General Electric Canada Inc.:
Application for the renewal of
the licence to operate the
Peterborough nuclear fuel
fabrication facility

THE CHAIRPERSON: The first day of the public hearing on this application was held on September 14, 2005.

The public was invited to participate either by oral presentation or written submission on Hearing Day Two. October 31, 2005 was the deadline set for filing by intervenors and the Commission received no requests for intervention.

MR. LEBLANC: The Notice of Public Hearing 2005-H-13 was published on June 10, 2005. Presentations were made on Day One by the Applicant, General Electric Canada Inc., under Commission Member Documents 05-H25.1 and 05-H25.1A and by Commission staff under CMDs 05-H25 and 05-H25.A.

November 23rd was the deadline for filing of supplementary information. I note that supplementary information has been filed by CNSC staff and General Electric Canada Inc.

THE CHAIRPERSON: As mentioned earlier, the Commission is conducting today two parallel hearings on

the Toronto and the Peterborough facilities. The Commission notes the facilities are similar and may share a number of safety programs.

Therefore, to reduce repetition and ensure there is a complete record for both hearings, the Commission, in making its decisions, will consider any relevant information regarding those common elements that may be presented during the course of these hearings.

As such, I would like to start the hearing today by calling for the presentation from General Electric Canada Inc. as outlined in Commission Member Document 05-H25.1B. I will turn it over again to Mr. Peter Mason, Vice-President and General Manager.

Mr. Mason, you may proceed, sir.

05-H25.1B

Oral presentation by

General Electric Canada Inc.

MR. MASON: For the record, Peter Mason.

Thank you, Madam Chair. I have one slide to present for the Peterborough specific information, and I think you can see the slide presented on the monitors. Again, very similar to Toronto, our second quarter results showed a consistent performance and in some cases a continuing downward trend.

And that's all the information I have

specific for Peterborough.

THE CHAIRPERSON: Thank you very much.

I'd like then to move to the CNSC staff for their presentation as outlined in CMD document 05-H25.B and I'll turn it over to Mr. Henry Rabski, the Director of Processing and Research Facilities Division.

Mr. Rabski, you have the floor, sir.

05-H25.B

Oral presentation by

CNSC staff

MR. RABSKI: Madam Chair, Members of the Commission, for the record, my name is Henry Rabski, Director of the Processing Facilities and Research Division. With me this morning is Mr. David Werry, Project Officer in the Processing Facilities and Research Division and the Project Officer responsible for this facility, along with Dr. Patsy Thompson, Acting Director of Geosciences and Environmental Compliance Division.

CNSC staff has reviewed the operation of GE Peterborough facility and the application from GE to renew this facility's operating licence. I will turn the presentation over to Mr. Werry to continue with supplemental information requested by the Commission on Hearing Day One.

MR. WERRY: Good morning, Madam Chair,

Members of the Commission. For the record, my name is David Werry.

CNSC staff's assessment of the licence renewal application is documented in CMD 05-H25. Hearing Day One's information on September 14, 2005 supported a recommendation that the Commission renew the proposed processing facility licence for a period of five years. Today, staff will present supplemental information to the Commission addressing issues that were raised during Hearing Day One.

Prior to commencing with the details of the supplemental information, there are two corrections to data presented in the CMD 05-H25.B. On Table 4 titled "Air Emissions (Uranium)", the farthest right-hand column is titled "2005 Quarter 2: year-to-date". The year-to-date is small numbers. The "year-to-date" should be removed. This column is data for "2005 Quarter 2" only.

With respect to Emergency Response, there was a section -- the General Section, please strike the reference "to powdered drums". For the record, there are no powdered drums of UO2 on the Peterborough site.

Thank you. I will now proceed with the supplemental information.

Staff supplemental information presentation addresses the following four areas and programs: licensed

production limits, radiation protection, fire protection and quality management. This Commission Member Document presents no changes in CNSC staff's conclusions or recommendations to reissue a five-year licence to the General Electric Peterborough facility.

General Electric will be referred to as GE or GE Peterborough for this presentation.

Licence production limits. GE is limited to producing 150 tonnes of uranium as pellets for the production of fuel bundles in any calendar month. In addition, GE will limit the storage of nuclear materials on site so that the boundary public walkways surrounding the fence line of the licensed areas are kept at background radiation levels.

Additional data. In Quarter 2 - 2005, the updated data is shown in the CMD as requested. It shows the same order of magnitude as the Quarter 1 data and does not change the general trends. The Quarter 3 - 2005 data is not available when the CMD was written. CNSC staff has reviewed the GE radiation protection program and discussed the review with the licensee in early November 2005.

Staff's evaluation of the program remains a "B".

Fire protection: Firewater used in an event may not be totally contained within the facility.

However, as a worse case, firewater is only exposed to washed uranium oxide pellets that have been processed from the Toronto facility. The wash pellets have no loose uranium powder on them as an environmental hazard.

In the event of a flood, such as the maximum 100-year flood that occurred in 2004, there was water that escaped the facility. However, no water reached the pellet trays to submerge the pellets.

Quality management: The revised GE Quality Management Program has been received. CNSC plans to review the Tier 2 procedures prior to scheduling and conducting an onsite audit so that the most current information is verified in the audit. CNSC staff will report on the quality audit at the Interim Licence Report.

In preparing to sum up, staff will repeat the conclusion from Hearing Day One. There are several indicators that the facility has been operated safely during the licensing period. The radiation doses to the workers and to the public, along with the radioactive emissions to the environment, are well below the regulatory limits and there have been no safety-significant events.

CNSC staff concludes that the risk to the public, environment and workers over the current licence term has been low and the overall performance of GE meets

requirements.

General Electric has requested a five-year licence period with the renewal. Based on the information that has been outlined in CMD 05-H25 and CMD 05-H25.B, CNSC staff are recommending a five-year licence period.

CNSC staff proposes that an interim report be provided to the Commission midway through the licence period.

CNSC staff concludes that GE is qualified to carry on the licensed activities that the proposed licence will authorize and GE has made adequate provisions to protect the public, environment, health and safety of the workers, security and international obligations.

CNSC staff also conclude that GE's overall performance is meeting regulatory requirements.

Finally, CNSC staff recommends that the Commission accept CNSC staff's assessment that GE is qualified to carry on the activities that the licence will authorize and will make adequate provisions to carry on these activities; accept CNSC staff's assessment that an environmental assessment pursuant to the *Canadian Environmental Assessment Act* is not required for the renewal of the licence and approve the renewal of the operating licence for a five-year period valid to December 31st, 2010. Staff also recommends an interim review of

the licensee's performance.

This concludes CNSC staff's presentation.

MR. RABSKI: Madam Chair, the Commission staff are now available to respond to any questions.

THE CHAIRPERSON: Thank you very much.

The floor is now open for questions.

Mr. Graham, would you like to start?

MEMBER GRAHAM: Two questions. First of all, with regard to -- in Day One I believe we understood on fire inspection there were a number of action items and one was outstanding.

Has that now been -- that action item or action notice -- I should say action notice -- has that now been completed?

MR. WERRY: For the record, David Werry.

No, that action item has not been closed.

MEMBER GRAHAM: Could you go a little further? I mean, I don't want to get into security measures, but if it is non-security related, could we know what that action item is -- action notice was and have some idea of progress on it?

MR. DESIRI: For the record, Paul Desiri.

I could perhaps clarify what that's about. The action notice pertains to the handling of flammable liquids. At this point, we have the equipment. The room

where this new station will be is set up, but we're waiting for MOE, a certificate of their approvals.

THE CHAIRPERSON: Perhaps the Ministry of Environment; is that correct?

MR. DESIRI: For the record, Paul Desiri.

Yes, this is correct.

THE CHAIRPERSON: The Ontario government?

MR. DESIRI: Yes.

MEMBER GRAHAM: Do CNSC staff have anything to add or do you concur with that?

MR. WERRY: David Werry, for the record.

I concur.

MEMBER GRAHAM: Second question or supplementary question to that would be has the local fire department been involved in this setting up of this new flammable unit or room unit and so on and is the necessary training in place?

MR. HANN: Henry Hann, for the record.

Yes, we have the local fire prevention officer in multiple times every year and he has been involved in the design of this new flammable liquids dispensing room that we've built.

MEMBER GRAHAM: Thank you.

I have one other question, Madam Chair, and that's with regard to the flood. There was comment made,

I guess, in this presentation today that the flood did come into the building. It came in a couple of inches into the building and so on, but didn't reach the pellet trays.

Can you indicate how close to the pellet trays that was and if the flood had been -- I mean, was it inches, feet, second floor, third floor or second floor to first floor or what? Could you explain that, GE?

MR. MASON: For the record, Peter Mason.

The flooding on the first -- the ground floor, manufacturing floor, extended to a maximum of two inches off the floor. The stored trays are in racks which are several feet off the ground. The lowest to the ground would be those trays that were positioned for production purposes, and they would be a minimum of about 18 inches off the ground.

MEMBER GRAHAM: In case of a reoccurrence of a flood of this nature and it being greater -- and I don't know what precautions the Town of Peterborough or City of Peterborough has done to put more drains in and more to accommodate floodwaters -- but what is the moving time or is it possible to move those trays if the flood was more -- was higher than what was experienced the last time? Can you get them to the second floor? Are there elevators? Is there ways to do this? If the floodwater

is coming up is this able to be done, or is it all of a nature that if floodwater does reach them, it doesn't cause contamination?

MR. MASON: For the record, Peter Mason.

I don't think that it would be feasible to move them to the second floor, but what could be done in the event of a flooding -- and it's difficult to imagine that it could go to the extent that it would rise above 18 inches -- that we would put the trays, by forklift, on the higher levels of the racking storage system.

MEMBER GRAHAM: CNSC staff, I don't want to belabour this, but is that the right measure -- is that satisfactory if it would occur? The last flood wasn't expected either, and yet it happened. So I guess worst-case scenario, do you have an action plan to go ahead if you had to move them, and how much do you gain with regard to elevations within the building?

MR. WERRY: For the record, David Werry.

We've discussed this with GE and the feasibility of moving the pellets is a good method in order to raise them above the potential of water contact.

MEMBER GRAHAM: How much increased elevation could you get by going to another part of the building?

MR. WERRY: David Werry, for the record.

Up to eight feet, two metres.

MEMBER GRAHAM: But you would have to be there in sufficient time for forklifts to move around in the water. They can only move around until the water gets so deep.

Do you have an action plan in place in case that ever happened to you? I mean, it could happen in the night when you have few employees and so on. But do you have a plan in place if that ever happened again or occurred?

MR. MASON: For the record, Peter Mason.

We have an Emergency Response Program in place for the facility, and as happened in the last flood, both management, technical and production staff were called in to manage that event way before it got to the point where we could not deal with it.

THE CHAIRPERSON: Dr. McDill.

MEMBER McDILL: Thank you.

I was going to ask both staff and GE to comment on particularly staff CMD H25.B, Table 3 in particular on the extremity dose data, particularly the highest extremity dose. Even if there were no dose in quarter four it would still be the highest year ever, assuming quarter three was a match and if quarter four is on the same order you would be roughly one-third of the

regulatory limit.

So perhaps some comments?

MR. DESIRI: For the record, Paul Desiri.

Could you just clarify it was Table 3 average extremity dose you were looking at?

MEMBER McDILL: No, highest extremity dose, so 41.6 if I've got the right -- yes -- 41.6 in quarter one, 36. -- yes, that's right, 2005. So 41.6 in quarter one, 36.6 in quarter two. You are already pushing 80.

MR. DESIRI: For the record, Paul Desiri.

I'm looking at Table 3 of GE's CMD. Are you referring to ---

MEMBER McDILL: I'm looking at staff's 25B.

MR. DESIRI: Oh.

MEMBER McDILL: I don't think you reported highest. You just did average. You didn't report highest.

MR. DESIRI: Oh, okay.

THE CHAIRPERSON: I think one of the issues is to do with accumulation or not.

MR. DESIRI: For the record, Paul Desiri.

During that time period there were changes made to the extremity dose calculation method which resulted in a significant increase in extremity doses overall as reported. Basically, it came down to a new

adjustment factor that was applied which was submitted to the CNSC for approval.

MEMBER McDILL: That being the case, roughly, what would 2004 have been if that factor had been applied?

MR. DESIRI: For the record, Paul Desiri.

I would defer this question to my colleague, Henry Hann.

THE CHAIRPERSON: And I think staff should be ready to reply as well.

(SHORT PAUSE)

MR. HANN: Henry Hann, for the record.

I don't have the exact figure or data in front of me. We may have to get that information back to the CNSC.

MEMBER McDILL: Maybe staff could respond and that would resolve. I'm just trying to put 2005 in context with previous years.

MR. DESIRI: For the record, just one point to clarify as far as extrapolating doses from two quarters to a year. As was mentioned earlier, we do need to consider that the plants are shutdown for three weeks in December and that would probably have about a 25 per cent adjustment if you were to just simply double the numbers. You should take that final number and reduce it by about

25 per cent.

MEMBER McDILL: Yes, I just took 40, 40 and 40 for three quarters and got 120 and skipped quarter four completely and it would be your highest ever. So that's why I am asking for clarification.

THE CHAIRPERSON: Perhaps what we could do is go back to your comments with regards to the new calculation and new basis. If GE and the staff could give information with regards to that, that would start the conversation in terms of what is different between the way it was calculated in four and five and give us some details on that.

MR. DESIRI: For the record, Paul Desiri.

The adjustment factor was agreed to between the CNSC and GE and essentially it takes into account the workers are manipulating the pellets with their hands. The ring is some distance away and, as well, the ring thickness will have a tendency to underestimate the doses to the fingers. So through a series of meetings and reviewing all the technical information, it was agreed that a new factor would be applied to the doses.

The same was done in Peterborough and Toronto. In Peterborough the doses went up as a result of the new factor. In Toronto they actually went down.

MR. WERRY: For the record, David Werry.

Staff was involved with the review of this data. We feel comfortable that the analysis was done. I'll step back a moment and look at the actual data. The individual events that lead to the highest extremity doses typically are not additive, as opposed to the averages where you would average by the quarter. I'm not sure if that is clear.

THE CHAIRPERSON: Perhaps we could go back a moment, then, for the staff? What we have asked GE to do is to comment on the changes that were made in terms of the factor and the way it was calculated.

So first of all, if you could comment on the fact that the staff did work as GE said with them in terms of the Application, the changes between '04 and '05 in terms of the development of the factor; is that correct?

MR. RABSKI: Henry Rabski, for the record.

Yes, I'll have staff address that. I would ask Amy Moore of the Radiation Protection Group to response.

MS. MOORE: Amy Moore, for the record.

That dose correction factor actually took place in 2002 and was not part of the calculations that took place in 2004-2005. At that time external dosimetry specialists did take -- were part of that decision and did

approve the changes in the dose calculations. But as David mentioned before, as far as the highest extremity dose goes, CNSC staff cannot assume that the same individual received those two high doses so we can't actually sum those together without knowing the individual who received those doses.

MEMBER McDILL: So if I understand correctly, there is nothing special about the 2005 calculation that would increase it over -- apparently increase it? I'm trying to reconcile the two statements I just heard.

Staff to comment?

MS. MOORE: Not to my understanding. Amy Moore, for the record.

I do believe it was in 2002 that that dose correction factor was changed.

MEMBER McDILL: GE?

MR. DESIRI: For the record, Paul Desiri.

The initial discussions about the dose adjustment factor were involving the Toronto facility and mainly because the doses at the time were considerably higher, and so through the process of reviewing how doses were calculated this lead to the discussion of the dose adjustment factor. Some time later that adjustment factor was rolled out in Peterborough. I think that the Toronto

one was around that time, but I think the Peterborough one -- I don't have the actual date when it was rolled out, but it was some time later.

MEMBER McDILL: Okay. I will go back.

I realize it may not be the same individual that had the highest extremity dose. Nevertheless, even if you add simply quarter one and quarter two, again, then that's 80 and it's still substantially higher than other years. If there has been a change of methodology that is ---

MR. DESIRI: For the record, Paul Desiri.

I will just give an example. If worker A during quarter one had a maximum of 40 milliSieverts in the second quarter worker A could get only 10 and it could be a different worker.

MEMBER McDILL: So we won't know that number until next year?

MR. DESIRI: For the record, Paul Desiri.

This is correct.

THE CHAIRPERSON: Further questions, Dr. McDill?

MEMBER McDILL: No, thank you very much.

THE CHAIRPERSON: Dr. Dosman?

MEMBER DOSMAN: Madam Chair, I note that the section on Quality Management for both Peterborough

and Toronto is virtually identical in the two documents, and I would just like to ask CNSC staff if they are confident that the comments that staff made with regard to quality management for Toronto would also apply to Peterborough.

MR. WERRY: For the record, David Werry.

Yes, I concur. We are confident that the information given for Toronto for Hearing Day Two reflects for this area as well.

MEMBER DOSMAN: Thank you, Madam Chair.

I wonder if I might ask GE if the comments that they made with regard to Toronto would also apply to Peterborough?

MR. MASON: For the record, Peter Mason.

Yes, that is correct that the comments would be the same for Peterborough, as for Toronto.

MEMBER DOSMAN: Thank you.

THE CHAIRPERSON: And that was with regard to quality management.

Any other further questions?

Thank you very much. This completes the record for the public hearing in the matter of the application by General Electric Canada Inc. for the renewal of the operating licence for the Peterborough nuclear fuel fabrication facility.

The Commission will deliberate and will publish its decision in due course. It will be posted on the CNSC website and distributed to participants.

This brings to the close the public hearings of the Canadian Nuclear Safety Commission.

I would like to thank all of you for attending and the Commission Meeting will commence at 11:00 a.m. this morning.

Thank you very much.

--- Upon adjourning at 10:16 a.m.