

**Canadian Nuclear  
Safety Commission**

**Commission canadienne de  
sûreté nucléaire**

**Public hearing**

**Audience publique**

**September 30<sup>th</sup>, 2010**

**Le 30 septembre 2010**

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

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

**Commission Members present**

**Commissaires présents**

Mr. Michael Binder  
Dr. Ronald Barriault  
Mr. Alan Graham  
Mr. André Harvey

M. Michael Binder  
M. Ronald Barriault  
M. Alan Graham  
M. André Harvey

**Secretary:**

**Secrétaire**

Ms. Kelly McGee

Mme Kelly McGee

**Senior Counsel :**

**Conseillère principal:**

Ms. Lisa Thiele

Mme Lisa Thiele

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Ottawa, Ontario

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--- Upon commencing at 9:01 a.m./

L'audience débute à 09h01

**MS. MCGEE:** Bonjour, Mesdames et Messieurs.  
Bienvenue à cette audience publique de la Commission  
canadienne de sûreté nucléaire.

Mon nom est Kelly McGee. Je suis la  
secrétaire adjointe de la Commission et j'aimerais aborder  
certains aspects touchant le déroulement des audiences.

The Canadian Nuclear Safety Commission is  
about to start the public hearing on the application by GE  
Hitachi for the renewal of the licences for the Toronto  
and Peterborough facilities. The Commission meeting is  
scheduled to take place after this hearing.

During today's business, we have  
simultaneous translation.

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

Please keep the pace of your speech  
relatively slow so that the translators have a chance to  
keep up.

Les audiences sont enregistrées et

1 transcrits textuellement. Les transcriptions se font  
2 dans l'une ou l'autre des langues officielles compte tenu  
3 de la langue utilisée par le participant à l'audience  
4 publique.

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

9 Les transcriptions seront disponibles sur  
10 le site web de la Commission dès la semaine prochaine.

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

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

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

19 President Binder.

20 **THE CHAIRMAN:** Thank you, Kelly, and good  
21 morning and welcome to this public hearing of the Canadian  
22 Nuclear Safety Commission.

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

25 Je souhaite la bienvenue aux gens ici

1       présents and welcome to all of you joining us through our  
2       webcast.

3                       I'd like to begin by introducing the  
4       members of the Commission that are here with us today.  
5       And on my right is Dr. Ronald Barriault; on my left, Mr.  
6       Alan Graham and Monsieur André Harvey. We've heard from  
7       Kelly McGee, the Assistant Secretary of the Commission and  
8       we have Ms. Lisa Thiele, Senior Counsel to the Commission,  
9       with us here today.

10                      The agenda was adopted yesterday. If you  
11       missed yesterday's event, you missed a good, interesting  
12       day.

13                      And I guess we can get going. Kelly ---

14                      **MS. MCGEE:** M'hm.

15                      **THE CHAIRMAN:** --- you've got some remarks  
16       to make.

17

18       **GE Hitachi Nuclear Energy**

19       **Canada Inc. (GE-Hitachi):**

20       **Application for the renewal of the**

21       **Licences for its Toronto and**

22       **Peterborough facilities in Ontario**

23

24                      **MS. MCGEE:** This is Day One of the public  
25       hearing. The Notice of Public Hearing 2010-H08 was

1 published on July 7<sup>th</sup>, 2010. Two revisions of the Notice  
2 were posted on the CNSC website on July 26<sup>th</sup> and September  
3 16<sup>th</sup> to change the date of today's hearing.

4 Submissions from GE Hitachi and CNSC staff  
5 were due on August 30<sup>th</sup>, 2010. I note that supplementary  
6 information has been filed by GE Hitachi since the first  
7 publication of the agenda.

8 Commission Member Document or CMD 10-H17.A  
9 is a confidential document and will be discussed in closed  
10 session after the public portion of the hearing.

11 **THE CHAIRMAN:** I correct myself. The  
12 agenda was adopted on Tuesday. I keep forgetting. It's  
13 been a long Tuesday-Wednesday.

14 Okay. Let's start by calling on a  
15 presentation from GE Hitachi as outlined in CMD 10-H17.1  
16 and 10-H17.1A. I'll turn the floor to Mr. Peter Mason,  
17 Chief Executive Officer.

18 Please proceed, sir.

19  
20 **10-H17.1 / 10-H17.1A**

21 **Oral presentation by**

22 **GE Hitachi**

23  
24 **MR. MASON:** For the record, Peter Mason,  
25 President and CEO of GE Hitachi Nuclear Energy Canada.

1                   Good morning, Mr. Chairman, members of the  
2 Commission and members of the public. It's my pleasure to  
3 make this presentation this morning. The presentation  
4 will cover our licence renewal request.

5                   I'd like to also give everybody an overview  
6 of our company and the sites that we're requesting the  
7 licence for. We'll cover details on our organization, the  
8 facilities and their operational history. Also, I'll  
9 explain some of the fuel manufacturing processes and also  
10 the nuclear services business that we're engaged in.

11                  During the presentation, I will cover some  
12 environmental health and safety performance metrics and  
13 then summarize our presentation.

14                  First of all, if I turn to Slide 3, the  
15 scope of our request, we are requesting a licence for a  
16 10-year period. We are requesting that period based on GE  
17 Hitachi's demonstrated good performance in all of the  
18 safety control areas and the fact that we have operated  
19 our facility safely for over 50 years.

20                  Also, we have, I think, a very positive and  
21 constructive relationship between GE Hitachi and our local  
22 communities which has been built over many, many years.

23                  I think that through the years we have  
24 developed a very clear understanding of the CNSC  
25 expectations. I think an example, the licence condition

1 handbook and the defined processes that we have in which  
2 both our staffs can manage any deficiencies that are  
3 found.

4 I think we have established and have a very  
5 constructive, regular communication between our company  
6 and the Commission and I think we have demonstrated an  
7 environment of continuous improvement over the 50 years  
8 that we have operated our facilities.

9 This time, rather than two separate  
10 licences, we are asking for a combined single licence to  
11 cover both facilities and the reasons for that, I think,  
12 are, you know, first of all, both facilities come under  
13 common management, common metrics, common performance  
14 monitoring. We have shared safety-control programs in  
15 both facilities and certainly a common quality assurance  
16 function.

17 Both the Toronto plant and the Peterborough  
18 plant are parts of an overall fuel bundling manufacturing  
19 process and interdependent of one another.

20 In terms of the operational status for  
21 renewal, we are not requesting any changes to our licence  
22 activity. There are no changes to our fuel-production  
23 levels; same production limits as the current licence  
24 which is 18,000 tonnes per year or 150 tonnes of natural  
25 uranium fuel per month.

1                   We do not foresee any production of low-  
2 enriched uranium fuel. That was really a development for  
3 the AECL advanced CANDU reactor and we don't see a need  
4 for that fuel in the foreseeable future.

5                   Certainly, if that comes about during the  
6 licence period, the CNSC would be given plenty of advance  
7 notice before any possible production.

8                   As far as our nuclear services business is  
9 concerned, the repair work on contaminated equipment that  
10 belongs to our customers, we'll operate within existing  
11 controls in terms of worker safety and certainly there are  
12 no new public environmental impacts without dialogue and  
13 approval from the CNSC.

14                   To give the Commission and the public some  
15 idea of the General Electric Company and where we fit in  
16 that organization, you can see many of the products that  
17 we're involved in on the left-hand side but really the  
18 company is divided into five segments. It's a \$180  
19 billion revenue company, with over 300,000 employees and  
20 over 144 companies.

21                   And one might ask, well what relevance is  
22 that and I think the importance is the -- we can leverage  
23 and benefit from the management processes, the  
24 environmental health and safety processes and the very  
25 strict monitoring that occurs throughout those

1 organizations.

2 If you look at the five segments, the  
3 consumer/industrial is what most people are familiar with  
4 -- appliances, lighting, consumer products, that type of  
5 thing.

6 We also have a very large technology  
7 infrastructure business. The health care business is one  
8 of the largest in the world, as well as aviation and  
9 transportation. We're also engaged in finance and  
10 telecommunications.

11 The segment are business that we are in, is  
12 the energy business and in particular in the power and  
13 water portfolio where we provide to electric utilities  
14 around the world.

15 In 2007, the GE nuclear business and the  
16 Hitachi nuclear business that had worked together for well  
17 over 15 years building reactors around the world emerged  
18 into an equity joint venture, forming the company GE-  
19 Hitachi Nuclear Energy.

20 The Commission would have been familiar  
21 with the previous name of our business which was GE Canada  
22 Nuclear Products. Since June of 2007 we have been called  
23 GE-Hitachi Nuclear Energy Canada.

24 On Slide 7 I have listed some of the things  
25 that the General Electric Company has been recognized for

1 and as I say, we've benefited from many of the processes  
2 that exist in the larger company and of which have been  
3 implemented in our own business here in Canada.

4 We have had our own recognitions in Canada;  
5 in 2008 we received recognition of our health and safety  
6 programs and in fact the federal government, HRDSC has  
7 identified us as a best practice and uses us and our  
8 programs for training of their inspectors.

9 In 2009 the Arnprior facility -- while not  
10 a nuclear facility as part of our business -- received the  
11 President's Award for health and safety from the IAPA.  
12 And our Toronto facility successfully completed the  
13 sustainability validation for the GE Global Star Excellent  
14 Award for health and safety which is a global process of  
15 auditing and recognition for -- within GE.

16 And in 2010 Peterborough also received that  
17 award and I might also mention that during the period of  
18 2009 and 2010 all of our facilities achieved ISO-14001  
19 recognition.

20 On slide 8, just further recognition of  
21 GE's initiative on integrity which we call "spirit and the  
22 letter" which is essentially focused on the integrity of  
23 running the business and also in terms of 100 percent  
24 compliant in all laws, regulations, and company policies  
25 and procedure, and this is driven throughout the company

1 with all employees signing off on the training and the  
2 commitment to this integrity policy.

3 On slide 9, I turn to the control and  
4 ownership of the Canadian entity, GE-Hitachi Nuclear  
5 Energy Canada. As I said, the equity joint venture was  
6 formed in June of 2007. We have a legal structure with a  
7 Canadian board of directors, consisting of GE Canada and  
8 Hitachi members. And myself and our CFO report to that  
9 board of directors for all legal and financial matters.

10 But from an operational point of view we  
11 have the benefit of working through the GE Energy matrix  
12 which you can see there on the solid line through to the  
13 fuel cycle business which is run out of Wilmington and the  
14 overall GE-Hitachi Global Nuclear business, which is  
15 headed up by Caroline Reda.

16 In terms of the Canadian organization I  
17 wanted to point out to you the relevant members of our  
18 organization. Mark Ward is the Operations Manager, very  
19 experienced manager in fuel manufacturing; Frank Didomizio  
20 who has over 30 years of experience in the nuclear  
21 services, both in terms of design but also in terms of  
22 service as well.

23 On the lower level where we have support  
24 functions, our Quality Manager -- the name is not there  
25 but it's Mr. Henry Hann. Henry has 35 years experience in

1 the nuclear industry; he is a qualified nuclear engineer  
2 and is the main driving force behind all of our quality  
3 manuals and initiatives.

4 And to my left, and on this chart here, Mr.  
5 Paul Desiri. Paul is our Environmental Health and Safety  
6 Manager and also our Nuclear Regulatory Officer for the  
7 business.

8 Slide 11, just graphically where our two  
9 nuclear facilities are -- we have the Toronto facility.  
10 This was part of the old GE Campus. The building was  
11 built in 1907; we have been producing ceramics there since  
12 the 1950s. We take the natural uranium oxide powder from  
13 Cameco in Port Hope and we turn that into precision  
14 dimension pellets.

15 In fact, you can see a small photograph in  
16 the centre of the slide of the finished ceramic pellet.  
17 It's 12 millimetres in diameter, 15.6 millimetres long and  
18 weighs about 20 grams. The final density of that pellet  
19 is about 10 times of what the original powder was and it's  
20 extremely hard and has been ground into precision  
21 dimensions.

22 We produce about 40 million pellets a year  
23 and in addition to satisfying our Canadian requirements we  
24 also export natural uranium pellets to our parent company  
25 in the U.S.

1                   At the Peterborough site we have two  
2 manufacturing operations under the licence; the first one  
3 is for the assembly of the bundles. We take the pellets  
4 and the zirconium tubes that are produced in our Arnprior  
5 facility and the pellets are inserted into the tubes and  
6 assembled into the fuel bundles.

7                   There is a slight mistake on slide 11; we  
8 manufacture over 40,000 fuel bundles per year, not 30,000.

9                   We also have a manufacturing operation, the  
10 nuclear services business. We design and build custom  
11 equipment for the nuclear industry for inspection  
12 maintenance and fuelling of CANDU Reactors and we also  
13 service some equipment, some tooling.

14                   All in all we have approximately 300  
15 employees, the majority of which are engineers and  
16 technicians in our Peterborough facility.

17                   Slide 12 is a photograph of the  
18 Peterborough area. You can see Little Lake in the  
19 background; the Peterborough -- sorry, the GE Campus which  
20 you see in the centre, the manufacturing campus has been  
21 there since 1892. We have been a core of the community  
22 since that time and continue to be so. And we have been  
23 able to develop and maintain very close relationships with  
24 the community, many of which of course work on the site.

25                   And I would also point out on the

1 photograph, just to your left and bottom of the  
2 photograph, the Prince of Wales Elementary School which is  
3 just across the road from our facility and we have an  
4 excellent relationship with the Parent/Teachers  
5 Association there, keeping them regularly informed of what  
6 we're doing and that type of thing.

7 Slide 13, we have a satellite photograph of  
8 the location in Toronto. Just to identify it, the road  
9 running horizontally through the photograph is Lansdowne  
10 Road the road running vertically adjacent to the vertical  
11 rectangle that's identified in yellow is Brandon Avenue  
12 and then to the right-hand side, we have the CN Railway  
13 which crosses Lansdowne Road.

14 Some of the history of our business. As I  
15 say, we were originally called GE Canada Nuclear Products  
16 before the alliance. We were formed in 1955 and we joined  
17 together with what was then Ontario Hydro and AECL to  
18 build the first commercial reactor in Canada; in fact, the  
19 second in the world in Rolphton, Ontario and ever since  
20 then we have been an integral part of the Canadian nuclear  
21 industry and you can read some of the milestones in that.

22 Some of the products that we have delivered  
23 are on the right-hand side and today we provide extensive  
24 engineering service as well as field service and equipment  
25 and products.

1                   On slide 15, I go into a little bit more  
2 detail in terms of what constitutes a fuel bundle. The  
3 process starts by taking a flat piece of zirconium and we  
4 then fuse beryllium powder onto the zirconium and then we  
5 punch out the spacers and peripheral pieces that will --  
6 or appendages that will be braised to the zirconium tubes  
7 to support the fuel bundle in the pressure tube of the  
8 reactor.

9                   We take the uranium pellets from our  
10 Toronto plant and each tube takes 32 of those pellets. We  
11 then put an end cap on the tube and weld it, test it and  
12 then assemble it into the fuel bundle.

13                   If we look at the Toronto process, making a  
14 fuel pellet you see on the first picture. The drums of  
15 uranium oxide powder from Cameco in Port Hope. We first  
16 compress that into hockey-puck sized pellets. Those  
17 pellets are then put into the cones that you see in the  
18 second picture together with a zinc stearate and that's  
19 blended together into a powder and then that powder is put  
20 into a hydraulic press where we press out the basic  
21 ceramic pellet. And slide 4, they're put into a sintering  
22 furnace and the pellet is sintered and you have the raw  
23 ceramic pellet.

24                   Then slide 5, each pellet is ground down to  
25 precision dimensions and inspected. And then in slide 6,

1       you can see the finished tray of pellet stacks; each stack  
2       consisting of, as I say, 32 pellets. That is then  
3       stacked, boxed and sent to the Peterborough facility.

4               Slide 17, I mentioned about the process of  
5       fusing the beryllium to the plate and the making of the  
6       appendages. The assembly process is fully automated in  
7       order to drive consistent quality, repeatability in the  
8       fuel bundle assembly. The appendages are braised to the  
9       tubes. The tubes are then coated with graphite. The  
10      graphite is then baked to drive out impurities -- you can  
11      see the ovens in picture 7.

12              In picture 8, the tube is then cut off to  
13      precision dimensions and the end prepared for the welding  
14      which is done in the process in picture 9. And then  
15      finally after testing each tube, it goes to bundle  
16      assembly in picture 8 which is fully automated welding  
17      process and we have the final bundle for inspection that  
18      you see at the end there.

19              We do approximately a hundred million welds  
20      a year and we have not had an in-reactor defect in 18  
21      years so it will give the Commission some idea of the  
22      level of product quality that we have to achieve.

23              On the services side of our business, we've  
24      put some pictures in of some of the sophisticated robotic  
25      equipment that we designed and built for the nuclear

1 industry. Fuelling machines, the fuelling system, the  
2 tool in the bottom left-hand corner was part of the  
3 tooling for the Bruce re-tube work and on the bottom  
4 right-hand side is what we call a universal delivery  
5 machine which is a robotic machine for inspection and  
6 maintenance of a CANDU reactor.

7           Some of the recent tooling that we've  
8 provided the industry. You can see some very flexible  
9 platforms -- work platforms -- for the shielding and  
10 protection of workers working on the face of the reactor  
11 and this has been very successful in reducing the dose  
12 that workers are exposed to as well as improving the  
13 productivity of the maintenance and inspection work.

14           Over the years, I think specialized  
15 machining and fabrication processes have declined and in  
16 our business we have been investing in new equipment and  
17 the training and education of our employees to re-  
18 establish very specialized machining capability which is  
19 not available to us outside.

20           Turning our attention to our safety  
21 performance, I think in our written submission there's  
22 some -- there are extensive details in terms of both our  
23 programs -- the control programs -- and also the metrics  
24 on our performance and what I will do now is to try and  
25 give you an overview of some of those metrics.

1 Slide 22, turning our attention to  
2 Peterborough and our environmental performance, one of the  
3 metrics which we monitor very carefully is our beryllium  
4 air emissions. The environmental limit, as you can see on  
5 the chart there, is 0.03 micrograms/m<sup>3</sup> of air and you can  
6 see on the bottom of the chart there, the average  
7 beryllium concentration that we actually measure in the  
8 stack. It's not measured outside where there would be a  
9 dispersion ratio, but rather we measure what is in the  
10 stack and it's certainly significantly less than 1 percent  
11 of the limit and you can see year after year, we have  
12 sustained that performance.

13 On the uranium air emissions, there is very  
14 little from the Peterborough operation because we're  
15 really dealing with ceramic pellets where there's very  
16 little dust. What we have done since our -- or during the  
17 last licensing period is in dialogue with the Commission  
18 staff. I think we all recognize that the actual limit  
19 which has been calculated by looking at exposure to the  
20 public, the actual limit of 11,000 grams a year is just  
21 not a practical limit. So we have agreed with Commission  
22 staff that a more appropriate limit would be what would be  
23 equivalent to 20 microSieverts exposure to the public and  
24 that would equate to, as you can see on the chart, 550  
25 grams and even there we are at about 10<sup>-5</sup> of the new limit

1 so I think you can see that's a very low level indeed.

2 Turning our attention to Toronto, the issue  
3 there is around the natural uranium that we handle both in  
4 the powder and ceramic form. If we look at the liquid  
5 emissions, again, we felt there was a similar issue. If  
6 we calculate the limit based on exposure to the public,  
7 we're looking at a limit of 185,000 kilograms per year and  
8 we couldn't afford to throw that away. So again, in  
9 conjunction with the CNSC staff, we took the 20  
10 microSieverts exposure as a reference and that equates to  
11 9,000 kilograms per year down the sewer. But even at  
12 that, I think we would never get to that point.

13 But you can see our measurements in the  
14 bottom of the chart there, fairly consistent.

15 We are looking at two kilograms per year.  
16 And I'm pleased to tell the Commission that with some of  
17 our continuous improvement projects we had a very  
18 successful 6 sigma project which has been implemented this  
19 year. We are focusing that we were down to less than one  
20 kilogram for 2010. So even though we are well within the  
21 limit we are still striving towards a zero emissions  
22 facility.

23 If we look at the uranium air emissions,  
24 again adopting the same principle that I've described,  
25 considering a 20 microsievert exposure to the public if

1 they were stood permanently at our fence, this would  
2 equate to 760 grams per year, and you can see our actual  
3 releases that have been measured and that equates to 1.7  
4 percent of our new proposed limit.

5 Our safety performance, which again we have  
6 been driving a continuous improvement across all of our  
7 facilities, you can see on the left-hand side 2008 was the  
8 first year in fact we achieved zero recordable injuries of  
9 any kind in all four manufacturing locations and certainly  
10 in our two licensed -- our three licensed manufacturing  
11 facilities and we're continuing to strive for that zero  
12 injury rate in those facilities; a slight blip in terms of  
13 an injury in 2009, and in 2010 year-to-date we have two  
14 injuries in our Peterborough service operation but they  
15 were very minor.

16 In terms of effective dose, first of all,  
17 in Toronto, in the top right-hand chart, you can see the  
18 average five-year limit is 20 on the vertical axis and  
19 you can see that our average dose is well below that and  
20 consistently through the years.

21 In Peterborough the average dose is  
22 slightly lower, as you would expect, as there isn't the  
23 same exposure as in Toronto.

24 In summary, I would say that our current  
25 safety programs have proved themselves to be effective and

1 robust, resulting in a long history of safe and compliant  
2 operation.

3 Certainly we have had no environmental  
4 issues or impacts to the environment or public throughout  
5 the licence period, and as I said earlier, we continue to  
6 strive towards being a zero emissions facility.

7 We continue to strive to be a world class  
8 safety company through the application of the best  
9 available technology and the best practices that we're  
10 able to share with our global company. I think that we've  
11 demonstrated a real commitment to continuous improvement  
12 and to the principles of ALARA.

13 Thank you.

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

15 Before getting into some questions I'd like  
16 to hear from CNSC staff and they will make a presentation  
17 as outlined in CMD H17 and I understand that Mr. Elder  
18 will make the presentation.

19 Go ahead please.

20

21 **10-H17**

22 **Oral presentation by**

23 **CNSC staff**

24

25 **MR. ELDER:** Thank you.

1                   Good morning, Mr. President and Members of  
2                   the Commission. My name is Peter Elder; I'm the Director  
3                   General of the Directorate of Nuclear Cycle and Facilities  
4                   Regulation.

5                   With me today are Mr. B.R. Ravishankar, the  
6                   Director of the Processing and Research Facilities  
7                   Division, and Mr. Gerald Crawford is a Project Officer for  
8                   GE-Hitachi Nuclear Energy Canada Licensed Facilities.

9                   For the rest of the presentation, for  
10                  simplicity, we'll refer to the licensee as either the  
11                  licensee or GEHC.

12                  We also have other members of staff  
13                  available to answer questions.

14                  This licence renewal has been requested by  
15                  GEHC to allow them to continue to produce nuclear fuel  
16                  pellets and assemble uranium fuel bundles at their two  
17                  licensed facilities in Toronto and Peterborough, Ontario.

18                  During this presentation CNSC staff will  
19                  provide the Commission with an overview of the licence  
20                  application request, CNSC staff proposed changes to the  
21                  licence structure for the facilities, a brief summary of  
22                  staff's review of the licensee performance and respect to  
23                  key safety and control areas and as well as staff's  
24                  overall conclusions and recommendations.

25                  GEHC, as the Applicant has said, is part of

1 a larger international nuclear services company and again  
2 part of General Electric in general. Canadian  
3 subsidiaries of General Electric Group have been making  
4 nuclear fuel pellets and nuclear bundles at the two sites  
5 for a long period of time.

6 GEHC is part -- again as has been noted,  
7 has draws on this well-established organization and this  
8 is something that we take into consideration when we look  
9 at their programs and we note that they are responsible  
10 for producing about half of the CANDU reactor fuel used in  
11 Canadian power plants.

12 As has been stated, the safety and  
13 management processes used to fabricate this fuel are also  
14 well-established and common between the facilities.

15 In addition, the licensee, GEHC, is allowed  
16 to do some work on -- it's licensed to do some work on  
17 contaminating -- or working on potentially contaminated  
18 equipment from their fuel services business.

19 I'd just like to make a comment, short  
20 comment on the risk information that is provided in the  
21 CMD. This is provided for context only. Obviously staff  
22 look at all -- every applicable regulatory requirement in  
23 assessing an application but we do like to give the  
24 Commission and the public some context about how we see  
25 the various risks.

1                   As noted in the CMD, the Toronto and  
2 Peterborough facilities, from a compliance perspective,  
3 are ranked as medium and low-risk respectively. The  
4 difference is related to the fact that the Toronto  
5 facility handles fine uranium oxide powder and this  
6 requires a number of additional protective measures, so we  
7 put more emphasis on making sure that those measures  
8 remain in place.

9                   CNSC staff has prepared CMD 10-H17 to  
10 address the current and future licensing requirements, so  
11 we've been trying to make sure that we looked at their  
12 assessment during the current period but also look forward  
13 to what they need to do and what needs to be controlled in  
14 the future.

15                   So one of the things that we have been  
16 doing, there are a number of changes in the proposed  
17 licence going forward to address some of these. Firstly,  
18 as noted by the Applicant, they would like the two  
19 licenses combined into one and that the new licence would  
20 cover a period of 10 years.

21                   Secondly, you'll note that the CNSC has  
22 applied its new licence structure to this application and  
23 that we have produced the associated licence condition  
24 handbook, a draft version of which is attached to the CMD.

25                   Again, while these changes are explained in

1 detail in the CMD, the presentation will highlight some of  
2 the key changes as well as the logic for them.

3 I will now pass the presentation over to  
4 Mr. Ravishankar.

5 **MR. RAVISHANKAR:** Good morning, Mr.  
6 President and Members of the Commission.

7 The CMD being presented today provides CNSC  
8 staff's analysis and review of the licence renewal  
9 applications and recommendations to the Commission, the  
10 approval of the licence renewal for these facilities.

11 GEHC requested a licence renewal in June of  
12 2010 to produce uranium oxide fuel pellets at the Toronto  
13 facility and to assemble low enriched fuel bundles at the  
14 Peterborough facility.

15 In their application for renewal they  
16 requested a 10-year licence period. This application did  
17 not request any other changes to the current licence  
18 limits or licence conditions.

19 The two GEHC facilities have been producing  
20 CANDU reactor fuel for many years. Over the years the  
21 area around the facilities has become less industrial and  
22 more residential. However, the observed level of public  
23 interest or concern remains low.

24 During the current licensing period the  
25 management of the facilities has also evolved with both

1 sides now sharing a common management structure and having  
2 common safety and control programs. It is for this reason  
3 that CNSC staff consider it appropriate to combine the two  
4 licences into one which specifically has limits for each  
5 site.

6 Note that the operating performance during  
7 the current licensing period has been satisfactory at both  
8 facilities. The proposed changes to the licence are to  
9 provide clarity of requirement, not to address the  
10 performance issues.

11 The remainder of the presentation will  
12 summarize the assessment of safety and control areas. As  
13 the CMD combines the report on the performance of the two  
14 facilities, this presentation summarizes the combined  
15 performance of the two facilities.

16 I will now pass the presentation over to  
17 Gerald Crawford.

18 **MR. CRAWFORD:** Good morning, Mr. President  
19 and Members of the Commission.

20 In this presentation I will summarize the  
21 findings on the operational performance of this licensee  
22 as described in the CMD.

23 Overall, the licensee has during the  
24 licence period demonstrated a satisfactory or fully  
25 satisfactory operational performance in the safety and

1 control areas identified. Based on this assessment, staff  
2 considered GCH-C to be qualified to carry out the licensed  
3 activities at both Toronto and Peterborough.

4 Staff also note that during this licence  
5 period there have been no event notifications to the  
6 Commission nor any *Nuclear Safety Control Act* reportable  
7 events.

8 The next four slides will summarize the  
9 operating performance of the licensee in the areas of  
10 environmental releases, radiation dose to the workforce,  
11 radiation dose to the public and conventional health and  
12 safety.

13 However, before continuing I would like to  
14 draw the Commission's attention to an error in CMD 10-H17  
15 in Section 3.9.2 on page 24.

16 **THE CHAIRMAN:** You're going too fast for  
17 us. Can you repeat those?

18 **MR. CRAWFORD:** Yes, 3.9.2. It's on page 24  
19 and there's a Table 1.

20 **THE CHAIRMAN:** Page 24, Table 1.

21 **MR. CRAWFORD:** And in Table 1 in column --  
22 it says "2009" column and it's the "Toronto discharges to  
23 air" and it has a value of 2. It should say 12.7, which  
24 is more consistent with the other numbers on the table.

25 In slide 8 we've identified, summarized the

1 environmental releases over the licensing period. This  
2 data is taken from section 3.9 of the CMD. Each of these  
3 facilities process around 800 to 1,000 tonnes of uranium a  
4 year. The amount of material lost to the environment is  
5 below on thousandth of a percent for the Toronto facility  
6 and below a millionth of one percent for the Peterborough  
7 facility.

8 The figures in brackets represent the  
9 percentage of the calculated derived release limits based  
10 on a dose of 1,000 microsieverts to the public.

11 This low level of release to the  
12 environment is one of the main reasons for assessing the  
13 safety and control area -- or this safety and control area  
14 as fully satisfactory.

15 On slide 9 we look at the radiation doses  
16 to the workforce. These dose figures are well below the  
17 regulatory limit of 50 millisieverts per year and 100  
18 millisieverts over five years. There is a small number of  
19 GCH-C staff who do receive between 8 and 10 millisieverts  
20 a year and these are well-identified staff who work in  
21 what is described as the "sort and stack" of finished  
22 pellets and do the quality checks on the finished bundles.

23 The Radiation Protection Program has been  
24 assessed by staff as satisfactory throughout the current  
25 licensing period and this assessment of performance shows

1 that GCH-C has an effective program in place to manage  
2 radiation doses.

3 The radiation dose to the public is too low  
4 to be directly measured at these facilities. However,  
5 staff can make an estimate based on the amount of material  
6 that is released each year and this slide shows that these  
7 estimates of doses are very low.

8 For context the Atomic Energy Agency has a  
9 guideline that says that if a release contributes less  
10 than 50 microsieverts, the release does not necessarily  
11 need to be regulated at all. The public doses shown on  
12 this slide are well below this guideline value. The doses  
13 can also be compared to the public dose limit of 1000  
14 microsieverts and the natural background radiation levels  
15 in Canada of approximately 3,000 microsieverts per year.

16 Section 3.8 of the CMD covers the  
17 conventional health and safety and this was assed by staff  
18 as fully satisfactory. There have been no lost time  
19 accidents at Peterborough during the current licensing  
20 period and two at Toronto. These both occurred in 2007  
21 and there have been none since 2007.

22 Slide 7 indicates that there have been no  
23 event notifications to the Commission during this  
24 licensing period and there have been no events that  
25 require reporting under the *Nuclear Safety and Control*

1       Act.

2                   The facilities, however, do have minor  
3 events from time to time that are investigated and using  
4 their own internal procedures, and when requested, copies  
5 of these event reports are sent to CNSC staff. This  
6 assures CNSC staff that the internal procedures are being  
7 followed and the effective corrective actions are being  
8 put into place.

9                   CNSC staff are looking for continuous  
10 improvement in all safety and control areas. This CMD  
11 identifies two areas where staff have requested  
12 improvements to be made.

13                   GCH-C has had a long established Quality  
14 Assurance Program that forms part of their management  
15 system. However, the scope of the program was focussed on  
16 product quality and did not explicitly encompass all the  
17 licensed activities. GCH-C have, therefore, committed to  
18 producing a new quality assurance program manual and  
19 associated procedures.

20                   The Public Information Program has also  
21 been assessed by CNSC staff and is in need of improvement.  
22 The improvements to the website have been made over the  
23 last two years but it still has further improvements to be  
24 considered to be fully satisfactory.

25                   Staff are proposing to include a new

1 licence condition on public disclosure similar to that  
2 recently included in other processing facility licences.  
3 Furthermore, staff have included routine reporting  
4 requirements on the Public Information Program. This will  
5 give CNSC staff the necessary tools to ensure that the  
6 improvements are made and maintained.

7 These areas for improvement have been  
8 identified in the licence conditions handbook. This is  
9 the tool that staff will use to track and monitor these  
10 improvement initiatives.

11 For Toronto, during the proposed 10-year  
12 licensing period, there are no planned changes that have  
13 been identified to CNSC staff. The current licence  
14 activities are expected to continue throughout this time  
15 at the existing facility.

16 Similarly, for Peterborough there are no  
17 activities planned that are not covered by the current  
18 licence. However, earlier this year a licence amendment  
19 was approved that will allow the use of enriched uranium  
20 at the Peterborough facility.

21 No work with enriched uranium is expected  
22 in the near future and any work that is done at the  
23 facility to process enriched uranium will be controlled  
24 using the current criticality safety licence conditions.  
25 These can now be found in Section 16 of the proposed new

1 licence.

2 Staff note that there is a low level of  
3 public interest in either facility. This has been the  
4 case during the current licensing period. Staff have  
5 nevertheless contacted a number of Aboriginal groups in  
6 Ontario to advise them of the current licence renewal.  
7 To date no concerns have been raised from any Aboriginal  
8 group including those that have been contacted directly.

9 In conclusion, CNSC staff have reviewed the  
10 request for the licence renewal for GE Hitachi Nuclear  
11 Energy Canada Inc. for its Toronto and Peterborough  
12 facilities.

13 Staff has assessed the operating  
14 performance during the current licensing period and  
15 concluded that GEH-C are qualified to continue to operate  
16 both facilities.

17 The licence renewal application requested a  
18 10-year licence and the CNSC staff are able to support  
19 this request on the basis of satisfactory performance and  
20 the consistent operation of the two facilities over  
21 several decades.

22 In addition, staff conclude that the  
23 management and the operating programs are basically the  
24 same for both facilities and, therefore, propose to  
25 consolidate the two facilities into one fuel facility

1 operating licence.

2 CNSC staff recommend that the Commission  
3 renew the fuel facility operating licence for a period of  
4 10 years and they issue the new licence to cover both  
5 facilities, as described in CMD 10-H17.

6 Staff also recommend to the Commission that  
7 the new licence structure with the associated licence  
8 condition handbook is adopted.

9 This concludes my presentation. I will now  
10 return the floor to Mr. Elder.

11 **MR. ELDER:** Thank you.

12 That also concludes our overall  
13 presentation. CNSC staff is now available to answer any  
14 questions.

15 **THE CHAIRMAN:** Thank you.

16 I'd like to open the floor for questioning,  
17 and we'll start with Mr. Graham.

18 **MEMBER GRAHAM:** Thank you, Mr. Chair.

19 A series of questions, but I think I'll  
20 start off with the one with regard to the licensing period  
21 of 10 years. To CNSC staff, you are recommending 10  
22 years.

23 Because the facilities do two different  
24 processes, will the handbook differ for each facility?

25 **MR. ELDER:** What we have done is produce a

1 single handbook and within the handbook if there are  
2 differences for the different facilities, they are noted  
3 in the handbook.

4 For example, the action levels for programs  
5 for radiation protection may be different for the  
6 different facilities or for the release of -- especially  
7 for the environmental releases given that the -- so that  
8 those differences are noted within the handbook.

9 But for most of the programs and most of  
10 the licence conditions, the approach -- they have similar  
11 programs so it's 90 percent similar with where we need to  
12 be different, there are clear -- what's for GE and what is  
13 for Peterborough and what is for Toronto.

14 **MEMBER GRAHAM:** And where Peterborough will  
15 be processing enriched, that handbook would change also?

16 **MR. ELDER:** In terms of the rich fuel --  
17 actually, the licence condition would say, yes, in terms  
18 of the requirements if you have enriched fuel on-site here  
19 are the requirements, they are in the licence. Then the  
20 handbook would go into what the requirements are for the  
21 criticality safety program.

22 **THE CHAIRMAN:** Sorry, but -- let me  
23 understand, if enriched uranium is starting to be  
24 processed, you will like to come in front of us or you  
25 will have to make a special submission on that. Is that

1 correct? Or is it already in this -- in this Hearing we  
2 are approving this to allow you to go and do it without  
3 any further approval required? I just want clarification  
4 of that.

5 **MR. ELDER:** Just for clarification, there  
6 was a separate hearing in January of this year to give  
7 them that approval for the Toronto facility.

8 If you look at, in terms of licence  
9 conditions, section 16 of the licence, it actually has  
10 specific requirements in terms of the Peterborough  
11 facility around criticality safety.

12 Okay, so as I said, it's on the draft  
13 licence.

14 **THE CHAIRMAN:** Yes.

15 **MR. ELDER:** It's page 6 of 9. And if you  
16 -- on Conditions 16.2 to 16.5.

17 **MEMBER GRAHAM:** That's right.

18 **MR. ELDER:** And there are specific  
19 requirements for the Peterborough facility.

20 **MEMBER GRAHAM:** So you don't come back?

21 **MR. ELDER:** The only thing that was not  
22 completed in terms of this one, as you may remember from  
23 the hearing in January, was that they will actually have  
24 to make a -- the Commission will have to make a -- need to  
25 make a decision about the nuclear liability insurance

1 required for its facility unless the *Nuclear Liability Act*  
2 -- you know under the current *Nuclear Liability Act*, the  
3 Commission still has to formally say this is a facility  
4 under the Act before your enriched uranium can be used.

5 So there is a step where they would have to  
6 come back to the Commission.

7 **THE CHAIRMAN:** But they do -- it says:

8 "The licensee shall produce a nuclear  
9 criticality safety manual acceptable..."

10 Right?

11 **MR. ELDER:** That's right.

12 **THE CHAIRMAN:** Okay.

13 **MEMBER GRAHAM:** Also -- and I don't want to  
14 jump around because I had a series of questions and I want  
15 to follow the slides first, but I do want to come back to  
16 changes within the financial guarantee in the PDP if and  
17 when you start doing the enrichment; but I'll come back to  
18 that later because I just want to finish with the slides  
19 first -- your slide deck.

20 The public information is one of the areas  
21 cited by the Commission, and my question is to GE-Hitachi.

22 What type of public information program do  
23 you have in place at this time?

24 **MR. MASON:** For the record, Peter Mason.

25 Well, we do have a website that we post

1 information. We also keep people within half-a-kilometre  
2 around the facilities informed of what we are doing.

3 Our understanding from our dialogue with  
4 the Commission staff was that there were three  
5 shortcomings that we had in terms of our public  
6 information process.

7 First of all was our procedures, and we've  
8 updated those procedures.

9 The second one was our website was lacking,  
10 and I thought that we had brought that up to the  
11 requirements, but we'll check on that one.

12 And then the third one, which we didn't  
13 realize was required, was a media analysis and we've  
14 recently had our media -- or public relations department  
15 in at our head office in Toronto do a media analysis of  
16 all of the related articles to our business and, in  
17 particular, Toronto and Peterborough. So we have sent  
18 that to the Commission.

19 So hopefully we have addressed the  
20 shortcomings that were identified by the staff.

21 **MEMBER GRAHAM:** You do send out newsletters  
22 to the one-half kilometre radius people in the area,  
23 keeping them informed?

24 **MR. MASON:** When we make changes or if  
25 things are happening, yes.

1                   **MEMBER GRAHAM:** How often? Would that be  
2 several times a year or only once every two or three  
3 years?

4                   **MR. MASON:** I would say -- yeah, it's  
5 really associated with changes, so it's probably only once  
6 every two or three years. It's only when we have  
7 something to say really.

8                   **MEMBER GRAHAM:** I guess just the awareness  
9 that there is radioactive material being processed across  
10 the street from that row of houses we see and so on, are  
11 the people aware of that? I mean, are there -- does the  
12 signing show that?

13                               In Toronto, it's a very large complex,  
14 right? Or your facility is doing more than just that.  
15 And Peterborough is doing more than just that, than  
16 processing pellets or processing -- making the bundles and  
17 so on.

18                               So you are doing other things at that site,  
19 but are the people aware that there is radioactive  
20 material on-site, say, across the street from where they  
21 live?

22                   **MR. MASON:** For the record, Peter Mason.

23                               If we look at the Toronto site, yes, at one  
24 time it was a very large GE site.

25                   **MEMBER GRAHAM:** Yes.

1                   **MR. MASON:** Today, we are the only  
2 remaining ---

3                   **MEMBER GRAHAM:** Oh, you are the only one?

4                   **MR. MASON:** --- GE business on that site.  
5 In fact, much of the GE campus that was there has been  
6 sold off to developers and, in particular, on the west  
7 side of Lansdowne Road that has been developed.

8                   On Brandon Avenue, we -- I think we have a  
9 long history of dialogue with the residents there. We've  
10 probably spent half-a-million dollars in beautifying the  
11 area, which has been very well received by the residents  
12 there.

13                   In Peterborough you're quite correct in  
14 that the large industrial campus which is GE's and as I  
15 mentioned earlier has been there since 1892, has two  
16 businesses, the nuclear business and the motor's business.  
17 The motor's business takes up the largest portion of the  
18 site and has the largest number of employees.

19                   As part of our application for low enriched  
20 uranium fuel, we had several public hearings. We had  
21 meetings with the school, parents and teachers, and the  
22 local leadership. So people are well aware. We've been  
23 there for 50 years. They're well aware of the sort of  
24 thing that we do there.

25                   **MEMBER GRAHAM:** Will you, in this licensing

1 period -- do you anticipate moving your Toronto operation  
2 because it's small down just to that very valuable land  
3 for other development moving it and consolidating it all  
4 in Peterborough?

5 **MR. MASON:** For the record, Peter Mason.

6 No, we have no plans to move the Toronto  
7 facility. It's very efficient, very well run and one  
8 could not justify the cost of consolidation to move that  
9 to Peterborough.

10 **MEMBER GRAHAM:** One of your slides -- got  
11 to go back to it -- one of your slides you referred to  
12 discharge. The amount of discharge was very -- in  
13 percentage it was very little and I'm not sure whether it  
14 was a CNSC slide or whether it was -- yes, okay. That's  
15 the one it was.

16 In the context of -- yeah, in the context  
17 of discharge, to read this correctly, the annual discharge  
18 would be how many kgs in total? Is it kgs per day, kgs  
19 per -- it's annual discharge and kg is one of them. Well  
20 I'm just trying to get an idea of how much of this is  
21 going into the sewage system or is it going into --  
22 discharged into some type of container and processed  
23 somewhere else?

24 **MR. MASON:** For the record, Peter Mason.

25 Well, the process is that all of the water

1           whether it be from just mopping up the floor or from our  
2           processes, gets drained down into specific drains to a  
3           storage tank in the basement of the building. That is a  
4           water treatment facility and ---

5                       **MEMBER GRAHAM:** This is Peterborough you're  
6           talking about?

7                       **MR. MASON:** This is Toronto.

8                       **MEMBER GRAHAM:** Oh, Toronto, okay.

9                       **MR. MASON:** This is Toronto because that's  
10          where we're dealing with uranium powder, uranium dust.

11                      That water is then treated by flocculation  
12          and the water tested before it's actually discharged to  
13          the sewer. But even the water that's discharged the  
14          sewer, we measure the concentration in that discharged  
15          water to the sewer and therefore calculate the actual  
16          amount of uranium that is discharged into the municipal  
17          sewer. The amounts that you see on the bottom of the  
18          chart on slide 23 in terms of liquid emissions is what we  
19          calculate to be discharged into the sewer.

20                      **MEMBER GRAHAM:** Okay.

21                      **MR. MASON:** So 2 kilograms in 2009 into the  
22          sewer.

23                      **MEMBER GRAHAM:** And that meets, CNSC, all  
24          levels of -- that's within the permissible levels that  
25          could be discharged?

1                   **MR. MASON:** The question -- yes, it's well  
2 within the permissible levels.

3                   In fact, when we talked about putting a  
4 limit that used to be based on the derived release limit  
5 and going to a smaller limit, what we -- the basis for the  
6 smaller limit was actually below or at IAEA clearance  
7 levels for uncontrolled release into a sewer.

8                   So and just to point out, that's what the  
9 licence limit will be if you look in the handbook. There  
10 are a number of action levels and controls to make sure  
11 that you never get to that limit. It's a batch release  
12 process and so every batch is tested before release.

13                   But we felt that it was important to have a  
14 realistic limit.

15                   **MEMBER GRAHAM:** That's right, okay. So  
16 that is there in the handbook.

17                   **MR. MASON:** Yeah.

18                   **MEMBER GRAHAM:** Can we then go to  
19 Peterborough and your water collection and so on, how  
20 that's done? You gave us Toronto and your treatment of  
21 the water and so on.

22                   What I'm going to come to and I brought it  
23 up five years ago. I brought it up at your licensing and  
24 so on.

25                   My concern is of global warming, the flood

1 in Peterborough; recent flood in St. John's, Newfoundland  
2 which was a complete disaster; still is over there. The  
3 amount of precipitation that fell within a very short  
4 period of time was never ever experienced in history in  
5 Newfoundland. I don't know whether -- how it compares.  
6 The information that I got that the rainfall out of Trent  
7 was about 200 millimetres of that major rainfall back in  
8 2005.

9 I'm just wondering is if you were at the  
10 eye of a major rainfall again, can you accommodate  
11 protection that there isn't -- surface water doesn't get  
12 into the general stream of the public and so on and is  
13 there major controls to do that? Got up almost to that --  
14 there was water, I think, in parts of the building at  
15 Peterborough last time but it wasn't -- it was water that  
16 you could handle and treat. That was almost at a maximum.

17 Explain to me how you're going to control  
18 it if you got a bigger storm or a bigger amount of  
19 rainfall.

20 **MR. MASON:** For the record, Peter Mason.

21 Yeah, two points to make.

22 First of all, in Peterborough we are  
23 dealing with ceramic pellets so there is very, very little  
24 dust, uranium dust involved in that process and certainly,  
25 we have no water used in our process. So in actual fact

1 we do not on an ongoing basis monitor and measure uranium  
2 content in our water discharge -- I think that's correct.

3 In terms of an emergency situation, and I  
4 remember your question from your mid-year review and we  
5 went back and familiarized myself with what -- and we  
6 actually built a new berm in order to contain water that  
7 ends up on the shop floor and direct it into our receiving  
8 bay which is a large area where it can be treated in batch  
9 form and then we have a pump there where we can pump it  
10 into the -- from the sump into the -- discharge it into  
11 the sewer once that water has been tested.

12 And to give you some idea of what -- when  
13 we had the flood before we did have some -- two inches of  
14 water in areas of our manufacturing floor space, yeah. So  
15 we built a berm in order to be able to contain it and then  
16 treat it.

17 **MEMBER GRAHAM:** Just, and I don't want to  
18 get into this long dissertation but that was based -- the  
19 berm was built based upon the flood of 2005 and the  
20 rainfall of 2005 -- the two inches of water that came in  
21 the floor with the berm, it would still come there but you  
22 would be able to maintain and treat the water, is that  
23 right?

24 I'm wondering is if you had a larger  
25 rainfall which is highly unlikely but is likely after what

1 -- with climate change and so on, are you able to  
2 accommodate holding the water long enough to treat it?

3 **MR. MASON:** For the record, Peter Mason.

4 I'm going to defer that to my colleague,  
5 Paul Desiri who may have more details of that to provide  
6 for the Commission on that.

7 **MR. DESIRI:** For the record, Paul Desiri.

8 In addition to the controls that Mr. Mason  
9 already mentioned, we also have an agreement with a third  
10 party, Newalta, who has facilities and equipment to come  
11 onsite and remove the water and contain it until it can be  
12 measured.

13 I also wanted to add one thing. In  
14 addition to the controls we as a site have done, the city  
15 itself has done significant upgrades on three fronts.

16 They developed a flood plain for overland  
17 flow and well-defined routes.

18 They've upgraded their sewer system and  
19 they put measures in place to prevent unnecessary water  
20 getting in their sewer system.

21 So I guess to summarize, you know, we had a  
22 catastrophic 100-year flood and we only had a couple  
23 inches of water in our facility. Well, since then we now  
24 have measures to contain it locally and also the city  
25 itself is more prepared.

1                   **MEMBER GRAHAM:** CNSC staff, are you  
2                   satisfied that there are enough mitigating measures in  
3                   place to accommodate a rainfall similar to what happened  
4                   seven or eight days ago in St. John's, Newfoundland, in  
5                   Peterborough?

6                   **MR. ELDER:** I'm going to say yes because  
7                   going back in we looked at this in terms of whether the  
8                   risks in that has been noted. These are sintered pellets,  
9                   so one of our -- one of the things that we looked at in  
10                  detail in terms of using slightly enriched uranium is that  
11                  could you have a criticality hazard with the flood. All  
12                  the criticality measures would be designed to deal with  
13                  that.

14                  Otherwise, there is not a lot of -- as I  
15                  was saying -- there is not loose contaminated material  
16                  around this facility so you would not expect a lot of --  
17                  that there to be a lot of contamination picked up, even  
18                  with floods consideration. But has has been noted, both  
19                  the licensee and the city have taken a number of measures  
20                  to improve the flood control that we were aware of.

21                  **THE CHAIRMAN:** Okay. But while we are  
22                  still on those slides about emissions, first of all I got  
23                  -- you know, it's really difficult to compare your chart  
24                  and CNSC's chart.

25                  If you look at the executive summary, let's

1 look at page 2 of your executive summary of CNSC, the DRL/  
2 kilograms. Again, I don't see any of those numbers that  
3 are being used by GE.

4 I still see the 182,000 kilograms, et  
5 cetera, as a limit. I think Mr. Mason said it's not a  
6 credible kind of a limit if I quote him correctly.

7 Why are we using this particular limit  
8 still?

9 **MR. ELDER:** It's a -- we take your point in  
10 terms to comparison. It is what the limit was when you're  
11 looking at past performance over the licence period  
12 against what their limit was.

13 **THE CHAIRMAN:** Okay ---

14 **MR. ELDER:** (Inaudible) looking forward to  
15 where -- where we would like to put the limit.

16 **THE CHAIRMAN:** Well, if they propose it why  
17 -- okay ---

18 **MR. ELDER:** We're accepting what they have  
19 proposed.

20 **THE CHAIRMAN:** And I thought you translated  
21 this into the handbook, you know, those numbers, so why  
22 are we still using the old numbers is my point?

23 **MR. ELDER:** Okay, I understand the point  
24 but we tend to compare -- when you're looking at past  
25 performance, you compare them at the limit that they were

1           supposed to be working towards and we probably should have  
2           put the proposed limit on as well.

3                       **THE CHAIRMAN:** The second thing is, I  
4           thought there's different measures, and I'm now going back  
5           to -- you know, there's a big debate -- MOE is trying to  
6           come up with some new limits for uranium in here. I don't  
7           know if you are party to some of the discussion.

8                       But I thought the measures are not an  
9           annual kind of emission, they're more like in air, like  
10          metric cube coming out, maximum daily, whatever it is. I  
11          thought it was more like -- I really don't like this  
12          annual limits because, you know, you can get it all in one  
13          day and the rest of the year it's zero.

14                      I don't know what is -- it seems to me we  
15          use a different measure. Am I wrong, or please correct  
16          me?

17                      **MR. DESIRI:** For the record, Paul Desiri.

18                      We report annual discharges but we also  
19          report daily concentrations. So we measure uranium  
20          emissions in all our stacks every 24 hours and that's  
21          consistent with what the MOE is proposing; they're  
22          proposing a daily average concentration limit.

23                      **THE CHAIRMAN:** Isn't that a better kind of  
24          a measure? I'm just trying to understand.

25                      We've got to come up with some uniformity

1 so we can compare not only your facility but other  
2 facilities. We've got to come -- some sort of -- uranium  
3 in air, uranium in water, and tritium, they have topics in  
4 many of our facilities, we've got to come up with a common  
5 way of making them comparable.

6 **MR. DESIRI:** For the record, Paul Desiri.

7 I believe both measures are important. The  
8 daily limits -- we compare our daily emissions to our  
9 action levels and we've been well within our action levels  
10 through our licence period.

11 So that is important, as is the annual  
12 discharge which is what is related to the actual annual  
13 exposure to a member of the public.

14 **THE CHAIRMAN:** And the other one is --  
15 again, remind me why one might have different limits per  
16 facility in uranium in liquid?

17 **MR. DESIRI:** For the record, Paul Desiri.

18 The limits are site-specific and they're  
19 based on Hathaway's analysis that is unique to each  
20 facility. So Toronto, being a larger city with larger  
21 volumes of water in its system, that is why the discharge  
22 limit for Toronto is higher than Peterborough.

23 When you compare the air limits, the  
24 Peterborough site is -- the campus site is larger but the  
25 actual distance from the nuclear buildings to the critical

1 group is actually comparable to the distances in the  
2 Toronto plant. So they're more or less similar.

3 The Toronto limit -- or the Toronto  
4 equivalent for 1 Millisievert is 15,200 grams. In  
5 Peterborough, it's 11,000.

6 **THE CHAIRMAN:** But if I understand  
7 correctly, you're reverting to action -- limits that are  
8 based now on 20 Microsieverts, did I get that right?

9 **MR. DESIRI:** Yeah. It's based on -- the  
10 proposed limits are based on a trivial dose, that's right.

11 **THE CHAIRMAN:** Right. Okay, thank you.  
12 Monsieur Harvey?

13 **MEMBER HARVEY:** Merci, monsieur le  
14 présidente.

15 My first question is addressed to Mr.  
16 Mason. Hearing your presentation this morning, you say  
17 that you have been there for 50 years doing almost the  
18 same business, of the same nature.

19 You are on a continuous improvement system  
20 or trend. You have received recognition awards, and a  
21 name in work class safety company.

22 I'm trying to see the equivalence with  
23 that, with the rating done by the staff. For almost all  
24 programs you -- the rate is satisfactory except for two.

25 The trend is continuous. I mean, there is

1 a -- it's not up, neither down, it's just continued.

2 And if you refer to -- well, it's page --  
3 you don't have to go there, on page 15 of the staff  
4 documents:

5 "CNSC staff has inspected each  
6 facility on average four times a year  
7 during this licensing period. CNSC  
8 staff has observed an acceptable level  
9 of operational performance throughout  
10 this period."

11 I tried to compare the acceptable level and  
12 satisfactory with -- one could expect that being there for  
13 so long a time, you will be some kind of leader and the  
14 rating, to my point-of-view, could have been different.

15 So could you comment on that and I will ask  
16 the staff to do the same after?

17 **MR. MASON:** For the record, Peter Mason.

18 I guess the downside of being in the same  
19 business and in the same locations for so long is that  
20 over time you come to a point of diminishing returns in  
21 terms of -- although you continue to strive to improve,  
22 those improvements may appear very small over a long-term  
23 trend. Nonetheless, we still strive to continuously  
24 improve our process.

25 We've executed projects in terms of

1 improving shielding in order to reduce dose for our  
2 employees, to some measure of success.

3 I mentioned in my presentation the project  
4 that we had executed in Toronto earlier this year which we  
5 will cut in half our uranium emissions to the water  
6 discharge, to the sewer.

7 So as we find new technology, we try and  
8 implement it to continually drive our plant to zero  
9 emissions, but I think in -- there also has to be some  
10 recognition of reality that you never really get to a zero  
11 and you're on the -- the curve is flattened, as it were,  
12 in terms of amounts of improvement each year. So I think  
13 that's what we're seeing.

14 **MEMBER HARVEY:** Okay.

15 Staff?

16 **MR. CRAWFORD:** Yeah, I guess your question  
17 is why are there not more fully satisfactory and why are  
18 there only two areas that we think were fully satisfactory  
19 and the rest were satisfactory, considering they've been  
20 there for a long time and they have a lot of robust  
21 programs.

22 To some extent, I would say we're perhaps  
23 hard taskmasters, but we like to see a lot of proactive  
24 activity at our licensee's facilities and we're looking  
25 across the board, and we still haven't got really fully

1 developed metrics in some areas. It's very easy for us to  
2 look at health and safety because the metrics are well-  
3 established and we can compare whether they're industries  
4 much easier.

5 When you look at things like environmental  
6 performance, we've got real numbers to compare and so you  
7 can make -- you can look at those and make comparisons and  
8 say, yes, these limits -- the releases to the environment  
9 are extremely low and many countries wouldn't regulate  
10 them -- wouldn't consider regulating them; they're that  
11 low.

12 Other programs like the Radiation  
13 Protection Program which was only assessed as  
14 satisfactory, not fully satisfactory, and the reason for  
15 that is really it's a very robust program and there's a  
16 lot of internal improvement programs built into that.  
17 They have a very active ALARA committee at both sites to  
18 look at the doses of individual workers. It goes right  
19 down to the individual workers and the working jobs that  
20 they do.

21 However, the doses are still in the region  
22 of 10 milliSieverts a year and our specialists feel that  
23 they'd have to be -- the maximums would have to be lowered  
24 before they could get a fully satisfactory rating in those  
25 areas.

1                   So each area we look at and if we've got  
2                   good metrics, we can make a more quantitative decision and  
3                   in the areas where we don't have good metrics we have to  
4                   make an evaluation and we do err on the cautious side. As  
5                   a regulator, we feel that's the safe thing to do. Hence,  
6                   they get two fully satisfactory and the rest are just  
7                   satisfactory.

8                   **MEMBER HARVEY:** Thank you.

9                   **THE CHAIRMAN:** Just to piggyback on that;  
10                  does GE deem this assessment to be fair?

11                  **MR. MASON:** Peter Mason, for the record.

12                  Yes, I think we have a very constructive  
13                  relationship with the CNSC and we continue to strive to  
14                  meet their expectations. Hopefully, most of the time, we  
15                  do, but we recognize that there is always room for  
16                  improvement.

17                  **THE CHAIRMAN:** Thank you.

18                  Monsieur Harvey?

19                  **MEMBER HARVEY:** Continuing on the  
20                  monitoring by the staff, I see that on page 15 you see  
21                  that there has been four inspections during the -- for the  
22                  two facilities during the period, but on page 13 for the  
23                  staff and contractor training, CNSC has not conducted  
24                  specific inspections of the training program. This is  
25                  largely because of satisfactory performance in the

1 operational area.

2 So is this something which is done during  
3 those normal inspections or what do you know about the  
4 training in the facility?

5 **MR. ELDER:** Peter Elder, for the record.

6 So in terms of how we do this, yes. In  
7 terms of when you do a general inspection, you will look  
8 at a variety of elements and something on training that  
9 affects every program. So if you go back in to look at  
10 the Radiation Protection Program you will look at how they  
11 do training in that area.

12 So when we're looking at whether we need a  
13 focus inspection on training on this type of facility is  
14 not to say that we don't have any information on training;  
15 it's that we haven't looked in focus because nobody  
16 identified a problem, but that when we have looked at the  
17 radiation protection in other areas, we don't see evidence  
18 of a problem in training, in fact, we see evidence of a  
19 satisfactory performance in that area.

20 So it's just to say that there are a  
21 variety of sources of information we get, not only from a  
22 focus inspection, we get it from a regular inspection, we  
23 get it from a normal reporting from the licensees and we  
24 get it from event reporting from the licensees.

25 **MEMBER HARVEY:** Okay.

1                   **MR. ELDER:** So what you would look in terms  
2 of we made a comment that we -- while there haven't been  
3 any formal events, we do look at how they deal internally  
4 at their lower-level events, and we can look at those ones  
5 and see if there are evidence in those ones. Are they  
6 trending? Do they see a problem with training associated  
7 with the really minor events? And I'm saying looking at  
8 the global of that assessment; we do not see a problem  
9 with training.

10                   **MEMBER HARVEY:** I understand.

11                   On page 16, the staff -- CNSC staff  
12 recommends that the existing Safety Analysis Program  
13 continue to be implemented in a future licensing period.  
14 When you say "implemented", you say that its being  
15 implemented or that the program has been implemented and  
16 should continue to be there? I mean, what's the ---

17                   **MR. ELDER:** So in terms ---

18                   **MEMBER HARVEY:** Because the whole system we  
19 have implementation and there were two items; we have the  
20 program and then the implementation. So when you say  
21 "should be implemented", what are you saying? What's the  
22 meaning of that?

23                   **MR. ELDER:** So there are two aspects in  
24 terms of safety analysis. There is the basic safety case  
25 for the facility which we have assessed to be acceptable.

1 In terms of a program, it's more of looking that a  
2 licensee reviews that program on a routine basis and when  
3 they make changes into the facility that they check that  
4 it doesn't change their safety case.

5 So there is ongoing -- while it's not  
6 redoing the analysis, you constantly are monitoring and  
7 implementing that your operation is consistent with that  
8 analysis. So that's what we meant by implementation in  
9 that sense.

10 **MEMBER HARVEY:** Because reading that my  
11 comprehension was that the program was not implemented,  
12 but going to be.

13 **MR. ELDER:** No, which is why we said  
14 continue to implement. So it's just that we are not  
15 looking for any defined improvements on that one other  
16 than the normal process of review.

17 **THE CHAIRMAN:** You may want to change -- I  
18 also flagged this. It's very unclear what does it mean.  
19 I think you may want to choose a different language here.

20 They obviously have existing programs. So  
21 if you're looking for improvement, we should say it  
22 clearly, looking for improvement of established program or  
23 changes or amend it; something that deals with existing  
24 programs rather than misinterpretation that they're  
25 actually implementing new -- something new.

1                   **MR. ELDER:** And what we're -- we also need  
2 language is where we want them to just continue to do what  
3 they have been doing, which was the case in this one.

4                   **THE CHAIRMAN:** Right.

5                   **MEMBER HARVEY:** Right. Okay. Okay, I'll  
6 come back later.

7                   **THE CHAIRMAN:** Okay.

8                   Dr. Barriault?

9                   **MEMBER BARRIAULT:** Thank you, Mr. Chairman.  
10                   I guess my first question deals with your  
11 Occupational Health Program. Your stats are commendable.  
12 But I'm wondering really what kind of a program do you  
13 have. We have no evidence of the type of program. Do you  
14 have pre-employment examinations, return to work  
15 evaluations, modified work programs? Because your stats  
16 for lost-time injuries are -- well, zero almost. So what  
17 kind of a program do you have?

18                   **MR. DESIRI:** For the record, Paul Desiri.

19                   All of our programs are consistent with  
20 legislation requirements. So we do have return to work  
21 programs and modified work programs that we have used in  
22 the past and fortunately haven't had to rely upon  
23 recently, but the programs are still there.

24                   **MEMBER BARRIAULT:** Do you have copies of  
25 these that we could have -- at least I could have a look

1 at?

2 **MR. DESIRI:** Yes, absolutely. The programs  
3 are in our Environmental Health and Safety Program and the  
4 CNSC has that manual on file.

5 **MEMBER BARRIAULT:** Okay. So could I have a  
6 copy of that from CNSC at some time. Thank you. For Day  
7 2, yes.

8 Next question really is that in your  
9 communication program for your half-mile radius around  
10 your plant, is that population aware that you're due for  
11 re-licensing at this time?

12 **MR. MASON:** For the record, Peter Mason.

13 Yes, we have placed advertisements both in  
14 the Peterborough Examiner, which is the local newspaper in  
15 Peterborough, and also in The Toronto Star to notify the  
16 people in Toronto. Oh, and it's on our website as well.

17 **MEMBER BARRIAULT:** Next question is, on  
18 page 23 of CNSC Report 3.9.1, you don't have any stats or  
19 comments for 2010 and yet you do everywhere else, and that  
20 deals with "Trend for Environmental Protection".

21 You're fully satisfactory for 2009 and for  
22 2010, nothing. Wasn't that expected or what happened in  
23 2010?

24 **MR. ELDER:** In terms of the actual -- this  
25 is -- in terms of the performance and the metric that

1 we've been using is actually is the annual releases. So,  
2 obviously, we're not finished with 2010 so we don't have  
3 data for the full year of 2010.

4 **MEMBER BARRIAULT:** So you wouldn't have any  
5 data at this time?

6 **MR. ELDER:** We don't have any data at this  
7 time. It's not to indicate there's a problem, it's just  
8 indicated that, you know, it's like in some of the areas  
9 we get quarterly data and some places we don't.

10 **MEMBER BARRIAULT:** My next question deals  
11 with your Table 2 of CNSC on page 24, "Discharge to Sewer"  
12 for Peterborough.

13 We were told earlier that there's no  
14 discharge to sewer for Peterborough and we don't have any  
15 stats on that from GE-Hitachi. Could you comment on that,  
16 please?

17 Discharge to sewer is 2.25 which is  
18 actually higher than the Toronto discharge to sewer for  
19 uranium.

20 **MR. MASON:** For the record, Peter Mason.

21 You know, I think the difference there is  
22 that on this table, on page 24, that's 2.25 grams ---

23 **MEMBER BARRIAULT:** Okay.

24 **MR. MASON:** --- whereas for Toronto it's  
25 kilograms.

1                   **MEMBER BARRIAULT:** So does CNSC want to  
2 comment on that?

3                   **MR. ELDER:** Yeah, that's correct. We were  
4 -- and then there's a question of clarity but it to avoid  
5 a very -- the Toronto -- the Peterborough numbers being a  
6 very small number, so we did change the units and maybe  
7 we'll separate the table so it's clearer that it's ---

8                   **MEMBER BARRIAULT:** It's confusing.

9                   **MR. ELDER:** Yeah.

10                  **MEMBER BARRIAULT:** That's all for now, Mr.  
11 Chairman.

12                  **THE CHAIRMAN:** Again, coming back to my  
13 point before, in this table I actually like the averages  
14 here because, you know, there is going to be a DRL against  
15 those averages.

16                                Is that not the kind -- the limits that MOE  
17 are talking about in microgram of uranium per cubic metre  
18 -- is the actual measures that they will be monitoring?

19                  **MR. ELDER:** Yeah, and to come back -- Peter  
20 Elder for the record -- again, this is a discussion of  
21 what we put in. As you know, we work on a system there  
22 being a limit and then within that limit we establish --  
23 the licensee is required to establish action levels and  
24 then below that they use administrative control levels.

25                                So the way it historically has been done is

1 the limit is usually an annual one and then the action  
2 levels are where you get the more daily controls -- so  
3 they're day-to-day controls -- the action levels are the  
4 day-to-day controls. So, in this case, we retain how  
5 they're doing on the average one.

6 As Mr. Disiri said, the actual over-effect  
7 is a combination. You have to look at both the total and  
8 the year because they are cumulative effects, especially  
9 on doses, but you also make sure that that's not all given  
10 in one day. And how we do that control, that it's not all  
11 at once, is through the action levels.

12 **THE CHAIRMAN:** I'm making a different  
13 point.

14 **MR. ELDER:** Yeah.

15 **THE CHAIRMAN:** Those averages have a limit  
16 themselves. The DRL that MOE will impose will be  
17 calculated that way, if I understand correctly. It's  
18 going to be microgram per metre<sup>3</sup> as an average, not the  
19 annual total. They may do both, but I think the  
20 monitoring -- in other words, what I think we should have  
21 is another DRL in those tables that goes with those  
22 concentrations because I think that's what going to be  
23 appearing in practically every facility.

24 **MR. ELDER:** And, well, discussion on how we  
25 do this right now, that action level in terms of

1 micrograms for uranium per cubic metres are in the  
2 handbook as action levels. So that's where the day-to-day  
3 control is done to those units and, again, we're ---

4 **THE CHAIRMAN:** Well ---

5 **MR. ELDER:** --- in the ---

6 **THE CHAIRMAN:** Well, I didn't think it was  
7 an action limit. I thought it was a maximum limit that --  
8 -

9 **MR. ELDER:** Yes, well, the action levels  
10 that we have are below what ---

11 **THE CHAIRMAN:** Absolutely.

12 **MR. ELDER:** --- MOE would put as an action  
13 level and there's, you know -- they have not actually come  
14 up with a firm scheme about it, whether it's 24 hours or  
15 how they're going to do it. So our control is a daily  
16 control based on the action levels which for these  
17 facilities are below what MOE would be -- has proposed.

18 **THE CHAIRMAN:** Okay. We'll have to talk.  
19 I'm not looking for their performance here. I'm looking  
20 at what is the maximum regulatory limit that we are  
21 working towards.

22 Rather than the total annual amount,  
23 there's another limit which is the ongoing kind of  
24 emission, if you like, and there will be -- if I  
25 understand what's going on, there will be such a limit; in

1 fact, there is a limit now. We're just debating whether  
2 it's going to be revised or not.

3 **MR. ELDER:** Just for clarity, we agree and  
4 when, as you said, it's whether -- what is a hard limit in  
5 licence. When you're going over it, you'll be able to  
6 prosecute versus an action level in the licence which  
7 required them to take action to make sure that they don't  
8 continue to exceed that limit.

9 So the action levels; they're required in  
10 the licence to have action levels ---

11 **THE CHAIRMAN:** M'hm.

12 **MR. ELDER:** --- those action levels are  
13 based on the daily one.

14 **THE CHAIRMAN:** Okay. Thanks.

15 Dr. Barriault?

16 **MEMBER BARRIAULT:** On page 20 of the CNSC  
17 presentation, I'm looking at your maximum extremity dose  
18 on your table for 2009 and it's extremely lower than the  
19 other ones for the previous years.

20 I guess my question is that, what has  
21 changed in the work environment to have this maximum lower  
22 than in previous years? You've gone from 119, 115, 123,  
23 and you've dropped to 18.

24 Now, I know it's a maximum extremity dose,  
25 but have you changed the way of doing the work or what has

1           happened? Or is that an error?

2                   **MR. DESIRI:** For the record, Paul Desiri.

3                   We're just looking at the table now and I'm  
4           just going to try and find our equivalent submission and  
5           compare the numbers and make sure that they're correct.

6                   In comparing the CNSC's value for 2009, our  
7           value for Peterborough is 80.1, so it's different than  
8           what's reported here.

9                   **MEMBER BARRIAULT:** It's an error then?

10                  **MR. DESIRI:** Yeah.

11                  **MEMBER BARRIAULT:** Go ahead.

12                  **MR. ELDER:** Peter Elder for ---

13                  **MEMBER BARRIAULT:** Yes.

14                  **MR. ELDER:** Just for clarity, there is a  
15           note and maybe it's not -- there is -- for 2010, our  
16           number is consistent with GE's but it's only for the first  
17           quarter.

18                  **MEMBER BARRIAULT:** No, I realize that.

19                  **MR. ELDER:** Yeah.

20                  **MEMBER BARRIAULT:** 2009 I was thinking  
21           about.

22                  **MR. ELDER:** Yeah, 2009 appears. We'll look  
23           into it and get back to you on why ---

24                  **MEMBER BARRIAULT:** Okay.

25                  **MR. ELDER:** --- there's a discrepancy.

1                   **MEMBER BARRIAULT:** Thank you.

2                   That's all, Mr. Chair. Thank you.

3                   **THE CHAIRMAN:** Thank you.

4                   Still on the dosage, on the licence  
5                   condition handbook, page 22 of 37, just explain to me, I  
6                   really don't understand.

7                   There is an action level here of  
8                   microsieverts.

9                   This is for -- you know -- the two tables  
10                  for nuclear energy workers. So, for example, for the  
11                  Toronto facility, skin dose 350 microsieverts, isn't that  
12                  high? Where do those things come from?

13                  Anybody? I'll take anybody.

14                  **MR. ELDER:** Peter Elder.

15                  I'll start for the -- they come from --  
16                  they are proposed by the licensee. So GE will have to  
17                  explain why they picked the number they picked.

18                  There is a difference because the idea of  
19                  the action level and radiation dose is to indicate a loss  
20                  of control. So the number is associated by what they  
21                  would expect normal doses to be or could be on the ---

22                  **THE CHAIRMAN:** To me that's an action  
23                  level, right?

24                  **MR. ELDER:** That is the action level.

25                  **THE CHAIRMAN:** I thought an action level

1 would be triggered way, way before 350 millisieverts is  
2 detected.

3 **MR. ELDER:** Well, again we'll go back to GE  
4 on their rationale for that number.

5 **MR. DESIRI:** For the record, Paul Desiri.

6 The 350 millisieverts action level was set  
7 based on historical maximum doses that represent a loss of  
8 control. They have been in our Radiation Protection  
9 Program for the last two licences and they are set at a --  
10 you know the applicable limit for that type of exposure is  
11 500 millisieverts.

12 Now, in recent years, through additional  
13 control measures, we've been able to bring extremity doses  
14 downward but that is the action level that we have in our  
15 current program.

16 **THE CHAIRMAN:** So this is for loss of  
17 control. What does that mean loss of control here, and do  
18 you actually experience this? Like how often do you  
19 actually experience this?

20 **MR. DESIRI:** For the record, Paul Desiri.

21 A good example of loss of control, and we  
22 did have one recently in the previous licence period -- we  
23 had an extremity dosimeter that got contaminated. So the  
24 dose that came back from the service provider was quite  
25 high.

1                   Now, upon investigation we discovered the  
2                   contamination and through the updated estimate it was  
3                   actually lower than that number but that's an example of  
4                   the loss of control.

5                   **THE CHAIRMAN:** So that could be a very  
6                   momentary -- it's not kind of a lingering kind of a  
7                   dosage?

8                   I'm trying to understand the health risk  
9                   here because you know we keep talking about the one  
10                  millisievert and this -- I don't know where, maybe I've  
11                  missed it. I would argue you should have some explanation  
12                  about what loss of control.

13                  I'm talking about staff here particularly.  
14                  If this is in the handbook somebody should understand what  
15                  those parameters mean where we keep talking about one  
16                  millisievert as our norm and for workers it's 50 over a  
17                  year, et cetera, et cetera.

18                  **MR. ELDER:** Peter Elder.

19                  Correct, and there is and because they're  
20                  in the regulations we didn't put them in the handbook but  
21                  maybe we should. Is -- there are different limits for  
22                  regulatory limits for a skin dose or extremity dose. So  
23                  the regulatory limit for a skin dose is 500 millisieverts  
24                  per year.

25                  So these action levels are within the

1 regulatory dose. So again, there are different doses for  
2 the different -- there are different regulatory limits for  
3 the skin does, effect total dose and then there is another  
4 limit as well for the pregnant workers as well.

5 **THE CHAIRMAN:** Yeah, well, you know I would  
6 explain this table. It doesn't jump at me as obvious.

7 **MR. ELDER:** Understand, yeah.

8 **THE CHAIRMAN:** Mr. Graham?

9 **MEMBER GRAHAM:** Thank you.  
10 I've got about six or seven other questions  
11 I'd like to go through very quickly.

12 At your Peterborough site you indicated  
13 this morning you had 300 employees. Is that the whole  
14 site or just dealing with this licence?

15 **MR. MASON:** For the record, Peter Mason.

16 No, that's purely the nuclear business  
17 employees. The motors business has approximately 700. So  
18 for the total Peterborough site would be about 1,000  
19 employees.

20 **MEMBER GRAHAM:** In this CMD under (4) other  
21 matters of regulatory interest, it's becoming more and  
22 more evident through our licensing process, through our EA  
23 process and through all the processes of consulting -- an  
24 ability to consult with the Aboriginal communities.

25 I'm wondering how many Aboriginals would

1           you have working at that site with 1,000 employees?

2                       **MR. MASON:** For the record, Peter Mason.

3                       I cannot speak for the motors side of the  
4           business but we have -- we have a diversity program and as  
5           we are federally regulated we are totally compliant with  
6           the employment equity legislation and we've received our  
7           employment equity certification.

8                       In terms of Aboriginal employees, I believe  
9           we would have somewhere in the order of five.

10                      **MEMBER GRAHAM:** Yeah, I mean the federal  
11           government's equity program sometimes the Aboriginal  
12           community falls through the cracks on that and that's why  
13           I'm concerned about -- the federal government has some  
14           very good programs right now and incentives to industry to  
15           bring the Aboriginal people into the main workforce and so  
16           on. I'm wondering through the next 10 years if there will  
17           be an effort and it can't be a licence condition or I mean  
18           that, but I guess in good dialogue, good commonsense would  
19           be an effort to try and increase that number from five to  
20           a more equitable number with regard to the amount of First  
21           Nations that may be in close proximity to Peterborough.

22                      **MR. MASON:** Peter Mason, for the record.

23                      We do not have a specific program for the  
24           recruitment of Aboriginal employees but we do have as part  
25           of our employment equity program to encourage and achieve

1       our employment equity statistics. They are very  
2       definitely part of the program.

3                       First and foremost, we look to recruit the  
4       very best employees in terms of qualifications and  
5       ability.

6                       **MEMBER GRAHAM:** I agree, but I'm just  
7       wondering, is career days on First Nations going out --  
8       your organization, your human resource people going out  
9       and speaking at career days in the high schools and so on;  
10      making bursaries available to First Nations to post-  
11      secondary education?

12                      That type of -- those types of initiatives  
13      I think goes a long way to foster a better understanding  
14      and a better relationship and I'm wondering if are you  
15      doing that now? Are you attending the career days? Do  
16      you have a bursary program specifically targeted to First  
17      Nations students for further post-secondary education? Do  
18      you have -- are you pro-active, I guess, with First  
19      Nations?

20                      **MR. MASON:** For the record, Peter Mason.

21                      I would have to say as far as our business  
22      is concerned, I would have to say at this point "no".

23                      **MEMBER GRAHAM:** Thank you for being candid  
24      and being straightforward with this.

25                      But as a suggestion going forward, it might

1       be -- it might be -- I think not only for GE-Hitachi but  
2       for all industries to start looking in that direction and  
3       fostering a better relationship and I would suggest that  
4       you look at some of these programs that might just do  
5       that.

6                   **MR. MASON:** For the record, Peter Mason.  
7                   I do know that the parent company does  
8       this.

9                   **MEMBER GRAHAM:** M'hm.

10                  **MR. MASON:** In our business in Peterborough  
11       we are proactive and have in fact won local awards for  
12       promoting diversity in the Peterborough community which  
13       includes the Aboriginal. But my answer of "no" was to  
14       your specific ---

15                  **MEMBER GRAHAM:** And I agree.

16                  **MR. MASON:** But the parent company is  
17       involved in those programs.

18                  **MEMBER GRAHAM:** I'm suggesting. I don't  
19       think -- as I say, it can't be a licence condition but it  
20       can be a suggestion because it's going to be 10 years  
21       before you're back here looking for a licence and probably  
22       you or I won't be the ones asking each other questions.

23                  My next point is the financial guarantee.  
24       The financial guarantee that's in place right now is 33  
25       million, 33.079 million.

1                   This was based on preliminary  
2                   decommissioning plans that are going to be updated at the  
3                   end of 2011. They would take into normally, I would  
4                   imagine, the processing of the C235 and that type of extra  
5                   manufacturing at the facility. What I'm wondering is  
6                   normally these work as it says there, normally they work  
7                   on a five-year cycle. We're 2010 -- 2020 before we'll be  
8                   back. Is the 33.079 million adequate at this time for  
9                   licence renewal? And that's to CNSC staff.

10                   **MR. ELDER:** Peter Elder, for the record.

11                   In terms of -- we believe it's satisfactory  
12                   at this time because there has not been any material  
13                   changes to the facility in general. That said, there is a  
14                   standard licence condition that says they must maintain a  
15                   financial guarantee to the satisfaction of the Commission  
16                   at all times so the Commission or staff, if they feel  
17                   there's a change, can ask for that decommissioning plan to  
18                   be updated.

19                   And she also said we have a five-year  
20                   review. It's a mandatory review within five years. We  
21                   can ask for that one to be done earlier if we think there  
22                   are changes to this.

23                   **MEMBER GRAHAM:** I guess ---

24                   **MR. ELDER:** I guess I'm saying is we,  
25                   regardless of the licence length, we look at the financial

1 guarantees a minimum of every five years.

2 **MEMBER GRAHAM:** Will you be doing it before  
3 Day 2?

4 **MR. ELDER:** Well, in terms of -- we have no  
5 reason to question what the current financial guarantee is  
6 so that we looked at it in terms of -- we had no reason to  
7 go -- change the five-year review ---

8 **THE CHAIRMAN:** When was the last one done?

9 **MR. ELDER:** The last one was done in 2006.

10 **MEMBER GRAHAM:** Yes.

11 **THE CHAIRMAN:** Oh, so it's still relevant?

12 **MR. ELDER:** It's still relevant. It's  
13 still within the five-year period. The next one is -- the  
14 end of that five years is 2011 so they will have to do it  
15 within the next year.

16 **MEMBER GRAHAM:** Okay.

17 **MR. ELDER:** If there is a change we have to  
18 come back. That change has to be approved by the  
19 Commission. It's a separate discussion.

20 **MEMBER GRAHAM:** GE-Hitachi though are  
21 looking at changing the financial instrument. Can you  
22 enlighten us on what that change might be and that would  
23 be the GE-Hitachi?

24 **MR. MASON:** For the record, Peter Mason.  
25 I just have one correction that our last

1 review was in 2008.

2 **MEMBER GRAHAM:** Oh, okay.

3 **MR. MASON:** Yes, we -- in the past we've  
4 had financial guarantee through a line of credit. Since  
5 the financial crisis we have been informed that the cost  
6 of that financial guarantee has gone from \$40,000 to  
7 almost \$600,000 per year.

8 **MEMBER GRAHAM:** It wouldn't be the banks  
9 trying to gouge, would it?

10 **MR. MASON:** I wouldn't like to suggest  
11 that.

12 **MEMBER GRAHAM:** Well I would. I've had a  
13 lot of experience in the last two years on this, so --  
14 anyway.

15 **MR. MASON:** So we -- right now we are  
16 looking at a vehicle in the form of a performance bond  
17 which would be considerably cheaper than the 600,000  
18 although more expensive than the 40,000.

19 **MEMBER GRAHAM:** And to CNSC would carry the  
20 same security that you would require in case of  
21 decommissioning, premature decommissioning?

22 **MR. ELDER:** It's too early to tell right  
23 now. They've said -- and we know they're looking at  
24 different financial instruments. As you are aware we have  
25 a guidance on what is acceptable, so when we get the

1 details of their instrument, we will look at that. And  
2 again, this is -- the acceptance of interest is actually  
3 not by staff. It's done by the Commission.

4 So if they wanted to change their  
5 instrument they would have to come back to the Commission  
6 and it would be discussed at a hearing.

7 **MEMBER GRAHAM:** Okay, thank you.

8 A couple of other quick questions. With  
9 regard to the 150 tonnes per month, 1800 tonnes a year --  
10 is that production from both plants or just from -- is  
11 that combined or is that 150 each?

12 **MR. MASON:** For the record, Peter Mason.

13 That is the output from the Peterborough  
14 facility in terms of assembled bundles and obviously the  
15 Toronto plant feeds into that output. So the Toronto  
16 output is inclusive in that 1800.

17 **MEMBER GRAHAM:** But are there limits? I  
18 guess, in some licences there are limits as to the amount  
19 of raw material you can have on site at any one time and  
20 the processing is 150 tonnes. Is there a limit as to how  
21 much raw material Toronto can have on site for  
22 manufacturing?

23 **MR. DESIRI:** For the record, Paul Desiri.

24 Yes, there are maximum inventory limits  
25 now.

1                   **MEMBER GRAHAM:** Could you share them with  
2 us? I couldn't find them. That's why I'm asking.

3                   **MR. DESIRI:** I seem to remember the figure  
4 of 1500 tonnes for ---

5                   **MEMBER GRAHAM:** So you could have a whole  
6 year's supply or nearly a year's -- 1800 tonnes is a year.  
7 So you could have a whole year's supply on site in  
8 Toronto?

9                   **MR. DESIRI:** No, sorry. I was speaking of  
10 Peterborough and the reason for that is we have an  
11 agreement with our customers for storing finished bundles.

12                   **MEMBER GRAHAM:** M'hm. Can CNSC staff help  
13 me as to raw material on site?

14                   **MR. CRAWFORD:** Gerald Crawford, for the  
15 record.

16                   Just to clarify -- the existing licenses  
17 have the 150 tonnes per month requirement in both licenses  
18 and they have been translated into the new licence. The  
19 existing licences never had a limit on the amount of  
20 material they could possess at any one time.

21                   So the new licence has rectified that and  
22 there is a 1500 tonnes limit on both -- well, I think  
23 Peterborough is 1500 tonnes and I think that it is 1200  
24 tonnes for Toronto because we wanted to have a figure we  
25 could then use as part of our safety analysis.

1                   **MEMBER GRAHAM:** Well that's what I was  
2 wondering. That's what I was coming ---

3                   **MR. CRAWFORD:** Up to now they haven't had  
4 one. So the new licence does have that limit on -- those  
5 limits. The existing licence has no total limit.

6                   **THE CHAIRMAN:** Okay. We've got move on.  
7 We are late. We can put all this stuff into Day 2. There  
8 is a Day 2. We've really got to move on, Commissionaires,  
9 because there is a lot of industry people coming for the  
10 next hearing.

11                   **MEMBER GRAHAM:** I have two more questions.  
12 For Day 2 then I would like to see better maps of the  
13 buildings. The ones that my staff were able to get with  
14 regard to "googlemaps" -- very good photographs as to the  
15 barrier fences along streets, all four perimeters of both  
16 locations and so on. If we could have those maps that we  
17 could look at the security because that became an issue of  
18 one other licence.

19                   And the other was with regard to all the  
20 maps and so on and combining the licence -- your org chart  
21 that you presented today -- is that org chart in a  
22 combined licence the way it will be operating -- a  
23 combined licence for both facilities? Is that the org  
24 chart you will be using?

25                   It is; okay, thank you.

1                   **THE CHAIRMAN:** Mr. Harvey?

2                   **MEMBER HARVEY:** Merci, monsieur le  
3                   président.

4                   Just two questions, the first one being  
5                   just a clarification in the Hitachi written document on  
6                   page 7. There is two tables there and there is a note  
7                   saying,

8                                    "All maximum values shown were in  
9                                   minimally occupied permanent  
10                                  respirator areas."

11                   Could you just -- what is that? What does  
12                   it mean? I don't -- "minimally occupied permanent  
13                   respirator areas."

14                   **MR. DESIRI:** For the record, Paul Desiri.

15                   Those refer to the rooms where there is  
16                   potential for dust generation. It doesn't necessarily  
17                   mean that those rooms have high airborne concentrations  
18                   but as a precaution the rooms are kept closed at all  
19                   times. Staff going into those rooms have to wear  
20                   respirators at all times. And the rooms are of course  
21                   monitored.

22                   **MEMBER HARVEY:** Okay, thank you.

23                   **MR. DESIRI:** And also under negative  
24                   pressure.

25                   **MEMBER HARVEY:** Okay, thank you.

1                   Last question is for the staff. In your  
2 presentation, this morning's presentation, you on slide 14  
3 -- you say,

4                    "In keeping with good governance  
5 practice 16 Aboriginal groups in  
6 Ontario have been contacted."

7                   What were the expectations to contact those  
8 groups, taking into account that the both plants are  
9 located in Toronto and Peterborough? So what was the  
10 essence of the consultation with those groups?

11                  **MR. ELDER:** So in terms of how we're  
12 approaching the Aboriginal consultation is on this type of  
13 -- it was mentioned a bit yesterday, but there is a -- we  
14 look at, in consultation with Indian and Northern Affairs,  
15 look at potentially impacted groups and then we would --  
16 in this separate simple licence reform, we would actually  
17 inform them, send a letter to them; to all the potential  
18 groups that have a potential interest in it and then we go  
19 in and follow-up with a phone call to make sure that the  
20 groups all received the letter and to offer any more -- to  
21 make them understand that there will be a hearing process  
22 and that they can come to staff for any further  
23 information they may require.

24                  But it's, again, we work with Indian and  
25 Northern Affairs to identify the groups that should be --

1 or have a potential interest in these facilities.

2 **MEMBER HARVEY:** So it's not a surprise that  
3 no concerns have been identified or raised? So it's a  
4 standard procedure for you?

5 **MR. ELDER:** It's a standard procedure, but  
6 we would like -- we just wanted to make sure that the  
7 Commission knows that we are following the standard  
8 procedure on this one; obviously, this has been an  
9 important issue in other licence hearings.

10 **MEMBER HARVEY:** It's easier to understand  
11 when the project or the facility is located where there  
12 are Aboriginal communities, but here it was -- that's  
13 okay.

14 Thank you.

15 **THE CHAIRMAN:** Dr. Barriault?

16 Okay, I think this -- there is a Day Two, I  
17 think that we are all looking forward to and that's going  
18 to happen on December the 8<sup>th</sup>. But right now, we -- this  
19 is the end of the public portion of the meeting.

20 We would like to huddle for a few minutes  
21 on the security kind of a file. So can we -- what, do we  
22 need a 10-minute break? We'll take a 10-minute break and  
23 then I would like staff to join us in the back room here.

24 We'll start the meeting at what -- 11:30,  
25 the actual meeting.

1                                Yeah, I guess you're the one that knows all  
2                                about it.

3                                **MS. MCGEE:** This hearing is to be continued  
4                                with Day Two on December 8<sup>th</sup>, 2010, here in the CNSC  
5                                offices. The public is invited to participate, either by  
6                                oral presentation or written submission on Hearing Day  
7                                Two.

8                                Persons who wish to intervene on that day  
9                                must file submissions by November 8, 2010.

10                                Thank you.

11                                --- Upon adjourning at 11:05 a.m./

12                                L'audience est ajournée à 11h05

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