be for -- if something leaves the room for a researcher, for example, it would normally -- it would be signed out and would come back the next -- the same day. We're not expecting them to have it for extended periods.

MR. YOUNG: So that's part of the reason why we've gone further in terms of the implementation of our security systems, putting the swipe card technology and the camera system inside the room so we can actually see what's going on.

Everything is supposed to work as Curtis has described, but now we'll actually be able to actually monitor who goes in and out of the room, time stamped, we'll be able to go back to video records to see what's actually happening, if somebody's actually signed it out on the log or not.

THE PRESIDENT: Okay, thank you. Last question.

MEMBER TOLGYESI: My question was, it's very simple, what kind of control. You have a log book in the storage area and somebody's coming in removing something, puts his name, what he was moving, a date, what he's bringing back. This is what's used for explosives, for instance, and it's not complicated really, but I don't think we read that.

THE PRESIDENT: Okay.

MR. YOUNG: That's correct.

THE PRESIDENT: Go ahead, Staff.

MR. FUNDAREK: Peter Fundarek, for the record. I just want to clarify an earlier comment that I made regarding the radiation safety officer.

As I pointed out, Dr. Caldwell is the corporate radiation safety officer, but his functions are supplemented by a radiation safety officer in both the Health Sciences Centre and the Research Institute and they also have an assistant radiation safety officer in both those locations.

So there is -- it's not just the one person managing all these licences, there are

other radiation safety officers, but Dr. Caldwell is the corporate radiation safety officer.

THE PRESIDENT: Do they all report to him?

MR. FUNDAREK: Yes, they do.

THE PRESIDENT: Okay, thank you.

Okay, I think we had enough on this one. So thank you very much and thank you, Sunnybrook, for being with us here today.

MR. YOUNG: Thank you.

THE PRESIDENT: I'd like now to move on to our next item on the agenda which is an update on the Alberta Health Services incident involving the unauthorized handling of sealed source at their facility outlined in CMD 14-M48.

I guess I understand we have a representative from Alberta Health Services to help us here understand what's going on, but Monsieur Regimbald, you still are in front of us. Go ahead.

CMD 14-M48

Oral presentation by CNSC staff

MR. REGIMBALD: Merci, Monsieur

Président. André Régimbald ici. This update relates to the incident at the Cross Cancer Institute, part of Alberta Health Services, involving the unauthorized handling of two sealed radioactive sources which was reported by CNSC staff at the May 7, 2014 Commission meeting.

The two sealed sources of Cesium-137 had been removed from storage without authorization and left in an unauthorized location which has resulted in significant radiation doses to workers.

Following the Commission meeting on May 7th, CNSC staff put together additional information to the Commission members in a memo dated August 6, 2014, which was sent to the Commission Secretary for your attention.

This update is a summary of the information provided.

The sources were discovered by the licensee on April 2nd, 2014. While conducting a routine radiation survey, the radiation safety officer at the Cross Cancer Institute noticed an unexpectedly high dose rate, above 30 mSv/h, in a clean area in the machine shop.

It turned out that the radiation

was coming off two stainless steel pins, 4 cm and 6 cm in length respectively and looked like nails. They were inside a plastic box along with a variety of small machine components on the corner of a work bench. The pins were immediately secured and put in safe storage.

The pins were intra-uterine pre-loaded tubes with Cesium-137 sources used in manual brachytherapy to treat gynecological cancers at the clinic several years ago.

Following their discontinued use they were put into storage. It’s not clear how the pins found their way into the machine shop; however, it is believed that the transfer took place in late 2013, likely due to an oversight by the licensee in the proper tracking of source inventory.

The doses received by the three individuals in the workshop, who are nuclear energy workers, were all below the CNSC annual regulatory dose limit of 50 mSv for these workers.

No other individuals who have dosimetry badges have any anomalous doses in their dose reports and it is unlikely that anyone from the public was exposed to the radiation since the

machine shop is located in the basement of the Institute which is not accessible by the public.

CNSC staff required several corrective actions from the licensee to ensure that the licensee staff understands the regulatory requirements regarding the movement of sources from authorized locations.

At this time the licensee is on track with respect to the closure of these actions. CNSC staff is satisfied that the licensee is demonstrating seriousness in this matter and a genuine commitment to addressing the issues related to the incident.

Implementation of the corrective measures will ensure that the licensee will have robust and traceable processes to control the internal movement of sources and that access to radioactive source storage areas are properly controlled.

CNSC staff will conduct compliance inspections of the facility once all the corrective actions are complete to monitor their implementation.

Given the substantial and continuing progress in addressing the

deficiencies, it is currently expected that no further updates to the Commission will be necessary on this file, except in the case of any significant development in the future.

Thank you, and we have staff available if you have any questions.

THE PRESIDENT: Thank you. Before proceeding to questions, I would like to hear from Dr. Grundy, who may wish to make a comment right now.

MR. GRUNDY: It's Paul Grundy, for the record.

I'm the Chief Program Officer for CancerControl Alberta, which is a branch of Alberta Health Services. We manage the Cross Cancer institute as one of our facilities.

I also have on the telephone, if we need his assistance, Mr. Stephen Lawrence, who is our provincial radiation safety officer.

THE PRESIDENT: Why don't we test the technology?

Mr. Lawrence, are you with us?

MR. LAWRENCE: Yes, I am.

THE PRESIDENT: Thank you. Welcome. Go ahead, please.

MR. GRUNDY: I don’t think there’s too much to add to the comments other than to say that in fact we were feeling fortunate that given that there were deficiencies in our processes, which have been uncovered by this event, that the consequences were not more severe than they were. Things could have been worse so, as I said, we’re grateful that we had this opportunity to uncover the fact that some of our procedures aren’t as effective as we had thought.

Again, as in the last case, these things are often multifactorial and some of the same issues that we just discussed in the last case we’ve identified here, including the fact of having excess inventory. There’s no reason that we should have still had these pins in the building in the first place. They were never going to be used again clinically, so the issue of only having onsite active inventory, we are and have been reviewing our processes, not just around the inventory but particularly around transfers, when we move the inventory from active source rooms to decay rooms, for example, when we are transferring responsibility. These are the critical areas where we are reviewing our

processes as well as establishing clarity amongst the staff members of the different departments.

I don't think I have anything else specific to add at this point, but I'd be happy to try and address any questions.

THE PRESIDENT: Okay. Let's start with a question. Mr. Tolgyesi.

MEMBRE TOLGYESI : Merci, Monsieur le Président.

Dr. Grundy, you said that the consequences could be much worse. How much worse?

MR. GRUNDY: (Off mic).for the record.

We were fortunate that none of the workers who were exposed were exposed to levels above that allowed by the CNSC, but given it was not recognized what the nature of these two sources -- where they were in the machine shop, there's no reason that those two pins couldn't have been taken home and could have been used as a paperweight by somebody in the building, so there could have been truly significant exposures, completely unintended, to individuals given that their nature wasn't recognized.

MEMBER TOLGYESI: What was the

radiation of these two pins?

MR. RÉGIMBALD: I'll ask Mr. Jeff Sandeman to answer, please.

MR. SANDEMAN: Jeff Sandeman, for the record.

These were caesium-137, so it's a gamma source. The maximum dose that was recorded on a TLD badge was approximately 11 millisieverts. As a rough estimate, if somebody put those sources in their shirt pocket, which would be perhaps one of the worst cases, it's difficult to determine dose because you're getting a very non-uniform exposure but something on the order of a couple of hundred millisieverts over the course of one day was possible. The local skin dose of course would be much higher immediately adjacent to those sources.

THE PRESIDENT: Ms Velshi.

MEMBER VELSHI: I know your actions aren't due for -- maybe they have been completed. When you've done your full physical inventory, have you found any other missing sources?

MR. GRUNDY: We were required to not only do a physical check of our entire

inventory, and we did not find any other missing sources.

We were also required to survey the entire Cross Cancer institute for the possibility of their being any other unrecognized sources. We thankfully did not identify any other misplaced sources.

MEMBER VELSHI: Staff, given what we just heard in the previous incident, is there a requirement to do a regular reconciliation of the inventory and confirm that what's getting reported on the annual compliance report is exactly what they have on hand?

MS MURTHY: Kavita Murthy, for the record.

Yes, there is a requirement to do a physical check of the sources that they have in inventory and report them in the annual compliance report. Some of the facts that were revealed in the investigation was that there was some lapse in how this inventory conciliation was being done.

THE PRESIDENT: You'll recall that the CNSC itself learned some lessons about inventory control, so is it now a requirement of a licensee, I'm not talking about a guidance, a

requirement, thou shall reconcile your inventory on whatever basis makes sense?

MS MURTHY: Kavita Murthy, for the record.

It is a requirement on a licensee to have full control of all the radioactive sources that they possess. There are additional requirements that come in because of the security of sealed sources which will require them to also -- again, reinforcing the same requirement but with the security to the standpoint of knowing where all their sources are and doing physical checks of the sources in a periodic manner.

THE PRESIDENT: Is that a recent requirement or is it -- because I'm trying to understand why it wasn't done in Sunnybrook and here with Alberta?

MS MURTHY: Kavita Murthy, for the record.

I don't know about Sunnybrook. In this case, there was a mistake because those two sources were scheduled to be transferred to a company that disposes of these sources. What happened was when that transfer happened, for some reason these two sources were not transferred so

as a result there was a mistake in their inventory, so they had an inventory on hand that did not reflect what they actually possessed.

I think probably Dr. Lawrence is someone who can speak to that in a bit more detail.

MR. GRUNDY: Paul Grundy, for the record.

Yes, indeed in this instance it was a mistake, but it was presumed that these two sources had been disposed of, so we, through a mistake, thought our inventory was correct. We didn't have two extra sources unaccounted for because they weren't where they were supposed to be any longer. The assumption was that they had been disposed of, so this did identify, then, a deficiency in our inventory control process.

THE PRESIDENT: Okay. Ms Velshi.

MEMBER VELSHI: The routine survey that picked up these pins, how often are those surveys done?

MR. GRUNDY: Stephen, can you answer that question?

MR. LAWRENCE: In areas such as the machine shop and things, they're not done

routinely. We don't have a routine set for that. We're looking at doing that now because of this incident, so we'll be addressing that. The frequency will be dependent on the likelihood and the risk associated with the areas.

MR. GRUNDY: Paul Grundy, for the record.

The routine part of the survey was not that it was done on a routine time basis but it was being done because they were transferring lead pots from the decay room to the machine shop for recycling and the routine was to ensure that the pots being transferred weren't radioactive.

MEMBER VELSHI: I'm not sure how you were able to figure out how long these sources had been in the machine shop. I think somewhere I read they maybe had been moved December 2013, but if this survey hadn't happened you would have likely picked up something was unusual when those dosimetry badges were read at the end of the quarter. Is that what could likely have happened?

MR. GRUNDY: Paul Grundy.

Yes, that's exactly I think what would have happened.

The way we estimated how long they

were in the machine shop was based on extensive calculations based on the radioactivity that they were emitting and some modelling and some assumptions around where in the machine shop the machinists spent most of their time. Estimates were made on how long they would have been there for them to have accumulated the doses they did, so there were a number of assumptions made, but, yes, we would have identified that there was a problem by their badges showing an unusual level of activity.

MEMBER VELSHI: So the surveys likely would have never happen in the last 12 months, then, if the source had been there since December 20, ’13, and you didn’t pick it up until April 2014. It just means there were probably no radiation surveys done.

MR. GRUNDY: Correct.

MEMBER VELSHI: Thank you.

MEMBER HARVEY: You mentioned in your presentation that the licence is on track and providing the information. Is that to say that all the dates, all the points in your letter, have been met, that even the training is completed and everything is okay? Is that the case?

MS MURTHY: The licensee has submitted all the information exactly on the dates when they were due.

With respect to training, there were some people that were not trained. At last check, I think they were close to 96 percent. Part of it was because people were on holidays, people were on maternity leave or on long-term leave. The commitment was to complete it as people came back, so if there's more information I'd like for the licensee to speak to it.

THE PRESIDENT: How big is the shop? How many employees in the Cross Cancer Institute?

MR. GRUNDY: It's about a thousand people in the Cross Cancer Institute. Maybe I should turn to Stephen, but fewer than 100 actually work with radioactive sources.

MR. LAWRENCE: I'm having (off mic).

THE PRESIDENT: Sorry, but the training would apply to the whole institute or just to those hundred?

MR. GRUNDY: No. The training applies to all of them. For those that don't work

with radioactivity the training is much less. The training involves them being able to identify what radioactive warning signs are and what areas they should not enter, and then more extensive training, obviously, for those who actually work with radioactivity, but there was a training requirement for all staff in the building.

MS MURTHY: If I could please add? Kavita Murthy, for the record.

This training was given not only to people who work at the Cross Cancer, but because it is a provincial program the training was given to other centres in Calgary, in all the hospitals that are covered under Alberta Health Services. The training was given to everyone, so we are quite satisfied with how extensive they have done the training.

THE PRESIDENT: Thank you.

Mr. Tolgyesi.

MEMBER TOLGYESI: To staff. Are there provisions in the licensing handbook regarding the frequency of inventory reconciliation?

MS MURTHY: Kavita Murthy, for the record.

These licences don’t have a licence condition handbook, but they don’t have to do -- there is no prescribed -- okay. The prescribed frequency would be the annual compliance report when they would have to do a reconciliation of what they have and report it to the CNSC. Other than that, there isn’t a higher frequency than that, so once a year.

MEMBER TOLGYESI: So there is no obligation besides annually. Maybe we should look at what staff should do to make sure that there is, I don’t know, a monthly or something like that, quarterly, reconciliation, and when inspector staff are coming to the site they should verify and inspect what has happened.

MS MURTHY: Kavita Murthy, for the record.

During inspection, part of the inspection is inventory verification, so inspectors will look at the licensee’s inventory and verify it. But hospitals can have thousands of sources, so this is not a full verification of every single source. It is a spot check. They will do a spot check of various locations.

Even so, if the inventory itself

had not identified these two sources as being present, I don't think that an inventory check in this case by our inspector would have found these sources because they were simply not on the list.

MEMBER TOLGYESI: You are saying that they were on the list. You are saying that two sources have appeared consistently in the annual compliance report submitted by the licensee, so those two pins were there.

MS MURTHY: Yes. Please complete your question. I apologize.

MEMBER TOLGYESI: You're saying that they were not in inventory. They were on the list because that's what you are saying, "Two sources have appeared consistently in the annual compliance report submitted by the licensee". So they were there, but I don't know where they were physically.

MS MURTHY: Kavita Murthy, for the record.

You're absolutely right. They did appear on the annual compliance report, but when inspectors go on inspection they will look for the most updated inventory list, and that is the list that the licensee provides them, so the inventory

list in an ACR can be about a year old. When the inspector goes on inspection they will ask the licensee for their most updated inventory.

THE PRESIDENT: I think what I hear is that you're satisfied with the annual compliance, plus inspection, plus all the other tools that you have to make sure that it pays the licensee to be compliant. Is that what you just said?

MS MURTHY: That's correct.

THE PRESIDENT: Okay. Anybody else?

How many sources are we talking in there, under the Cross Cancer Institute?

MR. GRUNDY: Stephen, would you estimate that?

MR. LAWRENCE: If we exclude the iodine 125 brachytherapy source, it's of the order of about 30 sources. Some of these are sort of fixed in machines and others are used for instrument calibration and things so they're loose sources.

THE PRESIDENT: That's relatively easy to control, right? You can do it on a daily basis, verification. I'm exaggerating.

All right. I'm curious again, how many - I'm going to ask this question every time I see such a -- how many licences does the Cross Cancer Institute have and is it associated within the hospital? Is it the same arrangement as in Sunnybrook?

MR. LAWRENCE: No. What we've got here, we've got 10 licences that are standard licences and we have three RSOs. I act as the leader for the group, so I'm an alternate RSO for any of the licensees, but they are dealt with individually by other RSOs, so there's three full-time RSOs here supporting the licenses. I would see the group provincially.

THE PRESIDENT: How does the labour and accountability, that's what -- I'm looking at the governance model between the three RSOs. How is it being distributed? Who is accountable to whom?

MR. LAWRENCE: all three report directly to me and I report directly to Paul Grundy.

THE PRESIDENT: That's clear. So for all radiation issues in the institute you have the authority to make sure everybody is compliant.

MR. LAWRENCE: Correct.

THE PRESIDENT: Okay. Are you satisfied with this governance model?

MS MURTHY: Yes, we are.

THE PRESIDENT: Anything else? Thank you. Thank you very much.

The next item on the agenda is an update on the incident involving a Flexitron High Dose Rate brachytherapy unit, as outlined in CMD 14-M49.

I understand we have a representative from Elekta, who I shall identify later on, but first we're going to hear from Monsieur Régimbald.

CMD 14-M49

Oral presentation by CNSC staff

M. RÉGIMBALD : Merci, Monsieur le Président.

André Régimbald here again.

This update relates to the incident involving radioactive contamination within a Flexitron High Dose Rate brachytherapy unit at a radiation therapy centre, which was

reported by CNSC staff at the May 7, 2014 Commission meeting.

In summary, the contamination was discovered on April 29, 2014, during a routine wipe test of the depleted source's drive cable following its removal from the machine by the service engineers.

The use of the machine was immediately suspended by the radiation therapy centre. The machine was put in safe storage at the centre and the entire room was checked for loose contamination. No contamination was found in the treatment room and the room was returned to unrestricted use.

The equipment in question was removed from the service and replaced by the manufacturer, Elekta. No person at the centre was exposed to the radioactive contamination due to this event.

Additional information about the incident and the actions taken by the equipment manufacturer and CNSC staff are detailed in a memo dated August 5, 2014, which was sent to the Commission secretary for your attention.

The CNSC's preliminary

investigation into the event revealed that all the steps in Elekta's source change procedure were not being completed as required. Specifically, a requirement to perform a contamination check of the source cable assembly before it is installed into the unit was not being performed routinely.

As a preventative measure, CNSC staff established a mandatory requirement for Elekta to check the source drive cable for removable contamination each time before it is installed in a machine rather than when the depleted source is removed.

Elekta immediately introduced this additional step in their source load and unload procedures.

CNSC inspectors inspected a source change at a facility following the changes to the Elekta procedure and found the licensee's compliance to be satisfactory.

As a direct consequence of the change in procedure and its application, a second contamination event was discovered on May 30, 2014, at another radiation therapy centre in Canada. However, as contamination was detected before the source was to be installed in the

machine, it did not cause contamination of the equipment. The defective source was repackaged and returned by the service engineer to the manufacturer, Elekta.

CNSC staff is satisfied that all of the actions taken by Elekta are effective in preventing a recurrence of a similar event in the future. Elekta has, as of last week, submitted their root cause analysis report related to the incident and identified corrective actions. The report will be reviewed by CNSC staff and CNSC staff will, as part of its current compliance program, conduct follow-up verification with Elekta to monitor implementation of corrective actions.

We do not plan to update the Commission any further on this file except in the case of any significant development in the future.

Thank you again. We are available for questions.

THE PRESIDENT: Thank you.

Before opening up the floor for questions, maybe we can hear from Elekta. I understand Mr. Hovenkamp will make -- this is an opportunity for you to make comments.

MR. HOVENKAMP: Egbert Hovenkamp, for the record. Regional Radiation Safety Manager for Elekta.

Next to me is Ms Debra Bensen. She is the radiation safety officer for the U.S. and Canada.

I thank the Commission for the opportunity to provide answers for the -- sorry for the interruption. I thank you for the opportunity to answer your questions in person and at the moment hearing the summary that was just provided I don't have any comments about it.

THE PRESIDENT: Thank you.

So let's jump into the questions and starting with Ms Velshi.

MEMBER VELSHI: Thank you.

Do you have these devices around the world?

MR. HOVENKAMP: Yes. We have hundreds of these systems worldwide.

MEMBER VELSHI: And the procedure that was mentioned here about checking for contamination before inserting the source and that your own procedure had not been followed here, was that a global practice or was this just a Canadian

practice?

MR. HOVENKAMP: Egbert Hovenkamp, for the record.

We have two models. One model included already the check and the other model did not include that check, and after these incidents we have now fine-tuned our procedures and they are now all similar.

MEMBER VELSHI: But what I read in the report was that it was your procedure that actually called for a check before you inserted the source and the cable, that it just wasn't followed and now the CNSC has made that mandatory. I'm just trying to understand why that procedure would not have been followed until now.

MS BENSEN: Debra Bensen, for the record.

It was in the user's manual part of the procedure but it had not been implemented in the preventive maintenance part of the procedure. There was a little disconnect. So they have gone through and they have verified all the documents and they made sure everything says the same thing at this point.

THE PRESIDENT: How many of these

instruments in Canada, how many devices? You said hundreds globally. How many in Canada?

MS BENSEN: Debra Bensen, for the record.

I believe at this point there are four in Canada.

THE PRESIDENT: Okay.

MS MURTHY: Kavita Murthy, for the record.

On licences, there are 10 Flexitron units in Canada according to the latest licences that I looked at yesterday. So there are different models of Flexitrons, so it's possible that you are talking about a slightly different model, but Flexitron itself, that particular device --

THE PRESIDENT: Don't tell me we have an inventory control issue here.

MS MURTHY: No. We know exactly where they are. We know exactly where they are and there are 10, but they are split into two different models of Flexitron.

THE PRESIDENT: Okay. You have some more places to visit.

Ms Velshi. Sorry.

MEMBER VELSHI: So the loose contamination that was found, is it iridium-192 and do you have a better handle of where the contamination may have come from? Is it a defective source?

MR. HOVENKAMP: Egbert Hovenkamp, for the record.

It came from our supplier. The problem was that during the production, the production Hartsell was contaminated, and as a result -- during a very brief period, and as a result of that some sources were externally contaminated. So they were not open, they were simply on the outside externally contaminated with iridium-192. In this particular case we found a contamination of roughly 650 becquerels.

MEMBER VELSHI: And have you checked -- so if it is not the practice that is the issue, then it looks like it's the source, not that it's damaged but that it's contaminated. Have you found issues in your other devices, not just the two in Canada, that have had this contamination issue?

MR. HOVENKAMP: Egbert Hovenkamp, for the record.

In total, we have noticed 13 issues worldwide, one-three, 13.

MEMBER VELSHI: So tell me, what was your reaction to the CNSC's follow-up actions to this?

MR. HOVENKAMP: Egbert Hovenkamp, for the record.

There were multiple actions taken. This Canadian situation occurred almost simultaneously with a situation in the U.K. and as a result of that as soon as we noticed it we put a hold on the production. Then in response to that we issued a user notice that they should check their systems. Our service engineers were informed that they should check the systems. Any return sources to our supplier are checked.

When the production was on hold, the 47 samples on hold, they were all checked and looked whether they were also contaminated. That was fortunately not the case, so multiple actions were taken. Also, the origin of the contamination was eliminated. So, again, multiple corrective actions were done and they were also provided to the CNSC.

MEMBER VELSHI: Thank you.

THE PRESIDENT: Dr. McEwan?

MEMBER McEWAN: No questions.

THE PRESIDENT: Monsieur Harvey?

Mr. Tolgyesi?

MEMBER TOLGYESI: No.

THE PRESIDENT: Okay, thank you. I think it's nice to see that you acted so quickly on a global basis to fix an issue here, so good to hear. Any further comments on this? So thank you for appearing in front of us.

--- Pause

THE PRESIDENT: The next item is an update on the incident involving four uranium hexafluoride cylinders at the Port of Halifax as outlined in CMD 14-M55.

Monsieur Régimbald, c'est vous toujours.

M. RÉGIMBALD : Merci, Monsieur le Président. Donc, on continue.

LE PRÉSIDENT : Oui.

CMD 14-M55

Oral presentation by CNSC staff

MR. RÉGIMBALD: André Régimbald

speaking.

This update relates to the incident involving four uranium hexafluoride, or UF_6, cylinders which occurred at the Port of Halifax on March 13, 2014. Staff reported the incident at the March 27, 2014 Commission meeting, at which time the Commission requested further information on the matter.

CNSC staff followed up with a memo on August 5, 2014 to the Commission Secretary containing the requested information. This is a summary of the information provided in the memo.

The incident occurred as a result of the container, or flatrack, as you may remember, holding the UF_6 cylinders not being properly secured to the crane before it was lifted from the ship, causing the container to fall back into the cargo hold. It has been confirmed that the crane operator had a visual indicator, a green light, confirming that the four locks underneath the crane bridge were engaged in their locked position into the flatrack. The four locks on the spreader bar could only be activated once all four plungers are retracted.

The investigation by the different

stakeholders on why the four locks on the spreader bar had not been properly secured is still ongoing.

The CNSC also found out from the United States Nuclear Regulatory Commission that there had been a similar event in the Port of Baltimore on May 5, 2009 where a flatrack containing four UF_6 cylinders was mishandled and dropped within the cargo hold in a very similar fashion as the ones in Halifax. The investigation into this 2009 event concluded that the locking pin from the spreader bar was not connected, resulting in the flatrack rotating against the side that was securely attached until the container side sheared and the packages dropped into the cargo hold.

In this particular case the spreader bar was found to be at an angle following the event which allowed the plunger to be pushed in, giving a false reading to the crane operator, who lifted the container with only two corner castings in the locked position.

Although the 2009 event was very similar to the one that occurred in Halifax, it cannot be concluded at this time that both had the

same root cause since the investigation related to the event that occurred in Halifax is still underway and there is no clear indication that the spreader bar was at an angle following the event.

The information will be provided to the Commission once it is received by CNSC staff. However, there is no indication at this time as to when it might be available as, as I mentioned before, the investigation is still in progress.

The memo from CNSC staff of August 5 also provides information to the questions raised by the Members of the Commission during the March 27th meeting, namely regarding:

the design requirements for the manufacture of cylinder and what would happen in case of a drop while being loaded into an overpack.

The second question regarding the potential consequences of a 9 metre drop; and finally,

thirdly, the finding of the lessons learned discussion that took place in April.

Regarding the first question, the

cylinders are generally designed and manufactured in accordance with the American National Standard or the International Standard that are specific to UF_6 cylinders. The ANSI and ISO standards are almost identical to the ISO standard referred to in the IAEA transport regulations which specify the requirements for the design and manufacture of these cylinders.

Also, as required by IAEA regulations, the cylinders must undergo a drop test to demonstrate compliance with the regulations. The information on the design, manufacturing and testing must be reviewed by the competent authorities such as the CNSC for the purposes of certifying the packages before they are used.

On the second question, as explained in the CNSC staff memo and during our presentation to the Commission in March, the cylinders and their overpacks are designed and manufactured in such a way that they can safely withstand drops of up to 9 metres without any breach of containment. This was seen in the incident in Halifax where no damage was observed on the cylinders after the 7 metre drop into the

cargo hold.

When cylinders are loaded within a protective overpack, the operation is conducted in a controlled area within a facility and so the cylinders are not expected to be lifted at a significant height. This was seen in the Port of Halifax following the incidents, where cylinders were lifted approximately 1 to 1.5 metres when they were transferred into new overpacks. At those heights, there would be no consequences on the integrity of the cylinder and no release to the environment.

And with respect to the third question, CNSC staff organized an internal meeting to discuss lessons learned with respect to the incident response. Since the event resulted in no impact on the safety or security of the public or the environment, the discussions were centred on improvements to be made to CNSC internal procedures for deploying staff to incident locations and in providing further guidance to first responders on how to relay accurate technical information to the media in the case of incidents or accidents involving nuclear substances.

In addition, there were discussions on possible improvements to be made to internal approvals processes to ensure timely communications from the CNSC to the public.

In response, the CNSC has since provided clarity on the CNSC process to be followed for CNSC staff to travel to locations, if needed, where incidents or accidents happen to ensure that they can be present on site in a timelier manner.

The CNSC, through the Emergency Management Program Division first responders training now addresses public information considerations when responding to radiological events.

And, finally, the CNSC will ensure that timely public information materials are available to the public through the CNSC website and social media platforms early on during the incident response.

CNSC staff does not plan to report again to the Commission on this file, except to provide any information received on the root cause of the incident, if we receive it, and proposes that the file be closed.

We are again available for your questions. Thank you.

THE PRESIDENT: Thank you.

So let's start. Dr. McEwan?

MEMBER McEWAN: So thank you. Much clearer. I think that has really made a difference.

My only question really relates again to the first -- the planned first response, because I think the CNSC people got there the following day. Yes.

Is there any plan for a more immediate attendance at something like that, which is highly public, highly visible? Is there advantage in getting a member of the Commission there right as early as possible after the event?

MR. RÉGIMBALD: André Régimbald here. There is. Our procedure has been improved to make sure that if there -- whatever -- the response will be commensurate with the risk, but we also included a media component or a public information component which would drive the response by the CNSC staff, which was not clear before. So we have improved on that front.

MEMBER McEWAN: I mean, just based

on what we saw, I think it's important to have that so that there is a true expert right on scene as early as possible. Other than that, thank you.

LE PRÉSIDENT : Monsieur Harvey? Mr. Tolgyesi? Ms Velshi? You are getting tired, it must be.

Okay. Well, I have some.

First of all, as usual, is the intention to post it somewhere, publish it somewhere? The root cause is still not done and you are saying that you are waiting for the root cause. So page 3, in fact you are saying to us that once received you will brief us. This is on page 3, the last sentence.

MR. RÉGIMBALD: Yes.

THE PRESIDENT: This is not consistent with saying you are not going to come back in front of us on this.

MR. RÉGIMBALD: Well, we sort of hinted to close the file --

THE PRESIDENT: I know.

MR. RÉGIMBALD: -- but if we receive the --

THE PRESIDENT: And you know we like to see files closed. The question is when.

And again, I was also struck that from the Port Authority, the training and all this, I didn't think that was closed yet. You know, briefing the emergency people, remember we said that we are going to go and remind them again about some of the emergency training, and it says "will address public information" -- using a future "will." It's not done, according to this document. Go ahead.

MR. AWAD: Raoul Awad, for the record.

Actually, when we prepared this memo we didn't finalize yet the training program, but if you noticed during his verbal address he said it is now already in place. We already updated our program and we did it the first time under the new -- if you like, the new model, our curriculum for the training, we did it in Ottawa airport last week.

THE PRESIDENT: But not in Halifax?

MR. AWAD: No. In Halifax, it's coming.

THE PRESIDENT: Okay.

One other piece of information. I

thought that they were going to repackage the load and send it down to the U.S., whereas here it says it went back to the U.K. What am I missing?

MR. FAILLE: Sylvain Faille, for the record.

In this particular case, as the accident -- or the remediation was evolving there had been a decision by the consignee or the person in the U.S. that they didn't want those cylinders because they had passed their window to receive them.

So they were sent back to the U.K. where they came from and they are going to be probably resent to another company later on because it is always the same material and there was no damage. Actually, in fact they were repackaged in Halifax with new overpacks, but they were sent back to the United Kingdom instead of proceeding to the United States. That was the decision --

THE PRESIDENT: I could have sworn that you guys sent a note that you saw the truck going down to the States, I thought. So okay, how was it shipped back to the U.K.?

MR. FAILLE: The new flatrack was

ordered and was onsite. They reloaded the four cylinders into the new overpacks and that container was sent back to the United Kingdom on board another ship.

And the company, RSB Logistics, which was the licensee in this case, disposed of the damaged container, the flatrack, through local waste disposal -- not disposal but a scrapyard, and the overpacks were sent back to a company in the United States, the empty overpacks. Those are the ones that were sent to the United States for further analysis on the overpacks themselves that were emptied and involved in the accident.

THE PRESIDENT: So it was disposed of in Canada?

MR. FAILLE: The container was disposed of in Canada, while the overpacks were sent back to the manufacturer for analysis and repair.

THE PRESIDENT: How do you dispose of this stuff?

MR. FAILLE: In this case the flatrack was just considered steel. There was no contamination on it, so it just went to a metal recycling facility.

And for the overpacks, like I said, they were sent back to the manufacturer. So they are going to see if they can repair them and put them back into service.

THE PRESIDENT: Okay. So the question is then what is the next step in this?

MR. RÉGIMBALD: Okay. André Régimbald here.

I just want to go back to your question about the root cause analysis. We are satisfied from our end that the container safety was assured and we continue to believe that they are safe.

So the investigation that is currently going on is headed by the insurance companies and the various -- like the port authorities to determine, you know, liabilities and responsibilities more than really what happened to the container, because I believe there are hundreds of thousands of these operations done on a regular basis. Perhaps Mr. Faille or Mr. Thériault can supply more information.

But from our end, from the regulatory perspective, since the safety is assured by the container, which in this case

performed as designed, then we have -- we have no further concerns with this matter.

THE PRESIDENT: So do we need a document to be posted, because you posted all kinds of stories on our web on this kind of thing and it was promised that you will get back. Do you need something to close it off?

MR. RÉGIMBALD: Yes. When we receive the information, if we receive it, we can certainly post the information. Thank you.

THE PRESIDENT: When was it promised?

MR. RÉGIMBALD: We can also put information like the photographs or the --

THE PRESIDENT: Yes.

MR. RÉGIMBALD: The 2009 incident that you have, we can put information on that as well.

THE PRESIDENT: Who is delivering the root cause?

MR. RÉGIMBALD: As I said, I believe it's the insurance companies. Perhaps Mr. Thériault can supplement.

MR. THÉRIAULT: Martin Thériault, Transport Officer, for the record.

The root cause will be provided by the marine surveyors that are working for each party involved, so the terminal operator, the shipping line and the freight forwarder, which was the licensee in that instance.

The licensee, when they receive the root cause they will provide it to us, but since the package is not involved we don't have a regulatory involvement in that aspect. But they promised to forward the complete investigation report to us for information.

THE PRESIDENT: Did they give you a timeline? It doesn't sound to me like it is going to happen tomorrow.

MR. THÉRIAULT: No, they don't have a timeline. There is legal involvement implied in there, so they don't have a timeframe for completion of the full investigation.

THE PRESIDENT: Okay.

MR. AWAD: If you give me a few minutes, I would like to clarify my answer.

Our program, First Responder Training Program, is updated to have a communication to the public in it. We tested it first with the Ottawa airport, but for Halifax it

is scheduled to be due for a refreshment maybe in the next few months because the last training was more than five years.

THE PRESIDENT: Okay, thank you.

Monsieur Régimbald, I understand that you want to provide a verbal update on another situation. Please proceed.

MR. RÉGIMBALD: Yes, that's correct. Thank you very much. André Régimbald here speaking.

This brief oral update provides information on actions taken recently by CNSC staff in response to the abandonment of nuclear substances contained in fixed nuclear gauges at the premises of a former licensee in Loyalist Township, Ontario.

The two gauges are Texas Nuclear fixed gauges, each containing 1.85 GBq of Cesium-137 -- which would be a Category 4 according to the IAEA categorization of 1 to 5, 5 being the lowest risk -- which were used as part of oil processing equipment at a facility owned by Envirofuels, who was previously issued a CNSC licence authorizing it to use the gauges.

The licensee is no longer in

business and the gauges were left in a locked cabinet when the company ceased operation. The Township took measures to secure the site following the departure of the company.

Recently, on July 31, 2014, CNSC inspectors attended the former licensee's building and took possession of the two gauges with the assistance of the Loyalist Township Fire Department. The CNSC undertook this action to assure continued regulatory oversight of the gauges in the interest of public health, safety and security, and the gauges are currently in secure storage at the CNSC laboratory in Ottawa, awaiting their final disposal.

Thank you.

THE PRESIDENT: Do they have any value? Do they have any monetary value, those gauges? Because I'm told that for those that have some value there is a market for them.

MR. RABSKI: Henry Rabski, for the record.

Those two particular gauges were old fixed gauges that were purchased by the company some time ago. They are cesium sources, so the sources themselves do not have any really

intrinsic value, significant value that somebody would want to recuperate them and recycle them. So essentially, they are going to end up going to -- they are going to be decommissioned or put into disposal.

THE PRESIDENT: Is this the kind of a situation where our insurance would be played in or are the amounts trivial?

MR. RABSKI: Henry Rabski, for the record.

Yes. That would be the financial guarantee, where the financial guarantee would kick in and we would be able to go ahead with the disposal.

THE PRESIDENT: Does anybody have any questions?

Well, we are looking forward to hearing the full story.

MR. RÉGIMBALD: We don't intend to provide any further updates.

--- Laughter / Rires

MR. RÉGIMBALD: The gauges are in the laboratory.

THE PRESIDENT: Well, when you find out how you are going to dispose of it you

probably will --

MR. RÉGIMBALD: There is a plan to dispose of it. Perhaps Henry can provide info.

MR. RABSKI: Henry Rabski, for the record.

In a case where there is a possession by the inspector, we put those into safe storage at the CNSC Laboratory storage facility and we will make the provisions to get them to final disposal at Chalk River.

MEMBER TOLGYESI: Is there some obligation of a company who possesses these kind of devices and is going out of business to advise, to report to CNSC or to authorities that he ends the business and there are so many devices there, so please take care of them? Because if not and they leave it there and the public could get in, I mean we will be in deep trouble.

MR. FUNDAREK: Peter Fundarek, for the record.

Yes, there are comprehensive requirements for licensees to report to the CNSC under section 29(1) of the *General Nuclear Safety Control Regulations* for those specific reasons, for where there is a bankruptcy, where there is an

impending bankruptcy or other actions under the *Creditors Act* and similar actions like that.

I also would like to point out that during licence renewals right now, when we have the applicant authorities sign off on the licence, they are also signing that they would be in the position to know of any impending bankruptcy or other actions under that section of the Regulations and that they are not aware of any such actions ongoing. So we do check at the time of renewal that they are not renewing the licence and about to go bankrupt, but also there are reporting requirements.

MEMBER TOLGYESI: In these cases when we give a licence, it's to the company or to the individual? Because how far could we pursue the individual because it was not done?

MR. FUNDAREK: Peter Fundarek, for the record.

The licences are issued to an individual or to a company. It has to be a person under -- according to the Act and Regulations, but in this case they were issued to a company.

But again, in the applicant authority, as part of the applicant authority's

requirements to sign off on the licence, we are asking now for a copy of a government-issued identification and it's our intention that if a situation like this happens in the future whereby we have a person's identification on file, we will then go after that person because they are signing on the applicant authority form that they know that they have to notify us in accordance with these regulations. So then we would pursue enforcement options with that person directly.

THE PRESIDENT: Okay. Listen, but it's also a function of how much money we are talking about because it may be not cost-effective to go after some of those people. We can always take them to court. Whether it is an individual or a company, you can stand in a long line of creditors and try to get your piece of the action. Maybe we will get to the front of the line and convince some of our CBCA -- CBCA? I don't know -- people that we are more deserving than anybody else, but I wouldn't hold my breath on this. I think an insurance scheme is probably the best thing for us to rely on.

Okay, thank you. I think we are going to take now a 15-minute break and then we

will come back and listen to this compelling story about the implementation of RD-336.

--- Upon recessing at 3:55 p.m. /
Suspension à 15 h 55
--- Upon resuming at 4:21 p.m. /
Reprise à 16 h 21

THE PRESIDENT: The next item on the agenda is an update on Regulatory Document RD-336, Accounting and Reporting of Nuclear Material, as outlined in CMDs 14-M41 and 14-M41.A.

I understand that Mr. Awad, you will make the presentation. Please proceed.

CMD 14-M41/14-M41.A
Oral Presentation by CNSC staff

MR. AWAD: Thank you very much.

Bon après-midi, Monsieur le Président et Membres de la Commission. Au moins on va finir la journée avec une bonne histoire.

--- Laughter / Rires

LE PRÉSIDENT : C'est une bonne introduction.

MR. AWAD: My name is Raoul Awad, Director General, Directorate of Security and Safeguards.

With me today, Mr. Barclay Howden, Director General of Information Management and Technology Directorate, Mr. Marc Larocque, Director of Application Service Division and Mr. Patrick Burton, Acting Director of International Safeguards Division and our expert in the safeguards accounting, Mr. Wayne Gibson.

As requested during the Commission Meeting of January 17, 2013 we are here today to provide you with an update of the implementation of RD-336.

--- Pause

MR. AWAD: As a party of the Non-Proliferation Treaty, Canada concluded the Safeguards Agreement with International Atomic Energy Agency. Under this agreement Canada implemented safeguard measures to ensure that all nuclear material and activities in Canada are for peaceful use.

According to this agreement, Canada must support regularly on transfers and inventories of nuclear material. And when we

mention nuclear material that means uranium, all the spectrum of isotopes of uranium, plutonium and thorium to the IAEA.

The RD-336 is a regulatory mechanism by which the CNSC gather the data to fulfil this obligation. And I can report to you that all our licensees who are required to comply with RD-336 are in full compliance.

According to the RD-336 the licensees submit their report on the Inventory of Nuclear Materials. The CNSC receive licensees' report and enter them into a database called "Nuclear Material Accountancy System" or NMAS. Most of these reports are received via email in PDF format. CNSC staff enter this data manually into the NMAS. More than 1,200 forms per year are treated manually by CNSC staff in this NMAS system.

The NMAS then generate their required report for submissions to the IAEA and other reports for internal CNSC use.

Three types of reports submitted by the licensees. The examples for 2013, CNSC received 1,100 Inventory Changes reports, 1,500 General Ledgers Reports and 150 Inventory Listing

reports for a total of 12,650 reports.

After the receiving these reports from the licensees, CNSC staff validate, aggregates the data and reports to the IAEA. For 2013, the CNSC submitted 330 Inventory Change Reports, 55 Material Balance reports and 55 Physical Inventory Listing reports for a total of 440 reports. All these reports were submitted with the required time and without any delay.

In 2010, the CNSC issued the REGDOC-336 and the Commission directed staff to modernize the Nuclear Material database system (NMAS) and to work on electronic submission of the licensee reports. Since then, we have been working on systems to allow receipt of machine-readable nuclear materials accountancy reports. The machine readable will eliminate the risk of transcription errors. In addition the reports will be received via the CNSC's e-business secure website and they are automatically archived into eAccess. This system eventually became the Nuclear Materials Accounting Reporting (NMAR) portal.

And Mr. Patrick Burton will present the overview of this portal, the

development and the future revision of RD-336.

Mr. Burton...?

MR. BURTON: Mr. President, Members of the Commission, my name is Patrick Burton, for the record, and I'm currently the Acting Director of the International Safeguards Division.

The development of NMAR included its integration into the CNSC's e-business website. NMAR's ability to automatically file submission into eAccess and upgrades to the Nuclear Materials Accountancy System to allow it to use machine-readable data. NMAR can accept machine-readable data using either special Excel forms which are available from the CNSC website or using an XML, or Extensible Markup Language data file.

Once the system was nearing completion the CNSC also undertook a series of outreaches to affected licensees to inform them of the new system and its benefits. NMAR development was completed in October of 2013 and the system was open for licensee use in November of 2013.

Because we've created two acronyms that are both very similar and relate to similar

things, I'll just make sure that we're very clear on what each of them mean.

NMAS stands for the Nuclear Materials Accountancy System which is the CNSC's internal database for tracking inventories and transfers of nuclear materials. Licensee data is entered into NMAS and the NMAS creates reports for both domestic and IEAE use.

NMAR stands for Nuclear Materials Accounting Reporting which is the web application which permits licensees to securely upload machine-readable data to the CNSC either using the special Excel forms or an XML data file. So effectively, licensees can use NMAR to submit reports into NMAS and thereby be compliant with their obligations under RD-336.

So this is a graphical depiction of the licensees that submit nuclear materials accounting reporting to the CNSC as per RD-336. You can see that we get data from the entire fuel cycle, AECL's Chalk River Laboratories and various smaller licensees.

This pie chart shows the breakdown of forms received in the 2013 calendar year. This is specifically Inventory Change Documents which

is a material transfer form. For any movement of nuclear material between facilities an Inventory Change Document is submitted by both the shipper and the receiver. You can see that the single largest submitter of ICDs in 2013 was AECL's Chalk River Laboratories.

As I mentioned before, NMAR was open for licensee use in November of 2013. Prior to that the CNSC carried out outreach to all affected licensees well prior to NMAR becoming available for us. It was always understood that smaller licensees who submit few reports would be more likely to quickly become users of NMAR and this has proven to be the experience thus far.

These licensees have been able to simply switch to using the updated version of the Excel forms which are compatible with NMAR and most of them have already done so. These licensees represent less than 1 percent of annual reports received by the CNSC. However, their early adoption of NMAR has allowed us to carry out real world testing of the system without an unreasonable volume of forms.

We've also had significant interest from our larger licensees. However, they

use proprietary internal software packages which must be altered to produce output in a format which is compatible with NMAR. This is because most major licensees are pursuing the use of machine-readable data. That is the XML or extensible markup language data format as opposed to the Excel forms. This offers significant efficiencies to licensees to submit larger volumes of reports.

AECL and GE Hitachi have indicated that they are likely to begin using NMAR by late 2014 or early 2015 with Cameco, OPG and Bruce Power likely to be getting to use NMAR by the end of 2015. These five licensees; AECL, GE Hitachi, Cameco, OPG and Bruce Power each represent a significant percentage of reporting received by the CNSC and collectively represent nearly all of it.

So they are used by -- their use of NMAR to comply with RD-336 will bring great efficiencies to the CNSC's operation. This in turn will free staff from data entry tasks and permit them to spend more time on data analysis tasks.

So this again is the graphic

showing who submits nuclear materials accountancy reports to the CNSC under RD-336 and this then is the uptake of NMAR to date by our various smaller licensees. We have -- I'll say numerous users. We have eight licensees that are currently using the system but they again represent a small minority of the volume of reporting.

Our current NMAR users have already provided feedback on their experiences which so far has been very positive. Licensees have stated that gaining credentials to use the NMAR portal is easy. Many of them were in fact existing users of the CNSC's e-business system, whether for annual compliance reports or sealed source tracking, meaning they have pre-existing credentials which simply had to be adjusted to give access to NMAR.

Licensees appreciate that the CNSC has moved to electronic reporting because it saves them work. Although it's not a CNSC requirement, many had been filling in Excel forms, printing them and signing them in ink, scanning them as a PDF and emailing them to us. So under NMAR all of that is simply a case of filling out the form and uploading it to the website which saves them work

as well as us.

Licensees have also indicated that they appreciate the feedback given by NMAR. NMAR carries out checks for simple errors on upload. For instance, if there is a field which is a mandatory field to have data in, then that field is blank and NMAR will bounce that back at them with feedback on why the bounce back happened.

NMAR also provides acknowledgement of successful uploads and licensees further appreciate that transmission via NMAR is secure.

So under the future of RD-336 a revision to this REGDOC is planned for the 2016-2017 fiscal year to reflect experience with the document to date. The updated version will also include a requirement to submit reports to the CNSC using the NMAR portal. As part of the process for updating the regulatory document, extensive outreach with industry will be performed to ensure that they are aware of this change well in advance.

In conclusion, RD-336 has been in effect since January 1, 2011 and all affected licensees are currently in compliance.

NMAR is a new method for licensees

to submit reports pursuant to RD-336 which stands to bring significant efficiencies to both the CNSC and licensees.

And the CNSC is working on updating RD-336, including mandating the use of electronic submission of machine-readable reports.

And with that we are happy to take any questions that you might have.

THE PRESIDENT: Thank you.

So let's start the question session. Monsieur Harvey, s'il vous plaît.

MEMBRE HARVEY : Ma première question, c'est pour votre acétate -- slide 8 -- l'ancien système. Je voudrais comprendre un peu pourquoi... On voit que les données arrivent dans l'ordinateur, mais le eAccess puis le NMAS database, pouvez-vous expliquer un peu ça là parce que ça me prendrait le 101 pour comprendre ça, pourquoi ça va à deux endroits comme ça?

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

eAccess is the CNSC's as a whole, document repository. So any information that's received from a licensee, especially pursuant to a regulatory requirement, needs to be filed in

eAccess.

NMAS is the database which is specific to nuclear materials accounting reporting information. NMAS is also an entire software package. So NMAS has the capability to manipulate data to create the reports. So they are both fulfilling an archiving function but for different purposes.

MEMBRE HARVEY : Une autre question. Avez-vous reçu... Quel genre de commentaires vous avez reçus depuis que le système a commencé à fonctionner?

MR. BURTON: Patrick Burton, for the record.

So we do have eight licensees that are already using NMAR and, again, their feedback to us has been very positive. As I listed on the slide, they find that gaining access to NMAR is easy, that NMAR has a lot of positive aspects for them. It gives instantaneous feedback for simple mistakes. It gives acknowledgement of receipt. And they also appreciate that NMAR is a secure channel for providing this information to the CNSC.

MEMBRE HARVEY : Merci.

THE PRESIDENT: And you're not surprised that the big guys are still on the sidelines doing manual stuff with us, you know, and rather than jump in and spend all the resources to go online?

MR. AWAD: Actually, they are not on the sidelines. OPG already started the project maybe 18 months ago.

But as you know, the big corporations need too much time to have this in place. CAMECO is updating their whole IT system. Then for this big licensee it takes time.

Chalk River, for example, which represents almost more than a third of the report, already going to modernizing their system to be able to communicate with our system in machine-readable reporting. But they are working on it. They are not waiting, but a work in progress.

THE PRESIDENT: Okay. Who is next here?

Mr. Tolgyesi...?

MEMBER TOLGYESI: Merci.

You said it's eight licensees are using NMAR which is eight over what, 3,500 licensees we have about?

MR. BURTON: Patrick Burton, for the record.

So out of the CNSC's, I guess, 3,500-odd licensees there's only 50 or 60 entities, I believe, that are submitting under RD-336. So eight out of the entire population of licensees is quite small but eight out of the population that are required to comply with RD-336 is quite a bit bigger.

MEMBER TOLGYESI: Okay. So it's eight over 60.

And what about transmission data? How much represents those eight over 60? How much is that data to the total? What should be handled by RD -- I don’t know what 636 -- 336?

MR. BURTON: Are you referring to the proportion that those eight represent of the total?

MEMBER TOLGYESI: No.

MR. BURTON: Or like the amount of data in kilobytes or megabytes?

MEMBER TOLGYESI: Yeah, what's the proportion? You know, because it's eight over 60, but it could be maybe 99 percent of data which is transmitted.

MR. BURTON: Patrick Burton, for the record.

No, no. It's the opposite. Unfortunately they represent an extreme minority of the amount of data that we receive because of the simplicity of their operations. Again, it comes back to the licensees who have the fewest reports to submit being the ones who can begin to use the system most easily and most quickly.

MEMBER TOLGYESI: Yeah, because I believe that like OPG there is a ramification. It's not only the final data that they transfer to you, but they should adjust all the software which is going from all operations. So that's what takes time.

My last question is what we do -- you know, lately we heard about a kind of cyber-attack against the federal government or some other government, and so and so. So what do you do to make sure that you are -- I didn't say you are easy target but to make sure that you are not a victim?

MR. HOWDEN: Barclay Howden speaking.

So I'm going to ask Marc Larocque

to answer a little bit of the detail with NMAR itself, but in terms of the broader cyber posture of the government, Shared Services Canada provides the cyber and IT security for the Government of Canada. So they have measures in place to protect the network against attack. They are supported. One of their main partners is Communications Security Establishment which is doing a lot of electronic monitoring analysis and then providing the information to their cyber security folks.

So there is hardening around the network and with the recent National Research Council incident there's a lot of lessons learned going on to make sure that there is more defence in depth put in place.

In terms of NMAR I'll ask Marc Larocque just to comment on why that data is protected as it comes in.

MR. LAROCQUE: Marc Larocque speaking.

In terms of credentials we are using the credential management solution provided by the Government of Canada which is GCKey or SecureKey. They are partners to ensure that we've got proper credentials when it reaches our system.

Once files are put into our system we have a few measures in place to ensure that they are not -- they don't have any viruses or anything like that before we actually process them and put them into our system. And also the NMAR system is a push system so they cannot retrieve any data from it. They can only send -- submit files to our environment.

THE PRESIDENT: Okay. Thank you.

Ms Velshi...?

MEMBER VELSHI: You mentioned this whole result in great efficiencies for the CNSC. So give us some indication of your data inputters, how many you have and how many would you need once all of this is automated.

MR. BURTON: Patrick Burton, for the record.

We currently have two extremely hard-working ladies who input all 11 to 12,000 of those forms every year. We expect that we'll continue to have them again in the same role but in more of an analysis role at the same time.

They currently are fulfilling both of those roles right now but the split that they have between data entry and data analysis is

undesirable. So they will continue to work for us. They'll continue doing the same type of work, the same position. It'll just a be a more value-added type of task than what they're doing now.

MEMBER VELSHI: Thank you.

THE PRESIDENT: Thank you.

Dr. McEwan...? Okay.

MEMBRE HARVEY : Juste pour dire à monsieur Awad que la bonne nouvelle, ça va être quand tout le monde va être intégré.

LE PRÉSIDENT : Oui, oui, oui. Alors, quand est-ce qu'on va voir ça?

M. AWAD : Justement, lorsqu'on va mettre ça obligatoire pour tous les détenteurs de permis en 2016, donc, tout le monde va rapporter... il n'y aura pas de paperwork. Everybody will have to log onto our portal to report. There will be no more reporting in the manual way.

THE PRESIDENT: Do they all know that it all has to be online by 1617?

MR. AWAD: Actually, we started our outreach when we talked to them. We told them we will give you this period just for adjustment, but our regulatory document will go through the

revision process and when it's revised it will be mandatory for everyone.

But nevertheless, in 2016 or end-2015 we are planning a big outreach activity to reach our licensees who are not really -- the big licensees, the good news, they know and they are coming.

Like CAMECO and Chalk River and the power reactors they are coming online. They know and they are a work in progress but we still have some facilities that we need really to, I can say, convince them in the beginning and then we'll make it mandatory.

THE PRESIDENT: So are you really planning to assume bragging rights as being the first country in the world to do this?

MR. AWAD: Yes, and actually -- Raoul Awad for the record -- the IAEA is very, very pleased that we are ahead of everybody on this one.

The only problem, you know, when we started this project we informed the IAEA and we told them that this is the future of where we are going and we need a link, a direct link, secure authentication without this mailbox that

you are using now. The big problem IAEA is much more -- you know, the inertia is bigger than any government I think and they are going very slowly. We have one of our staff going to the IAEA to help them update their system to be able to communicate with our system.

THE PRESIDENT: That's a good strategy to send somebody from our staff to help us there.

--- Laughter / Rires

THE PRESIDENT: That's pretty good.

Anybody else?

So far there has been no glitches in the software development? Everything is working, right? You guys know that developing new software is not trivial. So I'm looking at our CIO here. Tell me that this is not going to be like some other software applications that have not had such success.

MR. HOWDEN: Barclay Howden, for the record.

I'd say this has been a great success. One of the things the development team did was in previous projects where we had pieces

of software that worked very well, we reused them. And so with NMAR we developed further that we're going to reuse for further projects. So we're not creating new each time. We're recycling as much as possible.

And as you know, as we go forward with further projects if we can avoid doing custom design we will and we will go for buying commercial off-the shelf software which then we can configure.

But in this case this has been a really good new story, I think partly because our business partners here ahead of us did a very good job to defining what requirements are required and I think we did good interfaces with the licensees so that they actually want to use the software.

THE PRESIDENT: So will that help us reconcile our AA -- you know, we have administrative arrangement with many, many countries. And will that help us reconcile with IAEA and our own records, some of our own inventory? Is that eventually going to go over there?

Mr. Gibson...?

MR. GIBSON: Wayne Gibson, for the

record.

You're talking about our bilateral partner information which of course our nuclear internal accounting system handles very well and provides reports, information back on that. A lot of that information is not transferred over in our state reports to the IAEA. We only report nuclear materials accounting as per the Safeguards Agreement.

So the bilateral partner information that our NMAS does received through NMAR and deposited into NMAS, a lot of that is not reported to the IAEA.

THE PRESIDENT: But I'm talking about specific one in which IAEA will have data and I assume it's going to be the same data that you will have.

MR. GIBSON: Yeah, that is true.

Yes. The specific party that you're referring to is something that we do intend using NMAS for, broader -- to a broader extent than we do or have done in the past. I think for other countries we could also track even more. It depends on how much data we want them to send us.

THE PRESIDENT: Okay, thank you.

Anybody else has a final word? Okay, thank you. Thank you very much.

Surprise, surprise. This concludes the public meeting of the Commission probably on -- whoops, got too excited about this.

--- Laughter / Rires

THE PRESIDENT: So it's on time. So Marc, you want to close?

MR. LEBLANC: There's no one.

THE PRESIDENT: There's nobody? Okay.

So thank you all.

--- Whereupon the meeting concluded at 4:48 p.m. /
La reunion s'est terminée à 16 h 48