

**Canadian Nuclear
Safety Commission**

**Commission canadienne de
sûreté nucléaire**

Public hearing

Audience publique

January 19th, 2011

Le 19 janvier 2011

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

Mr. Michael Binder
Dr. Moyra McDill
Dr. Ronald Barriault
Mr. Dan Tolgyesi
Mr. André Harvey

M. Michael Binder
Mme Moyra McDill
M. Ronald Barriault
M. Dan Tolgyesi
M. André Harvey

Secretary:

Secrétaire :

Mr. Marc Leblanc

M. Marc Leblanc

Senior Counsel :

Conseiller principal:

Mr. Jacques Lavoie

M. Jacques Lavoie

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Ottawa, Ontario

1
2
3 --- Upon commencing on Wednesday, January 19th, 2011 at
4 9h00

5
6 **Opening Remarks**

7
8 **M. LEBLANC:** Bonjour, Mesdames et
9 Messieurs. Bienvenue aux audiences publiques de la
10 Commission canadienne de sûreté nucléaire.

11 Mon nom est Marc Leblanc. Je suis le
12 secrétaire de la Commission et j'aimerais aborder certains
13 aspects touchant le déroulement des audiences.

14 The Canadian Nuclear Safety Commission is
15 about to start the public hearing on the application by NB
16 Power for an extension of one-year to the licence. The
17 public meeting of the Commission is scheduled to start at
18 1:00 p.m. today, and to resume tomorrow morning at 9:00
19 a.m.

20 During today's business, we have
21 simultaneous translation.

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

25 Please keep the pace of your speech

1 relatively slow so that the translators have a chance to
2 keep up.

3 Les audiences sont enregistrées et
4 transcrites textuellement; les transcriptions se font dans
5 l'une ou l'autre des langues officielles compte tenu de la
6 langue utilisée par le participant à l'audience publique.

7 I'd also like to note that this proceeding
8 is being video webcasted live and that the proceeding is
9 also archived on our website for a three-month period
10 after the closure of the hearing.

11 Les transcriptions seront disponibles sur
12 le site web de la Commission dès la semaine prochaine.

13 To make the transcripts as meaningful as
14 possible, we would ask everyone to identify themselves
15 before speaking.

16 As a courtesy to others in the room, please
17 silence your cell phones and other electronic devices.

18 Monsieur Binder, président et premier
19 dirigeant de la CCSN, présidera l'audience publique
20 d'aujourd'hui.

21 Mr. President.

22 **THE CHAIRMAN:** Thank you, Marc.

23 Good morning and welcome to this public
24 hearing of the Canadian Nuclear Safety Commission.

25 Mon nom est Michael Binder, je suis le

1 président de la Commission canadienne de sûreté nucléaire.

2 Je souhaite la bienvenue à tout le monde
3 qui est ici and welcome to all of you who are joining us
4 via webcasting.

5 I would like to begin by introducing the Members
6 of the Commission that are here with us today. On my
7 right are Dr. Moyra McDill and Dr. Ronald Barriault. On
8 my left are Mr. Dan Tolgyesi and Mr. André Harvey.

9 We have heard from Marc Leblanc, the
10 Secretary of the Commission, and we also have with us here
11 today on the podium Mr. Jacques Lavoie, Senior General
12 Counsel to the Commission.

13 Marc.

14 **MR. LEBLANC:** Yes.

15 Before adopting the agenda, please note
16 that four supplementary Commission Member Documents or
17 CMDs were added to the agenda after publication on
18 December 21, 2010, as listed on the updated agenda. It is
19 also available at the reception desk.

20 **THE CHAIRMAN:** With this information, I
21 would now like to call for the adoption of the agenda by
22 the Commission Members.

23
24 **11-H1/11-H1A/11-H1B**

25 **Adoption of Agenda**

1 **THE CHAIRMAN:** For the record, the agenda
2 is adopted.

3 **MR. LEBLANC:** So this is a One-Day Public
4 Hearing. The Notice of Public Hearing 2011-H-01 was
5 published on November 16, 2010.

6 Submissions from NB Power and CNSC staff
7 were due on November 19, 2010. I note that supplementary
8 information, as mentioned earlier, has been filed by NB
9 Power and CNSC staff.

10 In addition to the request by NB Power to
11 extend its licence for a one-year period, the Commission
12 will also hear today on the performance of the Point
13 Lepreau facility as related in the 2009 Integrated Safety
14 Assessment of Canadian Nuclear Power Plants as well as on
15 the status of the Point Lepreau refurbishment project.

16 The public was invited to participate by
17 written submission. December 20, 2010 was the deadline
18 set for filing by intervenors. The Commission received 18
19 requests for intervention. Two (2) requests were received
20 after the deadline and were accepted and set on the
21 agenda. The Commission strongly urges all parties to file
22 their submissions within the deadlines set in the public
23 notice of hearings, in compliance with the CNSC Rules of
24 Procedure.

25 The written submission from Mr. Neil Craik,

1 as outlined in Commission Member Document 11-H2.2 is
2 confidential as it pertains to security considerations and
3 will be discussed in closed session, if necessary, after
4 the public portion of the hearing. I will notify the
5 participants whether we need to go in camera or not a bit
6 later this morning.

7 January 12, 2011 was the deadline for
8 filing of supplementary information. I note that
9 supplementary information has been filed by CNSC staff and
10 NB Power.

11 Mr. President.

12 **THE CHAIRMAN:** Okay. We are ready to go.

13 As per our agenda, we will start with the
14 presentation from CNSC staff on the Integrated Safety
15 Assessment of Canadian Nuclear Power Plants for 2009 for
16 the Point Lepreau Nuclear Generating Station.

17 After that, we will hear from NB Power on
18 the status of the refurbishment and finally we will hear
19 again about the application for the licence renewal.

20 So I understand that Mr. Jammal, you are --
21 oh, no, it's not. You don't look like Mr. Jammal.

22 So CNSC, I don't know who is going to do
23 the presentation. Go ahead.

24
25 **New Brunswick Power Nuclear**

1 (NB Power Nuclear):
2 Application from NB Power Nuclear
3 for the extension of the operating
4 licence for the Point Lepreau Nuclear
5 Generating Station for a one-year period

6
7 Oral presentation by
8 CNSC staff on the CNSC Staff
9 Integrated Safety Assessment of
10 Canadian Nuclear Power Plants
11 for 2009 for the Point Lepreau
12 Nuclear Generating Station

13
14 **MR. WEBSTER:** Thank you, Mr. President.

15 For the record, my name is Philip Webster.
16 I'm the Acting Director General, Power Reactor Regulation
17 appearing before you here today.

18 As you stated, we are here to present, in
19 the first case, the CNSC staff integrated safety
20 assessments of Canadian nuclear power plants for 2009,
21 something that we refer to for short as the NPP report,
22 with specific focus on the Point Lepreau Nuclear
23 Generating Station.

24 The NPP report summarizes CNSC staff's
25 assessments of the safety performance of New Brunswick

1 Power Nuclear at the Point Lepreau Generating Station.

2 The report results for the other nuclear
3 power plants were presented at the August 19th, 2010
4 Commission Meeting and will not be repeated here.

5 At that time, New Brunswick Power requested
6 that the staff assessment for Point Lepreau be presented
7 later, at a later date, that being today, along with an
8 update on the refurbishment activities.

9 With me today is Mr. François Rinfret, our
10 Director of the Gentilly-2/Point Lepreau Regulatory
11 Program Division, who will continue the presentation.

12 **MR. RINFRET:** Good morning, Mr. President,
13 Members of the Commission. For the record, I'm François
14 Rinfret.

15 The Point Lepreau nuclear power plant
16 consists of a single 600 megawatt CANDU reactor. New
17 Brunswick Power Nuclear is licensed to operate the plant.

18 The Point Lepreau Generating Station was
19 shut down on March 28th, 2008 for refurbishment of the
20 reactor. The refurbishment activities continued
21 throughout 2009 and more information will be discussed
22 later in this presentation.

23 The current operating licence expires in
24 June 2011. There was a request for an extension of the
25 current licence by one year. This request will be

1 presented to the Commission later today during this
2 hearing.

3 I will now turn to the safety performance
4 results achieved in 2009 for all nuclear power plants in
5 Canada, including Point Lepreau. Information was
6 previously presented to the Commission at the August 19th,
7 2010 hearing for the other stations, as previously noted
8 and is shown here for review.

9 This table summarizes the safety area
10 ratings for each station, as well as the industry average
11 ratings.

12 As you recall, we have four rating
13 categories; namely, fully satisfactory (FS), satisfactory
14 (SA), below expectation (BE), and unacceptable (UA). It
15 can be seen that all safety area ratings at all stations,
16 as well as the integrated plant rating were either
17 satisfactory or fully satisfactory in 2009.

18 As the Commission can see from the last
19 column of the table, the achievements of the individual
20 stations translated into satisfactory performances for the
21 industry as a whole. The industry average rating for
22 seven of the eight safety areas were satisfactory, while
23 one safety area, emergency preparedness, received a fully
24 satisfactory rating.

25 The industry integrated rating which

1 represents the average of the plant ratings was also
2 satisfactory.

3 More specifically now, the slide shows the
4 safety area ratings of the Point Lepreau station. Due to
5 Point Lepreau's refurbishment status in 2009, not all
6 safety areas and programs could be rated for their
7 performance. Of those safety areas that were rated, all
8 received satisfactory ratings for 2009.

9 Again, the integrated planned rating for
10 Point Lepreau in 2009 was also satisfactory.

11 For the programs that could be rated,
12 occupational health and safety received a fully
13 satisfactory and all other programs were rated
14 satisfactory at the plant. This is a breakdown in the
15 actual safety areas that were shown on previous slides.

16 By way of summary, CNSC staff have made the
17 following observations with respect to safety performance
18 of the nuclear power plants in 2009. There were no
19 serious process failures at any station that could
20 potentially lead to a failure of protective barriers.

21 No members of the public received a
22 radiation dose above the regulatory limit of 1
23 millisievert per year.

24 In fact, doses to the public from Canadian
25 nuclear plants were below 10 microsieveverts per year.

1 There were no confirmed worker radiation
2 exposures above the regulatory dose limit of 50
3 millisieverts per year. There were also no incidents
4 resulting in reportable doses in excess of the station
5 action levels which are typically set below regulatory
6 limits as well.

7 The frequency and severity of injuries and
8 accidents involving workers was minimal in 2009 and the
9 accident severity rate for Canadians in nuclear power
10 plants remains low in comparison to other industries.

11 Environmental releases from the plants were
12 well below station action levels which are typically set
13 at 10 percent of the regulatory limits.

14 Finally, licensees complied with their
15 licence conditions concerning Canada's international
16 obligations. These positive outcomes were the result of a
17 multitude of provisions undertaken by each licensee and
18 are a general reflection of good organizational management
19 and control.

20 The Point Lepreau Power reactor operating
21 licence, Lepreau, was amended twice in 2009 based on two
22 licence amendment requests. This is a standard
23 presentation which we are reporting to you.

24 The two technical changes were to
25 incorporate the new licence conditions, one to include

1 Document RD-363, the nuclear security officer medical,
2 physical, and psychological fitness. And the other change
3 regarding the transitional provisions of a revision 2 to
4 the CNSC requirements for the requalification testing of
5 certified shift personnel at nuclear power plants.

6 There were also some minor administrative
7 changes to update some of the documents to their latest
8 versions.

9 Going forward, staff will be working with
10 the licensee to transition to the new licence format and
11 licence condition handbook. This work is projected to
12 continue in 2011 for the other renewal.

13 Regarding the Point Lepreau refurbishment
14 project, refurbishment activities continued during 2009
15 and 2010. New Brunswick Power Nuclear announced in
16 October 2010 that Point Lepreau Generating Station is
17 expected to return to service in the fall of 2012. New
18 Brunswick Power Nuclear will provide the Commission with a
19 detailed update on the status of the refurbishment after
20 this presentation.

21 Some concerns were raised by Commission
22 members during the August 19, 2010 Commission meeting on
23 the 2009 Annual Industry Report about the frequency at
24 which derived release limits, or DRLs, were updated for
25 Point Lepreau. The 2009 report stated that DRLs should be

1 reviewed and if necessary updated approximately every five
2 years.

3 DRLs for Point Lepreau are correct and
4 based on Canadian standards CSA N288.1, version 1987.
5 These are the CSA guidelines for calculating derived
6 release limits for radioactive material in the various
7 types of effluents for normal operation at nuclear
8 facilities. This standard was updated in 2008.

9 NB Power -- New Brunswick Power Nuclear
10 annually verifies and refines the environmental models
11 used in the calculation of derived release limits and
12 summarizes results under document -- CNSC Document S-99,
13 Reporting Requirements. As per normal transition process
14 the 2008 version of this standard will be included to the
15 licence as part of the licence renewal process in 2012.

16 There should be compliance with this
17 updated standard by March 2012. So CNSC staff is
18 satisfied with this plan and currently there is no
19 technical or regulatory issue with this.

20 So Point Lepreau Generating Station
21 emissions are consistently well-below regulatory limits.

22 I'll now turn the microphone back to Mr.
23 Webster.

24 **MR. WEBSTER:** Thank you, Monsieur Rinfret.
25 Based on staff's observations and the

1 assessments from our compliance inspections, CNSC staff
2 concludes that all nuclear power plants operated safely in
3 Canada through 2009 and that all the nuclear power plant
4 operators made adequate provision through their programs
5 and procedures to protect the health and safety of
6 Canadians and the environment, as well as to ensure that
7 Canada has met its international obligations on the
8 peaceful use of nuclear energy.

9 This concludes staff's presentation of the
10 performance of the Point Lepreau Generating Station in
11 2009 as part of our MPP report. We are available to
12 answer any questions. Thank you.

13 **THE CHAIRMAN:** Thank you. Before moving
14 into the refurbishment story, is there anything that NB
15 Power would like to comment on the 2009 performance
16 report, or do you want to it together with the next
17 presentation?

18 **MR. THOMAS:** Mr. Chairman, I think we
19 prefer to wait until we finish ours and address the
20 question.

21 **THE CHAIRMAN:** Okay. So let's move on to
22 the NB Power on the status of refurbishment and their
23 request for a one-year extension to the licence as
24 outlined in Commission Member Document CMDs 11-H2.1, 2.1A,
25 2.1B and 2.1C. I understand that Mr. Thomas, the

1 President and CEO will make the presentation. The floor
2 is yours.

3

4 **11-H2.1A / 11-H2.1B / 11-H2.1C**

5 **Oral presentation by**

6 **NB Power Nuclear on its**

7 **refurbishment activities**

8

9 **MR. THOMAS:** Bonjour, Monsieur le
10 président, Membres de la Commission, Members of the
11 Commission.

12 For the record, mon nom c'est Gaetan
13 Thomas. Je suis le président directeur général d'Énergie
14 Nouveau-Brunswick, NB Power.

15 I would like to thank the Commission and
16 staff for allowing us to delay our presentation on the
17 annual report because we were in the middle of a very,
18 very difficult process at the time and we have resolved
19 the issue and that was very, very important for us to be
20 focussed all our team on the project at the time.

21 I would also like to take the opportunity
22 to mention how important this plant is to New
23 Brunswickers, to our customers because it's part of our
24 long-term strategic planning where the plant will be
25 required to produce a third of the energy in the Province

1 of New Brunswick. And that is allowing us to meet our
2 green gas emissions targets for long term. That allows us
3 to have about two-thirds non-emitting power in New
4 Brunswick, which Lepreau is the biggest contributor.

5 I would also like to mention that the Board
6 of Directors and everyone in the senior management team is
7 supporting this project and one of the things that we've
8 learned through this process is that, you know, the
9 importance and the focus that all the men and women at
10 Point Lepreau have done on safety and quality will pay
11 off; it will be the reason why this plant will run
12 reliably and safely for a long time. And there was never
13 any compromise from anyone on the team, and I want to
14 acknowledge that in spite of all the pressures, whether
15 they were from the media or public, safety and quality
16 remains our top priorities.

17 In spite of all the difficulties, you know,
18 we have stepped up the game in terms of human performance
19 as well. We had over 7,000 observation and coaching
20 opportunities that will be described by the team later.

21 We made some significant improvement on our
22 mispositioning index and we got certified for pressure
23 boundary -- our pressure boundary program got certified in
24 the middle of all the activities. These are all signs
25 that the station is on the move towards our goal of

1 excellence.

2 So we will continue and we continue
3 throughout this process to have a rigorous training
4 program and that is key. Because of a long outage, we
5 want to ensure that our operators stay sharp, stay focused
6 and they're ready for restart for the fall of 2012.

7 So without further ado I will introduce
8 Blair Kennedy who is our VP of Nuclear and Generation, and
9 Blair will introduce our team and we will have more
10 details. We appreciate the time you are allowing us today
11 to update on the refurbishment.

12 Je vous remercie pour votre temps
13 aujourd'hui. C'est très important pour nous autres de
14 pouvoir avoir le dialogue avec la Commission.

15 Blair.

16 **MR. KENNEDY:** For the record, my name is
17 Blair Kennedy and as Gaëtan mentioned, I am the Vice-
18 President of Nuclear, as well as conventional generation.

19 We appreciate the opportunity to speak to
20 you today on the status of the Point Lepreau refurbishment
21 project.

22 Let me introduce the members of the support
23 team that are here today. To my right is Rod Eagles,
24 Refurbishment Project Director. Next to him is Wade
25 Parker, Station Director. Next to Wade is Kathleen Duguay

1 the Manager of Public Affairs; Paul Thompson, the
2 Regulatory Affairs Manager; Charles Hickman, Health Safety
3 and Environmental Manager; and Heather McLean, the
4 Director of Communication for NB Power.

5 The written supplemental material submitted
6 with this presentation forms a part of this oral
7 presentation. Our presentation today will be in two
8 parts.

9 Rod Eagles, Refurbishment Director, will
10 provide you, Members of the Commission, an update on the
11 refurbishment project and Wade Parker, Station Director,
12 will provide you an update on the station's operation with
13 respect to the CNSC Industry Report and our request for a
14 power reactor operating licence extension.

15 Before I turn it over to Rod Eagles, I
16 would like to emphasize that safety as Gaëtan has
17 mentioned is our top priority at NB Power. We continue to
18 maintain high standards for health, safety and quality
19 throughout the refurbishment project. In any instance
20 where we feel that these principles have the potential to
21 be compromised, we take the necessary time to ensure that
22 the job is done right. Our workers and supplemental staff
23 continue to demonstrate a high degree of ownership for
24 safety standards established at the station. We fully
25 endorse the principle of continuous improvement as we

1 strive for excellence. Efforts are concentrating on
2 completing this outage in a safe and in a quality manner
3 and preparing for a safe restart of the Point Lepreau
4 Generating Station and a continued operation for the next
5 25 to 30 years.

6 Thank you; and I will now turn the
7 presentation over to the Refurbishment Director, Rod
8 Eagles.

9 **MR. EAGLES:** Thank you Mr. Kennedy.

10 Mr. Chairman, Members of the Commission,
11 for the record, my name is Rod Eagles. I am the
12 Refurbishment Project Director at the Point Lepreau
13 Generating Station.

14 This presentation today is a follow-up to
15 our presentation in December 2009 and provides the
16 Commission with an update of our progress in the status of
17 work related to the refurbishment project.

18 Specifically, we will provide details of
19 the work over the past year as it relates to the
20 challenges we have experienced in the installation of
21 Calandria tubes.

22 We will provide an update to other key
23 project activities and accomplishments and as well insight
24 into some of the ongoing project programs and upcoming
25 work.

1 We will close with an update of our
2 activities and plans for commissioning and return to
3 service which will be the key focus of our next appearance
4 before the Commission for the hearing to request
5 permission to load fuel as the end of the outage is
6 approached.

7 As both Mr. Kennedy and Mr. Thomas stated,
8 safety is our top priority.

9 As indicated in the written submission,
10 there continues to be a comprehensive, conventional safety
11 program in place which has lead to a low rate of lost-time
12 accidents on site. The program encourages reporting of
13 minor incidents or near misses as these are seen as
14 indicators of the more -- of the potential for more
15 significant issues.

16 The safety team's success is due in part to
17 the coordinated and team approach in managing field
18 activities. There are weekly meetings with all contractor
19 safety representatives. There is a strong field presence
20 from both NB Power and contractor safety staff, all using
21 a common radio system to allow immediate communications.
22 There is a project Joint Health and Safety Committee that
23 meets weekly and includes all contractors. Weekly walk-
24 downs are done in conjunction with CNSC staff, and there
25 are common expectations and a coordinated training system

1 in key areas; for example, fall arrest, lifting and
2 rigging.

3 This is not to say that there have not been
4 some challenges to safety, but responsive change in the
5 face of observed challenges to a safety program have led
6 to continued improvement in our safety by our workers and
7 our leaders.

8 A key factor in the improvements has been
9 the cooperation with CNSC site staff in joint observations
10 of field activities which assists in clarity of
11 expectations and resolution of observed areas for
12 improvement.

13 As part of our safety program the
14 initiation of stand-downs in the work has become normal --
15 has become a normal part of business to permit adequate
16 time for investigation, training, reflection on specific
17 incidents to bring home the message that safety is the
18 most important element of work activities.

19 In summary, there is a strong management
20 support for safety and it is reflected in all aspects of
21 daily work and the photo in this slide reflects positively
22 on the many safety expectations for our workers.

23 Since the outage began, our focus on the
24 safety of workers and the public has been reinforced to
25 all workers and as a result an excellent safety record has

1 been maintained. To date, more than 11 million person
2 hours have been completed by a workforce which has peaked
3 at approximately 2,800 workers including all contractor
4 staff.

5 Details of the disabling incident frequency
6 and severity rates have been included in the written
7 submission. It is appropriate to point out that these
8 statistics have shown approximately 50 percent decrease in
9 disabling frequency year over year for the past two years.
10 These figures not only lost-time injuries, but any
11 disabling injury that prevents a worker from returning to
12 their normal work function.

13 As a result, we have also highlighted our
14 lost-time accident frequency performance and note that
15 Point Lepreau performance in this measure is an order of
16 magnitude better than provincial and national heavy-
17 industry averages.

18 Despite the record, we are disappointed
19 that there have been eight lost-time injuries with PLGS
20 staff and contractors over the course of the outage. As I
21 mentioned, our focus is continuing to reduce the
22 occurrence of incidents during the outage.

23 With respect to disabling injury severity
24 rates, 2010 saw an increase in this statistic as a result
25 of the modification to the reporting criteria to meet our

1 interpretation of the S99 reporting requirement. The
2 severity-rate statistics now represent not only days lost
3 due to injury, but also the number of days where employees
4 are on a restricted-work program due to injury and not
5 being able to return to the entirety of their normal job
6 function.

7 This very much more restrictive definition
8 increases the severity-rate figure, but provides
9 additional information to allow opportunities for
10 improvement to our safety program.

11 An industry-wide issue has been identified
12 with the tracking of alpha contamination which has driven
13 action by each licensee. Although NB Power was well
14 prepared for the risk of alpha contamination, additional
15 measures have also been put in place as a result of this
16 issue.

17 To prepare for the possibility of
18 encountering alpha hazards during refurbishment, and based
19 on operating experience, contamination monitors, friskers
20 and air monitors with alpha detection capability were
21 purchased prior to the outage.

22 Good planning and review of work packages
23 and related ALARA plans ensures that appropriate
24 personnel-protective equipment is provided for high-risk
25 outage activities; for example, those requiring

1 respirators to be worn where contamination exists or where
2 it has the potential to be generated.

3 Point Lepreau has had a good operational
4 history, particularly related to the management of fuel
5 and the control of contamination. Both of these factors
6 help limit the potential issues related to alpha
7 contamination.

8 Based on recent bioassays of five long-term
9 employees by a third-party lab in the U.S., PLGS does not
10 have issues related to the long-term, chronic alpha
11 exposure.

12 Following the detection of alpha activity
13 in our project in February 2009, the areas requiring
14 respiratory protection were expanded; alpha spectrometry
15 capability was enhanced for analysing air and smear
16 samples, whole body counting frequency was increased,
17 personnel air samplers were worn periodically for selected
18 workers to determine whether airborne alpha hazards
19 existed in their workspace.

20 Rigorous decontamination activities were
21 performed throughout the reactor building, allowing
22 respiratory protection requirements to be relaxed in
23 peripheral areas. And alpha monitoring and respiration
24 protection continues to be mandatory where the potential
25 for contamination exists.

1 We continue to follow industry operating
2 experience and review our radiation protection programs to
3 ensure that we're managing issues related to alpha and
4 using third party experts to ensure we identify
5 appropriate upgrades.

6 I should note here that as a result of the
7 significant effort placed on contamination control it is
8 possible to visit our reactor vault without the need for
9 special radiation protection clothing due to the very low
10 risk of contamination in these work areas.

11 NB Power Nuclear continues to place a great
12 deal of effort on the goal of as low as reasonably
13 achievable radiation dose to workers and the public. At
14 this time, NB Power Nuclear and AECL have approximately
15 100 staff and supplemental personnel dedicated full-time
16 to radiation safety of workers.

17 In the final stages of planning each
18 sequence of radiation work, the detailed review of the
19 work construction which is carried out to ensure that
20 radiation controls are adequate and appropriate for the
21 work to be done.

22 The ALARA plans issued for the work contain
23 challenging radiation exposure limits to drive appropriate
24 behaviours during the execution of the work.

25 The extensive use of training and mock-ups

1 to refine work procedures, the detailed instructions of
2 the workforce and the use of ALARA challenge meetings have
3 also been key elements of the radiation protection
4 program.

5 Despite challenges over the course of the
6 work, including tool failures, rework and an extended
7 schedule, the high-hazard work continues to be
8 successfully managed. Contamination is being controlled,
9 dose to individuals is being managed below limits and
10 tritium dose is very low.

11 The current cumulative dose received on the
12 retube and refurbishment work is approximately nine
13 sieverts to the end of December 2010.

14 During previous presentation to the
15 Commission, we had indicated that the dose estimate
16 completion of major work activities would be 11.3
17 sieverts. Based on the revised schedule and operating
18 experience from earlier series and other projects, the
19 dose estimate has been revised upwards to a total of 12.7
20 sieverts.

21 I will note that this figure is
22 correctioned (sic) from our written material.

23 The reasons for the two sievert increase
24 are related to the -- to revised duration for the project
25 work. NB Power Nuclear will continue to review and

1 challenge each work package, looking for ways to reduce
2 dose in accordance with the ALARA principle.

3 As noted in the staff report, there have
4 been occurrences which have led to opportunities for
5 improvement in our program, specifically, an unplanned
6 radiation exposure at the weigh site and the completion of
7 whole body dosimetry counts.

8 Corrective actions have been taken to
9 resolve these issues and the program continues to look for
10 further opportunities to improve.

11 At the time of our presentation to you last
12 year, we were in the process of commencing the
13 installation of calandria tubes. Since that time, the
14 project has experienced a setback as a result of the
15 inability to achieve the desired leak tightness on all of
16 the calandria tube roll joints.

17 We can clearly state that we're
18 disappointed about the performance of the project with
19 respect to scheduling.

20 More importantly, we can clarify that NB
21 Power is committed to ensuring that the work is done with
22 safety and quality as a foundation to ensure that the
23 refurbishment will be completed and the station will
24 operate safely and reliably for the extended life.

25 Numerous challenges in the execution of the

1 disassembly and inspection work have led to the project
2 schedule being delayed. More recently, difficulty in
3 completing the calandria tube installation has resulted in
4 further delay of approximately 16 months.

5 AECL has recently completed a review of the
6 remaining Phase II project activities and expect to be
7 complete their scope of work by May 2010 -- sorry, 2012.
8 Achieving this date would lead to an overall completion of
9 the Phase III commissioning and return to service
10 activities by NB Power by fall of 2012.

11 The project team remains focused on
12 achieving the completion and a safe, reliable return to
13 service for the station.

14 Over the next few slides, the challenges
15 and decisions with respect to calandria tube replacement
16 will be discussed.

17 After completing a number of calandria tube
18 installations, it became clear that some aspect of the
19 installation and rolling process required modification to
20 achieve the required roll joint peak tightness.

21 Investigations led to a number of changes
22 to all aspects of the work, tooling, procedures and
23 training. Although marginal improvements in the success
24 of leak rate testing were achieved, the program changes
25 did not achieve the required level of success.

1 Industry experience with calandria tube
2 rolling success led to confidence that successful leak
3 tightness tests would ultimately be achieved through
4 modification of rolling parameters or by rerolling of the
5 joints with failed tests.

6 This confidence led to a conclusion that
7 calandria tube installation would continue in parallel
8 with the investigations.

9 As the Point Lepreau project was nearing
10 completion of the calandria tube installation, the Wolsong
11 refurbishment project commenced their calandria tube
12 installation and experienced similar leak test failures.

13 For clarity on the location of the
14 calandria tube roll joint, this slide shows the location
15 of the roll joints in the calandria tube sheet bore.

16 There's one calandria tube roll joint at
17 the tube sheet on each end of 380 calandria tubes. The
18 roll joint is the seal that separates moderator water
19 contained in the calandria vessel and the carbon dioxide
20 contained in the annulus space between calandria tubes and
21 the pressure tubes.

22 Minor leaks in the roll joint are not in
23 themselves a safety issue as the moderator water is
24 contained and collected in the annulus gas system. The
25 cumulative impact, however, of a number of minor leaks

1 could pose a reliability risk to the operation of the
2 station, as monitoring of the dry annulus gas is one
3 defence against failure mechanisms described in the safety
4 report.

5 As I mentioned, the leakage limit being
6 measured is very small, equivalent to two times 10^{-4} to the
7 minus four cubic centimetres per second of helium. And a
8 cumulative leak rate in the order of one kilogram per day
9 of heavy water would challenge the station's ability to
10 operate without some form of compensatory measure or a
11 lengthy shutdown to repair the issue.

12 As mentioned, all of the calandria tubes
13 were installed in the reactor, although only about two-
14 thirds of the roll joints were completed prior to
15 suspending the rolling operations. At least one roll
16 joint was completed on each calandria tube.

17 The combined effort of investigation with
18 AECL and Wolsong identified that the cause of the roll
19 joint test failures was wire brush cleaning of the tube
20 sheet bore in an earlier sequence of the outage.

21 The surface roughness of the tube sheet
22 bores caused by the bore wire brush cleaning has some
23 variability between bores and also within individual
24 bores. This variability was the reason for some passing
25 and some failing leak rate tests.

1 In questioning the potential impact of the
2 wire brushing, the project team requested a full
3 evaluation of the impact of the surface roughness on all
4 joints, including those which passed the leak criterion in
5 order to evaluate the potential on long-term operation.

6 The evaluation concluded that even on
7 successfully tested roll joints, the reliability may not
8 be there for the long term.

9 Over the course of the review, it was
10 determined that there was, there was a difference in the
11 surface condition on tube sheet bores as compared to Bruce
12 reactors of as a result of changes in the wire brush
13 tooling for Point Lepreau and Wolsong and whereas the
14 Bruce reactors the operation of the brushing tools
15 resulted in a more controlled outcome and successful leak
16 rate testing.

17 In this cutaway view of the calandria tube
18 rolled joint, you can see the tube sheet with the inboard
19 wide groove and two outboard narrow grooves. The
20 calandria tube is sandwiched between the insert ring and
21 the tube sheet with the raised land on the insert aligned
22 with the tube sheet wide groove. The rolling operation
23 plastically deforms the insert end tube into the tube
24 sheet in order to seal the joint.

25 As discussed, result of the surface

1 roughness of the bore a leak pass was created along the
2 full face of the tube sheet bore, as shown by the arrow in
3 the photo.

4 In order to remove surface roughness on the
5 tube sheet bore, tooling initially developed at the
6 Wolsong project for this purpose is being used. The
7 polishing brushes have been demonstrated to effectively
8 remove the roughened surface of the tube sheet bore. This
9 polishing work, which was previously completed at Wolsong
10 and is now in progress at Point Lepreau, is approaching 25
11 percent complete.

12 This slide shows some of the typical
13 results achieved in the lab as part of the investigation
14 process. The effect of wire brushing on the tube sheet
15 bore can be observed in the matte-like finish in Photo A
16 and a magnified view of that surface of the wire brushed
17 roughened bore is seen in Photo B.

18 The rework results of the polishing process
19 are highlighted on the top right in Photo C and the
20 magnified view of that polished surface is shown in Photo
21 D.

22 This is a photo of workers currently
23 working at the tube sheet and executing the tube sheet
24 bore polishing at the reactor face.

25 The investigations were completed to

1 evaluate the long-term reliability of the wire brushed
2 rolled joints. As a result of this extensive work, it was
3 recommended by AECL and agreed by NB Power that removal of
4 all of the calandria tubes from the reactor was the proper
5 course of action. This decision was made to ensure that
6 there would be no longer-term impact of the wire brushed
7 tube sheet bores on the reliability of the station.

8 The impact to project schedule has already
9 been mentioned, that AECL are expected to complete the
10 retubing activities in May 2012 with NB Power completing
11 return to service in the fall of 2012.

12 In other areas of retube work, the upper
13 feeders have been completely welded into position to the
14 heat transport system headers. Within Appendix J of the
15 power reactor operating licence there were listed a number
16 of project activities to be completed prior to the restart
17 of the station. Many of these activities are now complete
18 in the field with commissioning activities complete per
19 required and equipment turned over to the operations
20 department.

21 Of the 21 activities identified in Appendix
22 J to be completed during the refurbishment, 17 are
23 completed or are completed to the extent possible given
24 plant condition, for which final commissioning will be
25 executed during the run-up phase. Three are undergoing

1 commissioning activities at this time and one retubing
2 activity is continuing in progress.

3 Included in the listed activities was
4 refurbishment of the generator. The generator reassembly
5 is now completed, along with auxiliary systems such as the
6 hydrogen system and the excitation system. Similar to
7 many plant systems, the final commissioning tests will be
8 completed as part of the station run-up as systems are
9 validated under controlled operation.

10 In addition to the refurbishment project
11 scope and work identified in the operating licence, a
12 number of other plant modifications are being undertaken
13 in plant capital improvement programs, and there are over
14 200 items being tracked in our design management program.

15 The vast majority of the work originally
16 planned for the refurbishment outage is nearing completion
17 by our own staff or by other contractors to NB Power. A
18 number of these projects provide further enhancement to
19 safety such as fire system improvements or an additional
20 standby diesel generator and are in line with modern
21 reactor designs.

22 Also included in this project is the
23 upgrade of the turbine low pressure rotors to increase
24 reliability and increase electrical output from the
25 station.

1 As a result of the extension to the outage,
2 additional capital and maintenance work has been
3 incorporated into outage activities as part of the ongoing
4 capital improvement program, preventative and corrective
5 maintenance programs.

6 For interests, I've included some
7 photographs of the work. The emergency containment
8 filtered vent system was designed and installed by AREVA.
9 This system was designed to provide additional protection
10 to the containment structure and to the public in the very
11 low probability that certain beyond design basis incidents
12 could occur.

13 Also in this photo the extensive
14 scaffolding required to facilitate maintenance on the
15 concrete containment can be seen.

16 Many improvements to the fire protection
17 system have been made in addressing gaps with more recent
18 fire protection codes. Changes include the installation
19 of new detection and suppression equipment. Improvements
20 to egress routes for employees in the event of a fire have
21 also been made, which involves enclosure of stairwells in
22 the plant.

23 Due to the nature of fire protection
24 equipment design, the work to complete these modifications
25 is extremely intrusive for the plant and total

1 modifications to the fire system are expected to cost in
2 excess of \$50 million.

3 The installation of a third standby diesel
4 generator provides redundancy to our Class 3 power supply
5 diesel generators. This addition will support our ability
6 to conduct preventive maintenance in an area of the plant
7 where equipment reliability has been challenged in the
8 past. The installation of major equipment is completed
9 and the tie-in to plant systems is being completed in
10 parallel with commissioning activities.

11 The low-pressure turbine upgrade activity
12 is now completed and awaiting steam to finalize the
13 commissioning tests during return to service. NB Power
14 Nuclear has worked very hard with our contractor, Siemens,
15 to recover from the event when two turbine rotors were
16 lost into the Saint John Harbour during transport to site.

17 Ultimately, these two rotors will be
18 replaced in a future outage currently being planned for
19 either 2014 or 2016 to assure that the plant will be
20 reliable until the end of the extended operating life of
21 25 to 30 years.

22 The turbine generator, as you can see, is
23 completely reassembled. This upgrade will provide an
24 additional 25 megawatts of electricity from the same steam
25 flow as a result of new design efficiencies. This will

1 replace 25 megawatts of fossil-powered generation.

2 Regardless of the contracting strategy used
3 for the implementation of changes in the station, a staged
4 process of acceptance at each phase of the work is used by
5 NB Power Nuclear; after design, acceptance by our design
6 authority; after implementation, acceptance by our
7 implementation lead, and after commissioning, acceptance
8 by our commissioning manager, the design authority and the
9 operation superintendent.

10 At each stage a formalized documentation of
11 that acceptance includes a record for tracking of any
12 remaining deficiencies. Upon completion of the
13 commissioning completion assurance, this information is
14 also provided to CNSC staff for their information and
15 records.

16 In addition to the commissioning of design
17 changes, systems that were in a dormant or laid-up state
18 are also validated and tested as appropriate to confirm
19 that they are fit for return to operation. It is our plan
20 that as we approach the end of the outage, systems will be
21 returned to service as early as possible during that
22 restart program.

23 Operating experience gained from
24 discussions with other utilities has led to focused
25 benchmark visits at a number of stations in North America

1 and Europe. This experience has led to a focus of a
2 dedicated senior management resource to lead the Readiness
3 for Restart program as a parallel activity with the
4 commissioning and return-to-service work.

5 The specific goal of the Readiness for
6 Restart is to ensure the transition from a project to an
7 operational focus is made as the plant configuration is
8 restored during commissioning activities.

9 As part of this program, NB Power Nuclear
10 has received commitment and support from our industry
11 peers to review and assist us in evaluating our plans and
12 identification of areas for improvement.

13 Numerous discussions have been held with
14 CNSC staff regarding a staged approach for return to
15 service. In accordance with our operating licence and
16 with reference to Regulatory Document RD-360, a defined
17 four-phase approach to the restart has been discussed and
18 agreed with CNSC staff.

19 It has been discussed that each of these
20 phases of restart will require the approval of a CNSC-
21 designated officer and that, additionally, the first phase
22 approval will require a hearing of the CNSC Commission for
23 approval to load fuel.

24 It is currently anticipated that a fall of
25 2011 timeframe would be appropriate for a load fuel

1 hearing with respect to the plant state at that time.

2 It is expected that the majority of reactor
3 components would be installed and that commissioning
4 activities would be complete to the extent possible,
5 governed by the plant state at that time. As some of the
6 commissioning tests require the plant to be at some level
7 of load and defined in Phases B, C and D and beyond, not
8 all of the commissioning tests will be completed at the
9 time of approval for loading fuel.

10 This completes my portion of the
11 presentation. Thank you for your time and I'll turn it
12 over to Mr. Wade Parker, Station Director.

13

14 **11-H2.1 / 11-H2.1C**

15 Oral presentation by
16 NB Power Nuclear on their
17 Application for the extension
18 of the operating licence for
19 the Point Lepreau Nuclear Generating
20 Station for one-year period

21

22 **MR. PARKER:** Thank you, Mr. Eagles.

23 Mr. Chairman, Members of the Commission,
24 for the record my name is Wade Parker. I am the Station
25 Director and licence holder for the Point Lepreau Nuclear

1 Generating Station.

2 I will now provide you an update on the
3 station overview, as you can see in the slide before you.

4 Today, the presentation has been focused up
5 to this point on refurbishment. I would now like to take
6 the opportunity to brief you on other areas of focus at
7 the station during this time of refurbishment.

8 A number of our staff, as you would well
9 imagine, is supporting refurbishment and supporting AECL.
10 Some of those areas include field and engineering work,
11 radiation protection, industrial safety, and progression
12 of plant capital work. We are also preparing and
13 conducting commissioning, return to service, and restart
14 readiness activities.

15 We continue to support running systems. At
16 this time, 60 percent of our systems still remain in
17 service at the station. There are systems that are laid-
18 up and we need to continue with our preventative
19 maintenance on both laid-up and running systems.

20 An example of a laid-up system is some of
21 the systems that we took out of service very methodically
22 and controlled, we have drained some of these systems, we
23 have dried them. There is dehumidified air blowing
24 through these systems so that when the time comes to
25 restart the station, we will bring these systems back in a

1 very methodical, controlled means; these systems will be
2 ready to go.

3 With current outage extension, we have had
4 to add future planned maintenance into this outage. This
5 outage was originally scheduled for 18 months, but as this
6 outage has progressed and the timeline has increased, we
7 have had to pick up all the maintenance associated with
8 our 2011 outage and we have recently made the decision to
9 pick up all the outage that is outstanding for our 2013
10 outage. So we are maintaining our maintenance. We are
11 ensuring there will be no backlogs when it comes time to
12 restart the station, and so we can bring the station back
13 in a safe, quality manner.

14 Other areas that continue to be supported
15 during this outage are as -- we do continue to have 24/7
16 coverage by operations and security at the station. We
17 continue to support full scope of safeguards, training, QA
18 programs and emergency preparedness. These programs
19 require our attention as we also manage the refurbishment
20 project.

21 Our environmental radiation monitoring
22 program started in 1976 to determine baseline levels of
23 radioactivity in the environment.

24 The program includes a collection and
25 analysis of samples that have the potential to expose the

1 public to radiation from station releases. These include
2 air sampling, water, vegetation, seafood, milk, and soil.
3 A number of sample sites are indicated on the map before
4 you.

5 Since 1976, more than 38,000 samples have
6 been analysed. Results of the sampling indicate that most
7 sample types show no increase in radioactivity levels
8 above the baseline results.

9 Tritium has been detected in some air and
10 water samples, with higher levels being seen on-site than
11 off-site, as would be expected. Tritium levels both on-
12 and off-site are well below regulatory and action levels.
13 It is important to note that off-site levels are
14 consistent with pre-operational levels.

15 Current derived release limits were
16 implemented in 1996, based on the CSA standard and a
17 public dose limit of 1 millisievert.

18 Theoretical critical groups were selected
19 for the airborne and liquid release pathways, which is a
20 more conservative approach than selecting an actual
21 population.

22 A revision to comply with a revised CSA
23 standard is planned for completion by March 2012.

24 Community involvement is an important
25 priority for NB Power Nuclear and we continue to keep the

1 public apprised of our refurbishment and station
2 activities. NB Power continues to hold public information
3 sessions, stakeholder updates, and dialogue with First
4 Nations. As a matter of fact, just last week we held a
5 local public information session.

6 NB Power recognizes the importance of
7 communicating with First Nations communities in New
8 Brunswick. Through mediums such as information sessions,
9 educational forums and open forum discussion,
10 representatives of NB Power are continuing to engage First
11 Nations in meaningful conversation pertaining to NB Power
12 business, station operations, and major projects. NB
13 Power is also in the process of finalizing a strategic
14 plan with First Nations.

15 In addition, media events at the station as
16 well as one-on-one interviews with our CEO and press
17 conferences have provided the press with clear statements
18 and our project progress and station activities.

19 The community relations liaison committee
20 has continued to provide a forum for the local region to
21 identify with the station and the project team. These
22 meetings are important for discussion of issues and
23 concerns from the public as well as providing them with an
24 opportunity for more detailed updates on the project,
25 which they are able then to share with their friends and

1 neighbours. It is important to note that NB Power Nuclear
2 continues to have a very positive and supportive local
3 community.

4 Our power reactor operating licence
5 encompasses the activities of both the on-site solid rad
6 waste management facility and station operations.
7 Although we have not transferred any fuel to the waste
8 site since the fall of 2007, a significant amount of
9 activity has taken place to transport and store the
10 material from the re-tube activities and low-level waste
11 to support the outage.

12 The overall performance has been very good,
13 with one exception of the event that has been referred to
14 earlier in this presentation.

15 The nuclear industry deals responsibly with
16 its long-term obligations which include decommissioning.
17 We maintain a preliminary plan; we maintain cost
18 estimates; and we provide financial guarantees to ensure
19 adequate funds are available.

20 In regards to long-term storage of used
21 fuel, we follow the adaptive phase management strategy
22 outlined in the nuclear waste management organization, and
23 we also maintain a cost estimate and provide financial
24 guarantees to ensure adequate funds are available.

25 As you can see before you, there are some

1 of the key improvements that we are working on, which
2 demonstrates our commitment to continuous improvement. In
3 each of these improvements we have implemented action
4 plans and are achieving success.

5 Our observation and coaching program, where
6 we have leadership in the field, reinforcing expectations
7 against observable actions is having very positive
8 effects. Over 6,000 documented observations have been
9 completed in 2010, which is a very high industry standard.

10 Our Mispositioning Index: The misposition
11 of a device which may include a valve, a hand switch or a
12 breaker have the potential to lead to an event; therefore,
13 tracking and immediate follow-up is important to have
14 internalized -- our lessons learned. Attention here has
15 improved our configuration compliance, again, to a high
16 industry standard.

17 Pressure Boundary Program: Recent
18 completion of our pressure boundary program external audit
19 has resulted in the station receiving our pressure
20 boundary certificate, which validates our in-house
21 pressure boundary program as is laid out in our station
22 processes according to our Nuclear Management Manual.

23 Corrective Action Program. Plans have
24 recently been completed to further improve our corrective
25 action program and make it part of our core business. The

1 plan is being implemented and supports our station focus
2 on continuous improvement.

3 These are only a few of the improvements
4 that we are working on at the station. Through input from
5 industry, our peers and others, we seek opportunities to
6 both provide support and use support to take ownership of
7 our facility and strive for continuous improvement.

8 Thank you. I will now turn the
9 presentation over to Mr. Kennedy, our Vice-President,
10 Nuclear.

11 **MR. KENNEDY:** Thank you, Mr. Parker. For
12 the record, my name is Blair Kennedy, Vice-President,
13 Nuclear.

14 We appreciate the opportunity to provide an
15 update on our project and to hear our request for a one-
16 year extension of our power reactor operating licence.
17 The extension will allow us to concentrate on progressing
18 the outage and will greatly simplify the new licence
19 condition handbook which can deal exclusively with the
20 refurbishment -- post-refurbishment operation.

21 This is consistent with the original
22 application for the existing licence which covered the
23 period leading up to refurbishment, refurbishment itself
24 and post-refurbishment operation.

25 Let the record show we, NP Power Nuclear,

1 support the basic findings of CNSC staff that are outlined
2 in the 2009 Annual Report on Safety of Power Reactors.

3 We believe that we are qualified to
4 continue to conduct the activities outlined in our power
5 reactor operating licence and that, based on our
6 performance over the licence period, we have and continue
7 to make adequate provisions for the protection of the
8 environment, the health and safety of persons, both staff
9 and public, and the maintenance of national security and
10 measures required to implement international obligations.

11 We are fully committed to the principle of
12 continuous improvement as we continue to strive for
13 excellence.

14 I would like to thank you very much, and
15 now we would be pleased to answer any questions that the
16 Board may have.

17 **THE CHAIRMAN:** Thank you very much.

18 Before we go into the question period, I'd
19 like to hear the final presentation from CNSC staff on the
20 application as outlined in CMD 11-H2. And I understand,
21 Mr. Webster, you will introduce this presentation.

22 Go ahead, please.

23 **11-H2**

24 **Oral presentation by**

25 **CNSC staff on the application**

1 **By NB Power Nuclear for the**
2 **Extension of the operating licence**
3 **for the Point Lepreau Nuclear**
4 **Generating Station for a**
5 **period of one year**

6
7 **MR. WEBSTER:** Thank you, Mr. President.

8 Yes, I am in the position of introducing
9 the presentation, but with the Commission's permission I
10 would like to request a short break because some new
11 information has just come to us. We need to make a couple
12 of edits to the presentation.

13 So rather than correct as we go along, may
14 we take a pause?

15 **THE CHAIRMAN:** Okay. I think it's good
16 timing. Take a 10-minute break.

17 --- Upon recessing at 10:06 a.m./L'audience est suspendue
18 à 10h06

19 --- Upon resuming at 10:21 a.m./L'audience est reprise à
20 10h21

21 **THE CHAIRMAN:** Okay. CNSC staff, the floor
22 is still yours. Go ahead.

23 **MR. WEBSTER:** Thank you, Mr. President.
24 Again, for the record, my name is Philip Webster. I'm the
25 Acting Director-General of Power Reactor Regulation.

1 With me today I have Monsieur François
2 Rinfret, the Director of the Gentilly II at Point Lepreau,
3 Regulatory Program Division. Behind us we have Jeff
4 Ramsay and Pierre Bélanger, who are Senior Regulatory
5 Program Officers in the same division, and Burton [sic]
6 Valpy, who is our Power Reactor Site Supervisor from the
7 Point Lepreau office.

8 We are here to present to the Commission
9 our CMD 11-H2 regarding a decision from New Brunswick
10 Power Nuclear's application to extend the power reactor
11 operating licence for the Point Lepreau Generating Station
12 by one year. There are no deviations or changes from the
13 current licence as was approved by the Commission in 2006.

14 The reactor at the licensed facility at
15 present is defueled, as has been explained. It is not in
16 operation and, hence, it is in what we call a safe state.

17 So to conclude, the changes that we propose
18 to the licence are administrative only in nature, namely,
19 the alteration of its termination date from June 2011 to
20 June 2012.

21 I now turn over the microphone to Monsieur
22 Rinfret. Merci.

23 **MR. RINFRET:** Thank you, Mr. Webster.

24 Good morning again. My name is François
25 Rinfret, Director of the G-2 and Point Regulatory Program

1 Division.

2 This presentation includes discussion on
3 the following topics: the regulatory context at Point
4 Lepreau Generating Station, including the current
5 operating licence; the status of refurbishment; the Point
6 Lepreau Generating Station performance in 2009 and '10;
7 the licence extension request; the 2012 licence renewal;
8 staff conclusions, and recommendations.

9 The current operating licence for Point
10 Lepreau Generating Stations expires on June 30th, 2011.
11 The licence had been issued for five years. It includes
12 licence conditions that cover normal operation and
13 refurbishment. All applicable requirements of the
14 *Canadian Environmental Assessment Act* were fulfilled.

15 In this current licence, Commission
16 approval is required prior to a reload into a refurbished
17 reactor core. The fuel reload hearing is anticipated in
18 late 2011.

19 New Brunswick Power Nuclear decided to
20 refurbish Point Lepreau Generating Station in 2005. The
21 Commission decision on refurbishment was made during the
22 2006 licence renewal deliberations.

23 Refurbishment activities are taking longer
24 than planned. Refurbishment work in the field started in
25 April 2008. A return to service is anticipated in 2012.

1 All regulatory requirements remain
2 applicable during refurbishment. This is happening while
3 in the safest state of a reactor, a defueled and non-
4 operational state. This does not present a risk from the
5 point of view of CNSC staff.

6 CNSC received a request to extend its
7 operating licence. That is an administrative type request
8 only to allow continuation and completion of
9 refurbishment under current licence format. CNSC received
10 a request to extend the licence until June 30th, 2012.

11 Point Lepreau Generating Station remains in
12 a defueled non-operational state. The reason for the one-
13 year extension request by New Brunswick Power Nuclear is
14 to allow for the continuation and completion of
15 refurbishment work. The licence activity does not change.

16 Further, CNSC staff recommends that the
17 licence extension request be heard as a one-year licence
18 renewal hearing to allow public input.

19 As indicated in the CNSC staff integrated
20 safety assessment of Canadian nuclear power plants for
21 2009, that is CMD 10-H47 discussed earlier in this
22 hearing, the performance ratings for Point Lepreau
23 Generating Station for all areas and programs that could
24 be rated received satisfactory ratings except for
25 Occupational Health and Safety, which received a fully

1 satisfactory rating.

2 CNSC staff, based on initial review of data
3 pertaining to 2010 operational year, see no change in
4 overall safety performance during 2010 compared to 2009.
5 If this one-year renewal is approved by the Commission,
6 then the next licence renewal will correspond to reactor
7 restart after refurbishment is completed at or before June
8 30th, 2012.

9 The next licence will feature the new
10 licence format and the Licence Condition Handbook.
11 Restart would be authorized on the basis of a full licence
12 renewal process. New Brunswick Power Nuclear would be
13 expected to submit a new licence renewal application to
14 the Commission which would include information and
15 programs, performance during the previous five years, and
16 plans for future operations.

17 This submitted information would be used as
18 the basis to convert the operating licence to the new
19 licence format along with the associated Licence Condition
20 Handbook.

21 In terms of public licence hearings, the
22 fuel reload and the re-licensing hearing will be done in
23 public simultaneously.

24 Note that on this slide NSCA stands for the
25 *Nuclear Safety and Control Act* and CEA stands for *Canadian*

1 *Environmental Assessment Act.*

2 New Brunswick Power Nuclear has and will
3 continue and carry out those activities to meet the
4 requirements of Section 24(4) of the *Nuclear Safety and*
5 *Control Act*, we'll make adequate provisions for the
6 protection of the environment, the health and safety of
7 persons, and the maintenance of national security and
8 measures required to implement international obligations
9 to which Canada has agreed.

10 An environmental assessment determination
11 review was completed for the licensing request under the
12 *Canadian Environmental Assessment Act*. The determination
13 was that this licence renewal would be a licence renewal
14 without changes as only the date of the licence term would
15 change and not the content of the licence itself. As a
16 result no environmental assessment is required.

17 CNSC staff conclusion is that based on past
18 and ongoing inspections, reviews, and monitoring of
19 refurbishment, and other licensed activities at Point
20 Lepreau, a one year licence renewal of the operating
21 licence with the same format and content would contain all
22 of the necessary CNSC regulatory requirements required for
23 the safe conduct of refurbishment activities at Point
24 Lepreau Generating Station.

25 In essence only the license end period

1 would change from June 30th, 2011 to June 30th, 2012. All
2 regulatory requirements contained in the current operating
3 licence would continue in the renewed operating licence.

4 Again, the request is administrative in
5 nature, in a low risk environment since the reactor is in
6 a defueled and non-operational state.

7 I'll now return the microphone to Mr.
8 Webster.

9 **MR. WEBSTER:** Thank you, Monsieur Rinfret.

10 In summary then, CNSC staff recommends that
11 the Commission renew the Point Lepreau Generating Station
12 operating licence under the same format as the current
13 licence for a period of one year, expiring June 30th,
14 2012. Staff also recommends that the public re-licensing
15 hearing for the following licence be held coincident with
16 the fuel reload hearing.

17 Thank you.

18 **MR. CHAIRMAN:** Okay. Thank you very much.
19 I think we heard a lot and we -- I'd like to open the
20 floor for a round of questioning from the Commission
21 Members. I'd like to start with Dr. McDill.

22 **MEMBER McDILL:** Thank you.

23 My first question is to staff and it's a
24 general question with respect to extension versus renewal.
25 What licensing options exist in the legislation for this

1 type of request? We're using the word extension but the
2 licence is given as a renewal. So that's the first part,
3 and the second part is has this type of renewal been
4 granted to other licensees in a similar situation?

5 **MR. WEBSTER:** It's Phil Webster for the
6 record.

7 You're correct, Dr. McDill. There is no
8 measure provided in our regulations to extend the licence.
9 It is a renewal, but it's a renewal for a period of one
10 year.

11 And the second question has already slipped
12 my mind.

13 **MEMBER McDILL:** Other licensees in similar
14 situations?

15 **MR. WEBSTER:** Thank you.

16 Yes, we have done the very same thing in
17 the past. We have in -- we have previously renewed the
18 Point Lepreau licence itself for a longer period, and we
19 have also done the same thing at Bruce when it was being
20 refurbished.

21 **MEMBER McDILL:** So there is nothing
22 precedent setting here with respect to a renewal ---

23 **MR. WEBSTER:** That's correct.

24 **MEMBER McDILL:** --- in this application?

25 **MR. WEBSTER:** That's correct.

1 **MEMBER MCDILL:** My next question relates to
2 -- of course to the rolled joints, and if I could just
3 have some clarification of NB Power's figures on page --
4 their slide deck -- 11, 12 and 13 please. And maybe they
5 could -- maybe 11 could come up first. Thank you.

6 Could you repeat which is inboard and which
7 is inside the reactor and which is the outside the reactor
8 direction in that picture, please?

9 **MR. EAGLES:** For the record, Rod Eagles.

10 The orientation of the photograph where the
11 words "leak path" are written, that is inside the
12 calandria vessel and would be in operation. There would
13 be moderator water at that location.

14 The insert itself, the collar on the insert
15 which is shown on the left side of the photograph, that's
16 the outboard end, and that's inside the annulus between
17 that location, the end fitting and the fuel channel.

18 **MEMBER MCDILL:** Thank you.

19 On the -- on page -- on your slide decks
20 13, the same I'll call them bumps for the sake of
21 simplicity. So here we have on the right hand side of the
22 two -- the wire brush surface and the polished surface --
23 those two bumps on the right correspond to the location
24 near the annulus. Is that correct?

25 I'm trying to make the picture on 13 match

1 the ---

2 **MR. EAGLES:** Okay. In Slide A and in Slide
3 C the left hand of those photographs is toward the inboard
4 side of the moderator. The wide groove is towards the
5 inboard side.

6 **MEMBER McDILL:** And these are new calandria
7 tubes, is that -- that's correct?

8 **MR. EAGLES:** All of the -- well, these
9 photographs are of samples during the investigation
10 process in the lab.

11 **MEMBER McDILL:** Okay.

12 **MR. EAGLES:** These are of material of
13 similar metallurgical properties as the calandria tube
14 sheets. So this is the calandria tube sheet bore ---

15 **MEMBER McDILL:** Yeah.

16 **MR. EAGLES:** --- itself.

17 **MEMBER McDILL:** Sorry, what's the
18 approximate -- I assume A and C are, at least as printed,
19 one times magnification. What are B and D roughly?

20 **MR. EAGLES:** Unfortunately I can't read
21 that, and of course when you blow it up on the large
22 screen the magnification is very, very large.

23 **MEMBER McDILL:** I'm not asking for the
24 screen magnification. I'm happy with the paper
25 magnification but ---

1 **MR. EAGLES:** My recollection is that they
2 were in the order of 200 times but I would have to check.
3 I think in the full picture you can actually see that in
4 the writing. But unfortunately my glasses can't read that
5 fine print today.

6 **MEMBER MCDILL:** We share that then, I can't
7 read it at the bottom either.

8 So the -- what is the -- in 11 -- slide 11
9 then, what is the approximate dimension then of the
10 calandria tube sheet there, what's that? Because that
11 looks like a real object.

12 **MR. EAGLES:** This actually is also blown up
13 a bit -- that photograph. The width of the calandria tube
14 sheet is approximately one and a half inches, in that
15 order.

16 **MEMBER MCDILL:** So that's roughly two to
17 three times, somewhere in there, on the printed sheet.
18 Okay.

19 **MR. EAGLES:** About twice, yes.

20 **MEMBER MCDILL:** And what is the direction
21 of rolling -- where -- maybe a different way of saying --
22 where is the plastic deformation occurring?

23 If someone has a mouse there can maybe just
24 sort of mouse over it for me.

25 **MR. EAGLES:** Rod Eagles for the record.

1 If we could imagine inserting the first --
2 the calandria tube into the tube sheet bore, there is a
3 gap at an area of the wide groove and also in the outside
4 diameter of the calandria tube as well, as well as with
5 the insert. And the rolling principle here is to measure
6 the diameter of the bore, the thickness of the calandria
7 tube, and the thickness of the insert.

8 After subtracting all of the clearances
9 then the rolling deformation is to squeeze the insert to a
10 larger diameter by about 30 thousandths of an inch so that
11 the plastic deformation rolls the insert and the tube to
12 fit to match the profile of the bore. And also you can
13 see in the two narrow grooves that there's some plastic
14 deformation of the insert, not to the full depth of those
15 narrow grooves but down into those narrow grooves as well.

16 On the outboard end of the insert the
17 collar, you can see, is tilted there, so part of the
18 deformation as the insert is plastically deformed, it
19 grows in length as part of that rolling process. The
20 rollers that are used are across the full width of the
21 internal diameter of the insert.

22 **MEMBER McDILL:** And you're showing a leak
23 path from ---

24 **MR. EAGLES:** From ---

25 **MEMBER McDILL:** --- inside to outside,

1 basically.

2 **MR. EAGLES:** That is correct.

3 **MEMBER McDILL:** Along that ---

4 **MR. EAGLES:** Along the ---

5 **MEMBER McDILL:** Not ---

6 **MR. EAGLES:** --- surface of the ---

7 **MEMBER McDILL:** Right.

8 **MR. EAGLES:** --- tube sheet bore, and
9 between the tube sheet bore and the calandria tube, and
10 between the tube sheet bore and the insert itself.

11 **MEMBER McDILL:** And the wire brushing was
12 used successfully, I think your document said, at Bruce?

13 **MR. EAGLES:** Yes. Rod Eagles, for the
14 record.

15 The wire brushing was initially used at
16 Pickering in a single calandria tube replacement in, I
17 believe, 2008 -- 2007 or 2008 -- and so was adopted for
18 use at the Bruce station in order to remove oxides on the
19 tube sheet bore.

20 The success of the use of that wire
21 brushing method at Bruce led to its adoption in the CANDU
22 6 refurbishments for both Point Lepreau and for Wolsong.

23 Unfortunately, changes in the application
24 method with tooling led to a different outcome than was
25 experienced elsewhere where success had been achieved

1 using wire brushes for that purpose.

2 **THE CHAIRMAN:** Could you explain that? I
3 mean, we're talking about the same wire brush, I assume.
4 So what could -- why did it work in Bruce? Why doesn't it
5 work in here and Wolsong?

6 **MR. EAGLES:** Rod Eagles, for the record.
7 The tooling that was used at Bruce Power
8 had been adopted from tooling that was intended to machine
9 tube sheet bores in the event that that was necessary in
10 order to make good joints.

11 In the process of designing tooling for
12 Point Lepreau, because the tooling delivery mechanism is
13 different at the CANDU 6 units than it is at Bruce Power,
14 there wasn't, I guess, a sufficient recognition of some
15 changes in the tooling that might lead to a different
16 result. And obviously that's, you know, why we ended up
17 in this situation.

18 The speed was slightly different. The
19 amount of force or the ability to control the force at
20 which the brush was applied to the bore was different.
21 And the wire brush itself, although it's very similar in
22 nature, was slightly different than that used at Bruce.

23 The recognition that any of those
24 parameters could lead to a different result was not made
25 until, ultimately, the Wolsong project identified that

1 they had the same problems as Point Lepreau. And an
2 investigation at that point led to a very intensive piece
3 of work to conclude ultimately that it wasn't the rolling
4 process that was flawed; it was the base material of the
5 tube sheet bore that prevented us from making leak tight
6 joints.

7 **MEMBER MCDILL:** The tube sheet material is
8 different as well?

9 **MR. EAGLES:** Rod Eagles, for the record.
10 No, the tube sheet material is the same.

11 **MEMBER MCDILL:** So it's basically the
12 tooling and the brushes that are the cause of the issue.

13 **MR. EAGLES:** That is correct.

14 **MEMBER MCDILL:** And were these tooling
15 changes initiated at UNB, or elsewhere?

16 **MR. EAGLES:** Rod Eagles, for the record.
17 The tooling changes were designed by AECL
18 in their facilities.

19 **MEMBER MCDILL:** And your level of
20 confidence that this will go forward relatively seamlessly
21 now? No pun intended. Sorry.

22 **MR. EAGLES:** Rod Eagles, for the record.

23 The refurbishment work has proven to be
24 very challenging. I continue to be, I guess, concerned
25 that, as we continue to go through this process, there are

1 lots of opportunities for us to learn from others who have
2 gone before us and now, for us at Point Lepreau, we have
3 the opportunity to learn from the Wolsong project, which
4 has completed successfully installation of the calandria
5 tubes. And so our concern is that we continue to learn
6 from those who have gone before us.

7 They've also now, at Wolsong, completed the
8 installation of fuel channels and are in the process of
9 installing their lower feeder sections.

10 And so although there will be challenges
11 going forward, we believe that, where they gained from our
12 experience where we were first during the refurbishment of
13 the CANDU 6, that we will also gain from their experience.

14 And we've had people directly involved in
15 visiting the Wolsong site and now have people from the
16 Wolsong site at our station to help us with that
17 knowledge, To ensure that we have the best learnings
18 available to us to reduce incidents in the future.

19 **MEMBER MCDILL:** Thank you.

20 I haven't asked staff anything. Does staff
21 have anything to add to any of the questions I might have
22 asked?

23 **MR. WEBSTER:** Staff has no comments. Thank
24 you.

25 **THE CHAIRMAN:** Thank you.

1 Dr. Barriault?

2 **MEMBER BARRIAULT:** Thank you, Mr. Chairman.

3 First question, just of a general nature,
4 really, we keep hearing about the debt load associated
5 with the refurbishment. And I guess my first question,
6 really, is that will that impact at all in the funding of
7 decommissioning of the unit eventually?

8 **MR. THOMAS:** Gaetan Thomas, for the record.

9 No. In terms of recovering costs, we did a
10 lot of studying on what's the value, and in spite of the
11 over-runs, Lepreau is still the best option available and
12 we will recover costs so there will be no impact on, you
13 know, decommissioning.

14 Actually, we're looking now with the
15 quality we've put in there to see -- we'd like to get
16 closer to 30 years, and if we could reach close to 30
17 years then we'd be better than a 25-year with the original
18 cost. So this project is still a good bargain for our
19 customers and we will not have any impact and no concern
20 with supporting commissioning and decommissioning.

21 **MEMBER BARRIAULT:** Would CNSC staff care to
22 comment on this?

23 **MR. WEBSTER:** It's Phil Webster, for the
24 record.

25 The economics of nuclear power is not part

1 of our mandate so we don't normally get into that kind of
2 conversation.

3 **MEMBER BARRIAULT:** The funding for
4 decommissioning is not part of your mandate?

5 **MR. WEBSTER:** Excuse me. Of course that is
6 part of our mandate.

7 As is required by regulations, we have a
8 preliminary decommissioning plan and financial guarantee
9 and that is maintained by New Brunswick Power Nuclear, and
10 we are satisfied with the adequacy of that.

11 **MEMBER BARRIAULT:** Thank you.

12 Next question is from Document 11-H2.1A.
13 On page 4 of 15, status of activity listed in Appendix J
14 of the licence, it states in the first paragraph as a
15 general statement all commissioning activities are
16 expected to be completed by the end of March 2011. That's
17 this year. Is that correct?

18 **MR. EAGLES:** Rod Eagles, for the record.

19 The commissioning activity for those items
20 listed in Appendix J is expected to be, if not complete,
21 very near complete at that point in time. The work, as I
22 mentioned, is essentially complete with the exception of
23 the retubing activities.

24 There will be commissioning activities also
25 to be completed as we continue on in the run-up program

1 and the restart as systems become powered up and steam and
2 water become available, et cetera. So the dry
3 commissioning or cold commissioning, as some refer to it,
4 will be nearing complete at about that time.

5 **MEMBER BARRIAULT:** Appendix J states that
6 replacement of all 380 fuel channel assemblies, calandria
7 tubes and the entire length of connecting inlet and outlet
8 feeder piping from the end and fitting back to the area of
9 retube would be completed.

10 So what I'm hearing, then, is that you're
11 expecting the calandria tubes to be finished by March
12 2011?

13 **MR. EAGLES:** No. Rod Eagles, for the
14 record.

15 I'm sorry. I was suggesting that with the
16 exception of those activities on the re-tubing which will
17 extend out to late this year actually, in early 2012, all
18 of the other activity would be complete and as we continue
19 on with the completion of the re-tubing activities.

20 Sorry and thank you for the clarification.

21 **MEMBER BARRIAULT:** Thank you.

22 Next question deals with calandria tube --
23 calandria vault ruptured disc; it's on page 5 of 15. It
24 says ruptured disc has been installed in the inspection
25 port of the calandria. What is the function of these

1 discs?

2 **MR. EAGLES:** Rod Eagles, for the record.

3 The calandria vault is a vessel that
4 surrounds the actual calandria vessel. It's filled with
5 light water as part of a biological shield. In the event
6 of certain low probability events where heat could be
7 released to that area the rupture discs have been added to
8 protect the vessel itself and to ensure that it would --
9 would rupture the rupture discs and vent to the internal
10 reactor building atmosphere without damaging the integrity
11 of the vessel.

12 **MEMBER BARRIAULT:** So they're a safety disc
13 if I understand correctly?

14 **MR. EAGLES:** They are; they are an
15 improvement in safety, yes.

16 **MEMBER BARRIAULT:** Okay. The next question
17 is the -- two items down from that, the main control room
18 ventilation filter -- what are the function of these
19 filters? What is it that they're filtering?

20 **MR. EAGLES:** Rod Eagles, for the record.

21 Later CANDU-6 designs had included a
22 special filtration for the control room, in the event
23 again of a low probability incident where radioactive
24 releases were discharged from the building in an accident
25 situation.

1 And of course the importance of being able
2 to maintain habitability of the control room is key to
3 being able to continue with monitoring of the station and
4 so this filter installation is consistent with some of the
5 newer designs.

6 **MEMBER BARRIAULT:** So on the original
7 design the filtration system was not installed if I
8 understand correctly?

9 **MR. EAGLES:** In the original design this
10 type of filtration was not designed; there was just a
11 standard type of ventilation for the control room.

12 **MEMBER BARRIAULT:** The emphasis for this
13 filtration system came from who? Did it come from CANDU
14 or from CNSC?

15 **MR. EAGLES:** Rod Eagles, for the record.

16 As we undertook in the early days of this
17 project to do condition assessment and evaluate design
18 changes that had been made with newer versions of the
19 CANDU-6 reactor this was one item that had been designed
20 or had been raised as a safety feature of later designs.

21 And so as we looked at opportunities for
22 expansion of defence in-depth we thought that this was an
23 appropriate change to make and included that in our
24 original condition assessment as something that was
25 appropriate for us.

1 **MEMBER BARRIAULT:** Thank you.

2 Next point of clarification, if I can draw
3 your attention to 4.2 conventional safety occupational
4 health.

5 **THE CHAIRMAN:** Sorry, Dr. Barriault ---

6 **MEMBER BARRIAULT:** Yes?

7 **THE CHAIRMAN:** Sorry for the intervention
8 here but before we leave this list, I'm just trying to
9 understand. So if I understand what's going on here,
10 because of the longer outage than expected you're now able
11 to deal with all the improvement that you ever dreamed of
12 and presumably when you come back for renewal there will
13 be no backlog of issue that would require attention.

14 And CNSC, presumably for you, it mean that
15 all the stuff we wanted to see done in terms of
16 improvement will be done. There'll be no backlog I
17 thought I heard somebody saying; is that correct?

18 **MR. PARKER:** Wade Parker, for the record.

19 These changes that you have just been
20 making reference to -- these changes were all part of the
21 original plan for the refurbishment that was to take
22 place.

23 We are now completing those; the
24 commissioning is being completed as Rod has suggested --
25 what we can do now for cold commissioning. When I spoke

1 earlier about the maintenance, we are monitoring our
2 backlogs. We will have that at a point that we feel is
3 acceptable prior to restart before we come before the
4 Commission again.

5 My intent of the slide was to make you
6 aware of some of the additional work that we have had to
7 pick up to make sure that we are safely addressing the
8 station so that when we do come back to the Commission for
9 the reload hearings, those issues will be in hand.

10 **THE CHAIRMAN:** So staff, just so we're
11 absolutely clear, so then we now got an extension for one
12 year being proposed. Then during that year all the other
13 improvement or, you know, that we would have liked -- that
14 you would have liked to have seen you have a chance to
15 make sure that it's being done, right?

16 **MR. WEBSTER:** It's Phil Webster.

17 That's correct, Mr. President. It's not
18 just improvements we would like to see, it's improvements
19 that are required to be done which are the ones listed in
20 Appendix J of the licence and we would not be recommending
21 Commission to approve fuel loading unless all of those
22 have been done.

23 What NB Power Nuclear is speaking of, just
24 to re-emphasise, is the backlog of corrective maintenance
25 work orders which every nuclear reactor has and separately

1 from Appendix J staff routinely monitors the level of this
2 backlog and we know what good practice looks like.

3 **THE CHAIRMAN:** Okay, thank you.

4 Dr. Barriault?

5 **MEMBER BARRIAULT:** Thanks, Mr. Chairman.

6 The next question is on 4.2, page 8 of 15
7 in the same document regarding health and safety. And
8 your second paragraph says:

9 "Disabling injury is defined as an
10 injury that prevents an employee from
11 reporting for work or from effectively
12 performing all the duties connected
13 with the employee's regular work."

14 I guess what I'm wondering really is if
15 somebody is involved in modified work as a result of an
16 injury is that considered a loss of time in your
17 statistics or is it not?

18 **MR. EAGLES:** Rod Eagles, for the record.

19 We don't report that as a lost time injury
20 but we do record that as a restricted work injury and so
21 those statistics are now included in the accident severity
22 rates that are there. And for that reason as we modified
23 our reporting program to our interpretation of S-99 this
24 is what's changing, the severity rate numbers that are
25 shown on the previous page.

1 **MEMBER BARRIAULT:** Thank you.

2 I actually want some clarification on that.
3 The next question is radiation protection, 4.3. It says
4 that 95 percent of your doses are less than 3.6 on the
5 average millisievert. What's the other 5 percent? Are
6 they above that or not part of the average?

7 I guess I'm not clear on what that means
8 really for the year 2010. In your chart you say top five
9 doses and then the next column you say "95 percent of dose
10 less than...", so there's 5 percent missing somewhere so I'm
11 not sure where they are.

12 **MR. HICKMAN:** For the record, my name is
13 Charles Hickman. I'm the Manager of Health Safety &
14 Environment.

15 The table combines really two separate
16 looks at radiation doses. The top five doses, we are on a
17 regular basis review to see if any individuals are
18 receiving higher than expected doses and so with staff as
19 well we regularly review individual doses.

20 So the second column, the top five doses,
21 we're just keeping track of individual -- I say high dose
22 numbers and that column indicates that really across the
23 entire 2006 or 2010 period individual doses have been
24 maintained well with any -- or within any levels of
25 concern.

1 **MEMBER BARRIAULT:** But it states -- I'm
2 sorry, go ahead.

3 **MR. HICKMAN:** The last column, "95 percent
4 of doses less than" is to give you some indication of the
5 quartile spread of doses which is to indicate that
6 although you may have some small number of individuals
7 with higher doses the vast majority of workers, radiation
8 workers at site are receiving very, very low doses which
9 really reflects the facts it's a small number of workers
10 who are working in the high fields or in the high hazard
11 work and those are the ones that we focus on to ensure
12 there are no issues in terms of personnel doses.

13 **MEMBER BARRIAULT:** So I'm still not clear
14 of where that remaining 5 percent fits into.

15 **MR. HICKMAN:** Do you mean 5 percent -- if I
16 take 2006, the remaining 5 percent would have doses above
17 4.4 millisieverts and there are still -- so they would be
18 included in -- some of those would be included in maybe
19 the 12.1, the 10.7 individual doses.

20 **MEMBER BARRIAULT:** Okay. But are they part
21 of the average or you just base the average on 95 percent
22 of the lowest ones that you test; the higher ones are not
23 fitted into your average?

24 **MR. HICKMAN:** So yes they are included in
25 the average.

1 **MEMBER BARRIAULT:** Okay. Okay.

2 That's all for this round, Mr. Chairman.

3 **THE CHAIRMAN:** Okay, thank you.

4 **MEMBER BARRIAULT:** Thank you.

5 **THE CHAIRMAN:** Mr. Tolgyesi?

6 **MEMBER TOLGYESI:** Merci, Monsieur le
7 président.

8 I am just going back to this question, when
9 you are saying 95 percent of those is less than, it is not
10 an average. It is 95 percent less than that value. It is
11 not an average.

12 **MR. HICKMAN:** Charles Hickman, for the
13 record.

14 That is correct.

15 **MEMBER BARRIAULT:** Okay.

16 **THE CHAIRMAN:** Okay, just to simplify the
17 math; the unfortunate thing it says here "top five"; those
18 are five people; right? Those five people, what percent
19 of the population is it? What percent of the 5 percent is
20 it? So we can understand, the 5 percent, I assume from
21 this table, got a dosage above 3.6. I am looking at 2010
22 data. So 5 percent of employees got more than 3.6
23 millisieverts; that is what your table says. Out of those
24 5 percent, 5 of them got the following dosage. Remaining
25 -- okay, unknown is how many? Everybody got my math here?

1 **MR. HICKMAN:** Charles Hickman, for the
2 record.

3 Those five individual doses in 2010 would
4 be five individuals of a total population who -- on dose
5 records of around 3,000 to 3,200 people so that is 5
6 individuals out of our radiation-worker database who had
7 those doses.

8 **THE CHAIRMAN:** Sorry, I missed it. Five
9 percent of ---

10 **MR. HICKMAN:** Five (5) individuals. Now,
11 we have approximately 3,000 people on dose records so that
12 would be significantly less than 1 percent.

13 **THE CHAIRMAN:** Okay. So the remaining --
14 so there is 4 percent that are between 6.5 and 3.6. Did
15 we all get this right? It will be a simple way to clarify
16 this table so there will be no mistake here.

17 **MR. HICKMAN:** Charles Hickman, for the
18 record.

19 That is correct.

20 **THE CHAIRMAN:** Okay, thank you.

21 **MEMBER TOLGYESI:** Which means when you are
22 talking about 3,000 people, 5 percent is 150. Of these
23 150, 5 were these doses of 9, 7.1, 6.9 et cetera. That is
24 how you understand that?

25 **MR. HICKMAN:** That is correct.

1 **MEMBER TOLGYESI:** Okay.

2 Now, when you are looking at the same
3 table, 95 percent of doses -- you know, less than doses
4 are 4.44; 14.4 in 2008. That 14.4 which it is a kind of
5 surge at one moment. It was prior to outage or after the
6 outage? because, you know, during operations it was lower
7 in 2006 and 7.

8 **MR. HICKMAN:** Charles Hickman, for the
9 record.

10 Two thousand eight (2008), as you know, is
11 when we started the outage.

12 **MEMBER TOLGYESI:** Yes.

13 **MR. HICKMAN:** The higher numbers on both
14 the individual doses and the higher numbers from the point
15 of view of the 95 percent less than is higher because it
16 reflects the outage activity that was ongoing at the time.
17 And for 2008, that was largely the removal of the feeders
18 which is a very labour-intensive and manual process and it
19 reflects the activities during the outage.

20 **MEMBER TOLGYESI:** Okay, I will go back a
21 little bit to that section on Health, Safety and
22 Environment. Is -- you were saying that about at the peak
23 it was about 2,800 people who were working on the site.
24 That includes your staff or except your staff?

25 **MR. EAGLES:** Rod Eagles, for the record.

1 The peak numbers that I referenced in my
2 presentation included the NB Power staff which for
3 reference here are about 900 persons directly employed to
4 NB Power plus supporting contractors and staff around
5 1,100 to 1,200 people. The remainder are contractors and
6 including trades people and their supervision and safety
7 people et cetera.

8 **MEMBER TOLGYESI:** Now, what you were saying
9 that -- when you were discussing this disabling injury, it
10 is an injury that prevents employees from reporting to
11 regular work or lost-time accidents? Now, accidents they
12 were increased because you were including this modifying
13 assignments in that, but you don't report that in the
14 stats. Modified assignments, they are not in lost-time
15 injuries because, you know, when somebody does not -- is
16 not able to do his regular work, okay, it could be lost-
17 time accident because he is out of work or a modified --
18 and in lots of industries now what they do, they join both
19 of those because they reflect a situation where the
20 employee is unable to do his regular work. It is only --
21 you know, the industry is trying to keep -- and I think
22 working compensations boards also -- to maintain this
23 relation of work relation between the employee and
24 employer to make sure that it helps to come back -- to
25 come back to the work. So that is why I think you --

1 maybe you should consider this because it reflects a
2 position or situation where employee is out of his regular
3 role, whatever he is doing. Sometimes he could do
4 something which is useful which is modified, or cannot
5 which is lost-time accident.

6 And have you integrate -- have you
7 integrate this, for example, high-doses exposures; where
8 they are if somebody cannot perform his work because he
9 received a higher dose.

10 **MR. EAGLES:** Rod Eagles, for the record.

11 If I can perhaps just restate the questions
12 that were asked? I think the first question was, could we
13 combine the reporting of restricted work injuries and
14 lost-time injuries as it -- as it, you know, reflects --
15 as what similar is being done elsewhere in the industry.

16 The second part of that question is with
17 respect to individuals receiving high-radiation dose and
18 are they -- have they been restricted from their normal
19 work function.

20 So for the first question, the table here
21 is, in fact, exactly as you have suggested; a compilation
22 now of both lost-time injuries and restricted work
23 injuries and so it is sort of a more comprehensive measure
24 of the impact that we are having with employees.

25 NB Power is a very safety conscious

1 organization and have programs to ensure that their
2 employees can continue to contribute to the workplace even
3 if they are unable to contribute at the level that perhaps
4 they normally would; and in fact that goes beyond just
5 injuries at work, but also deals with workers who may be
6 suffering from an illness and are unable to fulfil some of
7 their normal work functions and the heal process, as we
8 call it, is a part of our work that we are doing with our
9 supervision and our EFAP Program to engage employees and
10 have them back in the workplace. As you just mentioned,
11 keeping engagement with employees helps to ensure that
12 they can return to their normal work function very much
13 earlier.

14 Also, I should mention and that is that --
15 is that many of the employees who may be identified on
16 restricted work are continuing to fill very valuable roles
17 at the station and for instance, when -- if I would use an
18 example of an individual with specific skills and
19 knowledge may have turned his ankle as part of a training
20 exercise. He's still able to fulfil many important roles
21 in the plant that just don't require him to be up and
22 walking or running about, so in those cases, you know, we
23 try to find opportunities for people to contribute at the
24 -- at the highest level that is possible given their --
25 given their state.

1 In respect to the question regarding
2 radiation dose, I am not aware of any instance where we
3 have -- where we have had people put on a restricted work
4 program as a result of radiation dose. There are, of
5 course, in the execution of the work a large number of
6 contractors that are employed by -- by contract trades
7 people employed by our contractors to do -- to do specific
8 work and there's many opportunities for people to
9 contribute not just in the areas of the reactor building
10 and the work that involves some of the higher radiation
11 activities.

12 So I'm not aware of any that have been
13 reported as restricted work injuries as a result of
14 radiation dose.

15 **MEMBER TOLGYESI:** Coming back just to
16 complete my comments.

17 You know, when you are talking accident
18 frequency is restricted to lost time injury, when you are
19 talking accident severity, it includes modified work
20 assignments. It's kind of to be consistent -- you know,
21 mix up apples and oranges to some extent because it
22 presents that per-accident severity -- it's per accident.
23 It's so many days lost because of lost time accidents
24 which is not true, okay.

25 My other question is, these figures, do

1 they include contractors or anybody who is working on the
2 site?

3 **MR. EAGLES:** First, a clarification if I
4 might, and perhaps I wasn't clear.

5 The accident frequency rate also includes
6 restricted work injuries. And, yes, these figures do
7 include all contractors and that has highlighted to us an
8 opportunity for improvement.

9 It is very difficult to track all of the
10 contract people, in particular those that may only
11 periodically work on our site, and so we've identified
12 opportunities for improvement of how we receive and track
13 the statistics from those contractors.

14 **MEMBER TOLGYESI:** Now, you know on your
15 Slide 29 when you were talking about infrastructure
16 support and preventive maintenance plans, these laid-up
17 systems, running systems, future planned maintenance
18 outages in 2011 and 2013, did I understand well that some
19 of this future work what could be done because of delays,
20 you complete them right now?

21 **MR. PARKER:** For the record, Wade Parker.

22 That is a correct statement. With the
23 outage extension that we've had, we've had to look at all
24 opportunities, what we can do, what we can improve on. We
25 have had to address these. As you've clearly indicated,

1 the two outages that we originally had planned for 2011
2 and 2013, so that work -- we cannot allow a backlog to
3 build.

4 So we are addressing those issues, again,
5 to ensure that we are ready for restart when that time
6 comes.

7 **MEMBER TOLGYESI:** And so taking this in
8 consideration, what will be -- does this upfront work --
9 will it allow to reduce future downtimes and future
10 maintenance outages? What I mean in other words is that
11 do you believe that this additional work completed now
12 will shorten some future outages?

13 **MR. PARKER:** For the record, Wade Parker.

14 You know, with this outage extension it is
15 not the best place for us to be. However, we have
16 reviewed the work that is planned for future outages to
17 address to see if now is the right time to do it because
18 if we have an opportunity right now -- again, not the best
19 place to be -- but if there is an opportunity -- and we at
20 the station management level, we have reviewed work that
21 is planned for future outages.

22 Some of that work did move back into our
23 current window and we are looking at those opportunities
24 to see what is the best for us for health, safety and from
25 that side.

1 **MEMBER TOLGYESI:** And in the same order,
2 you were saying that -- if I remember -- that the turbine
3 rotor will be replaced in 2013 or 2014 maintenance outage.
4 Is it right?

5 That means that will extend that outage
6 because usually you expected to do it now. So on one side
7 you are talking about the gain, to some gain in the future
8 outages. And this time we are talking about a kind of
9 delay in outage.

10 **MR. EAGLES:** For the record, Rod Eagles.

11 You are correct that the installation of
12 two new turbine rotors to replace those which did get some
13 exposure to salt water will take place in a future outage
14 and that outage, as a result, has the potential to be
15 marginally longer than we would normally take during a
16 typical outage.

17 We had planned an outage in the order of 45
18 days to be our first outage post-refurbishment and so our
19 thoughts are that if we can have available to us the
20 replacement rotors -- and current timing is that they
21 would be available to us for 2014 if we chose to do it in
22 that window -- then we would execute that work during that
23 outage.

24 We believe with good planning that we will
25 be very close to fitting it in to the planned outage

1 window.

2 One example of work that had been planned
3 for a future outage was the replacement of condenser
4 tubes. We did identify some degradation on condenser
5 tubes during the outage. We identified that we would not,
6 in the original outage schedule, have a window to repair
7 those during the refurbishment outage and so we made
8 temporary repairs by installing inserts.

9 Well now with the extension of the outage,
10 we've looked at the potential to undertake the full
11 replacement of those condenser tubes during this
12 refurbishment as an opportunity to take pressure off a
13 future outage. And so we've looked at those opportunities
14 and are employing them, I guess, in the best place in
15 future plans.

16 **MEMBER TOLGYESI:** My last, Mr. Presenter,
17 is that -- you know, we were talking about delays of nine
18 weeks due to replacement of old tubes. You were talking
19 about -- at page 12 of current schedule -- what I think
20 that -- what you didn't include in your presentation -- it
21 would be very useful -- is a kind of Gantt chart.

22 Original -- this was our outage per task or
23 per major work. And delays, and because of these delays
24 this is what we postponed this work. So it will be
25 clearly stated what's there, where you are behind, where

1 you are up front, and it will be clear, you know, in one
2 picture. And I think that's missing here.

3 That's it, Mr. President.

4 **MR. EAGLES:** I can make a slight response.
5 It's Rod Eagles, for the record.

6 We did have some information like that
7 available to us and decided that perhaps in the interest
8 of brevity not to include it all. As a method of looking
9 at it, the original outage plan which was 18 months
10 included in the first phase of defueling and preparing for
11 the re-tubing, a two-month window. That work was
12 completed in two months.

13 For the next phase, the actual re-tubing
14 activity and inspection work and re-assembly, was
15 originally planned for a 13-month window. Unfortunately,
16 it appears that that timeline is expanded to approximately
17 48 months.

18 And the last phase of the run-up window,
19 which was originally planned for three months, we're now
20 including about a four-month window for that. It's
21 actually conservatively estimated at four months for that
22 run-up window, so it's about on track.

23 It's the course of the execution of that
24 refurbishment activity, the re-tubing activity, that's
25 created the challenge for us.

1 **THE CHAIRMAN:** I think Mr. Tolgyesi made
2 reference to the pretty chart you used to send monthly
3 about -- we got used to seeing you commenting and where
4 you were in this particular thing, that you may want to
5 start again now that you know where you're going?

6 Mr. Tolgyesi?

7 **MEMBER TOLGYESI:** And it will also -- by
8 adding these tasks what you are doing ahead, it will --
9 because you are quite behind the schedule. And I don't
10 think so the public opinion is quite satisfied with that,
11 but you should show also what you are doing, what you did,
12 where you are delayed, and what you do ahead.

13 **THE CHAIRMAN:** Okay. Monsieur Harvey?

14 **MEMBER HARVEY:** Monsieur Président.

15 I would like to come back to the schedule
16 of the events or activities in the future.

17 In this morning's presentation, you
18 mentioned that the approval to load fuel should occur next
19 fall, then the completion of re-tubing and fuel load in
20 May 2012, and the restart at the fall of 2012.

21 I'm a little bit mixed up with that. Who
22 gives the approval -- is the fuel loading part of the
23 refurbishment or the refurbishment has to be completed
24 before the fuel loading? And who gives the authorization,
25 the approval for the fuel loadings; is it the Commission

1 or it's part of the whole point that would be reviewed by
2 the staff?

3 **MR. WEBSTER:** Yeah, I think staff can
4 answer that.

5 **MEMBER HARVEY:** Maybe staff can answer
6 that.

7 **MR. WEBSTER:** It's Phil Webster, for the
8 record.

9 Yes, you're correct, Mr. Harvey. The
10 refurbishment must be completed before fuel can be loaded,
11 and it's the Commission that will give that approval.

12 **MEMBER HARVEY:** And the -- so when you'll
13 be here -- there will be a hearing to approve the fuel
14 loading and is your intention at the same time to have the
15 approval for the licence for the next five years or was
16 your intention to get the approval before the licence?

17 **MR. WEBSTER:** Staff's recommendation is
18 that the two decisions be made simultaneously; (1)
19 regarding the next licence renewal, and (2) regarding
20 permission to load fuel.

21 However, that is, of course, dependent on
22 the progress with the refurbishment. If for some reason
23 there are further delays, then there may need to be a
24 relicensing action separately from the fuel reload action.

25 But our current recommendation for

1 efficiency and effectiveness is that the two decisions be
2 subjected to the same pair of two-day hearings.

3 **MEMBER HARVEY:** Was your intention or the
4 intention of Point Lepreau to have the approval of the
5 five-year licence at the same time as the approval for the
6 fuel loading?

7 **MR. KENNEDY:** Yes. For the record, it's
8 Blair Kennedy, Vice-President of Nuclear.

9 NB Power can accept that recommendation
10 from the CNSC staff.

11 **MEMBER HARVEY:** If the -- if you got -- I
12 hope not, but if there is some other delays and it's
13 possible to get it fixed before the end of the extension
14 period, so you will need to have -- Point Lepreau will
15 need to have another extension?

16 **MR. WEBSTER:** Potentially so if that were
17 the case, yes.

18 **MEMBER HARVEY:** So just to close that, to
19 what degree you are confident that you'll make it?

20 **MR. THOMAS:** For the record, Gaétan Thomas.

21 We've certainly learned a lot, like our
22 project director has mentioned a number of times. We've
23 looked at the time sequences that was done in Bruce Power
24 and also in Wolsong, and when we revise our estimates we
25 had an independent oversight reviewing the work we've done

1 so that, you know, we would not, you know, be in a
2 position of, you know, over-promising and under-delivering
3 again.

4 So I think that our level of confidence has
5 raised significantly with the due diligence review that
6 the team, Rod's team, did and was reviewed by the whole
7 Board.

8 And so we feel, you know, cautiously
9 confident because with the nuclear world, you know, the
10 process that we're working through today is still a very
11 tricky process modifying you know, some surface on the
12 bores of the tube sheet.

13 So -- but the -- when you look at the
14 sequences and, you know, based on some recommendation here
15 from the Commissioners, we will put new milestones that
16 will show that there's sufficient time, based on other
17 experiences, to achieve those times.

18 So you know, between AECL and NB Power, you
19 know, there's some confidence that these new targets can
20 be met. And it was important to us to see that these
21 dates were realistic based on what the others had done at
22 other stations.

23 So we're not, you know, the first of a kind
24 on now doing the calandria tube installation and the
25 pressure tube installations, which will be the next two

1 critical phase. Fuel load is actually a fairly
2 straightforward process and we have some solid plans in
3 place for commissioning at NB Power.

4 So we are -- you know, again, we don't want
5 to be overly confident, but we certainly are confident
6 that the team has done a thorough review and tested the
7 schedule based on experiences at other stations.

8 **MEMBER HARVEY:** You also mentioned this
9 morning that the 60 percent of the systems were always in
10 operation and that 40 percent was in laid-off state.

11 What guarantee do you have that those
12 system -- some of those 40 -- those 40 percent of the
13 system have been in that state for quite a long period of
14 time and I suppose that some, if not many, of those
15 systems are normally under pressure, a certain pressure
16 and there is joints and seals and everything and that.

17 What is your confidence that when
18 everything will start that this fact will not put some
19 risk on the safety of the station?

20 **MR. PARKER:** For the record, Wade Parker.

21 Our plans to lay up the equipment follow
22 some very specific guidelines. We use the EQUIS Standard
23 to support laying up of systems. These are guidelines and
24 regulations -- or guidelines that are industry standards,
25 so we're using an external process; we're not using just

1 something that we created in-house.

2 Our process to lay up the equipments, we've
3 had independent engineering, third party review to ensure
4 that we haven't overlooked something. If there were any
5 gaps, we've closed them. And our plans on top of that,
6 where we can, our systems will be put in place six months
7 prior to where they are needed to support the run-up.

8 So there are various layers that we have
9 built in to address the very specific question that you
10 have because that is definitely a current concern that we
11 have.

12 So these systems, if we do bring them back
13 six months before and we do find some issues, even with
14 the planning, then we will have time to ensure that the
15 system is in the state where it needs to be to ensure that
16 safe and reliable operation of the station.

17 **MEMBER HARVEY:** We -- just turn to the
18 staff and ask, have you been monitoring those things?

19 You mentioned this morning that some
20 programs, you haven't been able to rate some programs, but
21 I suppose you kept an eye on those systems and the -- on
22 what has to be done to ---

23 **MR. RINFRET:** François Rinfret, for the
24 record. Director for G-II Point Lepreau.

25 Out staff at sites -- at site, our

1 inspectors at site helped with the specialists, have been
2 assessing all along this outage and have been monitoring
3 the capacities of the various functions at site.

4 Inspection reports are put together on
5 systems that are available, accessible and we are aware of
6 commissioning programs, condition assessment being done
7 prior but recommissioning programs to put all the system
8 back in order.

9 We received condition reports --
10 Commissioning reports, sorry, I'm forgetting the name --
11 on all of these systems that have returned to service
12 assessing, sampling, auditing and monitoring them to gain
13 our assurance that the process is well followed by Point
14 Lepreau.

15 That will be done throughout the phases of
16 -- and leading to fuel reload and of course the various
17 steps of restart.

18 Some of these systems, even though they're
19 maintained properly, will be subjected to testing as they
20 are returned to power and these reports would be made
21 available as under normal operation so inspectors will be
22 capable of monitoring the capability.

23 **MEMBER HARVEY:** Just one question about the
24 calandria tubes. In page -- think it's 3 of 15, just at
25 the bottom of the page, before the last paragraph.

1 **THE CHAIRMAN:** Three of 15 of which
2 document? This is the CNSC document?

3 **MEMBER HARVEY:** NB Power, H2 1a -- .1A.

4 The paragraph before the last, at the end.

5 "The calandria tubes are being removed
6 and stored on site solid radioactive
7 waste management facility. Once all
8 the calandria tubes have been removed,
9 the tube sheet bores will be polished,
10 then the new calandria tubes and
11 insert rings would be installed."

12 You're saying new calandria. Is this to
13 say that the other ones are just waste now; that's
14 completely new ones?

15 **MR. EAGLES:** Rod Eagles for the record.

16 That is correct. But the tubes that have
17 been removed now from the reactor, the first replacement
18 calandria tubes, have been cut in half and stored in the
19 solid radioactive waste management facility and new tubes
20 are now partially delivered to site and the remaining new
21 tubes will be delivered in time for the installation.
22 They are brand new.

23 **MEMBER HARVEY:** Okay. Are the old ones
24 considered as radioactive waste or just waste?

25 **MR. EAGLES:** Rod Eagles for the record.

1 The tubes that have just been removed from
2 the reactor have some level of contamination. They are in
3 themselves not radioactive. The ends of the tubes where
4 the roll joints were made would have some imbedded
5 contamination, fixed contamination, and so those pieces
6 have been cut off.

7 In order to expedite material handling in
8 the area of the service building where the tubes are
9 removed from the reactor building, it was decided that the
10 most expeditious management of these would be to just cut
11 them in half and to place them in the solid radioactive
12 waste storage. With some minor level of effort at a
13 future time these tubes could be removed and then
14 decontaminated without too much difficulty.

15 **MEMBER HARVEY:** So at the moment there is
16 not -- no impact on the space you have provided for the
17 first series that has been cut and stored there?

18 **MR. EAGLES:** Rod Eagles for the record.

19 The space that was designed and built by
20 AECL for the storage of re-tubing waste had the capacity
21 to store these calandria tubes. That's not to say that
22 any space that's used in the radioactive waste management
23 facility isn't important and valuable.

24 So we're looking at opportunities to
25 continue to remove waste from that facility as possible

1 and including activities that we took on before the
2 refurbishment, which was to look at how we could segregate
3 some waste that was there in the facility that could be
4 cleaned and removed. So the space is available.

5 Thank you.

6 **MEMBER HARVEY:** Page 10 -- 15 in the same
7 document, under public consultation, just a general
8 question. Reading that it appears to me that it's mostly
9 public information much more than public consultation.
10 I'm just asking the question to what degree there is some
11 input coming from the public in your decision or your
12 proclamation of the activities?

13 Because reading that it's quite general and
14 you say there has been some meetings but it's mostly
15 information.

16 **MR. EAGLES:** Rod Eagles for the record.

17 I'll start the response and perhaps may get
18 some additional support.

19 We've attempted to ensure that the
20 stakeholders that are in our local community and in the
21 region have an understanding of how we've moved forward on
22 the project. It's been a challenging process to keep
23 everybody informed of, you know, the continuing challenges
24 that we've had on the project itself.

25 We had a town hall type meeting here

1 recently that the message that we did receive from the
2 public was that it would be beneficial if there were
3 additional opportunities like that one to communicate with
4 them. And so we thank them for their input to that and I
5 believe it appropriate for us to take that advice and to
6 give them maybe additional opportunities for that.

7 So with respect to input to decisions that
8 we make during the project, that's a difficult place to
9 go. Certainly with respect to communication we're hearing
10 what they've said to us.

11 Our media in the local area is very
12 interested, of course, and the status of the project has a
13 large bearing on the population of New Brunswick. And as
14 Gaetan said, the generation from our facility powers about
15 30 percent of the in-province electricity and so the media
16 has been very interested.

17 And recently we had media representatives
18 at the station for a discussion of the challenges that
19 we've been faced with. And, in fact, as I mentioned
20 earlier, we took them into the reactor building, an
21 opportunity to see firsthand where the workers were
22 working and the complexity of the work to try and help
23 convey the message about the difficulty of doing this kind
24 of work and how NB Power is taking every effort to make
25 the work safe and to do it in a quality fashion to ensure

1 them that this plant will operate safely and reliably when
2 it returns to service.

3 We certainly, as I mentioned in my
4 presentation, are not happy at all with the progress of
5 schedule, nor is anyone in New Brunswick, but for us the
6 importance is safety and quality to ensure the reliable
7 operation of this plant and the safe operation of this
8 plant in the future.

9 There are opportunities for us to continue
10 to engage the public in further dialogue and to convey to
11 them some of the challenges that we've had.

12 **THE CHAIRMAN:** Colleagues, I am really
13 conscious about the time here. We need to move to the
14 intervention period. So one more question please.

15 **MEMBER HARVEY:** On Slide 32 you can see the
16 total radiation dose due to emission from Point Lepreau
17 Generating Station since 1986. It's 23.69 microseiverts.
18 Could you just say what it is exactly that 23.69? What
19 means total radiation dose?

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

22 **MEMBER HARVEY:** Page 32 -- slide 32.

23 **MR. HICKMAN:** As part of our licence and as
24 part of our commitment to the community and the public
25 there is a standard that we follow in terms of derived

1 release limits. The limits reflect a calculation of the
2 dose that somebody might receive if they were living in a
3 certain location. The calculation takes into account all
4 the food paths and all the pathways by which they could
5 receive some dose.

6 So, for example, in our location one of the
7 pathways would be through eating of seafood, molluscs,
8 seafood, fish, salmon, lobsters.

9 Another pathway would be if there are
10 atmospheric emissions that end up by simply saying grass
11 are consumed by cows and they go through the milk pathway
12 back into the individuals.

13 So we as a matter of course have defined
14 what the -- essentially the derived release limit would be
15 for that critical group. It's far, far below the
16 regulatory standards. And what we do every year is we
17 calculate, based on our known emissions from the station,
18 what the theoretical dose might be that an individual
19 would have taken.

20 So the number of 23.69 is the theoretical
21 dose that if you took the individual doses from each year
22 of operation -- so since 1983 -- if you totalled up all
23 those individual doses that an individual might
24 theoretically received, they may have received in theory
25 up to 23.69 millisieverts of dose -- sorry --

1 microseiverts of dose.

2 I think the important part here is that
3 when we're talking to the public and the community we try
4 to put that in context of other doses that they might
5 receive from non-Point Lepreau sources.

6 So, for example, in southern New Brunswick,
7 just living a normal day to day life if the station wasn't
8 there you would receive between two and five thousand
9 microseiverts of dose in one year. So 23 over 20-plus
10 years is compared to -- you know, up to 5,000 in a single
11 year.

12 Likewise, we try to compare it to the
13 medical doses you might take, say, from a single chest x-
14 ray where you might receive up to 70 microseiverts of dose
15 from a single medical check.

16 So the 23.69 is a calculated dose. Like I
17 say, it's posed against our limits and against natural
18 background to help educate the public to ensure that we
19 are operating in a very safe and protective fashion.

20 **THE CHAIRMAN:** Just to follow-up on this.
21 Is that a normal kind of indicators that -- is that a
22 cumulative effect-type measure? I have not seen this kind
23 of figures being reported on any other nuclear facility.
24 Is that kind of a normal way of doing it? Is it a good
25 indicator of the cumulative effect, if you like?

1 **MR. WEBSTER:** We have staff present in the
2 room, Mr. President, who can answer that, so I will ask
3 one of them to approach the microphone.

4 **THE CHAIRMAN:** Okay. Who wants to do that?

5 **MS. PURVIS:** For the record, Caroline
6 Purvis, Director of the Radiation Protection Division.

7 I would say the answer is no, typically, we
8 don't see the sum of operations over time, but I think for
9 the purposes of Point Lepreau's presentation they're
10 trying to provide a comparison in terms of other types of
11 exposures.

12 But I would, Mr. President, no, that's not
13 typical.

14 **THE CHAIRMAN:** Is it a good indicator of
15 anything, because it is comparing cumulative with annual
16 dosage?

17 **MS. PURVIS:** I'm going to ask Rao
18 Avadhanula to respond.

19 **MR. AVADHANULA:** Mr. President, my name is
20 -- for the record, my name is Rao Avadhanula.

21 You are correct. The annual summary report
22 of the environmental monitoring gives the public dose per
23 year, and here it is confusing to give, since '83, a
24 cumulative one; you are correct.

25 Now, what this gives is, if you see -- take

1 it for 27 years, it's about 23.69 which they are saying on
2 an average it's less than one microsievert per year per
3 critical does, which is a very small, small fraction of
4 the dose limit of a 1,000 microsieverts.

5 **THE CHAIRMAN:** Okay.

6 **MEMBER HARVEY:** But the individual would
7 have to be there at the same place since that time,
8 otherwise ---

9 **THE CHAIRMAN:** This is theoretical. It is
10 a theoretical calculation.

11 **MEMBER HARVEY:** Yeah.

12 **THE CHAIRMAN:** Right.

13 **MR. HICKMAN:** Charles Hickman ---

14 **MR. AVADHANULA:** Yes.

15 **MR. HICKMAN:** Just to confirm that, yes, it
16 is a theoretical calculation. It assumes you are,
17 basically, at the end point of those various pathways
18 continually for those years.

19 I would just -- one point of clarification.
20 Yes, in this presentation we've used the cumulative dose
21 compared to correctly -- as you point out -- individual
22 annual exposures.

23 When we are dealing with the public, we
24 have handouts -- I have one here for example -- that
25 actually lists the individual releases, theoretical

1 releases, on a yearly basis.

2 So one of our challenges is to try and put
3 into a visual presentation the annual release for last
4 year -- theoretical release -- is 0.17 microsieveverts. So
5 trying to put that in context visually has been a
6 challenge. That's why we went to this use of cumulative
7 -- yes, you're correct, it is cumulative on one hand and
8 annual on the other hand, but it's -- we share the exact
9 detail -- the details on an annual basis with the
10 community.

11 **THE CHAIRMAN:** Okay. Thank you. We need
12 to move on to the written submissions.

13 I would like to make the observation that
14 we read all the written interventions in detail.

15 So what we are going to do -- we've got a
16 quite long list here. Marc is going to take us through
17 this and whenever there is a particular question we want
18 to raise on a particular intervention, we will flag and do
19 that.

20 So, okay, Marc, over to you.

21 **MR. LEBLANC:** Thank you.

22 The first written submission is from Ms.
23 Paula Tippett, as outlined in CMD 11-H2.3.

24 Are there any questions from the
25 Commission Members?

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11-H2.3

**Written Submission from
Ms. Paula Tippett**

MEMBER HARVEY: Just one question. One point in the document is about the production weapons. To what extent CANDU reactor operations and activities can be linked to the production of nuclear weapons?

Is there any ---

THE CHAIRMAN: Staff?

MEMBER HARVEY: --- place, any link?

MR. WEBSTER: It's Phil Webster for the record.

There is no link.

MEMBER HARVEY: Thank you.

MR. LEBLANC: The next submission is from Mr. Ziggy Kleinau, as outlined in CMD 11-H2.4.

Any questions.

11-H2.4

**Written Submission from
Mr. Ziggy Kleinau**

MEMBER McDILL: Thank you.

1 With respect to the comments with fish
2 farming and tritium, the sampling wells that the
3 intervenor is referring to, where are they located?

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

6 If you can just bear with me for one
7 moment, I'll look for the report.

8 **MEMBER McDILL:** It just says "Point Lepreau
9 test wells in the neighbourhood".

10 I'm not sure if they're on site, off site.
11 You'd have to connect by the number that's given there,
12 the 40 becquerels per litre and the 6.4.

13 **MR. HICKMAN:** The 40 becquerels per litre
14 for tritium is, I believe, an off site well. It's not on
15 site. And it's possibly worth noting that our pre-
16 operational data, which obviously was before we had any
17 activity on site, we were also able to identify and find
18 tritium in the wells at that time as well, some as high as
19 this or higher than this.

20 **MEMBER McDILL:** Thank you.

21 And staff in New Brunswick -- well,
22 federally and in New Brunswick, what are the standards for
23 drinking water?

24 **MR. WEBSTER:** I will ask Dr. Mike Rinker to
25 reply to that question.

1 **MEMBER McDILL:** I know what they are
2 federally. It's more if New Brunswick is using the same
3 data.

4 **DR. RINKER:** Mike Rinker, for the record.
5 I'll comment. Federally, the drinking
6 water guideline is 7,000 becquerels per litre.

7 And if I could, there's -- I'd like to
8 point out one error in this intervention where it mentions
9 that in the neighbourhood contains as high as 40
10 becquerels per litre and then makes a comparison to the
11 highest near Pickering at 6.4 becquerels per litre. We
12 know near the facility at Pickering it's much higher than
13 that.

14 **THE CHAIRMAN:** But ---

15 **MEMBER McDILL:** And do you agree that
16 background in the area of Point Lepreau has been 40
17 becquerels per litre for some time, over time, before
18 operation?

19 **DR. RINKER:** Mike Rinker, for the record.
20 There are some data to support that.
21 Background could be as low as 3, 4 and 5 becquerels per
22 litre.

23 Nevertheless, 40 is a very low number.

24 **MEMBER McDILL:** Thank you.

25 **THE CHAIRMAN:** Mr. Tolgyesi?

1 **MEMBER TOLGYESI:** Yes. The same -- before
2 last -- the second before last paragraph -- the New
3 Brunswick sole nuclear reactor DRL is 16 million
4 becquerels, almost 3 times as for Ontario and Quebec
5 nuclear reactors. Do you have any comment, staff, on
6 that?

7 **MR. AVADHANULA:** Commissioner, for the
8 record, my name is Rao Avadhanula.

9 The DRL for the Point Lepreau is 1.6 to the
10 power of 19 becquerels per annum. The derived release
11 limits are derived -- emission limits -- are expressed as
12 becquerel per annum. We do not know at this time where's
13 the source of this information for the intervenor. I
14 think it could be a typo or something, but it is not per
15 litre. The DRLs are always given the total number.

16 **MEMBER TOLGYESI:** Okay.

17 And when you compare these limits against
18 DRLs compared to Ontario and Quebec is the same? It's not
19 three times; whatever is the measure, you know, unit?

20 **MR. AVADHANULA:** For the record, it is Rao
21 Avadhanula.

22 DRLs are unique to each site because this
23 is the estimation of the dose to a member of the public in
24 the vicinity. So the pathways through which the radiation
25 could be migrated and to reach the critical person, there

1 are different circumstances in the environment and the
2 pathways are different from location to location, but in
3 general they are within the same orders of magnitude.

4 **THE CHAIRMAN:** So can you give us a clue
5 what is the number? What is the DRL for Ontario, Quebec
6 and New Brunswick? Anybody knows them off the top of
7 their head?

8 **MR. WEBSTER:** May I try the layman's
9 interpretation, Mr. President.

10 The DRLs are derived in order to
11 demonstrate that no member of the public will receive a
12 dose in excess of the permitted level. So it does vary
13 station by station, but the intent is that nobody is over-
14 exposed.

15 **THE CHAIRMAN:** We got that. I am trying to
16 get a comparison between the three sites so people get a
17 feel to the variation.

18 **MR. AVADHANULA:** For the record, Rao
19 Avadhanula again.

20 In Ontario, there will be in the order of
21 -- 16 to 17 per annum.

22 **THE CHAIRMAN:** And in Quebec?

23 **MR. AVADHANULA:** Pardon me?

24 **THE CHAIRMAN:** Sorry, I am looking for
25 three numbers; Ontario, Quebec, and New Brunswick.

1 Anybody know that?

2 **MR. WEBSTER:** May I suggest, Mr. President,
3 we get the information and reply to the Commission this
4 afternoon at the meeting.

5 **THE CHAIRMAN:** Okay.

6 **MR. WEBSTER:** Just for clarity, it is five
7 numbers because there isn't one for Ontario; there is one
8 for each station in Ontario.

9 **THE CHAIRMAN:** Okay, any other questions?

10 **MEMBER TOLGYESI:** And one more. On that
11 second page; one, two, three, four, fourth paragraph was
12 talking about strikes at large airlines from terrorists
13 and they said these requirements have been instituted in
14 new refurbished reactors projects in Europe and the United
15 States. What is the difference what you require here and
16 what they require in these two jurisdictions?

17 **MR. WEBSTER:** I think this would require a
18 description *in camera*, Mr. President.

19 **THE CHAIRMAN:** I -- well, again correct me
20 -- first of all, in the statement, "This requirement has
21 been instituted in new and refurbished reactors in
22 Europe"; is that not a publicly known fact whether it is a
23 yes or no? Anybody?

24 **MR. WEBSTER:** I am going to ask Mr. Grant
25 Cherkas of our Engineering Design Assessment Division to

1 respond to that question.

2 **MR. CHERKAS:** For the record, my name is
3 Grant Cherkas. I am the Acting Director for Engineering
4 Design Assessment Division. I am also the Fire Protection
5 Technical Specialist who has been project managing large,
6 commercial airplane crash issues for staff.

7 The intervenor talks to both refurbished
8 and new in the intervention. There are requirements in
9 other jurisdictions for mitigating such terrorist attacks
10 from a -- for a new design basis. For the existing
11 operating plants, different jurisdictions have taken
12 different approaches to require either assessments or have
13 alternate measures in place.

14 In Canada, following the events of
15 September 11th, the CNSC staff directed operators to
16 provide a detailed analysis and assessments of the
17 consequences and the vulnerabilities at their facilities.

18 **THE CHAIRMAN:** Okay, without going into
19 details, all I was looking for is whether we are
20 consistent in Canada with international practices. That
21 is really all I am looking for.

22 **MR. CHERKAS:** For the record, Grant
23 Cherkas.

24 Practices in Canada closely align those in
25 the United States. There are some differences with either

1 jurisdictions in Europe and there is -- there is a bit of
2 a variation when you start talking about Europe.

3 **THE CHAIRMAN:** Okay, thank you.

4 Mr. Tolgyesi?

5 Anybody else?

6 I have just got to -- there is also on the
7 same page, there is a comment -- I think it is one-before-
8 the last paragraph that there is not -- there is
9 insinuation that there may not be enough space to store
10 waste for 30 years moving forward. Can anybody comment?
11 NB Power, can you comment on that; whether you have
12 sufficient space on site to deal with any nuclear waste?

13 **MR. EAGLES:** If I can read correctly, the
14 comment was with respect to used fuel. And used fuel as
15 it is removed from the reactor stored in our spent fuel
16 bay for a period of approximately seven years at which
17 time it is cool enough then to be stored in the onsite dry
18 canisters.

19 As part of the refurbishment project, we
20 expanded the location at our solid rad waste management
21 facility to house additional canisters that would be used
22 for dry used fuel storage over the longer term of the
23 plant. These canisters that store the used fuel are built
24 on an as-needed basis, And so about every four or five
25 years we have a program of construction of new canisters

1 and as I mentioned, the expansion of the area which would
2 house additional canisters for fuel was completed as part
3 of the refurbishment activity.

4 **THE CHAIRMAN:** Thank you.

5 Mark?

6 **MR. LEBLANC:** The next submission is from
7 the Atlantic Nuclear Services as outlined in CMD H2.5.

8
9 **11-H2.5**

10 **Written submission from**
11 **Atlantic Nuclear Services**

12
13 **MR. LEBLANC:** Any questions? Dr.
14 Barriault?

15 **MEMBER BARRIAULT:** Thank you, Mr. Chairman.
16 Can somebody from the CNSC explain what is
17 an impairment manual? It is in the second-last paragraph
18 of the intervenor's letter.

19 **MR. RINFRET:** François Rinfret, for the
20 record.

21 The impairment manual is part of a -- all
22 of the load of operating documentation available to the
23 operator family within the control room. And the aim of
24 the manual; describes the actions to be done, the
25 description of potential availabilities of equipment and

1 what to do about this in the context of events --
2 unplanned events, and even requested maintenance to be
3 done on certain equipment. So the purpose ---

4 **MEMBER BARRIAULT:** I'm sorry. It deals
5 with impairment of the reactor rather than impairment of
6 individual operators. Is that correct?

7 **MR. RINFRET:** François Rinfret.

8 It deals with impairment of equipment
9 systems, functions in an ergonomic way to allow the
10 operator to quickly focus on what needs to be done in
11 order to protect availability of his plant or her plant.

12 **MEMBER BARRIAULT:** Thank you.

13 **THE CHAIRMAN:** Thank you.

14 **MR. LEBLANC:** The next submission is from
15 the town of Grand Bay-Westfield as outlined in CMD 11-
16 H2.6.

17

18 **11-H2.6**

19 **Written submission from the**

20 **Town of Grand Bay-Westfield**

21

22 **MR. LEBLANC:** Any questions? Go ahead.

23 **MEMBER BARRIAULT:** Just one brief question.

24 I am not clear of what kind of alarm system that you have
25 located in these communities associated with the

1 evacuation in the event of an incident. Maybe somebody
2 could explain to me if there is evacuation plans and alarm
3 systems associated with these communities?

4 **MR. HICKMAN:** Charles Hickman, for the
5 record.

6 Yes, as part of our normal planning
7 process, we have a very good working relationship with the
8 provincial Emergency Measures Organization. As part of
9 that, there is a notification process that is in place,
10 given the location and the distribution of the population
11 in the area, focuses on the 20 kilometres immediately
12 around the station, but the EMO side of life Provincial
13 Preparedness Plan does roll out beyond the 20-kilometre
14 zone. So there is a notification process in place that
15 the province effectively manages and runs, but we
16 interface very closely with them with regards to emergency
17 planning.

18 **MEMBER BARRIAULT:** Is CNSC staff satisfied
19 with the system that is in place?

20 **MR. WEBSTER:** We have a colleague in the
21 room from our Emergency Measures Division. I will ask him
22 to respond.

23 **MR. SANDLES:** For the record, my name is
24 Jim Sandles with Emergency Management.

25 As part of the whole Emergency Preparedness

1 Program, NB Power is required to interact with the
2 provincial authorities to come up with appropriate plans.
3 There is -- we do review these regularly and in fact, just
4 as an aside, our MPD staff is meeting with NBMO today to
5 discuss ongoing matters of interest, but -- so we do
6 review it. We do verify that there are plans in place and
7 we are satisfied.

8 **MEMBER BARRIAULT:** Thank you.

9 **MR. LEBLANC:** The next submission is from
10 Atwater Seafoods Limited as outlined in CMD 11-H2.7.

11
12 **11-H2.7**

13 **Written submission from**
14 **Atwater Seafoods Ltd.**

15
16 **MR. LEBLANC:** Any questions?

17 **MR. HARVEY:** Yes, on page 2 under Number 2,
18 "Area Cooperation and Security":

19 "The ongoing cooperation between the
20 fishing industry and the Point Lepreau
21 Generating Station...to become the
22 extra eyes and ears for added security
23 in this area."

24 Is that a formal agreement between the
25 fishermen and Point Lepreau or do you have any comment

1 about that?

2 **MS. DUGUAY:** Kathleen Duguay, for the
3 record.

4 We have a very open and transparent
5 relationship with our communities and the Bay of Fundy is
6 basically occupied by most of the fisherman in that
7 community and they're very protective of Point Lepreau.

8 So in addition to our security that we have
9 at the station they claim that they have the eyes and ears
10 and if they see any boat that doesn't belong in those
11 communities or any presence of equipment or material that
12 they don't feel they're familiar with they usually consult
13 with our security department to ensure that it's not an
14 impediment to our plant.

15 So it is not a contract; it is an informal
16 agreement and we're very comfortable with that.

17 **MEMBER HARVEY:** Thank you.

18 **THE CHAIRMAN:** Any ---

19 **MEMBER BARRIAULT:** Just one more brief
20 question.

21 With the seafood industry has sampling been
22 done of the shellfish and the fish farms in the area in
23 terms of contamination?

24 **MR. HICKMAN:** Charles Hickman, for the
25 record.

1 As part of our ongoing environmental
2 radiation monitoring program that we started back in 1976
3 there is regular sampling of many different types of
4 seafood.

5 Several thousand -- well, we've done over
6 38,000 samples over the years, so yes, there's regular
7 sampling. It has not identified any issues related to
8 emissions from the station. The food is all safe to eat.

9 **MEMBER BARRIAULT:** Thank you.

10 **THE CHAIRMAN:** Is it shared with the
11 public.

12 **MR. HICKMAN:** Yes, we have -- there's an
13 annual report that's issued. A summary is issued and is
14 shared with the Community Liaison Committee.

15 When we have -- if I go back over time
16 we've had presentations and summaries issued in
17 newsletters that have gone out from the station; reports
18 issued to the libraries and to the provincial government
19 as well.

20 So the report gets very wide circulation.
21 It is available; I have a copy here.

22 **THE CHAIRMAN:** It's not posted -- is it
23 posted on your website?

24 **MR. HICKMAN:** I think at this moment I'd
25 have to say no, sir, it's not. It's a technical document;

1 it's unilingual at the moment. We do -- when people
2 request it we can make it available.

3 **THE CHAIRMAN:** Thank you.

4 Marc?

5 **MR. LEBLANC:** The next submission is from
6 the Conservation Council of New Brunswick as outlined in
7 CMD 11-H2.8.

8
9 **11-H2.8**

10 **Written submission from**
11 **the Conservation Council**
12 **of New Brunswick**

13
14 **MR. LEBLANC:** Any questions?

15 **THE CHAIRMAN:** Monsieur Tolgyesi?

16 **MEMBER TOLGYESI:** On page 2 of this
17 presentation and before last paragraph, the intervenor is
18 talking about discrepancy in the heavy water inventory;
19 lots of heavy water during the process -- draining
20 process. NB Power write down 3.9 million worth of missing
21 heavy water.

22 Could you comment on that?

23 **MR. PARKER:** For the record, Wade Parker.

24 The question about missing heavy water, I
25 want to clarify this. Thank you for asking this question.

1 When the heavy water systems were filled
2 initially in the station there were some tracking errors.
3 It was not tracked well.

4 So the numbers that we carry for a physical
5 detool inventory was based on some calculations in our
6 systems.

7 Now, this time when we were preparing for
8 refurbishment, when we drained the entire systems we know
9 exactly how much heavy water that we have.

10 Now, there may have been some pockets of
11 heavy water. I mentioned earlier we drained, we dried
12 systems, just a small, small bit of that water, but what
13 we found was there was a difference between what the
14 theoretic number was and the real number was.

15 So we did have to write down 3.9 million in
16 regards to inventory that we thought we had, we did not
17 have that; that was not a real number.

18 **MEMBER TOLGYESI:** So how you will prevent
19 in the future that it will not happen again? Now you know
20 how much you will fill and how you will control that,
21 those losses, potential losses.

22 **MR. PARKER:** Yes, those -- the number that
23 we will have when we fill the systems this time, we will
24 know to a very fine number that will -- that will be a
25 difference this time than when we initially filled the

1 systems. We will know exactly how much detool inventory
2 we have in our station.

3 **MEMBER TOLGYESI:** You could -- you could
4 follow that so at any moment you know how much is in the
5 system and potentially what's the loss, if there is a
6 loss?

7 **MR. PARKER:** For the record, Wade Parker.
8 Yes, we do at our station a monthly detool
9 inventory where we track all the heavy water in the
10 station, so we can account for and address those issues.
11 That is correct.

12 **MEMBER BARRIAULT:** Just one brief question.
13 In that same intervenor's statement on -- there's no page
14 number, the second page, page 2, Item B, it says,

15 "...location of steam line on the main
16 control roof which was again
17 identified by CNSC staff as a concern
18 in case of seismic activity."

19 Is this line on top or inside the control
20 room?

21 **MR. EAGLES:** Rod Eagles, for the record.

22 The main steam line being referenced here
23 runs from the reactor building to the service building and
24 turbine hall; it runs across the top of the building, over
25 top of the roof, on the outside.

1 **MEMBER BARRIAULT:** So nothing inside
2 actually.

3 **MR. EAGLES:** Not inside the building, no.

4 **MEMBER BARRIAULT:** Okay. Thank you.

5 **THE CHAIRMAN:** Dr. McDill?

6 **MEMBER MCDILL:** Does NB Power respond to
7 these off line on a question by question basis or are we
8 the only venue for where these questions will be
9 addressed?

10 **MS. DUGUAY:** Kathleen Duguay, for the
11 record.

12 Our intention is to review these
13 interventions that were submitted and do some follow-up
14 with the intervenors to make sure that we have a good
15 dialogue and we understand and we close the loop the best
16 we can.

17 **MEMBER MCDILL:** Thank you.

18 If I might suggest that some of the images
19 you presented today had a little bit more labelling it
20 might be helpful to the public in their trying to
21 interpret what rolling is, where rolling is.

22 There was one I didn't make reference to
23 which was on page -- your slide 12. There's a picture of
24 the brushes and things like that. I think that would be
25 really helpful to the community around.

1 Thank you.

2 **THE CHAIRMAN:** Staff, I still -- just to
3 follow-up Dr. McDill here, this organization seemed to
4 know a lot about -- and paying attention to a lot of what
5 you do.

6 It may be in your interest to share
7 information to at least correct misinformation.

8 I'm trying to understand the whole line of
9 the top of the page, A, B, C, D. They are deemed to be
10 CNSC identified deficiencies. What's staff's view about
11 all of these?

12 **MR. EAGLES:** Perhaps, Mr. Chairman, if I
13 might comment on those first it would help just in context
14 to staff.

15 In the early -- it's Rod Eagles, for the
16 record.

17 In the early part of our refurbishment
18 project we had identified potential risks to the project
19 itself and the items that are contained in A, B, C and D
20 were items that we had added to our risk register of items
21 that we should be managing.

22 In some cases the wording isn't always
23 clear as to what that is and for us we've made progress in
24 addressing all of these issues and in fact it concluded
25 that there were no gaps in commissioning of ECC that were

1 of any potential impact to our project nor were the main
2 steam lines needing to be relocated.

3 And for the last two items -- and in fact
4 we have added new equipment as part of the refurbishment
5 project, one of which I mentioned in a slide, the
6 containment filter vent and to go along with that, a new
7 emergency water addition line to address that issue, and
8 also have added a new severe accident management
9 instrumentation.

10 So these were items that came, probably
11 from an early -- or a risk review document that we had
12 during the early days of our project and we believe we've
13 mitigated those risks.

14 Thank you.

15 **THE CHAIRMAN:** Staff, do you want to add
16 anything?

17 **MR. THOMAS:** For the record, Gaétan Thomas.

18 I would like to also add that all this
19 information is approved that they do get a lot of
20 information and even if they don't always sit on a local
21 liaison committee Kathleen Duguay here can affirm that the
22 members of the association get access to all the
23 information, very detailed information that the community
24 liaison get.

25 So they get all the, you know, briefing

1 notes, information newsletter because one of the member of
2 that organization sits on a similar committee in another
3 plant, so they get access to all the information.

4 So they do know a lot of details. We do
5 have a relationship and we provide all the information.

6 **THE CHAIRMAN:** Okay.

7 Staff?

8 **MR. RINFRET:** François Rinfret.

9 The question of where does this information
10 come from, from judging -- well, we don't have references
11 written in the letters that were sent to the Secretariat
12 but we gather that these are some issues and some
13 longstanding ones and some others that have been closed
14 over the years.

15 So it also refers to a regulatory document.
16 So all of what we've done over the years, as staff has
17 done, is basically open and transparent. That's my first
18 point.

19 The second one is that the case of the
20 severe accident containment -- the case of the scope of
21 the severe accident of management instrumentation -- these
22 are coming to closure, have come to closure with time, the
23 main control room issue as well has come to closure with
24 time and that's where we are.

25 So it shows the transparency over the years

1 that we've maintained with the Canadian public that we
2 represent.

3 **THE CHAIRMAN:** Thank you.

4 **MEMBER HARVEY:** Just one comment. Ms.
5 Duguay mentioned that there would be a follow-up with
6 those people here but at the moment the information given
7 here is public. It is also good that the follow-up, if
8 there is some points that have to be also -- well, I think
9 it would be good -- what side and the names that the
10 answer you gave to those people be also on a public
11 information site.

12 **MS. DUGUAY:** Kathleen Duguay, for the
13 record.

14 I just wanted to add earlier, we also are
15 engaged with social media and there's a lot of questions
16 that comes through social media as well that is open to
17 the public, so that's another tool that we have added to
18 our communication inventory.

19 **THE CHAIRMAN:** Okay, thank you.

20 Marc?

21 **MR. LEBLANC:** The next submission is from
22 the Atlantic Canada Chapter of Sierra Club Canada as
23 outlined in CMD 11-H2.9.

24 Any questions?

25

1 **11-H2.9**
2 **Written submission from the**
3 **Sierra Club Canada -**
4 **Atlantic Canada Chapter**

5
6 **MR. LEBLANC:** There's no questions, or are
7 you taking your time?

8 **MEMBER McDILL:** This is a similar question
9 to staff. Will staff be interacting -- I assume NB Power
10 will -- has already said they will be interacting with the
11 intervenors. But will staff be interacting with some of
12 these questions as well, or has it interacted with respect
13 to some of the statements made here?

14 **MR. RINFRET:** Francois Rinfret for the
15 record.

16 These letters are sent to the Secretariat
17 of the Commission. By way of having to comment on them,
18 we can now look in front of us at some of these statements
19 that are made.

20 There are some areas we will not comment on
21 -- the status of AECL or the way it has led this project.

22 Regarding their concern on alpha
23 contamination, the Commission has been kept up to date
24 with the improvements that have been made and the status
25 of each plant, I think in the December meeting.

1 And if I'm right, we're supposed to --
2 staff and the licensees are supposed to talk to the
3 Commission again. I think it's in the area -- in the time
4 of April 2011, if I recall. But staff will continue to
5 monitor the situation, seek and get improvements from
6 various sites and be able to update the Commission on the
7 status.

8 *The Nuclear Liability Act*, I will not
9 really comment on. It's a matter of policy for CNSC.

10 **MR. WEBSTER:** If I may add to Mr. Rinfret's
11 remarks, staff is not in the past normally been required
12 to respond directly to intervenors. The process has been
13 for the Commission to pose the questions, as you have been
14 doing today.

15 **MEMBER McDILL:** Does the Secretariat
16 respond to the questions?

17 **MR. LEBLANC:** We do not respond to the
18 questions. Those letters are really sent for the record
19 there and to be dealt with in the Commission hearings.
20 There have been some instances where questions were
21 outside of the hearings and were responded to.

22 **THE CHAIRMAN:** Anybody else?

23 Well, okay. Well, there's several things
24 I've got to say about this submission. First of all,
25 people should understand that AECL is not a licensee and

1 therefore for us to stop here and to consider AECL record
2 of failures, et cetera, is not our job.

3 Secondly, everybody should understand that
4 we are not talking about whether to refurbish or not.
5 Again, this is not our job. In 2005 it was a Commission
6 -- New Brunswick Utility Board -- I don't know if I got
7 the right title here -- who made a decision that the
8 refurbishment will occur.

9 All we are concerned with is whether the
10 activities are conducted in a safe environmentally
11 friendly way. That's it. And AECL is a contractor to NB
12 Power and many of the issues that are raised here in
13 asking us to review are totally out of our mandate.

14 Having said a lot of this stuff, some
15 issues that are raised are legitimate and there's some
16 allegation here about the alpha management. I think both
17 NB Power and staff should respond to them.

18 I'm talking of page 3, one before last
19 paragraph. Okay? Talk about long term alpha monitoring,
20 et cetera. I know that in your presentation you've gone
21 to great lengths to explain what it is, so what's your
22 reaction to what is being said here?

23 Anybody wants to answer?

24 **MR. HICKMAN:** For the record, Charles
25 Hickman.

1 Certainly, as yourself have indicated,
2 we've identified and followed the developments with
3 regards to alpha contamination of the facilities.

4 If I can just recap for a moment some of
5 the comments made in December. Before the outage started
6 we benefited from having had a very good history of
7 management of failed fuel which reduced the potential for
8 alpha contamination before we ever started the outage.

9 As part of the planning for the outage we
10 upgraded a number of our radiation protection measures
11 including to take into account some of the issues linked
12 to alpha. So we ended up with new instrumentation, new
13 controls and with a much heightened awareness of some of
14 the radiation protection issues.

15 Once that instrumentation and those tools
16 were basically just deployed for the outage, we've been
17 working very closely to control day to day contamination
18 issues where there have been identified concerns. We've
19 responded in a very timely fashion to ensure that
20 personnel and worker safety is being maintained entirely.

21 And throughout that period we've worked
22 very closely with industry partners to make sure that we
23 had OPEX from other facilities and they had OPEX from our
24 facility.

25 **THE CHAIRMAN:** All the testing on staff

1 right now, if it were done, if any concern were
2 identified?

3 **MR. HICKMAN:** The short answer is no
4 concerns were identified. And we have followed the
5 industries as well in terms of we did request detailed
6 samples, fecal samples and urine analysis, from five long
7 term employees who had potential to have long term chronic
8 exposure. The analyses came back as being clean. So
9 there were no long term chronic exposure issues.

10 **THE CHAIRMAN:** Okay. Thank you.
11 Anything else?

12 **MS. DUGUAY:** Kathleen Duguay here for the
13 record.

14 I just want to close the loop in regards to
15 this letter you're referring to. We had the opportunity
16 to meet with Mr. Lack (phonetic) last week and we
17 discussed most of the issues that were raised in that
18 letter but we'll certainly be happy to continue that
19 dialogue with Mr. Lack.

20 **THE CHAIRMAN:** Thank you.

21 **MR. LEBLANC:** So the next submission is
22 from Greenpeace Canada as outlined in CMD 11-H2.10.

23 Any questions?

24

25 **11-H2.10**

1 **Written submission from**
2 **Greenpeace Canada**

3

4 **MEMBER BARRIAULT:** Just one brief question.
5 The third bullet down in the presentation says:

6 "Greenpeace requests the Commission
7 require New Brunswick Power to have a
8 full and detailed decommissioning plan
9 for the Point Lepreau Station to be
10 reviewed at the next licence renewal
11 for the entire Pickering Station in
12 2012."

13 I'm not clear. Maybe somebody could
14 explain to me what is meant by this statement.

15 **MR. WEBSTER:** It's Phil Webster, for the
16 record.

17 The usual expectation on an operating
18 station is that a draft decommissioning plan be submitted.
19 We would not anticipate a full and detailed
20 decommissioning plan to be available until decommissioning
21 itself starts, which is quite a few years after the
22 station has been closed down.

23 **MEMBER BARRIAULT:** Thank you.

24 Thank you, Mr. Chairman.

25 **THE CHAIRMAN:** Right. It's not Pickering.

1 It's a typo, right? We all know that. But I think it's
2 the same request that we received on Pickering also.

3 Monsieur Harvey?

4 **MEMBER HARVEY:** Maybe the staff could
5 comment first -- at least the first two dots there. I
6 don't know if Greenpeace is talking of the next licence,
7 the licence for the five years renewal of that one, but do
8 you have some comments about those two dots there?

9 I mean, one about the transparent
10 throughout assessment of the safety standards and the
11 other one for the end of life plan of Point Lepreau.

12 **MR. RINFRET:** Francois Rinfret for the
13 record. New Brunswick Power Nuclear at Point Lepreau has
14 used international best practices to plan to get into the
15 refurbishment mode, and this plan goes on even way after
16 the refurbishment. It goes on to other activities that
17 cover many, many years of operation after refurbishment.

18 This is all transparent, all available.
19 Most documents are accessible; some might remain
20 proprietary because of some legislated ways to maintain
21 the documents. Some have monetary value, but typically
22 all available in a very transparent process. So it is
23 with confidence that staff is monitoring the rest of the
24 unfolding of the refurbishment activities.

25 On the second point --

1 proceed.

2 So the next submission is from the
3 International Brotherhood of Electrical Workers, Local 37,
4 as outlined in CMD 11-H2.12.

5

6 **11-H2.12**

7 **Written submission from**
8 **the International Brotherhood**
9 **of Electrical Workers,**
10 **Local 37**

11

12 **MR. LEBLANC:** Any questions?

13 **MR. CHAIRMAN:** Just a question here, is --
14 I know that most of the union preoccupation normally is
15 with the notion of a safety culture. Have you started
16 developing with them what that concept might mean? They
17 were pretty complemented in some of your relationship
18 between management and workers in -- on the plant. But
19 did you get into the safety culture kind of a notion
20 that's now taking more of a hold in the industry?

21 **MR. EAGLES:** Rod Eagles for the record.
22 The IBEW, Local 37, is an integral part of NB Power's
23 operation, not just in Point Lepreau but across the
24 province. The excellent safety record that our company
25 has and that we're very proud of is not only a result of

1 the actions of the company, but as a result of the actions
2 of union leadership and the union membership.

3 The relationship that we have that Mr.
4 Galbraith described in his intervention is very accurate.
5 We work with the union to understand opportunities and
6 challenges with respect to all aspects of our business and
7 we're very pleased that they support us in all the efforts
8 that we make to improve safety in the workplace.

9 **MR. CHAIRMAN:** So are they -- I just want
10 to make on the record, for the record. If there were a
11 particular health issue, for example the alpha -- they
12 mentioned that there was no alpha activity above detection
13 limit. This is coming from the union. What I'm trying to
14 ascertain is whether the union is a good vehicle to make
15 sure if there were a problem it would have been raised.

16 **MR. THOMAS:** Gaetan Thomas for the record.
17 The relationship with the union at NB Power is absolutely
18 unique. As you can see with the high number of unionized
19 employees, over 90 percent of the station, you know, this
20 whole open and transparency is all over, right over the
21 management team. And over the years we have built that
22 trust and the union will actually assume that management
23 is taking the right steps.

24 But obviously there are some, you know,
25 confrontations at times, but they're always done on the

1 spirit of trust and that people are doing the best efforts
2 on both sides. And, you know, we have to congratulate the
3 union and the management of NB Power because they also
4 were an integral part of getting us to be stronger with
5 that.

6 And IBEW has also established what they
7 call a code of excellence, which is unique in the world of
8 union leadership, where they actually insist on their
9 members, you know, to the highest standards of excellence
10 in human performance. So they have taken a very, very
11 strong approach on that and I think it's partly because of
12 the requirement of the nuclear industry and how they see,
13 you know, long term employment and long term security.

14 But at the end of the day we embrace the
15 same values on safety and all through this alpha
16 communication there's never any panic because people know
17 that we're going to add the instrumentation necessary, do
18 the regular checks, do more. And the discussions are,
19 "Hey, when are you going to do this and that and so on."

20 And we meet on a regular basis at the
21 senior management of NB Power with the various union
22 leaders from all the companies and on site they have a
23 joint health and safety regular meeting, but there's also
24 a senior management meeting on a regular basis with the
25 business manager Ross Galbraith.

1 So it doesn't surprise me because, you
2 know, we both support safety as the number one priority
3 and that's a testament of that. So there is no -- on
4 safety, very few disagreements. There might some
5 disagreement on contracts like any other union issues, but
6 on safety we put any differences apart because we want to
7 make sure everybody goes home safely every day.

8 **MR. LEBLANC:** The next submission is from
9 Ms. Wilhelmina Nolan as stated in CMD 11-H2.13.

10
11 **11-H2.13**

12 **Written submission from**

13 **Ms. Wilhelmina Nolan**

14
15 **MR. LEBLANC:** Any questions?

16 **MR. CHAIRMAN:** Dr. McDill?

17 **MEMBER McDILL:** Thank you. There's
18 considerable overlap between this intervention and that of
19 H2.15, The International Institute of Concern for Public
20 Health. And also some overlap with H2.19, which is the
21 written submission from the Passamaquoddy Peoples. So I'd
22 like to ask sort of question that covers several areas of
23 this if I may.

24 With respect to the recent signing of
25 Canada of the United Nations Declaration of the Rights of

1 Indigenous Peoples, could I ask staff to comment on the
2 impacts of our decision today with respect to that?

3 **MR. WEBSTER:** I will ask Ms. Clare
4 Cattrysse of our aboriginal consultation division to
5 respond to that.

6 **MEMBER MCDILL:** Thank you.

7 **MS. CATTRYSSSE:** Hello, this is Clare
8 Cattrysse on the record, the Canadian Nuclear Safety
9 Commission. The United Nations' Declaration was signed by
10 Canada back in November. It is a non-legally binding
11 aspirational document. It describes individual collective
12 rights of indigenous peoples.

13 Canada has actually put out on the web and
14 on the internet claiming that the principles of this
15 Declaration are consistent with the government's approach
16 to working with aboriginal peoples. And it is our view
17 that the Commission remains obliged to implement its
18 statutory mandate in the context of its duty to uphold the
19 honour of the Crown to act in accordance with the
20 constitution.

21 So our processes that we have are currently
22 working fine and are in accordance with the delegate --
23 with the Declaration.

24 **MEMBER MCDILL:** Maybe NB Power would like
25 to comment on the Passamaquoddy Nation and how it's ---

1 **MR. HICKMAN:** Charles Hickman for the
2 record. I'll take a moment to provide a little bit of
3 context. We have worked with First Nations both
4 corporately and on the four specific issues since the
5 1990s.

6 Corporately we have worked very closely
7 with our provincial government counterparts. They have an
8 Indian Affairs Secretariat and we've worked very closely
9 with them to ensure that there's a coordinated approach to
10 working with the First Nations.

11 During the 1990s and into the early parts
12 of this project plan we worked with them in regards to
13 looking for opportunities of economic development,
14 recognizing some of their unique characteristics that they
15 can bring to us from the point of view of an available
16 workforce, their own local knowledge of some areas and
17 some their work practices.

18 So we work very closely with them at a
19 corporate level through our provincial government.

20 That continues today. We have a vice-
21 president sponsor who is taking the lead, if you like,
22 with the First Nations on today at a corporate level and
23 today's current issues.

24 On a project-specific issue we have been
25 working very closely with First Nations since early 2000.

1 Again through our provincial government we've provided
2 funding capacity building to allow the involvement in the
3 environmental assessment work for this outage.

4 One of our challenges has been is that the
5 Passamaquoddy is not recognized within the provincial
6 Indian Affairs Secretariat as being a New Brunswick-based
7 First Nation, so we did not have any direct contact with
8 the Passamaquoddy in the early parts of the project. In
9 the past few months we have had some contacts with the
10 Passamaquoddy. They approached us. We've returned and
11 have met with them. Kathleen's met with the Chief of the
12 Passamaquoddy First Nation and certainly on a go-forward
13 basis we will be interfacing and interacting with them.

14 To the extent that we are not the Crown we
15 are assisting essentially the others in terms of ensuring
16 the responsibilities are met as per the declaration and
17 also consistent with the legislative decisions that have
18 come down through the courts over the past several years.

19 So we've worked closely with First Nations.
20 Passamaquoddy has not been directly involved to date but
21 as of the past few months it's definitely becoming part of
22 our ongoing relationship with First Nations.

23 **MEMBER McDILL:** Thank you.

24 One more question that appears in several
25 -- or two intervenors; would you say that it's a daunting

1 challenge having an aging and dwindling workforce? This
2 is to NB Power. Would you like to change the adjective
3 that's used there? Is it a daunting challenge?

4 **MR. PARKER:** For the record, Wade Parker.

5 As the station has evolved over the years
6 we have noticed -- and it is a real awareness of the aging
7 of the staff -- of our current numbers, 44.6 is the
8 average age of our staff at this current point in time.

9 We do have a number of people that are
10 retiring. We do see a lot of new places -- new faces at
11 our site. That brings in training, mentoring, turnover.
12 That is all a part of what we need to monitor to ensure
13 long-term viability of our station.

14 Daunting, no, that would not be a word that
15 I would use, to answer your specific question. It is
16 another item on the list of things that we need to
17 continually manage.

18 **MEMBER MCDILL:** Thank you, Mr. Chair.

19 **THE CHAIRMAN:** Anybody else?

20 I just want to follow-up on Dr. McDill's
21 questioning about if you look at this intervention on page
22 4 it says -- I'm looking at radioactive waste -- that
23 continuing the operation and generation of such dangerous
24 waste may be legally considered to be a violation of
25 Aboriginal rights.

1 I'm trying to understand. This site has
2 been operating now for how many years? What is being
3 alleged here? And maybe I'll start with staff.

4 Ms. Cattrysse you may want to say something
5 about that.

6 **MS. CATTRYSSSE:** Yes. At this point -- I
7 mean, to tie -- we're not clear on where they're coming
8 from with this. The declaration, as I said, is a non-
9 legally binding document. There is nothing -- the legal
10 duty to consult that we're talking about here right now is
11 if the potential decision that the Commission is about to
12 make right now has the potential to impact on Aboriginal
13 rights, which is the decision to just renew this licence,
14 that we should be out there engaging and finding out what
15 those impacts are.

16 With respect to the long-term storage of
17 waste there is nothing that we have and we would probably
18 defer to your legal counsel here at the Commission, but
19 there is nothing that is bound in law that requires the
20 removal of waste as per their statement.

21 **THE CHAIRMAN:** Okay. Thank you.

22 **MR. HICKMAN:** Charles Hickman, for the
23 record.

24 If I may add just one additional comment
25 with regards to the intervenor's comment.

1 From our point of view obviously we believe
2 that the -- all our waste material is being stored and
3 handled safely. During the planning for the project and
4 through the evaluated assessment process, the potential
5 environmental as well as the safety impact of the storage
6 of waste at the facility were considered in great detail.

7 First Nation interests were reflected in
8 that environmental assessment. They participated. They
9 were active on site, visited the site.

10 So from the point of view of the practical
11 aspects of the management of waste at Point Lepreau it has
12 been considered with input from the First Nations. It's
13 been considered in this forum and through many, many
14 public meetings. And certainly from our point of view we
15 consider it to be a non-issue.

16 **THE CHAIRMAN:** Just we're reacting to the
17 very strong letter that was written by the Chief about
18 poisoning the site and I think that if you -- I don't know
19 when it was written, but if you are talking to -- that was
20 a funny reaction if you are in the process of discussing
21 with the Chief, you know, the particular project here.

22 You wanted to add anything?

23 **MS. CATTRYSSSE:** Clare Cattrysse for the
24 record.

25 The claim by the intervenor in that

1 particular letter to their inherent right to a territory
2 free of contamination and danger from a nuclear facility,
3 this is not based on the declaration, and it's not
4 supported by any particular evidence in this intervention.

5 Now, what we will be doing is we will --
6 there is going to be a hearing for the renewal coming up
7 later on in the fall. We'll follow-up with this group to
8 find out a little bit more of what their particular
9 concerns are, but again it's not bound in the declaration.

10 **THE CHAIRMAN:** Mr. Tolgyesi?

11 **MEMBER TOLGYESI:** Just two short points.
12 You say it's 44.6 your average age. What's the average
13 experience with your facility of the employees -- average
14 seniority? What's the average number of years of services
15 with NB Power?

16 **MR. EAGLES:** Rod Eagles, for the record.

17 I apologize. I don't have the specific
18 information that you've requested. What I can say from my
19 own anecdotal experience with people is that many of the
20 employees that we have at our station come to us as
21 graduates of programs from the local universities and
22 community colleges, who we have a great relationship with
23 and enjoy working with to find the kinds of skill that we
24 need in our operation, and so many of these employees have
25 been with us, you know, since they started their working

1 careers. That's only anecdotal. I don't have the exact
2 figure that you requested.

3 **MEMBER TOLGYESI:** Okay.

4 And the second one is Point Lepreau's site
5 is part of a Native land claim?

6 **MR. HICKMAN:** Charles Hickman, for the
7 record.

8 My understanding is that there is no active
9 land claim at the moment. Although certainly when one
10 talks one-on-one with the First Nations they do say they
11 have a long-standing interest in the land and use of the
12 land, and certainly they have had use of the land over the
13 years. I'm not aware of any active land claim at the
14 moment.

15 **THE CHAIRMAN:** Thank you.

16 **MR. LEBLANC:** The next submission is from
17 Ms. Beth McLaughlin and Ms. Helen Robb, as outlined in CMD
18 11-H2.14.

19 Any questions?

20

21 **11-H2.14**

22 **Written submission from**

23 **Beth McLaughlin and**

24 **Helen Robb**

25

1 **MR. LEBLANC:** The next submission is from
2 the International Institute of Concern for Public Health
3 as outlined in CMD 11-H2.15.

4 As Dr. McDill correctly stated earlier,
5 this letter is very much to the same effect as the .14 --
6 .13 we discussed a few moments ago, but any questions?

7
8 **11-H2.15**

9 **Written submission from the**
10 **International Institute of**
11 **Concern for public Health**

12
13 **MEMBER BARRIAULT:** Just one brief question
14 really. On the issue of occupational health and safety
15 perhaps CNSC can comment on the fact that that
16 satisfactory rating is not the scientific meaning and it's
17 not based on science?

18 **MR. WEBSTER:** I would argue it's well based
19 on analysis of the data that we gather.

20 **MEMBER BARRIAULT:** Would you care to expand
21 on that?

22 **MR. WEBSTER:** We look, as we discussed
23 earlier, it's actually the frequency rate, actually the
24 severity rate times the lost time injury. We compare that
25 with the industry average and with the overall provincial

1 and national average. By all of those measures all the
2 nuclear power stations perform very well.

3 **MEMBER BARRIAULT:** Thank you.

4 Thank you, Mr. Chairman

5 **THE CHAIRMAN:** Thank you.

6 **MR. LEBLANC:** The next submission is from
7 the Musquash Fire Rescue Department as outlined in CMD 11-
8 H2.16.

9 Any questions?

10 Monsieur Harvey?

11

12 **11-H2.16**

13 **Written submission from**

14 **the Musquash Fire Rescue**

15 **Department**

16

17 **MEMBER HARVEY:** In the last paragraph on
18 the first page:

19 "This facility allows us to train in
20 confined spaces, live burn situations
21 and the use of various props
22 simulating industrial fire fighting
23 situations."

24 And on the other page:

25 "NB Power also permits other fire

1 departments in the province to train
2 using their facility."

3 Is it something very common in the other
4 station or Point Lepreau is the only station to permit
5 outside firefighters to come to their installations and
6 use them, and does that have any impact on the security of
7 the site?

8 **MR. RINFRET:** François Rinfret.

9 I will answer the part dealing with the
10 sharing and facilities or people.

11 As far as comparing with, for example,
12 Gentilly case, many of the volunteers in the village of
13 Gentilly that also help at the station also work at the
14 station. So there is that -- first of all, that common
15 cause where people are the same and that deals with the
16 similarity with the Point Lepreau case where there are
17 local people.

18 **MEMBER HARVEY:** Maybe I should ask Point
19 Lepreau that is it the case that many fire departments are
20 allowed to use your facility?

21 **MR. HICKMAN:** Charles Hickman, for the
22 record.

23 The EPs out of life, the emergency plans
24 out of life is also part of my mandate.

25 Yes, we very much encourage other parties

1 to use our facilities. In the very unlikely event of a
2 significant issue we call upon the third parties from
3 outside the station to assist us in response.

4 So the Musquash Fire Department is very
5 much a part of our day-to-day lives. Bringing them onsite
6 allows them to become familiar with both facility, the
7 individuals involved in responses and to get comfortable
8 with being around a nuclear facility, which is obviously
9 not part of their normal day-to-day world.

10 Same as G-2, we have a number of people at
11 the station who are also on the Musquash Fire Department.

12 We also practice on a regular basis with
13 the Saint John Fire Department for the same reasons, and
14 our facility is considered to be one of the better ones,
15 in fact, one of the only ones in New Brunswick where this
16 type of firefighting and training can actually be
17 conducted.

18 So yes we see that as part of our role in
19 the community, it has a benefit both to us and to the
20 community.

21 **MEMBER HARVEY:** Merci.

22 **MEMBER TOLGYESI:** What happens if during
23 this fire drill there's an injury from outside
24 firefighters? How you will manage with this? It's
25 accident of Point Lepreau or responsibility of Point

1 Lepreau?

2 **MR. HICKMAN:** Charles Hickman, for the
3 record.

4 If there was an injury during firefighting
5 our response team would respond as it would for any
6 incident onsite. So we would have a -- we would respond
7 as appropriate for the medical event as might occur.

8 At this moment in time would we consider
9 that to be an onsite either lost time accident or injury,
10 I believe the answer would be yes, I think we would catch
11 that and consider that to be an injury onsite.

12 **MEMBER TOLGYESI:** So it will be your
13 responsibility with all these consequences?

14 **MR. HICKMAN:** Yes. And that would be
15 appropriate to a large extent because the training that is
16 done is done with our trainers and if there's lessons
17 learned in terms of how to train better to ensure that
18 training is safe we need to know that and incorporate that
19 into our training.

20 So yes, we would definitely do follow-up in
21 the event of an incident onsite.

22 **THE CHAIRMAN:** Okay, thanks.

23 Next?

24 **MR. LEBLANC:** The next submission is from
25 the Saint John Citizens Coalition for Clean Air as

1 outlined in CMDs H 11 2.17 and H2.17A.

2 Any questions from the Members?

3 **THE CHAIRMAN:** Dr. McDill?

4
5 **11-H2.17 / H2.17A**

6 **Written submission from the**
7 **Saint John Citizens Coalition**
8 **for Clean Air**

9
10 **MEMBER McDILL:** Thank you.

11 On this intervenor's page 5 there is a
12 comment with respect to the fuel that was removed before
13 refurbishment and since the intervenor states it's in
14 aboveground concrete silos I thought I would give NB Power
15 a chance to state where it is.

16 I presume it's in the cooling but I think
17 it would be good it have it on record.

18 I'll read the ---

19 "Point Lepreau is currently in the
20 defuel core state where all fuel has
21 been removed and is stored and cooled
22 as required outside of containment."

23 And the question is: "How can it be
24 negligible risk when".

25 **MR. PARKER:** Sorry, I didn't hear the

1 question, there was a lot of noise for some reason.
2 Forgive me.

3 **MEMBER McDILL:** Okay, no problem.
4 Would you address the intervenor's
5 question:

6 "How can one conclude there is
7 negligible nuclear safety risk when
8 the nuclear material from core is in
9 aboveground silos? It's not the same
10 type of containment... ---"

11 I think it should be: "That it was when it
12 was in the main containment core sector of the plant".

13 They're referring to the fuel that was
14 removed at the beginning of refurbishment.

15 Just so it's on the record.

16 **MR. THOMPSON:** For the record my name is
17 Paul Thompson. I'm the Regulatory Affairs Manager at
18 Point Lepreau.

19 I think there's really two aspects with
20 regards to this statement. First is that the fuel that
21 was discharged from the reactor as part of the first step
22 of refurbishment is in the storage bay, as it needs to be
23 for seven years prior to being moved out to the dry fuel
24 canisters.

25 The second part is that in the -- there is

1 no fuel in the core hence from what we're referring to as
2 a nuclear safety risk, which is the types of low
3 probability accidents that could occur, there is no fuel
4 in the core, which is really what the reference to the
5 nuclear safety risk is.

6 In the bay, the bay is light water so it's
7 been demonstrated that there's no nuclear safety concerns
8 to accidents that could occur in the bay.

9 **MEMBER McDILL:** Thank you.

10 **MEMBER HARVEY:** We have had responses to
11 that point but just the third line, who is watching the
12 shop on the safety programs that could not be rated?

13 It's a question to the staff.

14 **MR. WEBSTER:** It's Phil Webster for the
15 record.

16 These programs are not relevant to a unit
17 which is not fuelled so hence we didn't rate them. There
18 is no risk impact from the lack of a rating.

19 **MEMBER HARVEY:** Thank you.

20 **THE CHAIRMAN:** I have a question. On page
21 8, the last paragraph on Section 4.1, I'd like staff to
22 comment a little bit about record -- there's some
23 statement here that requires some reaction, attention,
24 about keeping track of workers, contract workers, about
25 safe, because this intervenor claim that in 40 years from

1 now they will come down with cancer.

2 Again, I'd like somebody to deal with the
3 science of that particular statement.

4 **MR. WEBSTER:** I'll ask Ms. Caroline Purvis
5 to respond to that, please.

6 **MS. PURVIS:** For the record, Caroline
7 Purvis.

8 In the Radiation Protection Regulations
9 there's a requirement for licensees to ascertain and
10 record doses to workers or to individuals that have the
11 potential for exposure under licensed activities.

12 In addition to that, Canada has the
13 National Dose Registry, which is a central repository for
14 radiological dose information. New Brunswick Power Point
15 Lepreau has an obligation to monitor their workers for
16 radiological exposures and in doing so to maintain and
17 keep those records.

18 And New Brunswick Power also has a licence
19 to asymmetry service for that purpose. And then as an
20 obligation for a licence to asymmetry service operator,
21 they must file their information with the National Dose
22 Registry.

23 So to conclude, the information for workers
24 during the refurbishment activities with respect to their
25 radiological exposures have been monitored, have been

1 recorded, and have been filed with the National Dose
2 Registry. Should there be any kind of studies on their
3 health in the future, their dose information would be
4 accessible and retrievable.

5 **THE CHAIRMAN:** But is there any reason,
6 based on the last 30 years, to be concerned about this
7 particular forecast?

8 **MS. PURVIS:** Given the dose information to
9 date, what we know about exposures to workers in the
10 industry is that they're -- in general, their rates of
11 cancer are no different than the general public. And
12 certainly my epidemiological colleagues could go into that
13 in more depth, but we are assured at the current time that
14 the protective measures and the dose limits that are in
15 the Radiation Protection Regulation are sufficient to
16 assure the health of workers.

17 **THE CHAIRMAN:** Thank you.

18 **MR. HICKMAN:** Could I just add a couple of
19 comments to that as well, please? Charles Hickman, for
20 the record.

21 I think it's worth noting that the
22 statement in the submission that predict cancer rates for
23 hundreds of people working at the project will increase
24 from the exposure -- I don't believe there's a basis to
25 that. And I say that from the point of view that both the

1 regulations, the industry, we follow the International
2 Commission for Radiation Protection Guidelines and
3 direction in terms of setting regulations, allowable
4 doses. All the utilities, ourselves included, work on
5 individual dose limits well, well, well below any levels
6 of concern identified by the ICRP.

7 So the ICRP, which does take into account
8 and follow the science, if you like, around the world on a
9 regular basis, they set the expectations at a level
10 whereby there is no scientific basis to suggest there'll
11 be increase of cancer based on this submission.

12 **THE CHAIRMAN:** Thank you.

13 Go ahead.

14 **MR. McMANUS:** John McManus, for the record.

15 There is pretty extensive information with
16 respect to this on the CNSC website. Basically, if you
17 look at the website, it will indicate that based on this
18 scientific research and studies performed in the past that
19 there really isn't any increased risk demonstrated to
20 cancer or any other diseases due to chronic exposures up
21 to 100 millisieverts, which is considerably higher than
22 our regulatory limits.

23 But there is quite a bit of information on
24 the CNSC website on this that's available to the public.

25 **THE CHAIRMAN:** Thank you.

1 Marc?

2 **MR. LEBLANC:** The next submission is from
3 the Union of New Brunswick Indians as outlined in CMD 11-
4 H2.18. Any questions?

5

6 **11-H2.18**

7 **Written submission from**

8 **The Union of New Brunswick**

9 **Indians**

10

11 **THE CHAIRMAN:** Dr. McDill?

12 **MEMBER MCDILL:** Thank you.

13 Has NB Power answered the question that's
14 in bold in that submission on December 20th?

15 **MS. DUGUAY:** For the record, Kathleen
16 Duguay.

17 Yes, we did. Actually we had answered the
18 questions during the transition of the correspondence.

19 **THE CHAIRMAN:** And can you clue us; what
20 was the response?

21 **MS. DUGUAY:** It was in relation to the name
22 of the organization. It was an error that we made when we
23 submitted the application and since then we have submitted
24 an amendment to correct that. So they are the Union of
25 New Brunswick Indians and not the Association of New

1 Brunswick Indians.

2 **THE CHAIRMAN:** But the substance of their
3 intervention is they don't have the resources and the
4 capacity to analyze much of this material, right? So are
5 you sort of providing any support for them to try to
6 understand what is being at stake here?

7 **MS. DUGUAY:** Kathleen, for the record.

8 We have acknowledged their statement and we
9 will be having further discussion with them as one of
10 their members was not available at the time.

11 **THE CHAIRMAN:** Thank you.

12 **MR. HICKMAN:** If I can again add just a
13 fine point on that. Charles Hickman, for the record.

14 The current activities that are covered in
15 the licence -- so the current operation, the refurbishment
16 activities and the restart activities -- they were all
17 considered at length as part of the environmental
18 assessment process that we went through and which led to
19 our existing licence.

20 During that environmental assessment
21 process, yes, NB Power did provide funding to the First
22 Nations, both the Union of New Brunswick Indians and to
23 MAWIW, another First Nations organization in the province.
24 That funding was to help build capacity to involve them in
25 the process in a very real sense.

1 They visited the sites. MAWIW had an
2 environmental review team that came to sites. The UNBI --
3 I met with them personally on many occasions and they came
4 to site for a site tour to visit the site.

5 So in terms of ensuring their understanding
6 of the outage activities plus incremental effects of
7 future operations and normal operations, we provided
8 significant support and time to ensure that the Union of
9 New Brunswick Indians was fully given all the
10 opportunities they needed to participate in a meaningful
11 fashion in the process.

12 **THE CHAIRMAN:** Thank you.

13 Marc?

14 **MR. LEBLANC:** The next submission which has
15 been referred to earlier is from the Passamaquoddy Peoples
16 as outlined in CMD 11-H2.19. Any further questions?

17

18 **11-H2.19**

19 **Written submission from the**

20 **Passamaquoddy Peoples**

21

22 **THE CHAIRMAN:** Go ahead.

23 **MEMBER McDILL:** My question is to CNSC
24 staff.

25 There's a reference here to protecting the

1 generations to come and I would like staff to comment on
2 -- does not our requirement with respect to short-term,
3 medium-term, and very long-term safe storage also share
4 this intention to protect the generations to come?

5 **MS. KATRICE:** For the record, it's Clare
6 Cattrysse. Yes, it does.

7 **MEMBER MCDILL:** Thank you.

8 **THE CHAIRMAN:** Anything else?

9 Okay, this concludes the list of written
10 submissions and we're now going to go through a quick
11 second round where we can ask those short and punchy
12 questions and expect short and punchy answers.

13 So let me start with Mr. Harvey.

14 I wasn't talking about that punchy. Pas de
15 questions? Okay.

16 Mr. Tolgyesi?

17 **MEMBER TOLGYESI:** No.

18 **THE CHAIRMAN:** I didn't expect that.

19 Dr. McDill?

20 Dr. Barriault?

21 **MEMBER BARRIAULT:** Sorry. I didn't want to
22 spoil the record.

23 In page 10 of 15 of presentation 11-H2.1,
24 4.3 of Radiation Protection. The last bullet on that
25 first paragraph goes on to say that:

1 "Dose to workers are being maintained
2 as low as reasonably achievable,
3 social and economic factors taken into
4 account."

5 I guess I'd like to have clarification of
6 what is meant by, "social and economic factors taken into
7 account" and the extent that you're prepared to go in that
8 direction.

9 **MR. McMANUS:** John McManus, for the record.
10 That's basically verbatim from the RP
11 regulations, that there are costs and benefits associated
12 with decisions made and there's also social factors such
13 as union issues, labour laws and things like that. All of
14 these things are taken into account when staff assesses
15 whether or not a licensee is behaving in a manner that
16 that optimizes radiation protection within those confines.

17 **MEMBER BARRIAULT:** So it's based on
18 scientific evidence governing these issues, not just
19 randomly say, "We can't afford it, so that's it."

20 **MR. McMANUS:** There's regulatory guideline
21 documents that provide additional guidance on financial
22 matters, but they're all considered.

23 **MEMBER BARRIAULT:** That's fine on that one.

24 Next question. Document 11-H2 it goes on
25 to say on page 15 of that document, the last item under

1 2.6.2.3, it says that the rate of failure is about 17
2 percent on your initial certification exam at Point
3 Lepreau, for operators I would assume.

4 What happens to the 17 percent of these
5 people who fail the exam? Are they recycled again or are
6 they let go or what happens there?

7 **MR. PARKER:** For the record, Wade Parker.

8 Failure rates of 17 percent is both a good
9 indication and a bad indication. It's good that not
10 everyone that goes into the program passes, so that puts
11 some validity into the training and the requirements that
12 are necessary, with a skill set that is necessary to
13 operate at the nuclear power plant.

14 The 17 percent that do not pass, there are
15 opportunities that are given. There are opportunities for
16 remedial training and perhaps go through the similar
17 rounds of training again, but at the end of the day if the
18 standard is not met then that person is not deemed as
19 qualified to perform those specific roles.

20 Now, to answer the second part of your
21 question or the second part that I heard, are those people
22 let go; absolutely not.

23 Those people tend to be some of our more
24 senior staff at the station and, as you can well imagine,
25 there is a lot of work to be done.

1 **MEMBER BARRIAULT:** That's fine. Thank you.
2 Thank you, Mr. Chairman.

3 **THE CHAIRMAN:** Thank you.
4 Anybody else; final chance?

5 Okay. Well, thank you very much. This
6 concludes the public portion of the hearing.

7 The next -- remember that -- everybody was
8 talking about that there will be another set of hearings.
9 It will be done again in two days, which is our normal
10 procedure.

11 Day One will be here in Ottawa where we're
12 going to hear about licence renewal and fuel loading, and
13 Day Two will be done in New Brunswick where all the
14 intervenors have the opportunity -- it will be a public
15 hearing and everybody who has a particular opinion we
16 welcome to attend and make their views known with us.

17 So with that, I'd like to thank you all for
18 the information and for your patience and we will
19 reconvene with a public meeting at 2 o'clock.

20 Thank you very much.

21 --- Upon adjourning at 1:01 p.m./

22 L'audience est ajournée à 13h01

23

24