

**Canadian Nuclear
Safety Commission**

**Commission canadienne de
sûreté nucléaire**

Public meeting

Réunion publique

September 13th, 2012

Le 13 septembre 2012

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

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

Commission Members present

Commissaires présents

Dr. Michael Binder
Dr. Moyra McDill
Ms. Rumina Velshi
Mr. André Harvey

M. Michael Binder
Mme Moyra McDill
Mme Rumina Velshi
M. André Harvey

Secretary:

Secrétaire:

Mr. Marc Leblanc

M. Marc Leblanc

Senior General Counsel:

Avocate général principal :

Ms. Lisa Thiele

Mme Lisa Thiele

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Ottawa, Ontario

--- Upon commencing at 9:06 a.m./

La réunion débute à 09h06

1. 12-M45

Opening Remarks

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

Mon nom est Marc Leblanc. Je suis le secrétaire de la Commission et j'aimerais aborder certains aspects touchant le déroulement de la réunion.

We have simultaneous translation. Please 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 2 and the English version is on channel 1.

Please identify yourself before speaking so that the transcripts are as complete and clear as possible.

La transcription sera disponible sur le site web de la Commission dès la semaine prochaine.

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

Please silence your cell phones and other electronic devices.

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

Président Binder.

THE CHAIRMAN: Thank you, Marc, and good morning and welcome to this public hearing of the Canadian Nuclear Safety Commission.

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

Je vous souhaite la bienvenue and welcome to all of you who are joining us through our webcast.

I'd like to begin by introducing the members of the Commission that are here with us today. On my right is Dr. Moyra McDill; on my left, Ms. Rumina Velshi and Mr. André Harvey. We've heard from Mr. Marc Leblanc, the Secretary of the Commission and we have Ms. Lisa Thiele, Senior Counsel to the Commission, with us here today.

MR. LEBLANC: *The Nuclear Safety and*

Control Act authorizes the Commission to hold meetings for the conduct of its affairs.

Please refer to the agenda dated September 6 for the complete list of items to be presented today.

In addition to the written documents reviewed by the Commission for today's meeting, CNSC staff and licensees will have an opportunity to make presentations and Commission Members will be afforded an opportunity to ask questions on the items before us.

We have three items that will be in the public front here in this room this morning; we have three in camera sessions this afternoon that will also be conducted in this room.

Thank you.

2. 12-M46.A

Adoption of the Agenda

THE CHAIRMAN: Okay. With this information, I would like to start by calling for the adoption of the agenda, as outlined in CMD 12-M46.A.

Do we have concurrence?

For the record, the agenda is adopted.

3. 12-M49

**Approval of Minutes of
Commission Meeting held
August 14 and 15, 2012-09-13**

THE CHAIRMAN: I would like to now call for the approval of the Minutes of the Commission meeting held on August 14 and 15, 2012 as outlined in CMD 12-M49.

Any comments? Additions? Deletions?
Anything?

Mark, I assume that all those actions items are being followed up by the Secretariat and do we ---

MR. LEBLANC: Beautifully.

THE CHAIRMAN: Yes. I just wanted it on the record.

Thank you.

So, for the record, the minutes are approved.

4. Status Report

4.1 12-M50

**Status Report on Power
Reactors**

THE CHAIRMAN: We will now proceed to the Status Report on Power Reactors which is outlined under

CMD 12-M50.

And before I turn the floor to CNSC staff, I would like to note that representatives from OPG are joining us via videoconference in Darlington. This is the true test of technology.

Mr. Duncan, are you with us?

MR. DUNCAN: For the record, Brian Duncan, Senior Vice-President. I'm here, Mr. Binder.

THE CHAIRMAN: Thank you.

So -- and also, we have Monsieur G  linas?

M. G  LINAS: Oui. Claude G  linas, ici.

LE PR  SIDENT: O.k. Merci beaucoup.

So, I'll turn now to CNSC staff.

Mr. Rzentkowski, you will make the presentation. Please proceed.

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

I would like to provide a further update to information included in the Status Report on Power Reactors, CMD 12-M50.

There are some important changes which I would like to bring to the Commission's attention and there's also one event initial report on Darlington Unit 1.

I would like to start from Section 1.1

which relates to Bruce A, Unit 1. Bruce Power's troubleshooting of the Annulus gas system has concluded that the issue is dependent on the temperature of the heat transport system and that the system blockages disappear when the unit is cooled down.

In order to diagnose the issue, Bruce Power needs to have the system -- the heat transport system hot for the blockages in the Annulus gas system to appear to determine the cause and eventual solution.

The Annulus gas system is used to detect the leak before eventual rupture of a pressure tube. CNSC staff has reviewed the risks associated with having the heat transport system hot and Annulus gas system blockages in place in approximately 10 per cent of fuel channels.

CNSC staff concluded that since the pressure tubes are new and have been extensively tested, there is minimal risk of a pressure tube leak or break. Leak detection, however, is still available through the Beetle alarms.

As a result, CNSC staff has issued an approval in accordance with the licence to allow troubleshooting to occur to determine the full extent of conditions and to restore the Annulus gas system to meet operating requirements.

Resolution of this issue has been added as

the prerequisite to releasing the regulatory hot point at 50 per cent reactor power.

The next update is pertaining to Section 1.3, Darlington Unit 1; this update represents an event initial report in relation to the unit force outage that was reported in the Status Report.

As already stated by the President, the site staff and the OPG staff and Vice-President, Brian Duncan, are online to provide further details or answer questions the Commission may have.

On September 5th, 2012, the unit underwent a pressure transient at 7:24 due to a valve failure in the primary heat transport purification circuit, which in turn caused the failure of a heat transport feed pump.

As the other feed pump was offline for maintenance, the air from the purification system entered the primary heat transport feed and bleed system. Consequently, the reactor power was gradually reduced to 2 per cent of full power at the rate of .5 per cent per second by the reactor control system, in response to high pressure in the bleed condenser. The reactor was safely shut down at 8:14 and remains in a guaranteed shutdown state.

An investigation is underway as to the cause of valve failure as well as the return of the 2-feed

pumps to service. The investigation includes also an analysis of fuel and pressure tubes, although the primary heat transport cooling was maintained and there is no indication of fuel failure or pressure tube stress.

CNSC staff requested that the unit remains in a guaranteed shutdown state until CNSC staff are satisfied that the event has been fully investigated by OPG and that any resulting changes to procedures and equipment have been identified and possibly implemented before restart.

This concludes my event initial report on Unit 1.

The Darlington Unit 2: on September 9, 2012, the unit was shut down for maintenance outage to repair the regulating system flux detectors. The unit remains hot at 265 degrees Celsius and pressurized at 9.9 megapascals until all the failed detectors are replaced.

The unit is scheduled to return to service on September 16, 2012.

Section 1.4, Gentilly-2: Hydro-Québec à Gentilly-2 prépare présentement le plan de travail des réparations et d'inspection avant son retour en production électrique. Notons que le personnel de la CCSN étudie présentement les demandes d'autorisation requises pour

certain aspects de l'intervention en chantier. Le personnel de la CCSN est présent et surveillera aussi cette intervention.

Le chef de centrale et le chef de service technique de Gentilly 2 sont en ligne si vous désirez en discuter davantage.

Section 1.6, Pickering B, Unit 6. The unit is now at 100 percent of full power.

And their last update pertaining to Section 1.7, Point Lepreau Refurbishment; the unit is now at 14 percent of full power and preparation for commissioning of the turbine continues.

This concludes my update to the Status Report. CNSC staff is now ready to answer any questions the Commission may have.

THE CHAIRMAN: Thank you.

Okay, the floor is open. Who wants to go?
Monsieur Harvey?

MEMBRE HARVEY: Ma question irait à Monsieur Gélinas d'Hydro-Québec au sujet des réparations et de l'inspection que vous comptez entreprendre.

Avez-vous une idée du temps requis pour faire cette inspection et les réparations requises?

M. GÉLINAS: Présentement, on est encore --
Claude Gélinas, Gentilly 2.

Présentement, on est encore à l'évaluation de la préparation du travail. C'est un travail qu'on n'a jamais fait. Il faut aller retirer une pièce mobile dans la tuyauterie du modérateur et on s'attend à ce que ça dure quelques semaines mais on n'a pas de -- de temps précis présentement à cause de cet aspect nouveau-là.

C'est toutes des nouvelles interventions qu'on doit faire.

MEMBRE HARVEY: Je pose la question en relation avec le fait que vous devez arrêter les opérations au mois de décembre.

Est-ce que vous pensez qu'il va rester assez de temps pour -- que ça va valoir la peine de remettre l'opérateur -- le réacteur en fonction avant la fermeture?

M. GÉLINAS: Oui, on le pense et on travaille fort pour y réussir à le faire marcher encore un mois ou deux.

MEMBRE HARVEY: Et juste me tourner vers le personnel pour voir si vous êtes du même avis que les réparations qui -- la façon dont vous voyez ça, est-ce que les réparations pourraient être plus longues que deux à trois semaines?

M. RINFRET: François Rinfret, pour le programme de réglementation de Gentilly.

Pour le personnel, le temps requis pour faire le travail a relativement peu d'importance. Ce serait une décision d'Hydro-Québec de poursuivre ou non après ces opérations de réparation jusqu'à -- jusqu'à la fin de l'année.

Ce qui compte pour le personnel c'est que les activités soient faites -- même des activités qu'on ne fait qu'une fois soient bien préparées et puis aient les autorisations requises, ce que nous sommes en train de faire présentement pour certains aspects de ces interventions-là.

MEMBRE HARVEY: Donc, vous n'avez pas encore donné votre autorisation pour les travaux?

M. RINFRET: Présentement, nous avons sur nos bureaux deux petites autorisations précises à donner et ce genre d'autorisation a déjà été donnée.

Alors, je ne pense pas qu'on ait de difficulté à autoriser la suite des choses.

Évidemment, ce qui serait important c'est l'inspection après que le travail aura été complété pour être certain que le titulaire peut redémarrer jusqu'à la fin de ses opérations prévues là à Noël.

MEMBRE HARVEY: Mais aussi longtemps que c'est sur vos bureaux, c'est pas rendu à Hydro-Québec?

M. RINFRET: Effectivement.

MEMBRE HARVEY: Qu'en pensez-vous ---

M. RINFRET: On n'est pas présentement sur le chemin critique à la Commission parce que la planification du travail est vraiment importante pour le titulaire, pas pour nous.

C'est une petite partie du travail qu'on a à faire ici.

MEMBRE HARVEY: Mais quand pensez-vous donner l'autorisation?

M. RINFRET: D'ici quelques jours. Moins de deux ou trois jours.

Ce sont des autorisations qu'on a déjà données avant et le titulaire a déjà démontré, dans ce genre d'intervention-là, qu'il était très capable de le faire dans l'encadrement requis.

MEMBRE HARVEY: C'est parce que Monsieur Gélinas disait c'est quelque chose qu'ils n'ont jamais fait.

M. RINFRET: L'intervention de réparation, effectivement, ça n'a jamais été fait.

Par contre, les autorisations qui requièrent l'entrée en scène de la Commission ont déjà été données.

Par exemple, une réduction d'un débit dans un circuit, une autorisation de -- quelle est la deuxième

donc?

J'ai oublié la deuxième mais ce sont des -- des autorisations récurrentes; donc, sans trop d'importance.

Mais le travail lui-même et l'inspection, ça c'est du nouveau pour Hydro-Québec.

MEMBRE HARVEY: Mais est-ce que c'est du nouveau pour vous aussi?

Est-ce que ça déjà été fait ailleurs?

M. RINFRET: De retirer les composantes d'un réacteur?

Non, c'est -- c'est pas commun mais ça a déjà été fait même à Gentilly 2 aussi. Retirer des pièces dans les tuyauteries, ça a déjà été fait.

MEMBRE HARVEY: Merci.

LE PRÉSIDENT: Pour poursuivre, est-ce que Gentilly 2 doit faire quelque chose différent s'ils veulent fermer l'opération?

Est-ce qu'il faut obtenir une autorisation spéciale de nous?

M. RINFRET: Pourriez-vous préciser la portée de votre question?

LE PRÉSIDENT: Est-ce que c'est -- est-ce que Gentilly doit avoir une autorisation spéciale pour la fermeture des opérations?

M. RINFRET: François Rinfret.

Vous parlez de la fermeture permanente à la fin de l'année ---

LE PRÉSIDENT: Oui.

M. RINFRET: --- 2012?

Bon, il n'y a pas de permission spéciale requise.

Le permis d'exploitation de G2 permet présentement d'abord d'aller jusqu'à la fin de 2012 en exploitation commerciale mais permet les activités et en état d'arrêt garanti, donc, les activités qui seraient requises peu importe la décision d'attendre ou de réfection ou de non-réfection pour certainement plusieurs mois à venir après décembre 2012.

Donc, aucune autorisation requise dépassé janvier 2013.

MEMBRE HARVEY: Fait que « l'arrêt garanti » veut pas dire « arrêt permanent »?

Ça veut dire « arrêt sécuritaire »?

M. RINFRET: Bon, « arrêt garanti » c'est une définition de -- neutronique pour démontrer que le réacteur ne pourrait pas démarrer de lui-même.

Un état d'arrêt garanti est suivi d'un -- d'un retrait du combustible même dans des conditions beaucoup plus sécuritaires aussi.

Alors, c'est probablement ça la première étape à partir de janvier là: retirer le combustible peu importe les conditions ou la décision prise par Hydro-Québec par la suite -- par le gouvernement.

MEMBRE HARVEY: Mais un arrêt garanti ça peut durer combien de temps?

Ça peut durer ---

M. RINFRET: Un arrêt garanti peut durer indéfiniment.

MEMBRE HARVEY: Indéfiniment?

Merci.

M. RINFRET: Merci.

LE PRÉSIDENT: O.k.

Dr. McDill?

MEMBER McDILL: Thank you.

With respect to, you know, one of the annulus gas system for Bruce A, did I understand correctly you said, at most, 10 percent of the fuel channels would be affected or?

DR. RZENTKOWSKI: Approximately 10 percent of fuel channels are affected by this blockage of the annulus gas system, currently, because the condition changes with the temperature.

MEMBER McDILL: Ten percent when it's hot or ten percent when it's ---

DR. RZENTKOWSKI: Ten percent when it's hot? By "hot", I don't know exactly ---

MEMBER McDILL: Okay.

DR. RZENTKOWSKI: --- what was the temperature but this was the temperature which could be achieved by running primary heat transport system pumps not really providing heat from the reactor.

MEMBER McDILL: Sorry. And you're comfortable with 10 percent?

Where would you set a cut-off if there were a cut-off?

DR. RZENTKOWSKI: It's -- I consider this to be a part of normal commissioning activities.

Not everything goes well and, of course, Bruce Power has to understand the extent of the condition. That's the reason why it's very important to increase the temperature of the primary heat transport system to fully understand the extent of the problem and define the best solution.

So we are already discussing with Bruce Power the possible solutions, the possible options going forward.

MEMBER McDILL: Thank you.

THE CHAIRMAN: Okay, but just to underscore, there is no safety issue while this root cause

is being investigated?

DR. RZENTKOWSKI: No, there's no safety issue because the annulus gas system is used only to detect leak before break.

But in this particular case, of course, all the pressure tubes are new so there is no -- there is no scratches, there is no -- no cracking possibility at this point of time and, also, the system didn't go through thermal cycles which normally affect the condition of the pressure tubes.

THE CHAIRMAN: Thank you.

Ms. Velshi?

MEMBER VELSHI: For Darlington, Unit 1, if we can get a little more wholesome discussion on what the issues are, how many pumps have been impacted and what the safety implications are and the timing of the root cause investigation, I think that would be helpful so we can ---

DR. RZENTKOWSKI: Absolutely.

It's our intention to come back to the Commission with specific details once we get the root cause analysis.

Today, we can describe the event better because we -- of course, we have OPG staff on line to exactly respond to questions.

MEMBER VELSHI: And I was hoping OPG staff

would do that. Thank you.

THE CHAIRMAN: Mr. Duncan?

MR. DUNCAN: For the record, Brian Duncan.

Specifically, what happened here is a small valve, a normally closed valve, failed open. That allowed instrument air into the heat transport purification system.

The purification system, essentially, is on the suction side of the heat transport feed pumps and that air worked its way into the feed pump and caused air-locking of the pump and loss of flow.

So the crew responded to that event appropriately to make sure the unit was safely shut down. They took the actions necessary to work with the field operators to locate the source of the problem, get it isolated, and get the unit in safe shutdown state.

MEMBER VELSHI: And I think I heard you mention that you had wanted analysis of the fuel and pressure tubes as well, to make sure that that integrity had not been compromised. And then I was hoping for more elaboration on that -- what are the safety implications and the risks associated with this pump failure.

DR. RZENTKOWSKI: The current assessment indicated that there is no safety -- no safety implications as a result of this pressure transit in the

primary transport system. Nevertheless, we want -- we want OPG to confirm a very detailed investigation, looking at the fuel and fuel channels as well to make sure that they were not subjected to overpressure conditions which would eventually result in an additional stress to the pressure tubes.

The first indication is that this is not the case, but this has to be confirmed, and also we want to make sure that there's a clear understanding of the events. Also the root cause analysis has to be conducted in order to assess the cause and see if a similar event can be avoided in the future.

MEMBER VELSHI: Thank you.

THE CHAIRMAN: Can I piggyback on this? So, maybe a small generic question; whenever such an unplanned shutdown occurs, do -- in the root cause, in the analysis -- do you force that specific experience, and you piggyback on it other doomsday scenarios -- multiple other events and what the reaction would be if, in addition to this shutdown, there was another thing occurring simultaneously.

In other words, post-Fukushima, thought -- we've -- we were going to do this on a routine basis, beyond design review, on practically every incident like that. Do we -- actually doing it?

DR. RZENTKOWSKI: Yes, in this case we are doing this, and that's why we sent a letter to OPG, saying that we are not allowing for the restart of the unit, as long as all the consequences are not fully understood. And in case of the doomsday scenario, for this initiating events, we asked this question very bluntly; if this is so-called "serious process failure".

It means that in the absence of action of the safety system, what would be the consequences? Will we see -- would we see, for example, fuel damage or pressure tube rupture? So those are the question we posed already.

THE CHAIRMAN: And are you now starting to do this across particularly every forced shutdown event?

DR. RZENTKOWSKI: We used to do this always in the past. We tried to ask the question; what if? Yes, because it could be a near miss -- how we like to call it. You know, everything went fine, everything went as designed. But, if not, what would be the consequence?

THE CHAIRMAN: Right.

DR. RZENTKOWSKI: This question is always on the table and has to be answered, because we allow for the restart of the unit, which was forced to shut down.

THE CHAIRMAN: So you're applying now, also -- in addition to some deterministic, you're applying

probabilistic analysis? Are you doing some PSA on some of those events?

DR. RZENTKOWSKI: Yes. The overall scope of PSA considers failure of the particular system. So there is so-called an event tree or a fault tree, which investigates the cascading effect of the failure of one element and how this is going to manifest itself for the overall design of the plant. This is the part of the PSA.

So in the situation like that, we go back to PSA to see if the assumptions used in the PSA were correct, because the assumptions used in PSA are typically based on historical data of something going wrong. You know, it's not really -- it's not really very sophisticated, what we do in terms of defining the input to PSA. It's simply historical information.

So those events -- events like that go, really, to better define the database, which is used to support PSA.

THE CHAIRMAN: But that's the problem. By using historical data, you'll never deal with the very low probability event, high-impact. So you got to force the system to look at those events.

DR. RZENTKOWSKI: Yes, so the event tree, or the fault tree in PSA start from this initial event; something postulated happens. But then the event tree

takes you to very low probabilities; so, to even 10 to minus 6. So one in a million years or even lower. But the cut-off typically is one in million years, because this provides answers to the release safety goal.

The release safety goal is established at the probability of one in a million years.

THE CHAIRMAN: Okay, thank you. So, looking forward to reading the report when it comes. Anybody else has any particular issue? On Point Lepreau? Anything appealing on Point Lepreau? Anybody want to talk about Point Lepreau? Everything is according to plan?

DR. RZENTKOWSKI: I think everything is going according to plan, because the commissioning of the turbine will start later today. We have Paul Thompson here, who is the representative of Point Lepreau. I am sure he would be glad to answer this question.

THE CHAIRMAN: It says -- in your staff report, it says unit intend to return to services planned for the fall, 2012. Last I heard, we are now in the fall.

DR. RZENTKOWSKI: Note quite.

(Laughter/Rires)

THE CHAIRMAN: Okay.

DR. RZENTKOWSKI: A couple of weeks left.

THE CHAIRMAN: Close enough. That's why I'm asking.

MR. THOMPSON: For the record, my name is Paul Thompson. I'm the regulatory affairs manager for Point Lepreau Generating Station. The return to service activities are continuing to progress well, and we're on target for a return to service in the fall.

We're coming up to the home stretch on the project, so we know that there is -- it's very important to the people of New Brunswick to return this unit to service, but to do so in a safe and quality manner. So we're continuing to work through our various tests, and we're currently -- as Dr. Rzentkowski said -- at 14% reactor power, and we'll soon be in a position to be able to run up the turbine.

So the work is continuing to progress, and we look forward to a safe and reliable operation as we approach the return to service activities.

THE CHAIRMAN: Thank you. Anybody has any other questions? Okay, thank you. Thank you very much. I'd like to -- I understand there's no other event -- initial reports.

Are there any other events that staff would like to update the Commission on? Please proceed.

M. RÉGIMBALD: Oui, bonjour Monsieur le Président. André Régimbald ici, de la direction de la réglementation et de substances nucléaires. Je voudrais

vous apporter un peu d'information concernant un article de journal qui est paru dans le journal du Nouvelliste (sic), le 7 septembre 2012. Est-ce que c'est approprié de le faire maintenant?

THE CHAIRMAN: Oui, oui.

M. RÉGIMBALD: Alors j'y vais. Alors, cet article est paru dans le journal du Nouvelliste (sic), comme j'ai dit, et raconte l'histoire de M. Bélanger, M. Guy Bélanger, un ferrailleur de Trois-Rivières qui prétend être au prise avec du matériel contaminé provenant de la Centrale de Gentilly 1.

L'histoire remonte en fait en 2010 lorsque M. Bélanger a acquis du matériel, du métal; c'est en fait des réservoirs de diesel qu'il voulait recycler, alors il les a vendus à la compagnie ArcelorMittal - une aciérie de Contrecœur. Lorsque le chargement est arrivé à Contrecœur, le portail a sonné une alarme et donc, c'est à ce moment-là qu'on a été avertis de la situation. On a fait un peu d'enquête et le chargement provient de -- c'est M. Bélanger qui l'a envoyé.

M. Bélanger a dit que, selon lui, les réservoirs proviennent de Gentilly 1. Maintenant on a -- il y a deux éléments - je vais adresser (sic) le premier - C'est-à-dire qu'on a conseillé à M. Bélanger de faire faire une expertise de la contamination à l'intérieur des

réservoirs. M. Bélanger a engagé une firme d'experts-conseils, Univertech, qui a fait une analyse et d'après le rapport d'Univertech, la radioactivité contenue dans les réservoirs sont associées à des radio-isotopes d'origine naturelle, C'est-à-dire du radium 226 et un peu de thorium, donc, qui n'ont aucune relation avec les activités de la Centrale.

C'est commun de retrouver des isotopes d'origine naturelle dans des dépôts, dans les briques, le sol, par exemple, ou les fertilisants. Alors, on a conseillé à M. Bélanger d'engager une firme qui va se départir ou traiter les déchets ou les réservoirs contaminés de façon sécuritaire. Étant donné que la contamination est d'origine naturelle, leur surveillance réglementaire ou leur contrôle réglementaire relève de la province, ce qui est une pratique au Canada, étant donné que les contaminants d'origine naturelle sont exemptés de l'application de la *Loi sur la sûreté et le contrôle nucléaire* et les Règlements.

Maintenant, M. Bélanger ne veut pas suivre ces options-là et veut que Gentilly-1 ou Hydro-Québec reprennent la ferraille.

On a fait une petite enquête et il y a un peu de confusion, c'est-à-dire qu'au même moment, soit en septembre 2010, Énergie atomique du Canada limitée a

procédé à l'enlèvement d'un réservoir d'huile contaminée de la centrale désaffectée pour l'envoyer à la ferraille.

Maintenant, ils ont fait un contrôle radiologique sur les pièces et ont déterminé qu'il n'y avait aucune contamination à l'intérieur du réservoir. De plus, lorsque le chargement a quitté le site de Gentilly-2 - puisque la centrale est à l'intérieur du périmètre de Gentilly-2 -, alors lorsque le chargement a quitté le site, il est passé par un portail de détection qui n'a révélé aucune contamination. Et de plus, les photos qui ont été examinées par ÉACL, d'après les photos qui ont été envoyées par M. Bélanger de ces réservoirs, ÉACL disent que --- affirment que ces réservoirs ne sont pas les mêmes ou ne sont pas le même que celui qui a été enlevé de G-1. Ils nous ont dit, par exemple, qu'il y avait, sur les photos de M. Bélanger, un bouchon de drainage, alors que celui de Gentilly-1 n'en avait pas, ou avait été enlevé avant que la ferraille quitte le site de G-2. Donc, c'est très difficile d'établir un lien entre les deux.

Maintenant, en ce qui nous concerne, nous avons offert d'autres options à Monsieur Bélanger, soit d'engager une entreprise de l'Ouest canadien qui s'occupe de ces déchets-là de façon régulière et qui peut les envoyer de façon sécuritaire dans des sites appropriés.

Alors, c'est tout. Je voulais juste

clarifier les faits concernant cet article et ce que rapporte M. Bélanger. Je suis disponible. Je suis en compagnie de mes collègues ici et nous pourrions répondre à vos questions si vous avez des questions.

Merci.

THE CHAIRMAN: Merci. Des questions?

Monsieur Harvey?

MEMBER HARVEY: Juste --- Je suis un peu surpris de voir tous les renseignements que vous pouvez recueillir et tout le suivi qu'il peut y avoir avec de tels réservoirs. C'est quand même fantastique de pouvoir suivre ça. C'est bien réel. Je veux dire que c'est facile pour vous de retracer ça et c'est des obligations qu'il y a dans la réglementation, quoi. Lorsqu'Hydro-Québec ou ÉACL se sont départies de ces réservoirs-là, il y avait des obligations. Est-ce que ce sont des obligations qui relèvent de la Commission ou de la province? Ou du fédéral?

MR. RÉGIMBALD: La centrale de Gentilly-1 qui est désaffectée a un permis de la Commission, comme de raison, et ils ont des seuils de libération pour l'équipement, ou les pièces, ou les déchets, ou tout ce qui sort de Gentilly-1 doit rencontrer certaines normes.

Je vais demander à Monsieur Don Howard, qui est le directeur de la Division du déclassement des

déchets, d'apporter des précisions à ce sujet.

MR. HOWARD: Don Howard, directeur de la Division des déchets de déclassé. Les déchets qui sortent de Gentilly-1, le niveau, le critère pour qu'ils puissent être rejetés dans l'environnement ou pour le public, c'est que pour tous les niveaux à rencontrer, il faut que ça soit conforme aux niveaux indiqués dans nos règlements pour ce qu'on appelle *Unconditional Free Release*. Comme ça, ils ont rencontré ces exigences-là. Ils ont examiné le métal avant de les sortir, puis c'était tout au niveau du *background*. Ça, c'est à Gentilly-1, le personnel d'ÉACL qui a fait ça. Gentilly-2, le personnel a encore fait une autre vérification, la même conclusion, et puis les métaux sont rejetés dans l'environnement ou dans le domaine du public.

MEMBER HARVEY: Mais, l'enlèvement de ce réservoir-là, ça date déjà de quelques années.

MR. RÉGIMBALD: Le réservoir, selon les informations d'ÉACL, a été retiré de Gentilly-1 le 30 septembre 2010.

MEMBER HARVEY: Mais c'est allé où entre-temps?

MR. RÉGIMBALD: C'est, comme Monsieur Howard l'a expliqué, c'est allé --- ça peut être vendu ou relâché comme ferraille pour recyclage, à ce moment-là.

Alors, c'est allé dans l'industrie du recyclage. Monsieur Bélanger a retracé l'origine; ça a passé par deux ou trois personnes avant que M. Bélanger en ait fait l'acquisition.

Donc, alors le métal, une fois que l'équipement ou les déchets sont sortis de la Centrale et se conforment avec les critères ou les exigences de rejet, ils peuvent être envoyés à la ferraille ou être utilisés à toute autre fin dans le public.

MEMBER HARVEY: Je posais la question parce que le problème est survenu récemment, c'est récemment que c'est allé chez Axelor ou Axor, je ne sais pas trop, Axelor?

MR. RÉGIMBALD: C'est allé chez Arcelor en 2010, quelques semaines ---

MEMBER HARVEY: Ah! OK. Tout de suite après ---

MR. RÉGIMBALD: C'est parce que --- le --- on --- c'est difficile d'établir la relation entre le réservoir de G-1 et la ferraille que Arcelor a reçue. Alors, M. Bélanger n'était pas content des options qui lui ont été offertes; il nous a dit qu'il allait aller aux médias et c'est ce qui est arrivé. Donc, l'histoire est sortie le 7 septembre dans *Le Nouvelliste*. Mais c'est arrivé il y a deux ans.

MEMBER HARVEY: OK.

THE CHAIRMAN: Mais, est-ce que le Gouvernement du Québec a accepté leur responsabilité de lui donner de l'aide avec ce matériau?

MR. RÉGIMBALD: Oui. Le Ministère québécois du Développement durable et des Parcs a été saisi du dossier et est en train de faire le suivi avec M. Bélanger.

THE CHAIRMAN: Est-ce qu'il pourrait forcer lui (sic) de régler le problème?

MR. RÉGIMBALD: Selon la réglementation québécoise, il est interdit de rejeter des matières dangereuses dans l'environnement sans permis, ou il faut les envoyer à des sites spécialisés. Les pièces contaminées en question sont désignées comme matières dangereuses parce qu'elles sont au-dessus des critères fixés par le ministère de l'Environnement.

Cependant, ce qui est intéressant de constater c'est que les matières dangereuses -- les matières ne sont pas considérées dangereuses si elles sont relâchées dans l'environnement conformément à un permis émis par la Commission.

Donc, c'est la différence avec les déchets qui proviennent des installations nucléaires. Lorsqu'ils sont autorisés par un permis, ils ne sont plus considérés comme dangereux. Donc, on s'assure que les seuils de

libération sont assez bas.

MEMBER HARVEY: Lorsque les déchets ont quitté ÉACL, puis Hydro-Québec par la suite, il n'y a pas eu de détection; est-ce que même s'il n'y a pas eu de détection, les déchets peuvent demeurer, pour le Québec, des déchets dangereux?

MR. RÉGIMBALD: Les déchets qui sont arrivés à Arcelor Mittal, le portail de détection a détecté trente fois supérieur au seuil de détection du portique. Donc --- Et alors que le métal qui est sorti de Gentilly-1 n'a sonné aucune alarme à la sortie de G-1. Donc, on peut voir la différence. C'est pour ça que ça contribue à douter de l'origine.

MEMBER HARVEY: Merci.

THE CHAIRMAN: Autre question?

MEMBER VELSHI: I may have lost something in the translation here, so forgive me. So, there is still a possibility that when it left G-1 in 2010 or so, that it may have been contaminated and perhaps the detector didn't pick it up. Or the possibility that is maybe being suggested is that between 2010 and now, it has somehow got contaminated?

I'm just trying to get an appreciation of what is being a public risk over the last couple of years rather than, you know, so now who is going to fix the

problem? But what has happened to this container in the last two years and what kind of potential exposure may have had been there and what is the risks associated with that?

MR. RÉGIMBALD: Perhaps, Mr. Howard can explain again the controls that were done on the tanks before --- when they left G-1?

MR. HOWARD: Don Howard, for the record.

The process for removing material from G-1, which is a semi-declassified or decommissioned site, is basically AECL has a radiation protection protocol which they must follow. And basically the criteria that they use in order to release material for free release into the environment for general public or landfills or public use is basically the clearance levels for unconditional release as identified in the nuclear safety -- nuclear substance and control regulations. So basically, that's their criteria.

So when these tanks were excavated, they did an interior and exterior contamination control and there was nothing above background. Then upon leaving the Gentilly site which is a co-existence between G-1 and G-2, Hydro Quebec also verified the containers and there was no contamination found. It goes through a portal monitor on exiting G-2; no contamination.

Now, my understanding is, is that AECL has looked at the information and there is some question as to whether this material actually came from AECL G-1 in the first place.

So it's all part -- and my understanding right now is that there's a legal issue going on right now between the ownership of this metal. So from our perspective is that the material was cleared from the site. It was verified by two different organizations. It gets into the environment per se and basically now it's -- somebody says it's naturally occurring radioactive material. How it got contaminated, I cannot answer that. At the levels that we're talking about, basically, I don't -- there's no impact on human health and the environment.

MEMBER VELSHI: Thank you.

THE CHAIRMAN: I don't want to put AECL on the spot here, but it just so happens we have AECL experts right here and I will offer, if you want to come up and clear the air and say something about this, now is the time.

MS. MILLER: Joan Miller, for the record. I'm the Vice-President of Decommissioning and Waste Management for AECL and the site licence holder for G-1.

The explanations that have been given by Don Howard described the process. We are currently trying

to obtain more information from the -- Mr. Belanger to see whether or not -- what materials he has; whether or not they actually originated from G-1. The pictures that were shown to us are not the tanks that were removed from G-1.

So we need to understand whether or not he's in possession of our materials. And we're going to work with him to see what -- what materials he has, what sort of contamination levels, and what options there might be to help him dispose of this material.

My understanding is that it is -- the contamination is NORM, Naturally Occurring Radioactive Materials. I personally don't know the levels of contamination. They would be very low because they are NORM materials and we will work to see what are the options for storage of those materials. So we're just, right now, trying to understand the -- put together all the pieces in the chain if you like.

THE CHAIRMAN: Thank you.

Anybody else?

MEMBER VELSHI: Just last question. Has this actually been taken because it hit the media or was this process already underway? You know, was Mr. Belanger, sort of, backed in a corner and had no options and felt the media was the only avenue available to him?

MR. REGIMBALD: Our understanding is that

Monsieur Bélanger was offered options, but these options cost money and Monsieur Bélanger wants AECL to take it back.

THE CHAIRMAN: Okay. We will look with great interest to the eventual conclusion of this story. So presumably, he will keep us informed.

Staff, I'm looking at you.

UNIDENTIFIED SPEAKER: Bien sur Monsieur le Président.

THE CHAIRMAN: Thank you.

Merci beaucoup.

Is there any other issue?

Go ahead, please.

MR. ELDER: Good morning. My name's Peter Elder. I'm Director General, Directorate of Nuclear Cycle and Facilities Regulation.

I just want to give you a brief update on a spill that was reported by Cameco at the Port Hope Conversion Facility. This was reported to both us and the Ontario Ministry of Environment. It's about a potential of uranium contamination reaching the harbour in Port Hope.

The contamination was in a combustible waste bag so this is a heavy-duty plastic, you know, reinforced plastic bag that contained low-level waste, so

this is like gloves or another combustible materials and they're stored outside.

On last Saturday, there was a -- as you may have noticed, a lot of heavy rainfall in the region -- region and some -- some material with some water drained out of the bag and it went into their storm water drainage system.

They reported it because there was a potential that this material may have reached the harbour. And we say "potential" because in between where the spill was and the harbour, Cameco has -- there are a number of catch basins for the storm water. As soon as the material was noted that there was some run-off from the bags, the storm water drains were drained -- were pumped out to be treated and -- as well as the catch basins.

The analysis to date shows that there was some elevated uranium concentration in the first catch basin, but no evidence of any elevation beyond that first catch basin. But since they could not prove that there had -- nothing had gone through; they reported it both to us and to Ontario Ministry of Environment.

We are following up on this one, in -- in any case, to make sure that -- look at their procedures around storage of material outside and -- and make sure that they are appropriately covering off any extreme

weather events to make sure it does this. But I would point out this; they did have protection in place to make sure if there was any contamination in the storm water already.

So if we find something that there was something in the harbour or that we come back and there's recommendations to improving their waste management practices, we will report back to you.

THE CHAIRMAN: Thank you.

Question?

Dr. McDill?

MEMBER McDILL: This wouldn't be the first time there's been extreme weather in Port Hope, so has anything like this happened before?

MR. ELDER: We are -- I can't say categorically this is any event investigation we look for. Is this is a reoccurrence? Has this happened before? We're planning an inspection in a couple of weeks and that is certainly will be one thing; we will be tracking down. How long have they been doing this? How long has -- you know, has there been any previous examples of this one? So I can't confirm yes or no right now, but certainly it's one of the things that we will be looking at.

THE CHAIRMAN: Ms. Velshi?

MEMBER VELSHI: You mentioned slightly

elevated uranium levels in the -- the first catch basin. How much higher is -- are those levels of concern?

MR. ELDER: They're -- the initial calculations are that they're -- we're talking about a potential release of about 15 grams of uranium; so not, you know, elevated, but higher than normal, but not certainly a large quantity that would be a concern.

Given the -- I mean, one of the things that is always difficult -- you may not be aware -- is the Port Hope harbour is already contaminated from historical practices, so there is a -- there is some background uranium at all times in the harbour. And, certainly, they're not seeing any -- anything that's in the harbour that's above their normal background levels.

THE CHAIRMAN: Okay, again, that's for the public. Please translate 15 grams to -- so -- so what does it mean?

MR. ELDER: It would be -- by the time it got into -- if you spilled 15 grams on the ground, by the time it got the water -- in the water and washed out, it'd be -- we're talking at micrograms per litre of water normal in the harbour which is -- so there's no chance of this further contaminating the -- the water or the harbour.

THE CHAIRMAN: Okay.

Monsieur Harvey?

MEMBER HARVEY: Just how many of those -- those bags are stored outside there and how -- and how long they stay there?

MR. ELDER: I don't have -- Peter Elder, for the record.

I don't have those details right away, but this is one thing we will be looking at. They are being stored -- the arrangement is that they are -- that this material is shipped to Blind River for incineration, so they're not there for long-term storage; they're a temporary storage before they're shipped to Blind River for incineration. But we will look at their inventory and how much material as well.

MR. ELDER: And you will eventually have the details?

MEMBER HARVEY: Yes

MR. ELDER: O.K.

MEMBER HARVEY: This is an event that happened Saturday so we are very prompt on reporting right now.

THE CHAIRMAN: O.K., great thank you, thank you. Anything else? Alright. So we are -- we are going to start the next item which is -- which is -- there is an item on the agenda is regarding atomic energy of Canada

limited interim status report on the progress of decommissioning activities at White Shell Laboratories. I should have said goodbye to the people online here. So a confidential submission pertaining to security was filed by CSNC staff on this matter as outlined in CMD and 47.8 this will be discussed in closed session if necessary. So I understand that Mrs. Miller from ACL will make this presentation as outlined in CMD 12-M47.1 and M47.1A. Mrs. Jong (phonetic) the floor is yours. Mrs. Miller sorry, I guess read what I put in front of me.

**5. Update on an item from a
Previous Commission
Proceeding**

5.1 Atomic Energy of Canada

Limited: Interim Status Report

On the Progress of
Decommissioning Activities at
Whiteshell Laboratories

12-M47.1 / 12-M47-1A

Oral presentation by
Atomic Energy
Of Canada Limited

MRS. MILLER: Good morning Mr. Chair and commission members. For the record my name is Joan Miller and I am the vice president of decommissioning and waste management for Atomic energy of Canada Limited and the site license holder for the White Shell Laboratories. With me today are on my left, Russ Miller (phonetic) White Shell Site Head and decommissioning project general manager, on my right Glen Maclaen (phonetic), director of White Shell nuclear facilities and Randall Shwartz (phonetic), manager of White Shell Safety and Licensing.

I want to begin by stating my commitment to the safe operation of the White Shell laboratories. I am responsible to ensure that our operations meet regulatory requirements and are carried out safely and with due regard to the environment, security and Canada's international obligations. The entire site management team and our staff are committed to the safe operation of white shell.

We are here today in support for our three year status update on licensing activities carried out under the current 10 year decommissioning license. This presentation will provide a brief background of the White Shell laboratories, discuss the current decommissioning schedule, give highlights of the major accomplishments in

this licensing period, report on the 14 safety and control areas and other matters of regulatory interest, and outline the key activities to be executed in the remainder of this license period.

The White Shell laboratories were established by ACL in the early 1960's to carry out nuclear research and development activities. This slide shows an aerial view of the White Shell Main Campus and waste management area. The site is located near Pinawa, Manitoba, approximately 100 kilometres north east of Winnipeg, next to the Winnipeg River. This slide indicates the location of the WR1 reactor and the building 300 shielded facilities complex. Activities at White Shell included the organic cooled reactor program, reactor fuelled examination and shielded facilities, the nuclear fuel waste management program, and reactor safety research programs. This slide lists the key activities in White Shells history. In 1997, ACL made a business decision to discontinue most of the research programs and operations at white shell. Three research facilities remain in operation in support of CANDU (phonetic) Thermo hydraulics and Hydrogen Safety analysis. In order to move forward with decommissioning, an environmental assessment was prepared and approved by the commission in 2002 with a decommissioning license subsequently being granted. In

2006, the government of Canada adopted a new long term strategy, the nuclear legacy liabilities program, to safely and cost effectively reduce Canada's nuclear legacy. This program funds the decommissioning of the White Shell site. It is through this program that we have implemented reduced timelines for storage with surveillance. As such, we have moved away from the terminology of phases of decommissioning. The activities of decontamination and clean-up, storage with surveillance and final decommissioning are all taking place concurrently on the White Shell site.

I would like to now review our decommissioning schedule. This slide shows a very high level site decommissioning schedule through to the end of institutional control. There are three main areas listed: decommissioning of main campus buildings, the waste management area, and the waste management area trenches. The dark blue indicated an area being operational, green is being decommissioned, black defines a fully decommissioned area, light blue is storage with surveillance, while yellow indicates an area under institutional control. Decommissioning of the main campus is scheduled to be completed in 2037 followed by the waste management area approximately 13 years after a national used fuel repository is available. As per the 2002

environmental assessment, the contents of many of the low level waste trenches are considered for in situ disposal under institutional control and ongoing regulatory support for approximately 200 years. I acknowledge that this slide is very busy, it does however provide details on decommissioning activities up to 2037 when the waste management area will be put into storage with surveillance. This graph is similar to that in the CMD, however we have reordered the activities for this presentation. The vertical lines indicates status today, a projected status in 2037. For each activity, the top bar indicates the 2011 schedule and the bottom the 2008 schedule presented for relicensing. The main campus is captured in the first four activity bars; these involve decommissioning the current redundant main campus buildings and the WR1 reactor, followed by the remaining main campus buildings and enabling waste handling facilities. The only significant change in this group since 2008 involves a delay in decommissioning the redundant main campus buildings, as we have determined that existing nuclear services in two of these buildings are required for longer period. The last three activity bars relate to the waste management area and include enabling facilities to support remediation work, new storage facilities for decommissioning waste, and

remediation efforts on existing facilities. The slide indicates a delay compared to 2008 in the development of enabling facilities as we continue to determine a safe effective means of remediating the stand pipes containing fissionable material. An initiative is under way to re-examine the complete site schedule looking at ways to reduce the overall decommissioning time frame.

I will now provide highlights of activities we have carried out since license renewal. The building 300 radiochemical laboratory was our primary research laboratory. The decommissioning approach is to strip all areas of equipment and services including removal of radioactive drains and fume hoods, nuclear research equipment, and radio active ventilation. Referring to this floor plan slide construction stages one, three, and four are nearing completion and stage seven decommissioning has recently begun with all radioactive drains removed. 120 or 70 percent of the radioactive fume hoods have already been removed and dismantled with approximately 85 percent of the material being recycled. The methods employed allow us to minimize radioactive waste and for the building to be declared clean for demolition.

Decommissioning of portions of the shield at facilities continued, including dismantling of the

five warm cells shown in this slide.

Warm cells decommissioning included manual removal of approximately 3,600 lead bricks and dismantling of the radioactive ventilation and drain lines in the crawlspace below the cells.

Over 21,000 person-hours of decommissioning work was completed safely with no lost-time injuries or skin contamination.

The Whiteshell site has many buildings and structures that were not used for nuclear activities. All redundant, non-nuclear buildings have now been fully decommissioned. All were removed or demolished while maximizing material that was recycled. Shown in this slide is the recent demolition of the field biology lab, Building 503. Lastly, two major waste storage facilities were constructed in the waste management area in this licence period.

As shown in this slide, a shielded, modular, above-ground storage building, or SMAGS, was completed and put into operation providing capacity for 4,000 cubic metres of low-level waste.

Construction of the soil storage compound was completed and it will be put into operation shortly. It is an engineered mound with a geotechnical membrane to protect the environment and as capacity for storage of

2,000 cubic metres remediated soils and ground materials contaminated with low levels of radionuclides.

I will now provide a report on the 14 safety and control areas.

In the area of management system, the AECL organizational structure that implements the management system and under which activities are conducted at the Whiteshell site is shown in this slide.

The President and CEO has overall responsibility for all of AECL's activities, including those at Whiteshell. The chief nuclear officer, chief regulatory officer, and chief engineer report to the President and CEO, as do I.

In 2011, organizational changes were implemented for Whiteshell to focus staff alignment on the site's decommissioning goal. This includes the new position of Whiteshell Site Head and Decommissioning Project General Manager which reports directly to me.

Whiteshell has a CNSC-approved decommissioning quality assurance plan as required by our licence. Of note, recent improvements have been made in the areas of work control and records management.

In support of human performance in keeping with industry best practice, AECL has introduced a formal human performance program. To date, 85 percent of

Whiteshell's 350 employees have taken a recently launched human performance awareness training, and we observe it being put into practice in the field.

In the area of operating performance, our facilities continue to be operated safely and we continue to learn from internal and external experience.

Event reporting has improved significantly. While the overall number of events reported has stabilized, the proportion of low significant events has increased over time, consistent with a healthy reporting culture where issues are reported at a lower threshold.

In the area of safety analysis, revisions are underway for safety analysis reports for the shielded facilities and waste management area. These facilities remain operational to support decommissioning activities.

In support of physical design, improvements were made with the implementation of new conduct of design engineering and engineering change control processes that provide a more robust and integrated review of designs and changes.

In the area of fitness-for-service, preventative maintenance and testing of safety related systems continued to be carried out based on each facility's maintenance plan. Additionally, in the waste management area, waste storage facility inspections are

carried out annually as per the periodic inspection plan, and have not identified any major issues with corrective maintenance and repairs occurring as needed.

The radiation protection program has been very effective in maintaining radiation exposures low during decommissioning activities. As shown in this slide, the maximum annual effective dose received by one of our workers between 2009 and 2011 was less than 3 percent of the regulatory limits.

The new job scope and safety analysis guideline, developed at Whiteshell for decommissioning work control, has provided a formal and consistent approach in identifying hazards and establishing standardized controls and practices for mitigating hazards and controlling exposure. Results of implementation have confirmed the guideline's benefits as radiological work packages have been safely executed with minimal dose, no internal intakes, no significant contamination or exposure events.

In the area of conventional health and safety, the frequency rates expressed as the number of lost-time injuries per 200,000 person-hours of occupational work are shown in this slide. The data indicates an adverse trend through 2011 and, as such, we initiated actions to address this trend, including a

concentrated educational aware effort to raise awareness to employees and line management of the roles and responsibilities in support of reducing hazards and supporting early return to work for employees when injuries do occur. Improvements have also been made to the observation and coaching program.

We are confident that the actions taken to date have contributed to reducing the frequency of lost-time injuries in 2012 and our focus will ensure continued improvement as AECL places the health and safety of its employees and the public as its highest priority.

Whiteshell's follow-up program incorporates the environmental protection safety and control area and is used to verify the accuracy of the 2002 decommissioning environmental assessment. Results to date confirm the environmental assessment predictions.

Environmental radiological emissions for 2009 through 2011 are summarized in this slide in terms of percent of the derived release limit. Radioactive emissions remain very small fractions of the derived release limits. Of note is that Whiteshell site achieved ISO 1401 environmental management system certification in 2010.

In the area of emergency management and fire protection, these programs have completed all plan

drills and exercises over the review period. A significant achievement was the successful completion of a major emergency response exercise in 2011 in partnership with the Department of National Defence and the RCMP.

We continue to make improvements in the training of our fire protection personnel and have recently constructed a search-and-rescue facility to support the program.

In support of waste management, since 2008 we have put into place the following facilities. A waste clearance facility for clearing likely clean waste; a waste handling area for volume reduction and assay of radioactive waste, as well as the SMAGS building and a soil storage compound, both discussed previously.

In 2009 through 2011, 180 cubic metres of radioactive waste was generated, whereas more than 750,000 kilograms of material was reused or recycled, and approximately 5,900 cubic metres and 40,000 kilograms of waste was sent to the conventional landfill. This includes waste from demolition of buildings on site.

In the area of security, our emergency services operations provides continuous security coverage of the site, consistent with regulatory requirements.

In support of safeguards, a new electronic

records system was implemented to meet the requirements for accounting and reporting of nuclear materials data.

In the area of packaging and transport, we have maintained trained personnel to transport nuclear materials, and two key offsite shipments were successfully made.

I will turn now to other matters of regulatory interest.

In the area of aboriginal consultation, AECL maintains a communications protocol with Saugeen First Nation to keep them informed of decommissioning activities and employment opportunities.

To support the financial guarantee, the cost estimate for decommissioning Whiteshell was updated and accepted by the CNSC in 2011.

A public information program keeps the constituents of Pinawa and surrounding area up-to-date on Whiteshell activities. In 2003, a public liaison committee was formed with a mandate for communication activities with the local community. This committee meets twice a year and consists of local, municipal, and provincial officials and onsite business tenants. Status updates are provided about decommissioning plans, regulatory activities, and other issues of local interest.

Recently, a dedicated website for the Nuclear Legacy Liabilities Program was put in place which posts information about Whiteshell's activities. In addition, a newsletter was developed and distributed throughout the community, and our environmental performance reports are now regularly posted to aecl.ca.

One other area of interest is the post-Fukushima review, as per the CNSC's 12-2 request. No significant gaps were identified for the safety case at Whiteshell with opportunities for improvement being implemented in updating safety analysis reports and emergency response procedures to current standards.

Lastly, I would like to take a few moments to outline the key activities that will be executed in the remainder of this licence period. A significant initiative is underway to look at ways to shorten the overall decommissioning timeline and maintain cost efficiencies. We will continue to evaluate the decommissioning schedule and will keep the CNSC apprised of changes to approved plans. Similarly, as AECL restructuring progresses, the CNSC will be kept apprised of plans, particularly any that effect our obligations in this licence.

Major activities planned include decommissioning of Building 300 scheduled to be completed

in 2013 to the point where the radioactive ventilation system can be shut down. Stages 4 and 7, totalling approximately 8,500 square metres, are scheduled for demolition in fiscal year 2015-16.

Reconfiguration of non-redundant buildings to electric heat is to be completed in 2013 along with the shutdown of the radioactive ventilation system in Building 300. This will eliminate the need for a costly central oil-fired system that heats buildings throughout the site, and has the added benefit of reducing greenhouse gas emissions.

Decommissioning of the active liquid waste treatment and decontamination centres are scheduled to begin in this licence period. However, demolition of the buildings is not scheduled until after the licence period.

Preparation of a detailed decommissioning plan for the shutdown WR-1 reactor has started and it is our intent to bring forward the restart of decommissioning of the reactor in this licence period.

In summary, good progress is being made in decommissioning the Whiteshell site, with a significant amount of work to be completed during the remainder of the licence period and further into the future.

I will conclude, Mr. Chair, Members of the Commission, by restating my commitment and that of the

Whiteshell management team and staff, to ensure that all decommissioning work and ongoing operations conducted at Whiteshell are executed safely. We will continue working towards achieving overall operational excellence, and our performance outlined here demonstrates good progress towards that goal.

We will continue to meet regulatory requirements and ensure that our operations are carried out with due regard to the environment, to the health and safety of persons, security and in meeting Canada's international obligations.

Thank you very much for your attention, and we'll be pleased to answer any questions that you may have.

THE CHAIRMAN: Thank you.

I'd like to turn now to the CNSC staff for their presentation, as outlined in CMD 12-M47.

Mr. Elder, the floor is yours.

12-M47

Oral presentation by

CNSC Staff

MR. ELDER: Thank you. Good morning, Mr. President, Members of the Commission.

My name is Peter Elder; I'm the Director General and the Director of Nuclear Cycle and Facilities Regulation. With me today at the front table are Mr. Don Howard, the Director of the Waste and Decommissioning division; and Ms. Shirley Oue, Senior Project Officer in the same division. In addition, we have members of our Facility Compliance Team present who will be available to answer any questions.

The CMD before you today is an update on the decommissioning status of AECL's Whiteshell Laboratories that was requested by the Commission at licence renewal in 2008. The report covers the period of January 2009 to the end of 2011, and we focus on AECL's performance based on our compliance observations and programs.

I will now pass the presentation to Mr. Howard.

MR. HOWARD: Thank you and good morning.

During this presentation, CNSC staff will provide the Commission with the licensing background of the Whiteshell Laboratories, an overview of AECL's current decommissioning plans and schedule, and CNSC staff's compliance activities and the licensee's performance during the reporting period.

However, I would like to point out a

typographical error in CMD 12-M47, specifically on page 18, Table 6. The table shows that the total airborne emission -- radiological emissions at the Whiteshell Laboratory. The slight total airborne release as a percent of DRL for 2009 and 2010 are off by a factor of 10. So actually, the correct number for 2009 is 0.000532, and for 2010, it should be .000559. So we add an extra zero, makes it even better.

So this particular slide -- on this slide, this map while not to scale shows the geographical position of the Whiteshell facility, in relation to Winnipeg, Manitoba, approximately 100 kilometres northeast and to the nearest town of Pinawa, approximately 10 kilometres southeast. I

In 2008 the Commission renewed the Whiteshell licence and requested two interim status reports, one at the three-year point of the licence, and the other at the seven-year point. This is the first of the two interim status reports.

Since the 1960s, Whiteshell was an operating research facility until the federal government decision to discontinue research and decommission Whiteshell. The first decommissioning licence was issued for a six-year period from January 1st, 2003 to December 31st, 2008.

On this slide is a map of the affected area of the Whiteshell facility which represents approximately one third of the interior of the property boundary. As you can see, the waste management area and concrete canister storage facility are located approximately two kilometres northeast of the main laboratory site. The concrete canisters are used to store fuel from the Whiteshell reactor, WR-1 reactor, which is permanently shut down at Whiteshell.

I will now pass the presentation over to Ms. Oue to provide CNSC staff's compliance verification.

MS. OUE: Thank you, and good morning.

This plan shows the layout of the main laboratory site prior to decommissioning. The main nuclear facilities are identified in blue, with the exception of the axiom accelerator and the medical biophysics laboratory complex, which have been previously decommissioned. Building 300, the radio isotope laboratory complex, consisted of research labs, and space for large scale experiments, as well as offices, mechanical rooms, and storage space. Decommissioning of this building is ongoing, with the removal of all laboratories, offices, and the active ventilation system.

Pictured here are two aerial views of the Whiteshell main laboratory site. The photo on the left is

from 2005, and the one on the right is a projected image of the facility in 2020 following the scheduled decommissioning activities.

As you can see, the picture on the right, Building 300 has been partially dismantled, and the decontamination centre and the active liquid waste treatment centre have been decommissioned and dismantled. The overall goal is to reduce the nuclear footprint at the Whiteshell facility.

The remaining red circles indicate non-nuclear, redundant facilities that have been removed. For example, the middle red circle, Buildings 400, 406 represent the engineering, and administrative building, and the cafeteria. The circle on the bottom left, buildings 500 and 530, depicts the internal friction laboratory and its annex. Removed also are the civil utility building shown as 509; the engineering development and test facility, Building 504; and the borehole instrumentation test facility, Building 526.

Here is AECL's current decommissioning schedule for the Whiteshell Laboratories. The years are provided along the top row, with the buildings or groups of buildings listed in the rows below. The vertical red line indicates the status at the end of the reporting period December 31st, 2011.

As you can see, the first row, "Decommissioning of redundant main campus buildings" includes the north extension of building 300 to be decommissioned by 2019.

The bottom row, "Decommissioning of remaining main campus buildings," shows building 300, the south end, to be decommissioned by 2037.

Two rows are shown to extend off the chart beyond the year 2041. These are the nuclear waste storage facilities for all waste types: low, intermediate, and high level waste.

The final decommissioning of these facilities is dependant upon external long-term nuclear waste repositories. However, AECL has taken into consideration long-term institutional control of the nuclear waste at Whiteshell.

This is an aerial shot of the waste management area. The location consists of concrete canisters for the storage of spent fuel from the WR1 reactor, which is permanently shutdown; standpipes; bunkers and concrete structures and Quonset huts, for low and intermediate level waste.

Enabling facilities are required to support decommissioning activities due to the large volumes of waste generated. The decommissioning of buildings at the

Whiteshell site requires additional storage space for low-level waste and intermediate level waste.

One enabling facility is the shielded modular aboveground storage building, or SMAGS. The SMAGS was constructed in the waste management area and commenced operations in April 2012.

Another example in the waste management area is the soil storage compound which is an engineered compound for storing contaminated soil; and that is currently in the approval process for operation.

Another enabling facility at Whiteshell is the new waste handling area located in building 300 that is used to compact waste packages for storage in the waste management area; also, the waste clearance facility which is the final survey point for likely clean waste.

Waste in the clearance facility is either recycled, reused, or disposed of. These enabling facilities were constructed for overall waste volume reduction at the Whiteshell facility.

To assess a licensee's performance, CNSC staff collects information from desktop reviews, compliance inspections, and mandatory licensee reporting. CNSC staff performed desktop reviews of AECL submissions, including those associated with annual reports, environmental reports, and decommissioning documents; as

well, third party fire protection reviews and reportable event submissions.

Additionally, CNSC staff conducted both routine and focused inspections at the Whiteshell facilities over the reported period as shown in this slide.

All action items from the baseline inspections are closed. Items from the QA audit follow-up are also closed. CNSC staff is satisfied with AECL's corrective actions. The result of these assessments form the basis of CNSC staff's opinion on the performance of AECL's decommissioning activities.

Staff review of AECL's performance in 14 safety and control areas: The functional areas include management, facility and equipment, and core processes. CNSC staff report that AECL's performance in these 14 safety control areas, is satisfactory, and fully satisfactory in the security SCA. Further information on security's fully satisfactory rating is provided in CMD 12-M47.A which is protected. Details of AECL's performance in all the other safety and control areas are covered in CMD 12-M47.

In relation to radiation protection, this chart demonstrates the maximum annual radiation dose received by AECL workers at Whiteshell over the past five

years. All doses are well below CNSC regulatory dose limits and AECL's internal administrative limits. AECL ensures that all doses to workers remain as low as reasonably achievable, or ALARA. As part of their ALARA program, AECL continually monitors opportunities for dose reduction in all planned tasks.

The red line in the graph is the regulatory whole body effective dose limit for nuclear energy workers which is 50 milliseiverts per year. The grey line represents AECL's annual individual administrative dose limit of 20 milliseiverts, up until May, 2010, when it was reduced to six milliseiverts to coincide with the consistently low worker dose levels.

As illustrated, the radiation dose received by AECL staff is well below both annual regulatory dose limit of 50 milliseiverts for nuclear energy workers and AECL's administrative limit of six milliseiverts. No action levels for personal dose were exceeded during the review period.

AECL reports worker doses to CNSC in their annual safety report. AECL continually assesses their performance and annually adjusts ALARA dose targets based upon operational experience. AECL continues to meet regulatory requirements and CNSC expectations in the safety and control area.

Public doses at Whiteshell continue to remain significantly below the CNSC regulatory dose of one milliseivert per year. Due to a very low dosage received, the vertical scale in this graph shows a dose as a percentage of one milliseivert. The average reported public dose is less than 0.2 percent of one milliseivert per year, or less than 0.002 milliseiverts per year. This data is consistent with the public dose as reported prior to 2009.

The rise in public dose in public dose in 2010, which is very small, is due to the type of decommissioning activities that were ongoing at the Whiteshell facility, which was mostly decommissioning of the radio isotope labs in building 300.

The public dose is calculated based on environmental, airborne, and liquid release data from the Whiteshell site, and calculated for the most exposed members of the public.

Low-level waste -- low-level solid waste, is received from the Whiteshell facility and temporarily stored in bunkers and Quonset storage buildings until final storage in a long-term waste repository.

This slide shows the volumes of low-level solid waste received over the past three years as well as the total inventory volume for the same period. The waste

management area receives waste from Whiteshell's decommissioning activities only. No medium-level or high-level waste was received during the reporting period.

AECL reports annually on the amount of low-level liquid waste processed at the Whiteshell facility. In 2011, 84 per cent of the processed waste was from the site laundry facility; the decontamination centre contributed eight per cent; building 300, six per cent; and the WR1 reactor, two per cent.

Before pumping out any liquid waste from the waste-holding tanks to the process drain, samples are taken by AECL for analysis to establish that they are within the operating release limit. This effluent is sampled continually at the outfall from the process drain, where it enters the Winnipeg River.

Tank contents that exceed the AECL release limits are redirected, collected and stored in medium-level liquid waste tanks. The tanks are then processed and packaged for long-term storage in the waste management area.

Over the reporting period, the only system input to the medium-level liquid waste inventory was from the waste management area sump water, therefore, any changes in the inventory was the result of the amount of rainfall.

In conclusion, CNSC reports that SECL has conducted its licence activities at the Whiteshell facility in compliance with regulatory requirements and CNSC staff expectations over the reporting period. CNSC staff will continue to evaluate AECL's submissions and operations, as required by the *Nuclear Safety and Control Act*, its regulations, in the AECL Whiteshell licence.

Thank you. I will now turn the floor back to Mr. Elder.

MR. ELDER: Thank you.

Our progress report provides evidence that AECL is operating in the Whiteshell facility in a safe and satisfactory manner. And this concludes the CNSC staff presentation. We are available to answer any questions.

THE CHAIRMAN: Thank you.

And I'd like to open the floor for questions, but I'd like to also note that we have -- I'm informed we have Mr. Metcalfe with us here today. Welcome. He is from Natural Resources and he is available for questions from NRCan. These are the bankers of this event.

MR. METCALFE: Yes, thank you, yes.

THE CHAIRMAN: Okay, it's open.

Dr. McDill?

MEMBER MCDILL: Thank you.

My first question relates to the -- the timeline, apart from the delay for buildings that are still needed in active use, does the timeline correspond well with the 2008 presentation? I don't have the 2008 in front of me, so.

MS. MILLER: Joan Miller for the record.

In our slide 8, we try to demonstrate the difference for each of those activities between 2008 and today. So for example, if you have it in front of you, if we look at the decommissioning of the main campus buildings, we have two bars, the first one is today 2011 and 2008.

So for that particular area, we have delayed the decommissioning of the two buildings, the decontamination center and the active liquid waste treatment center as we determined that we needed those services for longer and actually we are really looking at some other possibilities or other options for those services than perhaps what we had in mind in 2008.

MEMBER McDILL: Those differences I had observed. I know that the bars line up very well; I was looking for things that were sort of inside the bars that are a little hard to see, if you understand. So there's the - you know the greys line up very nicely, but there's stuff going on inside those lines that are ---

MS. MILLER: Joan Miller for the record.

I would say that we are generally meeting the plan schedule. There are some slight delays; for example building 300 is delayed about a year from we had put forward in 2008. As we needed to move staff from that building and into new areas, but for example we are on target for the shutdown of the central heating plant.

So there's a bit of give and take as you might expect for this type of activity. I think perhaps the most important message is that we have a very significant initiative underway right now to look at our overall decommissioning schedule to see how we can compress it and shorten it.

MEMBER MCDILL: Staff, you were waiting?

MR. ELDER: Peter Elder, for the record.

I just want to add is, if you actually went back to 2008 at the time of licensing renewal, they were in the process of actually redoing the strategy.

Initially they had presented something that has three phases that was dealing with the different facilities, the non-active facilities initially and then going no to other ones.

As funding became more regularized from NRCan and Nuclear Legacy Liabilities program, they actually re-jigged the schedule as we were doing the

licence renewal almost. So we've been sort of measuring them from their new schedule in 2008 forward. That said, it's a lot more aggressive than the schedule they originally presented prior to 2008.

So if we look at from the overall scale since 2002 when they started decommissioning, we are actually seeing things move. And while they've done more analysis to say what they do and don't need, overall we are quite satisfied that work is being done and that we are seeing that enabling infrastructure now is not theoretical and needs to be built, it's being built. And so we know that things are happening and we would continue to expect them to be for -- move forward in the future.

The other thing to point on the scheduling, since 2008, we have done a lot of dialoguing with NRCan about the priorities for the Nuclear Legacy Liabilities. So we have a way to influence the funder to make sure that anything that we see as important does get funding and moves forward as well.

That said, that program does cover both Whiteshell and Chalk River and sometimes we are putting priority on certain activities at Chalk River as compared to Whiteshell. But there is certainly solid progress at Whiteshell.

MEMBER MCDILL: Thank you.

On ---

THE CHAIRMAN: Can I - can I jump in here and then just as an addendum. So this is a time for NRCan to maybe answer the question, is the money also lined up with the schedule? Particularly knowing that governments are working on a little shorter time horizon than this case you'll demonstrate?

MR. METCALFE: Doug Metcalfe, Natural Resources Canada, for the record.

Yes, in fact the future costs of waste management and decommissioning at AECL sites have already been recognized by the government in the public accounts of Canada. This - this expense or liability on the books of Canada represents a source of funds for us and - and it has proved to be very effective in the past. And that where we have requested money, where we can justify that we can make effective use of the funds to reduce risks and liabilities at the sites obtaining funding has not been a concern. And we have been able to obtain the funds that we need moving forward to do the decommissioning work, site restoration work and manage legacy waste at AECL sites.

THE CHAIRMAN: Thank you.

Dr. McDill?

MEMBER McDILL: Thank you.

In staff's report on page 4, in section 1.3, there's a tantalizing tidbit that says AECL has applied for additional licence amendments.

Are these administrative amendments or are they something more substantial?

MR. ELDER: Peter Elder, for record.

These are administrative amendments. You'll notice this is one of the licences that has not been through licence reform. We are then -- we were actively going to start discussing with AECL on this one because actually these administrative amendments seem to be happening more frequently than we would like so we are going to talk to them about licence reform.

MEMBER McDILL: Would AECL like to comment?

MS. MILLER: Joan Miller, for the record.

I can agree that the licence amendments that we've requested are administrative in nature and we'd be happy to work with the CNSC staff to address or put in a licence reform.

MEMBER McDILL: And one more question from me in this round.

Again on page 22, there is a comment with respect to six unplanned events related to the failure of the fire alarm monitoring system, I see there was adequate protection to person and environment at all times, but six

unplanned events seems a little high?

MS. MILLER: Joan Miller, for the record.

We have recognized reliability issues with the fire alarm monitoring system and we have a plan in place to replace it.

MEMBER McDILL: And is there a timeline?

MS. MILLER: Joan Miller, for the record.

End of 2014.

MEMBER McDILL: Whoops, satisfied with 2014?

MR. ELDER: We - we're satisfied given where they are and recognizing that the site is in a bit of a state of flux, so this is one thing we continue to monitor and make sure that as they take part of the building in part and leave part that they are making sure that the fire protection system on the remaining part remains adequate.

So its -- in some ways in not surprising given the nature of work that they would have more issues then when a normal - when your running a continuous operation, but it is one area that we will continue to monitor.

MEMBER McDILL: But it came under as satisfactory in general?

MR. ELDER: Overall yes. We entered it as

satisfactory.

THE CHAIRMAN: Just to understand, I want to hear always how does that relate to safety. Any of those six incidents were of more concern on safety than others? To quote the MPP, was it a near miss?

MR. ELDER: I'll ask our fire protection specialist Zaq Bounagui to answer it, sorry Zaq on the name.

MR. BOUNAGUI: Okay. Zaq Bounagui, for the record.

Yeah so those events are very low. They are low risk due to the impairment of those fire - for the fire alarm system. But like as the fire protection in general are based on the transient depth. There are other measures in place to mitigate and to demonstrate that the safety objectives are met.

And there is in place, Whiteshell has an acceptable program, an extensive fire prevention measure in place and are adequate and we are satisfied with that.

THE CHAIRMAN: Okay, thank you. Dr. McDill, that's okay?

MEMBER McDILL: M'hmm.

THE CHAIRMAN: Mr. Harvey?

MEMBER HARVEY: Merci M. le Président.
My first question concerns the waste

management area. We have some indication here in the presentation, in the staff presentation of the inventory of low level waste in the area. But when we look at page 7, there is all kind of equipment there and I suppose you have a different type of waste going to each one of those -- we're talking about stand pipes, canisters, snags. So could you elaborate on that, what type of waste you have and what quantity, what is the inventory and just to give an idea because it looks like it's important. There are many buildings and equipment, so could you elaborate on the inventory of the waste there?

THE CHAIRMAN: Can you again, this is slide 7 of ...

MEMBER HARVEY: Page 7 of the staff presentation. We've got a picture there of the waste management area and there is many buildings and equipment there. So starting from the level, the inventory of low level waste, do you have only low level waste there? You've got different types of waste and where it is. Just elaborate on the surveillance of that monitoring.

THE CHAIRMAN: Go ahead.

MS. MILLER: Joan Miller for the record.

We might not have all of the exact numbers but let me walk you through the waste management area. We do have low level waste inventory, as was mentioned by the

CNSC staff in their presentation, and that low level waste inventory is stored in above ground low level waste bunkers. So you will see them in the staff's presentation as the above ground bunker, concrete bunkers, low level waste.

We have recently constructed the Smags Facility. That's an above-ground building that also will store low level waste as we produce waste from decommissioning.

The top right of their photograph shows our concrete canister storage facility and that contains 28 mega grams of fuel, reactor fuel. So that facility is no longer in -- receiving waste. It is a closed facility and it's in storage with surveillance. We refer to stand pipes, so those are in-ground structures that contain some high level waste, some fissionable material that would be fuel that had been examined in the hot cells, hot cells filters, etcetera. I don't, off the top of my head, have a quantity of material. I'll turn it over to Glen MacLean in a minute. And then we also have medium level waste and there are in-ground bunkers that store medium level waste.

So in essence in a waste management facility, we have all of the different waste types that you'd expect from a nuclear research and development facility. But I will turn it over to Glen MacLean to see

if he can provide some inventory numbers for you.

MR. MACLEAN: Glen MacLean, for the record.

At our waste management area, just to add a little bit more detail, in terms of low level waste, we have 25 earth entrenches that are in the area on the photo that would appear as green pasture or open field. There are trenches beneath that. We have six above-ground low level concrete bunkers as Ms. Miller alluded to. We have one Smags Facility.

THE CHAIRMAN: Can we put slide 7 back on so we can actually understand what we're talking about.

MR. MACLEAN: Glen MacLean, for the record again.

As you can see from the photo, we're looking at the waste management area in this photo from the north end. At the bottom of the picture, you can see the concrete pad that is the base of the Smags Facility. This picture was taken in 2010 or early 2011.

Just above that, there are on the right-hand side three concrete bunkers. They would be on the bottom left-hand corner of the label that says the concrete canister storage facility. Those facilities are in fact two low level bunkers and one bunker for cemented high level waste. There was a limited amount of high level waste that we cemented in 2008, 2007 and it is

stored there.

On the left side of the road that runs down the middle, you will see there are three quads of huts there that contain low level waste from the WR1 first part of decommissioning that took place in the early 1990s. To the left of that, under the label that says "SSC construction phase", is the area that I was referring to that contains the low level trenches that was the storage mechanism that was used in the 60's and 70's.

Moving back to the road down the middle and moving up a bit to the left of the label that says "concrete canisters storage facility", there are four low level concrete bunkers that I talked about earlier and two quads of huts that are facilities for processing waste or temporary storage in the -- in preparation for entering it into one of the concrete structures.

Above that, there are three concrete bunkers horizontally across the top of those quads of huts and those are intermediate level bunkers 5, 6 and 7. They are about 15, 16 metres long, 6 or 8 metres wide and about 5 metres deep and they stick out of the ground approximately 2 metres. Bunker 5 is mostly full. Bunkers 6 and 7 are partially full.

Above that are the stand pipes. There are 171 stand pipes, 69 of which we know to contain

fissionable material according to our internal records and those are the targets for our plant stand pipe remediation work in the future.

To the right of that is the concrete canister storage facility where we have 16 concrete silo style dry storage canisters containing, as Ms. Miller mentioned, approximately 28 mega grams of used fuel, primarily from the WR1 reactor.

And to the left of the road, just at the bottom left corner of the stand pipes label are four other medium level waste bunkers. Those are below grade bunkers that were the first four that we built in the series for handling medium level waste.

MEMBER HARVEY: How do you monitor those stand pipes? I mean it might be easy to monitor what is on the ground but those stand pipes going down, if there is any leaks or how do you monitor it or where do we have the results? Why --we don't have anything about that in the presentation.

MS. MILLER: Joan Miller, for the record.

We do have a very extensive monitoring program within the waste management area. There are a number of monitoring and sampling wells and we provide annual data as part of our data submitted to the CNSC staff. So we have an extensive monitoring program and

from there we are able to determine whether or not we have any releases of the contaminants from the waste structures.

MEMBER HARVEY: Up to now, have you observed any problems with the stand pipes?

MS. MILLER: Joan Miller, for the record.

There are no significant problems. There is -- we actually have just carried out an excavation near some of the stand pipes and a large number of the samples indicated no contamination above background. There were some samples that did show some contamination and we have -- so you will see some contamination within the area, but it -- it is staying within the waste management area.

The waste management area is constructed in an area of clay soil so there isn't -- if any contaminants come into the soil, there isn't a -- they don't migrate quickly. And, also, that particular area is a -- the groundwater actually discharges to the surface, so we don't have concerns about any contaminants leaching or, you know, leaching from the structures into the groundwater and being carried away into a groundwater aquifer as the groundwater leaches up into the surface water on the surfaces.

MEMBER HARVEY: Thank you.

THE CHAIRMAN: So do you -- just to follow

up, so do you -- actually, it would have been nice to see some of the results of those wells. And do you also measure the river itself? What's in the river, any contamination in the river to see if there's no plume underground that could reach the river?

MS. MILLER: Joan Miller, for the record.

Yes, we have a very extensive monitoring program that includes the river and it is monitored in a number of locations.

As part of the comprehensive study that was done for the environmental assessment, we did do some work to identify. There is some contamination in the river sediment, but it was determined that the most appropriate path forward was to leave it there for natural attenuation; so it's a very small amount of contamination.

THE CHAIRMAN: Staff, what do you do in terms of monitoring some of the material, some of the data?

MR. ELDER: So -- Peter Elder, for the record.

We do review the data and why we didn't present the data was actually there was -- this is monitoring to see if there's a problem. There isn't any evidence of any problems around those so we didn't include data that just shows a table with -- with no issues. We

looked at the data where we thought there was a useful trending on that one.

So we review all these reports and make sure there aren't any issues that need to be followed up and if there are -- if we see anything, we would include that as something that we are looking at. So we continue to monitor, but there's nothing in the monitoring information right now that suggests there's a plume or anything of that nature.

THE CHAIRMAN: Just -- just again a last question on this.

How much reporting do these facilities have to be doing for the IEA? Is that something that gets reported in terms of materials to the IEA? Is anything in this waste management?

MS. MILLER: Joan Miller, for the record.

Yes, we do have IEA -- IAEA safeguards apply to some of our waste storage facilities. So that is -- that information is reported to them as required and they also do on-site inspections.

THE CHAIRMAN: Okay.

Monsieur Harvey?

MEMBER HARVEY: Just one question related to that.

What part of the inventory will stay there

until there will be a -- a national repository? Is there a part that could be treated or sent somewhere before that?

For example, low-level waste; will the low-level waste stay there or will have to go to the future repository?

MS. MILLER: Joan Miller, for the record.

The comprehensive study report for the environmental assessment did identify that if, through the follow-up program, we can demonstrate safe in situ disposal of the low-level waste in the trenches that that waste could stay there under institutional control up until it had decayed through to below unconditional release limits. So that's why in the one slide, we do indicate and we show institutional control for that low-level waste.

For the high-level waste or the fuel, it is -- the used fuel would be -- go to the national used fuel repository that is being planned by the Nuclear Waste Management Organization.

For the waste in between, an important part of the Nuclear Legacy Liabilities Program is to determine the appropriate options and final solutions for all of the waste that is generated as part of the decommissioning activities carried out under that program.

So we are investigating those options, looking at what the alternatives are. So there has not been any final decisions made as to the long-term management of all of the waste types.

MEMBER HARVEY: Thank you.

THE CHAIRMAN: Thank you.

Ms. Velshi?

MEMBER VELSHI: My first question is for AECL and it's about schedule and I've got three parts to the question.

What percentage of the overall decommissioning work has been completed to date? That's the first one.

Okay, if you're writing them down, I might as well tell you the second too. The second one is you mention about this review underway for expediting the schedule. What's the timing for that review to be completed and what -- what other drivers for you wanting to expedite the completion of the work?

And the third part is what do you see as being the key risks for completing this work within the schedule?

MS. MILLER: Joan Miller, for the record.

I'll ask Russ Mellor, the General Manager of the Whiteshell Decommissioning Project to respond to

your three questions.

MR. MELLOR: Russ Mellor, for the record.

Just before I start, since I'm a new -- a newbie here, I just give you a quick -- very quick thumbnail.

I've had about four years of experience in nuclear power, about half of it in decommissioning. Most of it was in the nuclear power arena; held numerous positions from Vice-President of Decommissioning all the way through President and CEO of Yankee Atomic Electric Company and Connecticut Yankee. Just prior or a few months prior to coming to AECL, I was Executive Director of Decommissioning at Sellafield. So there's a significant amount of decommissioning experience.

As far as percent of decommissioning complete, that's a -- that is a little difficult to tell you. Prior to this past phase of -- of the Nuclear Liability Program, there has been no earned value management system applied to the work at Whiteshell; in fact, any of the Nuclear Legacy Liability Program efforts. There is now.

And in -- in accordance with that, we're making progress and -- and reasonable progress. We're on schedule except for those areas that we've outlined where we are behind. So I don't have the exact percentage for

you, but we are reasonably well on schedule.

As for why do a review and what are we doing with that review? Part of my effort is to look at the strategic aspects of decommissioning at Whiteshell and determine how much we can accelerate decommissioning and reduce the risk and liabilities sooner. That's the overall driver is reducing the risk and liability sooner.

The spin-off benefit is that long-term, your overall financial picture will be better. You'll -- you'll be doing it long-term for less money. However, you have to recognize -- one would have to recognize that the costs might be higher in the shorter term.

So, for example, if you're moving 30 years worth of work into 15 years, I would expect higher costs in the 15 years, but longer term, you won't have the same institutional costs that will be high.

The key risk for completing the work within schedule, it mostly relates to the project management capability here and implementing solid project management requirements. We're well on our way to doing that with good schedules that can be properly change controlled that have good work management processes behind them. That's the key risk. Without implementing those, you really don't have much control and things will just float with time.

The -- that is no longer, I think, a real serious issue here. Across the entire AECL decommissioning portfolio, there's much more rigour with the project management approaches and that's a very positive thing.

MEMBER VELSHI: So, a follow-up to two of the three, the percentage of what was completed --- Now, I totally understand about not having used on value, but had we done like 10 per cent of the work, or 50 percent, or the bulk of it has still yet to come?

MR. SCHWARTZ: The bulk has still yet to come. My estimate would be between 10 and 15 per cent.

MEMBER VELSHI: And the timing for your revised schedule is it within the next year or sooner?

MR. SCHWARTZ: Sooner. We owe that as a deliverable product to NRCAN by the end of the fiscal year.

MEMBER VELSHI: Thank you. My second question -- and you've answered this in part by giving us your background -- is: where do you look for operating experience and learned best practices and is peer reviews that is done in the nuclear industry something that, you know, is contemplated for these kinds of decommissioning activities where you get another set of eyes come and see the kind of work that's being done here and giving you

some, you know, help, perhaps recalibrate the work you're doing?

MS. MILLER: Joan Miller, for the record.

That is very much part of our program. We are very involved with IAEA, decommissioning networks, involved with the OECD, NEA, decommissioning activities. We have people like Russ Mellor that have joined our program. We have a number of others that are also supporting the program who bring decommissioning experience. We're benchmarking, we are involved with a number of other decommissioning sites, we have a memorandum of understanding in place with the UK Nuclear Decommissioning Authority, with Andra in France for waste management, and we have a number of initiatives under way with USDOE. And we do, in fact, when we prepare various studies, we will, in fact, get, in many cases, third-party review of those.

So, I think that we are really trying to learn from others and utilize the expertise internationally to support our programs.

MEMBER VELSHI: Thank you. One of the areas where your performance, perhaps, had not been stellar in but there's been improvement in, is the number of lost time injuries. And I know, even though it's showing improvement over the last year, it seems to be

well behind certainly what the nuclear power plants would show as their conventional safety performance.

But I recall in your -- in the CMD, it mentioned that maybe the definition used for defining lost time injuries is not consistent. Can you comment on that? And, I mean, that's such a standard measure, I just wondered why we wouldn't all be counting it the same way.

MS. MILLER: Joan Miller, for the record.

Yes, it is ta standard measure. However, when you look into the details, people are -- different organizations do count it differently and that's why we've been part of the recent CANDU Owners Group initiative where all of the utilities and ourselves have got together and we've determined how we will define lost time injuries so that we're all able to use the same statistics.

And so, we will be reporting our statistics according to that CANDU Owners Group definition.

MEMBER VELSHI: Thank you. I know we have a discussion further -- later on in the day around this whole reporting sites; maybe we'll hear more on why definitions are different.

My last question is on public engagement and I know there's a mention of the Public Information Program. Can you comment on the level of interest and engagement of the public with these activities and what

some of the key concerns have been expressed?

MS. MILLER: Joan Miller, for the record.

During the environmental assessment process and as we obtained our first decommissioning license, the local community was very involved and very engaged and, indeed, wanted to see decommissioning progress and, actually, progress at a faster rate than what was originally planned.

However, since then, they have been very supportive of our activities. We have a good level of participation in the public liaison committees. They do not and have not been presenting any challenges to us. We recently introduced a community newsletter and we asked for --- included in it a questionnaire or survey about what they would like to hear about and, really, it's just keeping them abreast. Some of them feel that they are getting sufficient information.

But, really, the public has been --- local public has been extremely supportive of our activities and our involvement with the community.

THE CHAIRMAN: Okay. Thank you.

Anybody has other questions? Mr. Harvey?

MEMBER HARVEY: Yes.

In page 3 of your written submission, we can read at the top of the page that the area of

aboriginal consultation is here to maintain a communication protocol with citing (phonetic) First Nations to keep them informed of decommissioning activities including employment opportunities. As there have been some important issues to pass on, the First Nations people are working for AECL, over the 350 employees working there.

MS. MILLER: Joan Miller, for the record.

We produced an annual AECL Employment Equity Report and the most recent data is that there are 35 individuals who have self-declared.

THE CHAIRMAN: Thank you.

Dr. McDill?

MEMBER MCDILL: Roughly, how many personnel are involved right now at Whiteshell? You've got some tables with 700 new and 559 non-new. Is that a pretty good estimate? And does it include contract employees?

MS. MILLER: Joan Miller, for the record.

Our total staff number is 350. On-site contractors would be at most 20 to 30, although depending on what sort of activity is going on, if we're constructing SMAGS for example, it might be a bit more, but I think the overall staff numbers around 350.

MEMBER MCDILL: So, I'm looking at staff document and at Table 3 with 771 people monitored in 2011.

Hum -- I must be missing 300 and ---

MS. MILLER: Joan Miller, for the record.

That would include --- So, that was there from the Dossier (inaudible) Record, so it includes staff, it includes visitors to site, all contractors that might come on for a day or two as well.

MEMBER MCDILL: So, that is a sort of -- more representative of traffic through the facility then. Okay. Thank you. Does staff has any comment?

MEMBER ELDER: No. I don't think we want to add to that that'd be ours which is why we, if you give different views on that number as well as maximums and averages.

MEMBER MCDILL: So, some of the 559 non-news are -- We're talking 350 versus 12-13,000; there's a lot of traffic going through there then. People popping in for a day or two, dismantling ta toilet, leaving, you know -- I'm guessing.

It's tables 3 and 4 on staff's document, page 14.

If it's just the number of people being monitored, it seems large compared to the staff on site. That's all I'm ---

MS. MILLER: Joan Miller, for the record.

That would include everyone that is

monitored, so it includes, you know, if staff have left, new staff on board, visitors. If you're there for a day, you will be monitored and add to those statistics.

THE CHAIRMAN: Still, the mass seems to be a bit unusual, I think. I don't know the site, I don't know how much traffic it generates, but the difference between 771 and 350 is a lot. Anyhow, I guess somebody -- I guess I assumed those numbers, the numbers that are in the registry, that's where you got them from?

MR. HOWARD: Don Howard, for the record.

Yes, the numbers that we've provided here is for basically the doses that are reported to the registry, the National Dose Registry.

So, basically, anybody that goes on site whether, you know, new or non-new, is issued a TLD, and then they report that number to the national Dose Registry.

So even if you go in for one hour, and you are issued a dose -- a TLD, then they have to report that. So, basically, with a lot of contractors for construction -- I know with the SMAGS, when they were doing the construction on the SMAGS, they had people in. They weren't classified as NEWS, they were classified as NON-NEWS. So they're on site, so basically those doses are reported.

THE CHAIRMAN: Okay.

Anybody else?

Monsieur Harvey?

MEMBRE HARVEY: Merci monsieur le président.

On page 19 of the staff document, second paragraph of the page, the middle of the paragraph, it's about liquid releases of hazardous substances. "However, there were certain problem areas such as a total of suspended solids; iron, mercury, oil and grease accidents, against AECL internal guidelines."

What is the importance of that and what is done to correct it?

Staff?

First I'll address the staff, what is the importance?

MR. ELDER: So I'll start in general importance. In terms of any active -- you know, any time where you have internal guidelines or action levels, is indication that you are -- something's there that you weren't expecting to be there. So it doesn't necessarily mean -- you know, they're not going to the limits on this one, but it's an indication of something that you were not expecting to see.

So it needs investigation to understand why

you're seeing more iron than you're -- you know, the action levels are based on what you normally -- or higher than your normal releases. So it's a warning. It's an indicator light, in a sense, saying there's something unusual there. It's not indicative immediately that there's a problem there, but it is something that is unexpected.

I mean, AECL can talk about what were the causes and why -- what they did about those ones in terms of -- but the idea of the system is that you set the action levels to give you early indication of a potential problem before it becomes a real problem, not to have anything going out that is low.

So it's, you know -- again, it's just we look at it -- and what we're saying is, looking at this one, looking for trends, but we're not seeing any immediate problem right now, other than the indication of this is not what AECL was expecting to see, so you continue to monitor to make sure there's no trend that's going up and needs to be addressed.

MEMBER HARVEY: AECL?

MS. MILLER: Joan Miller, for the record.

We have set our internal guidelines for non-radiological emissions based on a number of federal and provincial documents, various guidelines for waste

water, et cetera, and, as Mr. Elder mentioned, we've set those to ensure that our discharges do not have any impact or effect on the environment.

And they are set so that we are well below the -- any impacts on the environment, and minor exceedences do indicate that we are -- you know, we are required to follow-up to ensure that we don't have an operational control issue in our program.

And for the exceedences that were mentioned, many of those come from the operations in our laundry area, actually, and so that we've introduced a number of improvements to minimize exceedences. And our most recent data would indicate that they're working, so that the number of exceedences of our guidelines has decreased in the past year or two.

THE CHAIRMAN: Just piggy-backing on this.

So what's your relationship with the Manitoba government? Is anybody from --- do they have to report to the Manitoba Environment? I assume there's a Department of Environment. How about the Ministry of Environment here in Ottawa? Do you have to report some of those exceedences? Do the Manitoba government inspectors come on site now and then? What's the story there?

MS. MILLER: Joan Miller, for the record.

We do give them -- we do provide them a

copy of our environmental monitoring report. Manitoba Conservation Authority is also a member of our public liaison committee, so they are kept abreast of our activities on site.

We don't provide formal reports to the federal Department of the Environment, although there is ongoing dialogue between our environmental protection program authority and the Department of the Environment, and, if we have exceedences of federal regulations, then of course we would report.

And Environment Canada, we do keep them abreast of if we have any exceedences of any of their regulations, for example, which hasn't occurred; we would notify them as well.

THE CHAIRMAN: So, Fish and Ocean, for example, are involved in -- staff?

MR. HOWARD: Don Howard, for the record.

When we conduct compliance inspections at Whiteshell, we use what we term the "Regulatory Joint Review Process," where we invite other federal and provincial agencies to accompany the CNSC inspectors. So Manitoba Environment, Environment Canada have attended with us on inspections in the past, and we continue this practice, and also Health Canada.

THE CHAIRMAN: So nothing worrisome has

been found to date? And I'm trying to get to the bottom line here in terms of the regulatory oversight.

MR. HOWARD: Don Howard, for the record.

The other federal and provincial agencies have not -- the reason we try to do a coordinated approach is to ensure that all issues are put on the table, and these other agencies have not identified any issues to us.

THE CHAIRMAN: Thank you.

Monsieur Harvey?

Anything else?

I've got a couple of quickies here. First of all, were you asked for a three-year review and then the seven-year review? How does that all dovetail with the annual review that you plan to do, or are you planning to change it? What's the story here?

MR. ELDER: Peter Elder, for the record.

I guess we can have a little more discussion in October when -- what we've done on the annual reports, initially, is to concentrate on the operating facilities. And you'll see when you get to October, the one for the operating facilities, we're already at well over 100 pages. So we're going to focus initially on the operating facilities, because that's where we see the most -- where there is -- you can get year-to-year variation.

I think we need to then have some strategy on how we deal with these other facilities, or in decommissioning, or waste management, where there's not a lot of change in terms of -- they don't routinely release a lot of material to the environment, and there's not a lot of change over -- on a year-to-year basis.

Whether we have a mechanism to do these -- like this one, every three years, but start rolling in more facilities into one report, rather than a report on each facility.

But, certainly, for the annual reports, we started on -- with all the operating facilities, which is already we're talking a large number of facilities.

THE CHAIRMAN: Well, with 350 people, plus, plus, plus, this is a pretty large operation, if I may say so.

MR. ELDER: It is, and so we're -- it is, but when you look at it what happens in terms of routine emissions, there are not a lot of routine emissions because they're not producing -- actively producing material. They're sort of -- in decommissioning, they're really moving around on the site.

They have to make sure they do it safely, obviously. So we'll continue to look at how we continue to update these reports, recognizing that AECL is putting

their annual reporting onto their web site so it is available for any member of the public to see.

And that's their full environmental reports. So all the material that we didn't show you because there wasn't a story there around the groundwater monitoring, it is available to the public on the AECL's website.

THE CHAIRMAN: AECL, would you prefer an audio report or update, or a big coming back to us after seven years? It's a leading question.

(LAUGHTER/RIRES)

You don't have to answer if you don't want to.

MS. MILLER: Okay.

THE CHAIRMAN: I got -- first of all, I must tell you, I'd like to congratulate you for some of the graphs and schedule. I love those schedules, (inaudible) long-term vision as to where you're going. You know, you're on page 44 and 45. At least there's a vision of the end and in that -- what I'd like to ask is, on institutional control, what does that really mean? is the end gain handing it off, this property, back to -- is it -- who wants that particular property? Is it eventually going to be given to the Manitoba government or is it -- because, you know, the word "abandonment" doesn't appear here? I don't know if your institutional

control is a substitute for you getting out this completely and giving it to somebody else?

MS. MILLER: Joan Miller, for the record.

The environmental assessment and a comprehensive study report identified that the -- apart from the area that we're identifying -- which would be under institutional control -- that the remainder of the Whiteshell site would be identified to be cleaned to -- if you like -- green field.

So the anticipated end-state was green field, i.e. we would turn it back to whoever wanted that property for whatever use, except for the area under institutional control. That would require ongoing monitoring through that period.

So I think we still need to work through some of those details as to how one would actually do that, but it envisages continued monitoring over that period until the remaining activity has decayed away to below the uncontrolled release limits as defined in the regulations.

THE CHAIRMAN: Okay. We'll leave it at that for now, and thank you; thank you all. And we'll wait for the next update.

We'll take a break, 15 minutes, which brings us to 11:40.

--- Upon recessing at 11:30 a.m./

La réunion est suspendue à 11H30

--- Upon resuming at 11:45 a.m./

La réunion est reprise à 11H45

THE CHAIRMAN: Okay, the next item on the Agenda is regarding Regulatory Document RDNGD-99.1 which set out the reporting requirements for operating nuclear power plants. This is outlined in CMD 12-M48, and I will turn the floor to Mr. Greg Rzentkowski for his presentation.

**6. Decision Item on
Regulatory Documents**

**6.1 RD-99.1 AND GD-99.1:
Nuclear Power Plant Reporting
Requirements and Guidance**

12-M48

**Oral presentation by
CNCS staff**

DR. RZENTKOWSKI: Thank you very much, Mr.

President, and Members of the Commission. For the record, I'm Greg Rzentkowski, Director General of the Directorate of Power Reactor Regulation.

Today, we'll be presenting to you final version of Regulatory Documents, laying out of updated reporting requirements for operating nuclear power plants. These documents cover all safety and control areas which form our regulatory framework and reflect joint, multi-disciplinary effort of CNSC staff.

With me today are Mr. Mark Dallaire, Director General of the Regulatory Policy Directorate; Mr. Colin Moses, Director of Regulatory Framework Division; Mr. Peter Corcoran, Director of Licensing Support Division; and Mr. Benoit Poulet, Director of Compliance Monitoring Division. Peter and Ben represent the Directorate of Power Reactor Regulation.

The objective of this presentation is to seek your approval to, first, publish RD-99.1 and GD-99.1 and, second, begin the process for the Commission to amend, on its own motion, all applicable nuclear power plants operating licences to replace current reference to S-99 with RD-99.1.

Following this amendment, GD-99.1 will be referenced in nuclear power plants licence condition handbooks to provide guidance on meeting NPP mandatory

reporting requirements. NPP reporting requirements have been formally in place for almost 20 years and are essential for licensing and compliance activities.

The current regulatory document, S-99, seen on the left on this slide, was issued in 2003. There have been several regulatory improvements and changes since S-99 was issued, and early consultation highlighted the need for an updated version.

This updated version is RD-99.1, seen on the right, which represents the culmination of almost five years of effort and refinements.

In this presentation, we'll briefly review the basis for reporting requirements and how they are used, and the development of RD-99.1 and its companion guide, GD-99. We will also highlight changes from current requirements and explain the modernization of the new safety performance indicators.

Towards the end of the presentation, we'll outline the extensive public consultation which, to a large extent, shaped the current version of both documents.

As shown on this slide, the legal basis for reporting requirements set out in RD-99.1 comes from the *Nuclear Safety and Control Act* and applicable regulations associated with the Act.

Mandatory reporting is one of the main activities which, together with event analysis and compliance activities, make up the CNSC compliance triangle. Information submitted by licensee flows from reporting requirements to compliance activities to inform the planning and to focus inspections, desktop reviews, and surveillance monitoring on performance issues.

Information also flows to event analysis to risk inform the investigation activities. This includes the condition of structures, systems and components, as an example.

Finally, these activities all feed back data about the licensee's compliance was the licensing basis for the nuclear power plants into a central compliance data collection which is used for licensing and annual safety performance reporting.

It is important to note that S-99 and RD-99.1 are part of the larger CNSC suite of reporting requirements. RD-99.1 is one of a suite of reporting documents which has been established to -- to house all CNSC regulatory and guidance documents dealing with reporting and communication.

As this graphic shows, RD-99.1 and its companion guide, GD-99.1 have been designed to replace the existing regulatory document S99 for operating nuclear

power plants.

At this time, the only other document in the RD-99 suite is RDGD-99.3 for public information disclosure, which was approved earlier in 2012 and replaced G-217. This document is currently referenced in NPP Licence Condition Handbooks and the operating licences will be amended together with RD-99.1.

Additional regulatory and guidance documents will be forthcoming for the other classes of licences and will be added to the RD -- RD-99 suite.

In the present day -- day, post-Fukushima environment, nuclear regulators must continue to maintain a high standard of regulatory oversight necessary for ensuring the safe use of nuclear energy and material.

To improve public confidence, nuclear regulators must -- must also enhance openness and transparency. CNSC staff recognizes the importance of learning from the -- from the lessons provided by the nuclear events triggered by -- by the last year earthquake and tsunami in Japan. CNSC staff is confident that the proposed documents address all of the regulatory needs for reporting requirements identified from the Fukushima lessons learned.

RD-99.1 includes requirements for reporting such events as, for example, seismic activities, flooding,

loss of standby generators, initiation of emergency response, actuation of emergency cooling, serious process failures, and human and organizational performance. This reporting will also feed into the Public Disclosure Program to enhance nuclear operators' and regulators' openness and transparency.

Overall, RD-99.1 contains the updated reporting requirements that currently exist in S-99 in a more streamlined arrangement without duplication and with a new submission schedule that improves efficiency by reducing regulatory effort. Its companion guidance document, GD-99.1, does not contain any additional requirements, but does provide additional details, explanatory information, and guidance on how to meet the requirements set out in RD-99.1. For example, RD-99.1 requires licensees to submit, on a quarterly basis, safety performance indicators using methodology accepted by the CNSC to monitor compliance with the CNSC's safety and control areas. GD-99.1, on the other hand, provides listings of CNSC accepted safety performance indicators, as well as guidance and details of what should be measured in order to monitor the safety and control areas.

The suite of RD-99 documents, including reporting requirements for operating nuclear power plants, was presented to the Commission on August 11, 2011.

Stakeholders indicated that they did not receive the document with sufficient lead time in advance of the meeting and requested additional time to review and to comment on the documents. The Commission decided that stakeholders should be given additional time to review and submit comments.

Also, a recommendation was made that the six documents presented in 2011 be combined such that event and compliance monitoring be combined to become RD-99.1 and GD-99.1. The public information disclosure document was also combined to become RDGD-99.3 and this was published in March 2012.

As I already indicated, RD-99.1 replaces current reporting requirements for operating nuclear power plants set out in Regulatory Document S-99 and will receive -- and will receive its regulatory authority by replacing references to S-99 in power reactor operating licences. Reporting in RD-99.1 is divided into two main types; event reporting and compliance monitoring. This is consistent with -- with its role in the compliance verification process.

Event reporting is for unplanned or unforeseen events that -- that are of regulatory importance since they may signal a change in the risk associated with nuclear power plant operation. RD-99.1

specifies the types of reports required for each type of event and the timeframe required for submission.

When an event occurs, it is reported to the CNSC through a preliminary report. Preliminary reports must be submitted immediately or no later than five business days based on safety-significant, predetermined criteria.

For high safety-significant events, additional follow-up information must be reported to the CNSC in a detailed report no later than 60 days of submitting the preliminary report to the event.

All reporting should be managed by the licensee's quality or management system and these systems are covered by CNSC regulatory oversight.

Compliance monitoring is for regular, periodic, or schedule -- or schedule reports of information to demonstrate that CNSC regulatory requirements are being met. These reports are submitted quarterly, annually, or on a special periodic basis.

There are two types of scheduled reports; program review reports or reports of non -- of noncompliance of licence -- of licence conditions. These reports are mapped to the safety and control areas.

An important part of compliance monitoring are safety performance indicators. They will be reported

quarterly and are also mapped to the safety and control areas.

I will now pass the presentation over to Mr. Poulet, the Director of the Compliance Monitoring Division who will describe the modernization of the new safety and -- safety performance indicators. Benny?

MR. POULET: Thank you, Dr. Rzentkowski. Good morning, Mr. President, Members of the Commission. For the record, my name is Ben Poulet. I'm Director of the Compliance Monitoring Division.

The modernized safety performance indicators being presented here today collect licensee data to support two CNSC needs; the first, production of the NPP annual report for the Canadian public; the second, compliance monitoring of the licensing basis throughout the licensing period.

The RD-99.1 safety performance indicators have been designed using a modern model based on best national and international practices.

The current 15 CNSC performance indicators listed in CNSC Regulatory Document S-99 have been quarterly reporting requirements since 2003; however, these indicators were finalized in 1996 and have been reported to the CNSC since then. These indicators predate our current regulatory framework which included the safety

and control areas and licensing basis as well as the Government of Canada's Red Tape Reduction Commission Initiative relating to the elimination of duplication. During the first S99 consultations, revision of the performance indicators was requested by both industry and CNSC specialist staff as well as by the Commission presentation -- pardon me, as well as by the Commission during presentation of the 2009 annual MPP report in August of 2010.

It became clear that the S99 performance indicators needed more than simply fine tuning, but rather a comprehensive update. A CNSC staff review team was established with participation from all 24 CNSC technical support divisions, also and in response to the industries request to be involved, a joint CNSC can-do owner's ground safety performance indicator working group was established to facilitate consultation.

The safety performance indicators being presented today are based on the modernized model recommended by the international atomic energy agency which uses different levels of safety performance indicators.

The overall safety performance indicators are high level measurements of the overall results achieved by the nuclear power plant. These overall safety

performance indicators will be published in the NPP annual report, and will facilitate national and international comparisons between nuclear power plants.

A specific safety performance indicators are low level measurements which focus on the individual licensee programs and processes which support the licensing basis. The purpose of these specific safety performance indicators is to inform CNSC staff of potential changes in the management and operation of these programs and processes.

It is important to note that these specific safety performance indicators should not be published in the NPP annual report, or used for inter-station comparisons because they cannot be used in isolation from the other compliance data collected which provides a more complete picture.

I would like to re-emphasize this last point, the specific safety performance indicator represents only one source of compliance data and they cannot be used on their own. This distinction is a fundamental one.

Specific safety performance indicators and inspections both monitor the licensing basis; however, they are different and not interchangeable. The licensing basis includes the Canadian Laws and regulations, the

licence conditions, and the licensee's safety and control measures. Safety and control measures are programs and processes that do not have defiant compliance criteria that is they categorically cannot be classified pass or fail, right or wrong.

For example, licensees are required to maintain a radiation protection program. Inspection of the radiation protection program can confirm the status of the program at a point in time using results and outputs. The specific safety performance indicators monitor the elements that make the program work -- make the program work to detect changes in the management or operation of the program.

The differences are that safety performance indicators are a compliance's monitoring tool. Inspections are a compliance's verification tool. Monitoring is about alerting CNSC staff to potential problems; verification is about determining whether there is an actual safety concern.

There are several ways to monitor programs and processes. Typically industry and licensee's prefer to measure results or outputs because they're running a business.

Focusing only on results may sound good, however, only measuring things after they occur does not

allow the regulator the opportunity to stop unsafe things from happening. For example, only measuring radioactive releases as they come out of the pipe is not sufficient to help CNSC staff to protect the environment. Or only measuring radiation doses after they have been received is not in its own sufficient to help CNSC protect people.

CNSC staff must ensure the licensee programs are healthy and that releases and doses are within regulatory limits. When a program or a process is working well, future safety results are more likely to be good. Accordingly, safety performance indicator selections focus upstream in programs and processes to measure the things that support the programs and processes health and vitality.

After a nuclear power plant is built what enables future safety is typically people and procedures. This is one of the main lessons learned from the past 15 years of experience with the regulatory use of indicators. With the new model in place, the first job in safety performance indicator selection was to review the current S99 indicators and to map their coverage against the current CNSC regulatory framework.

This slide shows the three main functional areas represented by orange, blue, and green; these three functional areas contain a total of 14 safety and control

areas which form the backbone of all CNSC licensing and compliance activities.

The current safety performance indicators in S99 were mapped against these safety and control areas. The red boxes show the gaps in coverage. It can be seen that the current S99 indicators cover less than 50 percent of the safety and control areas, and that approximately 65 percent -- and that approximately 65 percent of the coverage only has thin data collection with only one indicator.

In addition, two of the current safety performance indicators should be eliminated because they are a duplication of other existing S99 reporting requirements.

This mapping shows the extent of coverage of the new safety performance indicators required under RD99.1. Following contribution by industry and selection by CNSC specialist staff, RD99.1 provides seven overall safety performance indicators that cover all three of the CNSC high level functional areas.

These overall safety performance indicators are nationally and internationally accepted indicators that can be used for benchmarking and inter-comparisons. These overall safety performance indicators are defined and collected by the world association of nuclear

operations or WANO for short. In addition the radiation those safety performance indicator has been enhanced with data collected by the IAEA information system on occupational exposure or ISOE for short.

These overall safety performance indicators will be annually reported to the Commission and to the Canadian public in future NPP annual reports.

With regard to the safety and control areas, RD99.1 now provides 31 specific safety performance indicators that cover almost 80 percent of the CNSC's 14 safety and control areas. This data coverage has been reduced by 35 percent, -- I beg your pardon, it's been reduced to 35 percent.

You can see that only 3 out of the 14 safety and control areas do not at this time have specific safety performance indicators. CNSC staff intends to continue working with industry to find acceptable indicators to fill these gaps in the future.

Finally, CNSC staff has ensured that the specific safety performance indicators reporting requirements do not duplicate the reporting requirements found in RD99.1 and other CNSC regulatory documents.

In summary, the new modernized safety performance indicators will provide an effective and appropriate regulatory tool for both benchmarking and

compliance monitoring.

They will provide better coverage of functional areas and safety and control areas. They will provide improved operational information about the licensing basis and the licensee programs and processes which support it. They will proactively focus on monitoring for changes in advance of negative consequences. They will be consistent with other non-nuclear Canadian government agencies with international nuclear regulators and the IEA. They will use best practises for analysis of the data and following up on detected changes to determine whether there is an actual deterioration in safety. Lastly they will eliminate duplication of reporting requirements.

I would now like to turn the presentation over to my colleague, Mr. Peter Corcoran who is the Director of the Licensing Support Division.

MR. CORCORAN: Thank you Mr. Poulet. Good morning Mr. President and Members of the Commission.

As you are aware, the development process for CNSC regulatory and guidance documents involves consultation with the public, stakeholders and CNSC staff.

This consultation process was followed for both RD and GD99.1 and resulted in improvements to both documents following the dispositioning of comments

received. CNSC staff were able to accept or address almost all of the comments received. However, some comments could not be addressed to the licensee's satisfaction because they did not align with the objectives established for RD-99.1.

I will briefly summarize these outstanding documents and the CNSC staff response at the end of this section of the presentation. But first, I would like to summarize the extensive consultation which was undertaken in the production of 99.1.

Pre-consultation discussions and meetings about revisions of S-99 were held with industry beginning in 2008. Industry was also provided opportunities in 2009 and 2000 -- excuse me -- 2009 and 2010 in order to comment on draft revisions.

Feedback indicated that the S-99 indicators also needed significant changes; so a separate but parallel project was launched and the CNSC Industry Working Group was established.

Meanwhile, separate regulatory documents for event reporting and compliance monitoring were issued for public consultation in November and December 2010. Public consultation included posting of these documents on the CNSC website, email distribution to approximately 1600 interested individuals, special interest groups, and non-

governmental organizations, as well as an email distribution to nuclear power plant licensees.

A second round of public consultation was provided to seek comments on the dispositioning of the first round of comments in January and February 2011. In total, 395 comments were received.

Once the initial two rounds of consultation were completed, the documents were modified as appropriate and presented to the Commission in August 2011. Following that Commission meeting, the suite of documents for event reporting and compliance monitoring reporting were combined into a single regulatory document, RD-99.1 and in the accompanying guidance document, GD-99.1.

These combined documents were given two additional rounds of consultation. The first stakeholder feedback round took from September to November 2011. Following completion of the SPI Project, the modernized strategic -- or safety performance indicators were inserted into GD-99.1. And the second focused public consultation took place in May and June of 2012.

I wish to point out that throughout the consultation process, the CNSC has received feedback only from industry stakeholders.

Following are some of the key points that were provided during the consultation period.

The reviewers expressed concern regarding the new requirement for licensees to grade the safety significance of events. This concern was with respect to the difficulty with maintaining consistency with grading and the additional complication of the process by adding this requirement. To address the comment, CNSC staff decided that the safety significance of events for reporting purposes would not be determined by the licensees and the reporting timeframe and the report type and contents would be clearly defined using predetermined criteria.

In general, licensees will submit immediate preliminary reports for higher safety significance events and preliminary reports within five business days for lower safety significance events. This will allow the regulator and the industry to focus attention and resources on the most important events.

A key comment received was the desire to see a consolidated reporting table that included the reporting requirements from the Act and the Regulations combined with those in RD-99.1.

CNSC staff understands that a consolidated table would be helpful, but cannot duplicate the requirements of the Act and the Regs inside RD-99.1. However, GD-99.1 does provide a compilation of all the

other mandatory reporting requirements to assist licensees in identifying the full set.

Furthermore, it was recommended through the comments received that a consolidated table containing all the event reporting should be added to the documents. Staff found that such a consolidated table would be very long, spanning several dozen pages and making it difficult to use as an effective tool.

Therefore, CNSC staff recommends that a consolidated table be developed and placed on the CNSC website and that an indication of its availability online be placed in the documents.

Another comment concerned the perceived significant increase in the administrative workload and regulatory burden due to the proposed reporting requirements for compliance monitoring reports and the safety performance indicators.

CNSC staff notes that the number of event reports will decrease by 50 percent relative to S-99 reports. Furthermore, the number of compliance monitoring reporting actions will decrease by 10 percent.

Most of the compliance reports will be submitted less frequently under RD-99.1 on an annual basis versus quarterly reporting under S-99. The number of performance indicators -- or SPI as they are now referred

to -- will increase from 15 to 38, but overall, there is no net reporting increase to licensees caused by RD-99.1.

A phased implementation of the SPIs over a one-year period will further ease the transition to these changes.

CNSC staff conducted an analysis using S-99 event reports submitted from 2003 to 2011 in order to determine the distribution of report types had RD-99.1 been in use during that time. The results are given in this slide. As can be seen, there would have been substantial reductions in the number of reports to be submitted using the RD-99.1 approach. The total number of required event reports would have been reduced by 50 percent and the number of required detailed reports would have been reduced by 70 percent.

The main mechanism for these reductions in the shifting of low-safety significant events to scheduled compliance reporting and a simultaneous change in the timeframe for the submission of preliminary reports from the next day to five business days.

This effectively provides the licensees with more time to provide necessary information in the preliminary report such that the detailed report will not be necessary in many cases.

Another comment concerned -- excuse me --

this slide similarly compares S-99 and RD-99.1 in terms of compliance monitoring reporting. The maximum number of reports submitted annually per licensee will decrease slightly under RD-99.1 from 25 to 24, a 4 percent reduction. This can be explained by a decrease of one set of four quarterly reports, an increase of two annual reports from existing S-99 quarterly requirements, and an increase of one new annual report.

However, the bar chart on the slide illustrates the impact on the underlying number of submitted items contained in those compliance reports. While the items submitted under the new SPIs nearly double, and those in annual reports rise by 35 percent, those increases are more than compensated by the 70 percent reduction in items reported in the quarterly reports.

So the impact of moving from quarterly reporting under S-99 to annual and SPI reporting under RD-99.1 is in fact a reduction in the number of reporting from 250 to 225, a 10 percent decrease. I want to assure the Commission that, although the CNSC will be receiving fewer compliance reports, it will nevertheless receive the information it requires from licensees in order to assure compliance.

Another comment expressed was the concern

that the new safety performance indicators are intrusive into the licensees business. CNSC staff notes that new SPI's will indicate the health of programs and processes in the licensing basis.

The enabling elements are typically in the areas of personnel, equipment and procedures; all of which are important to the safe operation of the nuclear power plant. CNSC staff further acknowledged that the enabling elements do contain more business sensitive data.

However, the CNSC has a mandate and a responsibility to monitor the safety performance of the licensing basis and, this can effectively be assisted through well-defined, specific and overall SPI's.

Another comment was raised on the conceptual idea of the safety performance indicators. CNSC staff noted that the purpose of the SPI's for CNSC is somewhat different from their purpose for industry. While it may not always be possible to find common ground in this subject area, nevertheless the new SPI model, as outlined by Mr. Poulet, is based on international recommendations.

Moreover, the modernized SPI model and data analysis procedures are consistent with other Canadian regulators. These points support and strengthen the approach taken by CNSC with respect to the implementation

of modernized SPI's to assist with compliance monitoring.

You will also recall from Mr. Poulet's presentation that there are two types of safety performance indicators; overall SPI's and specific SPI's. The difference between these may best be illustrated using an analogy in monitoring health.

For example, a person's body weight in kilograms is the overall result of many factors, such as a person's diet, their exercise and general health status. Body weight is also easily understood and it can be an overall indicator of a person's general health status.

Body weight can also be used to compare individuals or to track a person's health over time. However, body weight is the result of too many factors and processes to be helpful by itself in detecting problems with specific factors and programs, such as heart disease, lung disease, diet or exercise regimen.

In fact, an increase in body weight could mean obesity on one hand, or increased muscular strength on another. While a loss of weight could indicate either illness or fitness, depending on the situation.

Similarly, overall SPI's for nuclear power plants provide an indication of their overall performance. They can be used to monitor trends or to compare the nuclear power plants, but they do not, by themselves,

necessarily indicate problems within vital licensee programs and processes.

To diagnose problems, more detailed metabolic and program data specific to the individual is required. Medical professionals use many different measurements to effectively and preventively monitor for changes in a person's health. These measurements are unique to the person and are not necessarily compared among individuals. They must be used in conjunction with other examinations and observations in order to effectively diagnose disease.

Likewise, for specific SPI's, CNSC staff will monitor this data for changes from normal values and they will seek to investigate further or follow-up with other compliance activities when signals of change are detected.

This particular model for signal detection is internationally recognized and has been used by organizations like Health Canada, to monitor such things as pharmaceutical safety and health for more than 45 years.

I would like to turn the presentation back to Dr. Rzentkowski.

DR. RZENTKOWSKI: Thank you very much Peter. As indicated at the beginning of the

presentation, all power reactors licenses have a license condition for the purpose of notifying and reporting to the CNSC, in accordance with regulatory document S99.

An implementation plan has been developed for the purpose of introducing the use of Rd99.1 and Gd99.1 as very important requirements and guidance documents that replace S99. Due to the number and the magnitude of changes in the reporting process, resulting from Rd99.1, it will be necessary to implement the regulatory document through implementation involving a number of steps.

It is projected that the documents may be published on the CNSC website by November 2012. Assuming publication in 2012, Rd99.1 will be referenced in the operating licenses of nuclear power plants by June 30, 2013.

The effective date for the two documents will be January 1st, 2014 and, they will replace the current reporting regulatory document S99. This effective date will be indicated in the nuclear power plant's license condition handbooks.

The use of a transition period will be beneficial in two ways. First, it will allow licensees time to adapt, train and prepare for the use of the new regulatory document. Second, it will allow CNSC

sufficient time to change its reporting processing mechanism and the databases for storing and managing the report.

Having said that, the safety performance indicators will be brought into use through a phased implementation approach which is described on the next slide.

The first group of safety performance indicators will be implemented in about 15 months, on January 1st, 2014. This group consists of overall safety performance indicators currently being reported by licensees to WANO, (phonetic) revised safety performance indicators, currently being reported under S99, and industry propose safety performance indicators that were supported during the consultation process.

The first group of safety performance indicators represents those that had already been utilized in oversight of operating facilities.

Nevertheless, some time will be required for the reporting process to mature. Therefore, the second group of safety performance indicators will be implemented in about 27 months, on January 1st, 2015. This group consists of new safety performance indicators proposed by CNSC staff to cover the gaps in the safety and control area coverage, and the remaining safety

performance indicators that include new data points not previously utilized in practice.

The second group of safety performance indicators is a smaller group of 11 safety performance indicators or less than 30 percent of its total number. It is expected that these safety performance indicators may have minor adjustment, as a result of experience gained during implementation.

Following full implementation, the usefulness and benefit of all safety performance indicators will be monitored and evaluated. Identified improvements will be implemented as deemed beneficial.

It is proposed that the Commission amend nuclear power plants operating licenses on its own motion under section 25 of the Nuclear Safety and Control Act.

The effective date for reporting, according to RD-99.1 would be January 1st, 2014. This implementation plan would include a phased approach for implementing the safety performance indicators over the period of January 1st, 2014 to January 1st, 2015. The implementation plan will be described in the NPP's licence condition handbooks. I would like to point out that this process would include giving licensees an opportunity to be heard and provide feedback through written submissions.

In summary, this presentation has provided

the background information about RD99 and GD99.1, and the key issues from the consultation process and implementation plan.

I would like now to end this presentation with my concluding remarks and recommendations. The introduction of RD99.1, along with GD99.1, would be a major milestone in improving the CNSC regulatory framework for information reporting. The implementation of RD99.1 would provide CNSC staff with improvements due to receiving the information needed for regulatory oversight.

CNSC staff is confident that RD99 and GD99.1 address all of the regulatory needs for reporting requirements identified from the Fukushima lessons learned. This reporting will also feed into the public disclosure program to enhance nuclear operators and regulators openness and transparency.

The reporting process will be streamlined through ensuring the important information is reported in a timely manner commensurate with its significance. Clarification and simplification of the reporting of information has been introduced to the reporting requirements in RD99.1. The results of implementing RD99.1 will be no net increase in regulatory effort. Simply, the regulatory focus will be shifted to safety significant events, and the information required for

regulatory oversight will be maintained under RD99.1.

Overall, CNSC staff recommends that the Commission approve for publication regulatory document RD99.1 and its companion guidance documents, GD99.1. These documents would become part of the RD99 suite of documents upon publication.

Furthermore, CNSC staff recommends that the Commission approve the initiation of the process for amendment of all applicable nuclear power plant operating licences to include reference to the RD99 regulatory documents. This may be accomplished by the Commission amending the licences on its own motion, under Section 25 of the Act, by June 30th, 2013, with RD99.1 to come into effect on January 1st, 2014.

Thank you very much for your attention. The CNSC staff present here are ready to respond to any questions that the Commission may have.

THE CHAIRMAN: Thank you.

I understand that that Bruce Power has a short presentation on this matter, and Mr. Saunders, please proceed.

MR. SAUNDERS: Thank you. Frank Saunders for the record. The presentation is fairly short but the words may not be quite so short, so I'll do my best.

So first let's talk a little bit about the

information. There is a large information flow from licensees, including Bruce Power to CNSC, that happens now and will happen in the future, and as a licensee we have no -- we certainly have no objection to that, right? We operate a very open system, your people on staff have full access to our data and we provide the data freely. So -- and there's really nothing in these indicators that we would say is business sensitive. So there's no objection here in terms of the content of the indicators from a, we wouldn't want to disclose that, point of view. This is not the argument and not the concern here.

So the -- currently you have seven CNSC staff who exist on our site full time. On average between them and the staff here in Ottawa, you complete more than one inspection ever two working days on our site. It's actually about .6 per day, so it's closer to one inspection a day, but a lot of information. So we average 20 reports currently to CNSC, between quarterly and annual reports, and those total approximately 2,300 pages.

All events, including very minor ones, are reported. Last year there were about 90 of them, and that's not too far off of what the norm is like, the vast majority being relatively simple and straight-forward events. And there are an average about 580 letters that we sent to you. There's about an equal amount that you

sent to us and this is generally, an information exchange of some sort on something. So this is the sort of size of the formal correspondence that currently goes on and I think you can see that, you know, this is -- it's not trivial. There's a lot of information changing hands.

We employ, in fact, about 10 people whose job it is just to keep this process working administratively. So they make sure reports go out on time, they review the content and the quality, they make sure where all the bits are. So it's about 10 FTs worth of work just to administer this process, and out in the organization of course, there is probably two or three times that many people who have to actually gather the technical data that goes in the reports, and make sure the data has the appropriately quality control, and that it's accurate, and we're not sending stuff out that's inappropriate.

So the changes that are proposed, we heard through CNSC staff presentation, this is just my rather simple summary of that, of all that discussion. In essence, nothing that we report now goes away. Everything we report now stays, plus a whole lot of other things have been added. What has changed is as I indicated, some quarterly reports are now annual, some unscheduled reports have changed, but we've also added some unscheduled

reports. So it kind of comes out as a wash.

In essence though, from a point of view of us in terms of the effort that's required, whether you report it quarterly or annually doesn't change the effort that's required for us to track the data, maintain the data, have the quality control on the data. So quarterly, annually doesn't change our effort. The only thing I do quarterly is put the data on paper and send it to you, right? So the effort to maintain data is required here regardless of whether I report that to you four times a year or five times a year. Unless it gets truly excessive and then it might matter, but -- so I think that's an important thing to note.

The performance indicator data points in particular, the change was 15 to 38, the actual data points associated with that was 94 data points under the old system, 181 under this new system. So 181 data points I have to maintain. In fact, a number of those data points are on a unit by unit basis. The total data points is close to 800 that have to be maintained to supply the information in the PIs, and all that has to be maintained. It has to have a quality control program around it. I have to verify that the data is accurate and that I'm not sending you stuff that isn't true, or that might get challenged in the public domain as being incorrect. So

there's a considerable amount of work and effort to do this.

So basic comments, updating S99 was necessary. In fact, we're one of the groups that asked you to update it because we believe that it needed to be updated under the new licences and the new LCHs. There was things in the old S99 that weren't quite correct, that should be fixed. Since we talked about this last year, in August I guess it was, I think this has improved dramatically from where it was last year. So I don't want to present the notion that we haven't managed to bring the two disparaging points of view a little closer together, but we still disagree on some fundamental things.

The unscheduled reporting criteria has improved. I think it's a better set of criteria, although it is more complex. I mean, you heard the discussion around the one tables and the two tables, and I actually have the process maps here I could hold them up to you. But it is more complex, the way it is done today. However, the structure of it we like better.

The concept of performance indicators in our view is good. We believe that performance indicators need to be there, so we don't disagree with that. In fact, again, that was one of our suggestions, is you should use performance indicators more fully than you did

in the old reports. So it's not an objection on performance indicators by themselves.

I would challenge though, whether some of the material that we have presented is a performance indicator or a process measure, and I do think that process measures are our business. We are held accountable for the safety and the operation of the plant and that we need to do that, certainly share that information with you. But whether you need that to actually monitor the activities, I'm not so sure. We can discuss that a little more.

Most of the overall performance indicators we agree with. In fact, we do most of them today, anyway, and so sharing them with you is straightforward.

Mostly what we would support is an efficient reporting process, so... One of the big issues that we have with this is that it's not efficient. It will cost us resources and money to do -- and, in many cases, we can't see the value in the information gained.

So, for sure, if the value is in the information, then it's worth expending the resources to do it. There's always a question, though, about when the value that you're gaining from that particular data point is worth the resource.

I can tell you a little bit about our own

history. About five years ago, we went very strongly into performance indicators, and we called them "Process Measures," "Process Indicators." Like much industry at the time, there was a push in that direction. It's used a great deal in the manufacturing industry and is very effective there.

So we aligned all our processes, created indicators, literally had thousands of them, measured them, followed the, reported them, but eventually we had to go away from it. We have now, still, obviously, a performance measures and indicators, but they're considerably smaller than they were, simply because the amount of effort it took maintain the information, so that the information was accurate enough that you could do something with it, out-weighed the advantage you were getting out of it. You were collecting a lot of information that just never -- never changed, so it was of no perceivable value.

Instead, we've launched into an oversight program, and we actually have, sort of, followed your example. We have an independent oversight program and our own independent inspectors who go out in the field and actually evaluate a number of our processes and procedures on an on-going basis to determine whether our implementation is actually what we think it is, and that

the procedures are being followed the way that have set them up. So we really have a blend of inspections, if you want to call them that, and performance measures that we use.

One of the issues here, of course, is that in all these areas we do have performance measures, but you didn't chose, in most cases, to use the performance measures that we use so -- so they're added up to the work we have to do.

So I talked to a number of these concerns. In a couple of areas, minor wording revisions I think are necessary on the -- on the reporting front.

I'll give you a couple of examples for immediate reporting: There was a change in the immediate reporting for fires. It now says that everything that might be a fire, whether it's a flame or not-flame, requires an immediate report.

I could tell you that will increase your reporting a fair amount, so immediate reports actually won't go down because that's every -- every time a bearing's hot in a motor, every time a fan belt gets a little hot on a fan, or whatever, we phone out the Fire Department and they come as a precaution, right? Because we don't want to make a mistake. We, virtually, never have an open-flame fire, but -- but you do get those

incidents.

Those now -- would not in the past, those would have been reported quarterly as a summation of the events we had and what they looked like. Those will now all be immediate reports. I don't actually think that was the intent, but the wording needs to be adjusted a little to fix that. So there's a few issues like that that we should clean up, if we can.

It does add overall to cost. I mean, we have gone through this in considerable detail. It's certainly not cost-neutral. It's hard to be absolutely sure what the total cost is until you start to implement these things, but for sure we will have to add staff to manage a number of these indicators. These things don't manage themselves, they require databases which will have to be established, QA that has to be put on, people have to monitor and sign off on parts of -- there is administrative work to do that, and when you're talking 800 data points, it's -- it's a fair amount of work.

So there will be an increase in resourcing required. There's a lot of this which is not compliance monitoring. I mean, the report talks about performance indicators, compliance monitoring, and we can talk through a couple of them, and perhaps I ought to just pull out an example or two.

Well, actually, first, let me just talk about a couple that we should talk about, along the lines of problems not solved from the old S99. One of them is C202, which is -- measures accident frequency. So I don't know if you have that there in front of you, on the -- in the GD document it's SPI C2-02, and it's on page 73.

So we have an overall indicator on accident frequency, which was the one that we report to WANO, and then we have this one. The definition that's used here is the old -- is very much the old definition under S99. It wasn't right under S99, and it's not right today. It is not the definition we use in Canada, nor the definition we use in North America, and it is entirely inconsistent.

You may remember in the summer of 2011, we did the performance -- you know, the industry performance review. There was an issue with the numbers for Lepreau being so much different than everybody else's numbers, by orders of magnitude. They were using this definition. So this definition not only is incorrect, it will create a great deal of confusion -- if you're going to have a number reported under WANO for accident frequency, that's vastly different than the number you report under here.

And it all has to do with how you treat disabling injuries and what is actually a disabling injury and what is not. This definition doesn't -- doesn't do

it. We should go to the definition that's commonly used in Ontario and Canada, and that definition is there, and it is the one that we report today.

So this should be fixed. In fact, we really don't need this indicator if we've got the overall accident frequency that we're reporting to WANO, but the severity indicator you need, because it's a different set of data, but this one doesn't require it.

THE CHAIRMAN: So, since you raised it, and I think we're talking about very specific stuff here ---

MR. SAUNDERS: Yes.

THE CHAIRMAN: --- and why has it not been dealt with through, I counted now, four rounds of consultation? So why wasn't it debated, fixed, or disagreed to?

DR. RZENTKOWSKI: This is one of the problems we faced during the consultation process, and it goes back to the question about the objectives of reporting.

I will ask Mr. Ben Poulet to explain in detail what I meant by the objective of reporting.

MR. POULET: Thank you. My name is Ben Poulet and I'm the Director of the Compliance Monitoring Division.

Mr. Saunders is quite right, and the

definition differs from what Bruce Power may be required to report to other agencies, and the reason is because as Greg, Dr. Rzentkowski, mentioned, it's there for a different purpose.

For us -- and if you talk in terms of lost time injuries, that's important to Workers' Compensation Boards and other business-related organizations, because they're focused on cost associated with compensation to injured workers. An injured worker that's performing modified work, somebody who maybe was working in the field, who has been injured, and then reports the next day at a desk job, does not cost anything to those Boards.

Our monitoring is strictly focused on the effectiveness of the occupational health and safety program. We should prevent all injuries, independent of how the injury is addressed, after it has occurred.

The definition of the accident severity rate was up-dated slightly from the S99 one, based on licensee concerns. We did modify one of the parameters, as to how long do you keep counting the time that the person is not able to fulfil all of their work. So we have listened to the concerns and we've adjusted a little bit to eliminate that concern.

So, in short, our CNSC monitoring is strictly focused on safety, and the effectiveness of the

licensee programs in this area. And I'm not surprised that it would be different that what other agencies would want.

MR. SAUNDERS: Yes, Frank Saunders.

The problem is that this indicator wouldn't tell you that, right? So let me give you a couple of examples.

So we have a riot (phonetic) of injuries that can happen in the plant; of course, some of them very minor and some of them very severe. So severity, actually, is the indicator that we use to do -- as staff has said, to measure how serious injuries are, and how long people are off work and the like, and severity does that.

This injury, though, we'll say, if for some reason I broke the skin on my hand, let's say I cut it on a ware or something and I have a little scratch across the back of my hand, if I am a worker who would do radiation work normally, being in a contamination area, our rules at work say, You shouldn't go into a contaminated area because you have that cut. There's no physical reason why you can't, but it's a precautionary measure. Since you have a cut, you have an open wound on your hand, and therefore it is better if you don't go in, and so that becomes, under this definition, a disabling injury.

So it presents a very radical view of injuries that is not consistent with the actual severity of the injury, and you will not be able to tell this, so it's a very misleading measure. That's hwy we don't use it. That's why nobody uses it. It presents a number which is misleading.

In addition, we, and most companies in Ontario, at least, operate on a very proactive way in terms of moving people off of their -- some portions of their regular job.

And it's simply, if I have a sprain or something, could I go back and do my regular job? Well, yes, probably you could, but we're proactive in that and we say, Well, rather than take a chance on re-injuring it, why don't you just refrain from doing certain activities in your job and, therefore, it will make sure you recover quicker and that your recovery is fuller.

So that proactive piece is there and how we deal with that is we really look at how much of your job is impacted by the injury. So if you can't do any of your job, then you count in the severity ratings. If you can't do even most of your job, you count in the severity ratings. But if your restriction is something that is very minor, that has no overall impact in your ability to do the job, you're not actually reassigned to another job,

then that doesn't count in the same way. And this indicator doesn't allow any of that discrimination. It counts everybody the same.

THE CHAIRMAN: So is that -- what I'm trying to understand is that a definition of a WANO or not?

MR. SAUNDERS: No, that's not WANO. WANO uses severity.

THE CHAIRMAN: So does anybody else, any other regulator internationally using that?

MR. SAUNDERS: No.

THE CHAIRMAN: Okay, thanks. Continue with your presentation.

MR. SAUNDERS: I forgot what I was doing there for a moment. And there -- so a couple of examples of things that we thought ought to get fixed. Radiation protection, I'm going to switch reports on you now. I'm in the Regulatory Document on page -- instead of the guide, on page 8 under 2.2.2.2.2. That's a mouthful. So page 8 near the bottom of the page, subparagraph C. In the RD, so the thin one.

So if you look under C, it talks about the results of routine surveys in the plans. This issue has been troublesome for a while simply because it's difficult to do and we haven't sorted it out and we just copied it

over into here. It's still a problem. There are, on average, 10,000 radiation surveys per unit. So something like a 100,000 radiation surveys per year at Bruce Power. And so this thing asks us to report the results and over the last few years, we've been all over the map between us and you about how much detail should be reported on these things, everything from looking for copies of every survey down to some kind of summation. I really feel we ought to fix this so we know what should be reported. No issue with reporting the data but really we'd like to get it into a box that makes some sense because it's a lot of data to handle.

We --the other thing that's a little different with our system, because we handle so much data with so many people, we have a system that actually tracks the data, assigns trend codes, and we search things on trend codes. So we don't keep thousands of pages of tables and look through them to figure out what's going on. We have an automated system that search trend codes for us, so we would look through something like this for trends on issues and so forth. So we don't just have the data kind of sitting there that we can pick up a table and sent it to you. We have to manipulate the data in some way to present it to you.

So when some of these things where the data

is really large, we need to understand clearly what it is that would like to be seen on your end of the curve and then we can provide it to you and set it up and do it. But when it's open like this and it changes (inaudible) interpretation and it's a little different this year than last...

THE CHAIRMAN: So let me understand again. It's simple and I thank you. So you have an RD and you have a guidance and I thought that the guidance is supposed to give you the decision here. So Staff, two questions: is it clear and second, why was this raised during the consultation?

MR. POULET: During the consultation process, the points raised by Mr. Saunders were not expressed in that manner and we do have with us the Radiation Protection Division Director, the CNSC director, who is here to explain, provide an answer and clarification on this point. I would like to refer to Ms. Caroline Purvise please.

MS. PURVISE: Caroline Purvise, for the record.

I think it's fair to say that what the difficulties that Mr. Saunders was expressing is true. It is a large amount of data. When we initiated this project and we were asked by the CNSC leads on this project, this

was one area where we tried to provide clarity of expectations. Unfortunately, what you see today is really -- doesn't reflect that clarity. So over the process, ultimately what you see is turn over from the original S-99 document.

THE CHAIRMAN: So the intention - that's what I understand what we are faced here - so the intention is to have those clarifications gone through the transition, through the implementation phase; is that -- did I understand it right?

DR. RZENTKOWSKI: That's correct. The implementation phase is intended also to clarify any discrepancies in the understanding between us and the licensees and provide further clarification as required.

THE CHAIRMAN: Mr. Saunders, you still have the floor.

MR. SAUNDERS: So - and we understand there's opportunities to clarify some of these things in the future but you can understand our concern about not understanding how big this box is when we're allowing an RD to go forward without comment because it could be one person or it could be ten people have to do the work and we're uncertain in some cases about what that work looks like.

I don't want to take too much more time but

let me just pull a couple of bits around performance indicators. Again, this really goes to the point about whether indicators are informative or not; right, and in these cases this data, we can produce the data. It would take some effort to do it, and it's not data that we object to giving to anybody. But the question is, what does it tell you?

You know, I listened to the Staff's discussion of what I would call process monitoring and I can tell you from our own experience that if you want to try and forecast the health of our processes, you will have to measure a heck of a lot more data points than you have here and you have to be very careful. You really have to be quite intimate with the process itself because even though, for example, OPG and I may have the same process for doing corrective actions, it wouldn't be exactly the same process until what you measure and how you measure it and the answer you expect to get at any point in the process could be very different.

So the question on some of these things is it doesn't inform you well about what we're doing. It doesn't give you an indication of anything in particular.

So let me address one, I'll start with M101, it's on page 42, Corrective Action Management.

THE CHAIRMAN: M201 is it?

MR. SAUNDERS: M101, sorry.

THE CHAIRMAN: So that's page 41 in mine.

MR. SAUNDERS: Well it's 42 in mine but yeah, they might be slightly different, in the right ballpark anyways. So this is on corrective action management. Is that the one everyone is looking at?

So this indicator is all around actions that are assigned or older -- that are assigned at greater than 45 days or older than 45 days or whatever. Okay, I can get this data off my system but what does it tell you.

I have two pages of measures I use to judge the health of the corrective action program. This isn't one of them per se. I can do this but my planning process in the plant is 13 weeks, right, so some of the actions yeah will go over 45 days and some of them should because they are much longer range; some of them shouldn't. I don't actually see that this data point tells you anything. It could actually be quite misleading to you, I think it does. It's not an informative measure of anything. It tells you how many are over 45 days; is that good or bad, I don't know, it depends on the action. Some actions that might be bad; some actions if you could do it in 45 days would be wonderful. So it just doesn't tell you anything.

Let me move you to C302, Environmental

Releases, and this is about page 76.

THE CHAIRMAN: 75 on mine.

MR. SAUNDERS: You're one page behind.

Here's an indicator and this indicator certainly has some data in it. The difficulty with this indicator is just how to provide it and the level of confidence that you would have in the data. So it focuses a lot on calculating a five year average and then telling you on a quarterly basis how you compare against the five year average in a variety of areas.

Some of this we actually have kind of a kindred process inside the plant that looks at that. On air emissions we actually do maintain something that's a five year average roughly and we do compare that on a monthly basis and we do it as just an internal test that there's nothing unusual going on in our systems; that there's, you know -- that we get an indication.

The issue we find with it, it's very hard to really do it with any accuracy because our emissions are actually very low so any -- any activity we have going on in a plant in terms of maintenance or other things pre-debates the data to some degree. So trying to calculate a five-year average or five-year maximum that actually you can put some kind of quality confidence behind is difficult and, of course, you will see variations from

time to time.

What we do is look and if there's a variation, we ask, "Is there a reason for the variation". If the answer to that is "yes" and it's an understood reason, then that's fine. If the answer is, "We don't know, we didn't expect it" then we go looking to understand why that was occurring.

So this is an indicator which, again, is a lot of work. So this indicator, alone, could turn into a couple of FDs if you're not careful. Again, it's an indicator which we need to, in my view, work out the details and understand what's required.

Because on liquid emissions, for example, we do not do it this way because liquid emissions are batch releases. So radioactive releases from liquids are caught in a tank, the tank is sampled. We understand what the amount of the tank is before it leaves. We can compare that with historical data right there. And if the tank isn't within specs that we would consider we don't release it so we change it or do something else with it.

So you don't need to maintain a five-year average on liquid emissions because you can see it very clearly that parameters are established. We don't really have the same kind of measure on non-active again. And it's a similar sort of thing is that we monitor those.

Many of them are kind of a batch release like hydrogen. Some are chronic releases so we do measure them all the time and we see what they are and we do report what that is to other ministries as well.

So is there a need? Would we agree that there's a need for a better measure on environment? Yeah, actually, we would agree there's the need for a better measure on environment and we're working on it too. I don't think this is it and we certainly don't understand how we would do this at this stage of the game. So a big pile of -- a lot of work in this one -- right -- not simple.

See what else I got here because I -- I don't want to keep talking on this forever and a day. I think there's one here on certified staff that I wouldn't mind talking about. I think I missed it somewhere. Yeah, there's really two uncertified staff. One of them is M2-12. And it will be page 44 in your book I think by the look of it.

So the issue here on -- this is really about how many people are successful when they do their exams and do their recalls, so it's really a measure of is our training program working very well. That's the intent right if ---

UNIDENTIFIED SPEAKER: (Inaudible)

MR. SAUNDERS: M2-12.

So the issue with this is do we track this ourselves? Yes, we do, right, I mean, because we want to know how the performance works. But we don't track it this way. It changes at a snail's pace, right, because we only do a few people -- you know, it's not a huge thing. So to have this as a quarterly indicator, you know, pretty -- a lot of work for something that's not actually going to do very much. It gets pretty obvious pretty quickly if you're not qualifying people and your -- on your certification exam. So it just didn't seem like a -- it doesn't seem like a worthwhile effort to put this into an actual indicator and measure it.

So I'll do one more and then I'll call it quits. This time I'm on -- I'm on annual reports, so in the RD versus the GD. Sorry to hop around on you, but I kind of organized them in the way I think about it.

UNIDENTIFIED SPEAKER: (Inaudible).

MR. SAUNDERS: Oh, sorry, yeah, 21-day report, okay. Sorry, so I got the -- maybe I want to -- yeah, it's actually in there in two places. So let's look at -- we'll start with 2.1.2.2.2. So there is a -- there's a section on ---

THE CHAIRMAN: You've got to give me a page number. I can't ---

MR. SAUNDERS: Oh, sorry.

THE CHAIRMAN: I can't relate to 2.2.2.2.

MR. SAUNDERS: Page 5 -- four probably, yeah.

THE CHAIRMAN: That's a different issue altogether.

MR. SAUNDERS: Four or five on this particular document.

So it -- this is about certified staff. So this is a regular report that says, you know, who's certified, who's not, and so forth.

And this one -- and again on the next page there's another one on the -- on page 10, sorry, I guess I skipped a few pages. There's another one on performance of certified personnel. And there's a number of bits in here about where certified personnel are assigned; are they in the certified role; are they in some other kind of role. And while it's, I guess, kind of interesting information, I don't know what its usefulness is.

There's a certification program. There's a defined program to maintain your certification. You have to go through those programs and we have to test you and do a certain number of hours of work. So you can only remain certified if you follow those programs. They're already in place and they're already checked and verified.

So I don't understand why it would matter whether the person is assigned to shift or assigned to the job in the -- in our technical unit or assigned somewhere else. Either they maintain their certification or they don't.

And we do try to maintain some people with a certification outside of the shift because it provides us a certain amount of safety margin. As you know, it takes four years to get somebody through the certification program so you want to have a few people in reserve who you can use.

We also like to get that experience out into the plant itself, into engineering and other places because the people coming out of the shift program are very knowledgeable in the plant and very knowledgeable on the licensing.

So we move people out because we want them to move out and we keep them -- a certain number certified. Obviously, from a business point of view, there's a limit to how long we would do that. If the pool was too big, it would just be unmanageable in terms of maintaining certifications. With all the retirements we've been going through the last few years that's not been the challenge, the challenge has been to keep the pool full enough.

So, again, it's just a measure who I don't understand what the value of the measure is. I don't see a point in doing it.

So I can keep going on examples, but I think you got -- I think you have my point.

I should flip to the last couple of pages. There is one issue at the bottom. You know, we -- it is suggested that this be done under Section 24 of the *Nuclear Safety and Control Act*. We don't agree that those conditions are warranted here. This is not a safety issue or an important issue. It's an administrative issue. I agree it's an issue that we should resolve, but I don't think this is an issue that requires that section of the Act to be utilized. I think if we do this right, we can agree to put this in the licences without any difficulty.

So our recommendations are this ---

THE CHAIRMAN: So you skipped on duplication with other regulators?

MR. SAUNDERS: Oh, okay, so a quick point there. A number of these reports on -- especially on the non-radioactive releases and some issues, hours of work, which we implement under the *Employment Act*, are actually the same things or different versions of the same thing that we report to other regulators. So, example, all -- all hazardous material is reported both to the MOE and to

the Environment Canada.

We did inquire whether we could just simply provide you a copy of those reports. The response we got back was that yes, you could, but you had to fill out the S-99 information anyway. So it's just -- okay, so I'm just filling out another -- so I'm now doing three reports on these things. So I just felt that it wasn't quite necessary to do that.

Under hours of work, it's a similar issue. We report hours of work above 60 to the -- in Ontario under the *Employment Standards Act*, at any rate. We also report to you shift work, so time off between shifts, people that work more than 13 hours; all those things are reported as well.

THE CHAIRMAN: Sorry -- staff, somebody explain -- I thought there was an agreement that any reports that's been provided to provincial governments or other regulators will be accepted, as is, by us.

MR. CORCORAN: That is correct. If a report is being made to Ministry of the Environment or Ministry of Labour, we'll accept a copy of the same report so no additional reporting requirement for that.

THE CHAIRMAN: Thank you. I think we cleared that one. Okay.

MR. SAUNDERS: So recommendations -- I

think this is important work, right, and it's not our intention here today to stop the work or to prevent us from going forward, so I thought we ought to offer at least what we would recommend as a path forward.

First off, I think when I put SPIs on my slides here, but I really meant the special performance indicators, the overall performance indicators, with the exception of contractor injuries we fully support and would agree with. The old set of SPIs that currently exist, we do and we would be happy to keep doing them. We really believe that the new set needs a lot more work though before it goes ahead. We do need to clarify a bit of the wording on reporting of minor events. I think we can do that. I don't think our intentions are that far apart there. I think just some of the works are getting in the way.

And I think you have taken care of at least one of the last ones at any rate by removing duplication with other regulators. There's still the hours of work reporting which we should discuss as well.

THE CHAIRMAN: Thank you. Before we conclude here, I think we're going to break for lunch. But I just want to ask are you talking purely as Bruce Power or are you sort of representing a wider views of the industry?

MR. SAUNDERS: We did approach this as an industry, and the comments I made are the same comments that the industry has made. I think I haven't taken us of that course, but I know the representatives are here, so this is their chance to speak, I guess, if they think I've mislead anybody as to their intentions as well.

THE CHAIRMAN: I was about to break for lunch. So a short maybe addition to this presentation?

MR. MacEACHERON: It's Richard MacEacheron from OPG.

I fully support everything that Frank Saunders has said. I could include some additional examples, but we'll be here significantly longer. So this is an industry position.

MR. THOMPSON: For the record, Paul Thompson from NB Power.

Yes, we also support the recommendations that Mr. Saunders has provided. It reflects the position at NB Power.

THE CHAIRMAN: Thank you. I think we're going to break.

LE PRÉSIDENT: Est-ce que Hydro-Québec est sur la ligne?

MR. LEBLANC: Yes, they were.

LE PRÉSIDENT: Est-ce que Hydro-Québec est

avec nous? Non, non, non.

UNIDENTIFIED SPEAKER: Yeah, they sent me an email saying that they couldn't ---

LE PRÉSIDENT: Pardon? Allons-y.

M. RINFRET: Non, Hydro-Québec n'est pas sur la ligne. C'est François Rinfret pour le Programme de réglementation de G-2.

LE PRÉSIDENT: Ah! Oui, je connais François.

M. RINFRET: Oui. Non, ils ne sont pas sur la ligne. Je sais qu'ils écoutent par Internet, mais le message qu'ils m'ont demandé, si c'était nécessaire de le dire, c'est qu'ils étaient aussi en accord avec la position de l'industrie.

THE CHAIRMAN: O.k., merci beaucoup.

Okay, we are going to break for lunch and we will reconvene at 2 o'clock -- 2 o'clock short lunch.

--- Upon recessing at 1:14 p.m. /

La réunion est suspendue à 13h14

--- Upon resuming at 2:08 p.m. /

La réunion est reprise à 14h08

THE CHAIRMAN: Okay, we are back and we're going to start the question period with Ms. Velshi.

MEMBER VELSHI: Thank you.

My first question is on the process for developing the RDNGD. And if I can get both, staff and Bruce Power or other folks from the industry to tell us, you know, what were some of the big learnings? Maybe you can pick on two on how well the process worked.

Maybe I'll start off with staff.

DR. RZENTKOWSKI: As I mentioned, this document, it wasn't a very easy document to prepare. It truly reflects a consolidated effort of the CNSC staff, because it's a very crosscutting document, which crosses all technical disciplines in order to provide information to the regulatory programs.

That's why about five years ago we started with pre-consultation, involving the industry, trying to assess the merits of revising the existing S-99 document. And it was obvious to us that there is really a strong need to revise this document. After about two years of preliminary consultation, trying to scope the approach for the revision of this document, we decided to initiate the project.

And very clearly and very early as well, in the initial steps of the development of this new document, we realized that the performance -- the safety performance indicators is really almost a stumbling block in the

development of the new documents. And that's why we decided also to establish a separate project to resolve discrepancies between the views of our technical staff on how performance indicators should look like and what in their role versus the views of the industry.

For that purpose, we established a working group, which was in existence for more than two years. This working group met on many occasions and, to the best of my knowledge, there was an agreement at the end of the consultation involving the working group alone.

A year ago, I reported clearly that there was some discrepancy in the position between the licensee and the CNSC staff. However, I was under the impression that we managed to establish a reasonable compromise between the views of the industry and the CNSC.

Generally, from the intervention you heard today from Mr. Frank Saunders, it appears that performance indicators is still the stumbling block, which is in the way of achieving this consensus of how the reporting requirements should look like.

So maybe from that standpoint, I will ask Ben Poulet again to describe the process, which led us to the development of the performance indicators.

MEMBER VELSHI: So my question wasn't describe the process. It's like, what have been the key

learnings from it; and were you surprised with the industry's response and intervention today that they have some fairly fundamental concerns with what's being presented to the Commission to approve today?

DR. RZENTKOWSKI: Yes, I was surprised because I think we had the same objective, and the objective was to improve efficiency and, at the same time, also making sure that the safety significant information is provided to the regulator in a timely manner.

And that's the reason why the main approach towards the development of new reporting requirements was to assess the risk significance first. Because as I explained many times in front of the Commission, probably 99 percent of events in the field are of very low safety significance.

So the first step is to assess the safety significance of an event and then report. Because if you assess the safety significance first, you may eliminate many events from reporting all together and definitely eliminate the events from reporting of detailed reports.

The industry, however, didn't like to do this, and it led now to the situation when we have prescribed reporting criteria, which are not very clear, and I do agree with the industry, the logic is lost.

And we would like to add something on the

performance indicators as well if you don't mind.

MR. POULET: Thank you, Dr. Rzentkowski.

For the record, my name is Ben Poulet, Director of Compliance Monitoring Division.

Just to answer your question in terms of major lessons learned from this exercise, one of the key lessons we learned is the value of benchmarking. Before we embarked on modernizing the safety performance indicators, we did extensive benchmarkings with other agencies, other Government of Canada regulators, other nuclear regulators, and also we did extensive documentation search in the IEA systems.

So the benchmarking, I think, is one of the major lessons learned; the value of it, so that you can define what needs to be done and which way the industry is going worldwide. That was one.

The second major lesson learned is once you've established the purpose of the indicators, it's to ensure that the appropriate specialists are involved in the early stages. The reason for that is that they are the experts in their own disciplines, and they do understand the inspection, the reporting that is currently done on a quarterly basis or annual basis. They do understand what they find through inspections, and they do understand the licensee programs.

So involving technical specialists early on is a great lesson learned.

And the last thing is to ensure that the consultation with the licensee is done throughout the project. This project was approximately -- for the safety performance indicators was just about two years, and we met in teleconference with licensee representatives on several occasions throughout the whole project to compare notes. And we did a workshop to see how the data would look.

We attempted to get as much information as possible directly from the -- both, regulatory affairs licensee staff but also staff from the technical organization of the licensees that were able to join us for the conference -- for the workshop.

Those are the major lessons learned.

MEMBER VELSHI: Industry?

MR. SAUNDERS: Yeah, I think there are a couple of points that I think were obvious in our discussions to this and number one is we do not have a common way of assessing the impact of new regulations or new RDs in terms of what it means to a licensee to implement it. There is no particular standard that we follow and you've seen it here today where staff count reports and think that that reduces the amount of work you

do and we will look at you and say that is a small, the smallest piece of the work we do right. The rest is all how you maintain the data.

So, we don't have any way of coming to common grounds. We have told the staff repeatedly for the last two or three years that this was a mass of increase in workload and every time we get the thing back, it says: "No, it's not". And we say: "Well, yes it is". Right? So, so you're ought to do it when you're going round and round and we say "No", they say "Yes", right? And there's no way of extracting yourself out of the do loop because there's no process that actually makes it work.

So, we had, you know, a few discussions we some of your RD people and others and saying, you know, we need to have a standard that kind of says how do you make the assessment. All that we really talked about here is staff costs, right? I mean, this item staff costs, if you assume -- if you set up new databases that change databases, very quickly you start adding up dollars in terms of creating the material from which you're going to do the work.

So, my first view would be that we do need going forward a common method that we can at least agree on the data that needs to be collected to understand the impact.

The second thing, I think, is that there is a physicist sort of optical philosophical disconnect which we never resolved at the front of this thing and, as long as you're coming at the world from two different points of view, your likelihood of actually agreeing on the outcome is very slim.

Staff says that they benchmark the world and this is what the world does, I've been around the world quite a lot too and I would say that it's not what the world does, right? US uses 13 performance indicators at the high level, they input what we call "pie data", the pie information data is accepted directly into NRC, it comes right out of the plant, graded by NRC, it's not modified, no extra work involved, they just take the data -- it's quite a bit of data -- but it's there, NRC has it, but the utilities don't have to do a lot of administrative work to make that data, usable by others.

And that data is a little more confidential because it does include some sensitive information around reactors, but it's used by staff as a means of assessing how well the reactor itself is performing and it does give you some kind of indication. But they don't publish it on their website or those sort of things.

So, to me, I think those two things are important. First, you need to understand from the outset

exactly what you're trying to achieve and why, if you're going to have a hope of getting there, and b), you really do need to better understand the impact. And I think you've heard me say this before; in fact, I think I said it back in August of last year when we had the same discussion on RDs is that we need to have a means of understanding the impact when we change the regulatory documents or regulations and, in many cases, that impact is actually relatively trivial but, in some cases, it's not.

MEMBER VELSHI: Thank you. Hum, this is pretty fundamental, the disconnect, or at least it appears that there is. If we turn to pages 9 and 10 of CMD-M48, which is the staff's summary of where the SPIs stand and what the implementation should be and where there is disconnect or disagreement between industry and staff, and what I heard from Bruce Power was that this may not reflect where there is some disagreement and SPIs.

So, the first question -- if you can keep this in front of you -- the first question is: we have what's been recommended is, I think it's seven of the eleven WANO indicators be used for the overall monitoring. So, what about the other four? And if you could just tell me what those four are and why were those not included?

MR. POULET: When we approached this, we

approached it from a safety perspective rather than a production-oriented perspective. So, we reviewed all of the WANO indicators and we felt that only seven would fall into the -- in accordance with the mandate of the CNSC. The seventh one has been slightly modified from the WANO definition to take into account internal doses which are not so prevalent in other organization or facility reactor types.

MEMBER VELSHI: Okay. So, of the seven WANO indicators that are part of these OA-1 to 7, I notice OA-3 and OA-6 are for later implementation: the Safety System Performance and Industrial Safety Accident Rate. So, if for those two indicators, the industry already reports those, explain what the rationale is on why they're not being supported by industry?

On page 10?

MR. POULET: I just --- Could you repeat the question, please?

MEMBER VELSHI: Hum -- So, on Table 2, it says: "New SPIs not supported during consultation: OA-03 and OA-06 are two indicators that industry already reports to WANO". I wanted to know why industry is not supporting those being reported to the CNSC.

MR. POULET: I don't think this means that the industry does not support them. I think we have

alternative measures, indicators touching the Industrial Safety Accident Rate and Safety System Performance is more biased towards pressurized heavy water reactors, so they were not useful for us. In the - and that's the best answer I can give you - it's just that these were performance indicators that were removed from the original set after in-depth review and we just kept track of which ones we were removing so that we would not revisit them.

MEMBER VELSHI: Sorry, I'm confused by this. If you take OA-06, Industrial Safety Accident Rate, that's the one that would allow the Canadian regulator to compare the performance of RMPPs with international ones, right? And we believe we've got something instead of that that we can use? And, I mean, we heard Mr. Frank Saunders go on about the accident frequency and, you know, his discomfort with that as a measure. So, why isn't it included?

THE CHAIRMAN: Can I put a context to all of this? This is UCMD. You said there are 38 SPIs you want to implement. It's broken down to two tables. Table 1 is a 27 that there's agreement. If I understand what you're saying, there's agreement with industry on 27. There's no agreement on 11. Nevertheless, you want all 38 in place.

The question is: why is 03 and 06 not part

of the 27 or in addition to the 27?

MR. POULET: I'm going to ask Mr. Richard Cawthorn who is the Project Coordinator for this to answer this question.

MR. CAWTHORN: Richard Cawthorn for the record.

If the Commission could look at the comments from the public consultation, section "Detailed Comments - Comments received from licensees during consultation, there's comment 31 dealing with 08-03, I mean OA-03, and comments 36 and 37 which deal with ---

THE CHAIRMAN: Comments to which document? Do they are RD?

MR. CAWTHORN: The guide, sorry, the guide that has the AC (ph.).

THE CHAIRMAN: The guide.

MR. CAWTHORN: Yes. And actually, it starts at page 14 of 33.

I can say that the feedback from industry was to delete this indicator. And likewise for OA-06, on page 17, they had problems with it and, again, relating to lost time and restricted work. They think it should be deleted.

And so, that's why that was put on the reserve list to be worked out in the second phase of

implementation.

THE CHAIRMAN: But we just heard that this is a thing that they report to WANO. I don't understand where the disagreement is. Maybe Bruce can fill us in here?

Go ahead.

MR. SAUNDERS: Frank Saunders, for the record.

Yes, the issue here was you have two indicators that are measuring the same thing, with two different definitions, so we said, You shouldn't have that. We also said that the OA06 ought to be the same definition that we report to WANO. And we have said, repeatedly, that all of WANO's stuff that we report today, we will happily give to you tomorrow, if you want it.

So it's when you modify the definitions, and so the -- we're going to have one set of definitions for you and another set of definitions for WANO, that we object.

So, in this case, we objected to have two indicators measuring an accident rate that would give you vastly different numbers. And so we said, You've got to choose one. Our preference is you choose the WANO indicator, because we do it today.

So this table is not actually split out on

what we agree on and what we didn't agree on; it's split out on things that are reported now, and things that were kind of reported now, in the stuff that we sometimes didn't agree on, but -- I'll give you an example: C301 and C302, which were reported as -- currently reported in the regulatory document S99, under a different issue. They're up at the -- they're in the top of that long table, the two with the asterisks.

It says that that was removed from the operations report and put in there, but they were vastly changed from what's in the operations report, so they're not the same measures, so we never agreed on those, never accepted them. We didn't accept a number of others that are down below.

So it's not split on industry agreed or industry didn't agree. If you flip through that list of comments you'll have, you'll see that there was a significant amount of disagreement from industry, even the last round of this, about what was and what wasn't.

And I do have a letter here, we start off immediately with the cost and so forth, right, so... So I think, you know, you can't look at the table as saying those first 28 are all agreed; that wasn't the case. Some of them were agreed, some of them are actually different than they used to be. Some of them are old ones that we

never agreed with in the first place, so...

MEMBER VELSHI: Which makes this extremely confusing. Right? Because we don't know what exactly has been proposed for implementation. What you're saying is it's not currently what we report on, in any case, because the definition has changed, or should have changed, or we never reported against that definition, in any case.

DR. RZENTKOWSKI: Yes, I do agree, the situation is extremely confusing, and it's pointing to another fact; there was definitely a disconnect between technical staff representing industry and the industry management. Now we are hearing different views from that which were expressed during the course of the project, and this is extremely, extremely disappointing from my standpoint.

MEMBER VELSHI: So when I was asking about lessons learned I was actually coming to this, because it seemed to be there was quite a disconnect on what the different positions were coming in at today's meeting, and it probably needs to investigate why.

So we'll put implementation aside because we're really not quite sure. I'm not sure what exactly is being proposed for implementation, when, and, more importantly, why.

Now, here industry is saying, look, if

you're currently reporting it to WANO, if you use the same definition we'll start sending you the information today, but that's not quite what you may have heard.

THE CHAIRMAN: So just to follow up on that, in the guidance there is the definition, as staff articulated, of all 38 SPIs. Did the industry take a look at these final definitions in the guide, one by one, and decide which one they agree with, which one they do not agree with? That list of 38.

You gave us a couple of examples where you don't agree. Do you have here -- I mean, I don't know if you're going to resolve this, a situation where you can tell us what -- 38 of these, and if you have the list that you agree with, that will be useful.

DR. RZENTKOWSKI: If I may answer this question? Personally, I got myself involved in about six months ago into resolving this issue, and I have emails on my account pointing to the fact that all those performance indicators were accepted by the industry.

THE CHAIRMAN: We obviously have a set of industry people who will say they were not, so there's some disconnect here. Or else, were those definitions available at the time when you got this assurance?

DR. RZENTKOWSKI: The definitions were well-developed from the beginning of the project, when the

technical discussions started. So those definitions are in place for about two years.

I have to admit that some of the reporting criteria has been revised as a result of the discussions held, but, nevertheless, they haven't evolved too drastically.

MR. CORCORAN: If I could add something to try and clarify for Dr. Velshi, there should be no confusion over the implementation of this. I want to be absolutely clear.

The industry and we agree on RD 99, as the document goes. The issue seems to stem around the SPIs. There are SPIs that remained from the previous S99 implementation, and those we don't disagree on.

There are new ones that the industry has given us, and you may not recall if you weren't here in August of last year, but the other Members will, that Mr. Cawthorn from British Power, at the time offered that they had hundreds of performance indicators that we had access to, if we wanted them. We, in fact, got a lot of those, and implemented them and they now agree on those ones, letting us use them.

But there are some that they still remain difficult with, so our implementation plan will bring in RD99 effective 2014, January 1. It will bring in the

performance indicators mid-year in 2014, with full implementation of the rest by 2015, thereby allowing us all this time to work with industry to resolve the difficulties they may have with respect to the remaining seven indicators. So that's our implementation plan, and there isn't as much confusion as you would think.

I'll take you back to the accident severity rate, O6 and O3. The reason they're going to be implemented later is that those indicators involve this accident frequency rate or accident severity rates. WANO allows their members to include or not include restricted work injuries. That's not good enough for the CNSC.

We have decided, our specialists, who worked in this for years, have decided we need to know about all the accidents, not just the ones where they've lost time.

Industry would like to use lost time injuries. We've allowed industry, for purposes of our MPP report, to report lost time the way the Canadian Electrical Association reports it, so we can at least be consistent for these number of years. But, by 2015, we have to be aligned on the right terminology.

The difficulty remains that we need to know about the injuries, not just the ones where there's lost time. If we did that, then there'd be a man -- we'd have

to wait until a man died, in a sinkhole on Highway 174, before we reported it. But it's pretty significant, although we had no significant injuries, that that's an instance that we want to pay attention to.

So we can't afford to just not pay attention to the smaller injuries. At least, this is the thinking of our specialists. We need to know about all of the injuries so that we can monitor for a change.

We know there's lots of injuries in an industry, any industry, but we have to see when they change from the baseline, or the normal rates to higher rates, to find out, is there some reason why people are scratching their arms and then can't do radioactive work? Is it because they're reaching up into the core discharge monitors and cutting themselves on a sharp piece of metal? We would like to know that, but we wouldn't see it under the example given by Mr. Saunders.

MEMBER VELSHI: So I don't want to belabour the safety one, but I think it highlights to me the issues that we have today.

If I look at the definition of OA-06, on page 39, the reference says that that's the WANO definition for it, but you have just said it isn't, WANO gives the industry an option, whether they report restricted work or not. So is it a WANO definition or

not, for OA-06?

MR. CORCORAN: I'm going to ask Mr. David Simms to speak to this issue. Richard Cawthorn, sorry.

MR. CAWTHORN: Richard Cawthorn, for the record.

The definitions for all of the overall indicators, OAs, are taken directly from the WANO definition manual, so the OA definitions are from the WANO definition. The specific indicators, the C2, C3, are CNSC definitions, and, as Peter had mentioned, it's because the WANO definition does not -- does not encompass enough, and that it -- we've added a separate indicator for that.

MR. POULET: Just to go back to the presentation earlier, that we presented before lunch, the indicators we built, CNSC staff built, have two purposes. One of them is for annual reporting, so we can do interstation comparison across the world, and the other one is for compliance monitoring to keep an eye on the process and programs with the licence he has put in place to maintain the licencing basis.

So the overall ones are strictly for annual reporting to the Canadian public to show how the industry is looking across the world. The second set is strictly to monitor the licensee programs.

MEMBER VELSHI: Okay, I'll ask one last

question on this overall one, OA-06.

Do you report to WANO using the definition, the WANO definition that's here? You're nodding; that means yes. Okay.

MR. SAUNDERS: Yes, we do and we report severity which is actually how you'd tell about people who are not performing their duties. I mean to be honest with you, this one really frustrates me. I've been in the safety field for many years and we have one of the best safety records in Canada. I do know what I speak on safety and this is a pile of nonsense. It is not correct and it needs to come out or you will be reporting information that is just not accurate.

So -- and we have told this repeatedly to staff. Unfortunately, I don't like to pick a fight but this is one where we have been absolutely clear on our disagreement with this definition.

THE CHAIRMAN: So when there is such a disagreement, how does it -- you know like -- is the Commission the place to resolve it? I mean we can resolve it one by one. We can go down from where there is an agreement at the WANO level and then go to the specific CNSC opposed thing and go one by one and decide whether it makes sense, not sense, et cetera, et cetera. We can do that too. I don't think that's an efficient way of doing

it.

After three or four years I thought there would be a consensus between the regulator and the industry about what makes sense here. So I hear the plea not to become micro-manager and I hear the plea we need to know. There are conflicting objectives here, so the question is how it's going to be resolved. I thought that's what the industry getting together was all about.

DR. RZENTKOWSKI: Actually that's precisely the point. That's why I decided to form this completely separate project for performance indicators. It was separate from the development of this regulatory document in order to achieve a common understanding of all the performance indicators, and a compromise which we could take forward and include in this regulatory document.

So after two years, obviously we are far apart. How to resolve it? We definitely don't want the Commission to get involved into resolving this problem because this is really the Staff's responsibility to present to the Commission a fait accompli and this would be our objective. So the question is how we can move forward from that point? I believe that that's what we presented; that's our recommendation, taking only the first group of performance indicators and including them as of January 1st, 2014, was a reasonable compromise,

leaving ourselves more time to look at those performance indicators that appear to us to be controversial. Now after this discussion here today, I am confused. I don't know what's acceptable and what's not acceptable to the industry any more, sorry.

THE CHAIRMAN: I think that Mr. Jammal is about to make a proposal here.

MR. JAMMAL: Thank you, Mr. Chair. For the record, Ramzi Jammal.

I believe we need to make your time much more effective, number one. Number two, this is not the place to come before you on a huge gap between the CNSC staff requirements and the industry. We go by the four C's, clarity, core and I'm going to focus on the clarity. Obviously clarity is of the essence here. We all agree that safety is our paramount and we want to enhance safety. By having ambiguous requirements, it's going to add confusion.

So the proposal will be, obviously I was not engaged into this project when I should have been. I will take that responsibility. But regardless, what I propose currently is, we have got some agreed upon overall - indicators - well, overall assessment from 1 to 7. Those are arising from the S-99. We need to work out the difference based on trial.

So, for us to understand what is the industry doing and there will be a better oversight at my level in order to make sure we put this progress in place. So are we before you now and are changing the Staff recommendation? I never consulted with the Staff and I'm making the executive decision, you can reject it or accept it as Commission members. We have enough information right now.

We can implement the S-99 as part of the improvements. Let us start with the implementation of S-99 and in a very tight timeline, work out the differences in order to have the endpoint being: enhancement of safety. Because we need information in order to assess safety. The industry needs to provide us with the information that we require and need to assess safety. We would like to have what we need. We do not want to go to: nice to have, and that's obviously -- there is quite a big difference between what is the industry and the CNSC is looking for as a clarity and common ground in order to move forward with this project.

Now this project is very, very important because we need to enhance, and the industry agrees that we need to change S-99. They agree on the RD-99 as such. They agree on all of the OAs that currently we have before us. We have some specific indicators that we have to iron

out and I will commit to the Commission, if you allow us a bit more time that we will come back and reach consensus on what is of benefit to safety first, and then, second will be putting in place an implementation plan with respect to the licenses.

MEMBER HARVEY: Okay, thanks. I like to hear the word safety from Mr. Jammal because the beginning when reading that, I thought that the advice was just reorganizing that we already had, already received, different forms and tried to get all those in a more modernized system. But it does not appear like this and we'll just ask Mr. Saunders the -- do you already, currently have all the data that should be given, should be provided to the Staff by that document and is it just a question of reorganizing the analysis of the data and what will require to have resources?

MR. SAUNDERS: So a couple of parts to your answer. We have all the data for the OA indicators because we report them now. So that data is clear. We have the data for some of the SSPIs because some of those are actually ones that we report now and they may have changed some, but not tremendously.

We do not have the data for several of the bigger ones, we're going to -- and more importantly actually than just the data, we don't have the system to

collect and manage the data. So it takes work to do that and in many cases, of course, we don't think that that data is worth collecting because it's not informative in terms of safety or anything else.

So I mean -- I like Mr. Jammal's suggestion. I certainly won't like go ahead. Let's say we're not desirous of stopping S-99. We're happy to go ahead with the basis reporting requirements. We're happy to go ahead with the OA indicators. We're happy to keep reporting the current set of indicators so that you have a set that you can measure.

We were not happy to go with the SSPIs as they are written today because it's more work than the data is going to provide you. It's not about keeping data away from CNSC, it's about giving you data that's useful and making our effort to produce that data effective and reasonably efficient.

I would like to go on the record just for one more thing because several people have said they didn't understand our concern about this but I'll refer to my June 15, 2012 letter, which is a response to this, which says pretty much what I said today. It certainly was clear that we weren't happy and we didn't agree with many of these things. So if anybody was surprised in essence that we didn't agree that was because they didn't

read some of this because it was clear, has been clear for a year-and-a-half.

THE CHAIRMAN: Well, just to follow up on this. Let me remind all of you, we -- this is a tough business. We don't -- we're not surprised by disagreements and this should be known. We'll make a decision. We will make a decision or we're here now and try to figure out is what's going on really, that's the fact.

So on that basis, given what you just said about the seven WANO indicators and existing indicators, do you ever feel as to - I thought between the 7 and the sub 7 that you already reported on plus the - the S99 type of report you probably have what, 70% of this stuff done, or you think that - that its that much different, this set of new SPI's?

MR. SAUNDERS: there - there's quite a bit of difference when you rule out some of the ones where - some of the old ones where there were significant changes. We could count them up very easily; we just didn't do it before we got here. I would guess it's more in the 50 to 60 percent range where there's overlap and the rest. But you got to be careful when you count numbers of things verses effort to do. You know one thing can be more than 10 right, and that's really where the issue is. And I go

back to value right, and not confusing people I just basically fundamentally object to producing two indicators that give you two dramatically views of the same subject, right I think that's confusing to the public and its confusing to everyone else. We ought to be able to do it once and do it properly. And on basic principle, could I just ask and say ok you want me to count how many of this and that I'll count them and send it to you, I could but again I think its misbelieve - its misleading right, it suggests there's some importance in that number, some relativity to why we measure that and if that's really not true, then I have a problem with putting that out in the public domain because it doesn't - it doesn't tell you anything, its not as instructive as I would say, its not worth the effort of doing. There probably is an indicator that will do what you want, but we need to find the right one.

THE CHAIRMAN: Monsieur Harvey?

MEMBER HARVEY: Another question about -- to the staff, you mention that the level - the type of data to - to requiring to be put in your document in different places are dictated by the - by the experts. To what extent the - because some time to satisfy the experts is not so easy - to what extent this is based on the - the impact on the health safety and environment protection, so

- because we don't see - its very difficult to get the impact on those things from those changes.

DR. RZENTKOWSKI: Yes, that's correct, this is not easy to assess. But, nevertheless, for every single performance indicator, being proposed by technical specialists, we always ask the question what is the overall objective? how this performance indicator will be used? is it a leading or lagging performance indicator? That means defining some symptoms before or after the fact.

All those questions were posed and we have those - have the assessments that we can link the performance indicators to the general objective of protecting the safety of the public and the environment.

MEMBER HARVEY: Is it possible at the end to obtain a - I wont say a very defined figure, but to obtain an idea of the -- the gain that could bring to the safety - well - (inaudible)

DR. RZENTKOWSKI: Sure, I think we would be able to do it by simply mapping them to the safety and control areas, and then for every single safety and control area to the performance objectives. So, if you link it all together you can see the overall gain. We can do it for the information of the Commission by all means; this is a relatively simple exercise.

MR. POULET: If I may, I would just like to add , Mr. Saunders mentioned the public domain, it's very important to understand that these specific safety performance indicators are not for public reporting, they are not at all for that, only the seven overalls are for public reporting, I would just like to point out that clarification. Thank you

MR. SAUNDERS: Yes, a couple of points. I think, to answer your question; A) everything that's in CNSC's hands is in the public domain as far as I'm concerned because all you have to do is ask for it. Secondly, I think the notion that these performance indicators increase safety is absolutely false, it has nothing to do with safety it has to do with CNSC's ability to evaluate per say we have measures and management systems and all those things in place to manage safety and manage the plant safely everyday. That's our job, under the license you give that responsibility and accountability to us and are in place, none of this changes any of that. It just adds a little extra burden on us to report something to you guys which can be instructive to CNSC, I grant, and if we weren't doing our job perhaps it would improve safety a little because you would come give us some instruction. But I would challenge you to find anything in these new safety

indicators that forms indicators that has anything to do with safety in any immediate sense. For example, how many certified staff that are applied outside of the plant control room? Well, is that good for safety or bad? I challenge you to tell me I can make an argument its good, I can make an argument that's bad; there's no way of defining it. It's a management practice that we use to mange the station, as long as I have sufficient certified staff where they belong, the plant is safe and its operative safely, their properly trained and properly certified, that indicator tells you nothing about the safety of the plant. In fact, it could confuse you if you make up your mind that too many or one side or the other, it could actually create a misconception about what's safe and what's not. So I think there's a philosophical difference here about what you're trying to measure and which part of the process CNSC should be engaged in. that discussion needs to be had, we've argued about the content over the last two or three years, we haven't really sat down and said what is it that we would measure from a regulatory point of view that would be useful for you to form an opinion about safety that we could provide to you and we would be happy to do that and so we just want to make sure that it's the right stuff and that it actually has appropriate quality, and appropriate intelligence in

the indicator so that it provides data that's useful.

MEMBER HARVEY: Want to add something?

DR. RZENTKOWSKI: Yes I would like to add to this, and I fully agree with Mr. Saunders that this is a philosophical debate and we are very far apart on the subject because by definition, we call those performance indicators the safety performance indicators because in our view they, the objective is to alert to a potential problem, and a potential problem in the operation of the plant may lead to events or even accidents. So definitely there is a direct link to safety, but once again it is a philosophical debate which probably is not very easy to resolve.

THE CHAIRMAN: Go ahead, you wanted to add something?

MR. MCDERMOTT: Thank you, I'm Chuck McDermott I'm the director of personnel certification division, I think it's - we have to be careful about looking at individual performance indicators or information that we've requested or - or asking our licensee's for, you can turn around and say that it's not important or it is important. The - were not looking at absolute numbers when we ask for this information, we tend to be looking for trends over time. So if you look at number of

personnel that are employed outside the control room or certified staff that are not on shift regularly, we are not necessarily - we don't have the right number. We're looking at trends over time, and if we see that there's a trend over time then the performance indicator is a chance for us to say we need to look a little closer at this. It's the same when you look at pass/fail rates, we have some historical data that talks about what pass/fail rates are, and if we see a significant change in that then we have to have a closer look at see what's the cause of that change. It's not necessarily that it's a bad thing or a good thing, it just that it's a indication that there's a change and it gives staff an opportunity to come in and see whether or not they've improved their program, whether there's been a degradation or what - what has actually going on there. So many of the performance indicators aren't there to say they got an A or a B, its simply to see that there seems to have been a change in what's going on, and it gives us a change to proactively go in and say whether or not - have a closer look. So if were going to look at individual performance indicators and say you know what's the right number, that's really not what staff is using them for, were looking for trends over time and changes in that trend.

THE CHAIRMAN: But what is missing and just

saying the generic in all the SPI's here is actually the actual use and analysis and somewhere along the line you just mentioned as to what would you do overtime with such material and what's your expectation of - I mean are you looking for a big variation in - in new tests you just give people outside - outside the control area certified people you just gave our people outside -- outside their control area -- 75 people outside the control area, I don't expect this to be big variation and what would you do? I mean, I -- it's not described here in the document what -- how will -- how will -- what your reaction would be and what is the -- the expectation of a time that you're actually measuring here.

MR. McDERMOTT: It's Chuck McDermott.

Again, in some cases, we're not necessarily sure what we're going to do, but we're looking for -- in some cases, we're looking to see that the -- that the trend is continuing. In other cases, we're trying to establish what the trend is. So in a couple of cases and the one that Mr. Saunders has talked about there, certified staff who -- who are on temporary assignment, we -- we get an indication of that long afterwards. So in this case, we're trying to establish, you know, what is the right number, what -- what is the industry doing right now, what have they got there so that perhaps in -- in three or four

years, we will have the data to say that this is how it seems to be trending and if a licensee then starts reporting a significantly different number, it's a flag for us to go and say, "Hmm, maybe we need to have a closer look".

In the case of pass-fail rate, we have -- much of that data is available now. We get that data. We don't get it proactively, but we do end up getting it. It is information that is reported in -- in Commission Member Documents for licence renewal and for the industry report.

But again, if we see, for example, a -- a sudden change in that pass-fail ratio, then that's a chance for us to go and talk to that licensee and say, "Hey, what's happened here? Are you doing something good? Are you doing something bad?" so it's not -- and -- and we can't say what the right number is. There is no right number for this. That's always a struggle I've got with -- with some of these performance indicators is, you know, you're not driving them one way or -- or the other, but it's an indication of are things changing and to find out why.

THE CHAIRMAN: Monsieur Harvey?

Dr. McDill?

MEMBER McDILL: Excuse me. The relationship to something like statistical process control

and manufacturing is obvious here and -- and as long as your processes is in -- within statistical control, your product will be nominally within requirements. And if the trend goes off and you have seven points on side of -- one side of the -- of the center line, you've got a trending issue that's a concern.

But in something like statistical process control, you find the key measurements ahead of time and you know what they're going to tell you ahead of time. And that's something I see a lot of, forgive the term, we're not converging here and both sides are going to have to figure out how to collect the data, how to use the data. Both sides are going to have to build databases. They're going to have to have data extraction software. They're going to have to have quality assurance and all of that stuff. And if you go ahead now saying, "We'll do the first 7, 10 and we'll figure the rest out later"; you're going to -- both sides are going to double, triple, quadruple the effort in building the databases which are going to handle all this data.

So I think -- I still think it's premature, but I will offer a couple of things, well, before we go on too much further. Requiring the 2.2.2 in front of all the reports is just an artifact of the -- of the way the report was written so can we write the report a little

differently so the -- I'm thinking of some poor person who's going to have to do 2.2.2. That's six keystrokes times, you know, n thousand reports. Even if you do it with cut and paste, it's two keystrokes so make the 2.2.2 into something else if it's possible to do it because it's just an artifact of the numbering. It's not anything else.

And, also, if we could make the -- the language between the French and English versions -- there's a couple of places where we have man years and person years, I personally prefer the French version so that would be something I would ask as well.

And I think there has to be more talk before anything goes forward. I don't -- I don't think it's worth, myself, putting 7 in if -- or 10 in if there are 28 still to figure out just in terms of the -- the effort on -- I mean, we're not in the money business up here. It doesn't really matter how much it costs, but I think it's terribly inefficient to go forward. That's it for me.

THE CHAIRMAN: Anybody else? Go ahead.

MEMBER VELSHI: Given that there may be an opportunity to revisit some of this. On -- on slide 19 of the staff's presentation, where you talk about the new OAs and SPIs in the areas that are covered and those that are thin, there were three areas where -- there were three

safety and control areas for which there were no safety performance indicators and, oh, at least half of them for which there were only one. And I -- and I can't recall, was that because you just hadn't got around to finding appropriate indicators or you were worried about putting too much burden on industry? I'm not quite sure, but in any case, I -- I guess what we're saying is make sure we do have a comprehensive set of SPIs and is it just a question of timing and if there is timing, you know, will that allow us to make sure we've got appropriate coverage of all our safety and control areas?

DR. RZENTKOWSKI: At one point in time of the -- in this project, we had a complete coverage for safety and control areas, but I have to admit that we started from almost 160 safety performance indicators. This was the starting point.

We ended up at 38 and the result is that for some of the safety and control areas, we decided to remove our proposed safety performance indicators in response to the industry comments because we came to the conclusion that maybe, in fact, this -- there are -- the performance indicators which were prematurely put in -- in the set of those being proposed for use. We decided to wait and see how -- what lessons learned we will obtain from the current set of performance indicators before

deciding on the step forward, but our ultimate objective is to have a full coverage.

THE CHAIRMAN: Any other? Okay, I -- I think that there -- you gave us a lot of things to think about. I think that you got some indication about some of the structure, by the way, of those -- I think Dr. McDill was being very polite in this 22222. I would have not been that polite. I must tell you, I -- I finally sat down and read those two documents side by side and you know -- you heard me say that one of our bumper-sticker brand is clarity and I should now amend that to be clarity and simplicity. And if you think that this is now clarity and simplicity, we're not there.

So I would argue that what is also required, the consideration about putting into one document, you know my -- you know my jingle. You don't need both a regulatory document and a guidance document. Wait, you have to completely flip back and forth to try to understand and repeat the tables and repeat the legislation etcetera. So I wonder if we're going to have some time to think about this; whether we can actually improve the presentation of this stuff.

I am a fan of consolidating all the reports into all the requirements into one document and I don't care how long it is. We are going in an online

environment; most of this stuff will be online, and people will use this online to actually find precisely what they want. It should be in one place, all the -- all the legislation, regulation, our requirements, guidance all in one place for one subject.

And on the SPI, I -- again, we got to come up to -- as Dr. McDill has said, to some sort of an arrangement and I -- I'm of the opinion that we may need to develop some new safety-related kind of a indicators, but there's no point in us imposing something that is really practically not doable or hard to do. So we've got to find some way of doing something which is practical and if anybody's already doing something like this internationally, we should copy it basically.

So a lot of things that -- also, there was a mention about what's in the public domain, what is the non-public domain and I -- I understand what you're trying to say which is not going to apply in -- in the public domain, but I think that Mr. Saunders is right. Some of the stuff here -- somebody -- it's been known that we collect 38 indicators; we will have to put them in the public domain.

So, the sensitivity about that, we should be careful about those kinds of things, but I'm on the side of disclosure. There is no proper disclosure, so

whatever makes sense on the safety, so be it. If we have to disclose it, we'll disclose it.

So, there is a lot of things to do and we will do our own job and decide how to move ahead.

So, thank you, and you'll hear from us in time.

Thanks a lot.

Yes, we'll take 10 minutes, clear the room. We're going into in camera.

So, thank you.

--- Upon adjourning at 3:06 p.m./

La réunion est ajournée à 15h06