HEARING DAY 1

Ontario Power Generation Inc.: Application for the renewal of the operating licence for the Western Waste Management Facility (formerly known as Radioactive Waste Operations Site 2)

THE CHAIRPERSON: Item 9 on the agenda is Hearing Day One on the application by Ontario Power Generation Inc. for the renewal of the operating licence for the Western Waste Management Facility (formerly known as the Radioactive Waste Operations Site 2).

January 29th was the deadline set for filing by applicant and by the CNSC staff and February 21st was the deadline for filing of supplementary information for applicant and Commission staff. The applicant, Ontario Power Generation, has filed supplementary information CMD 02-H8.1A.

This submission was received one day past the deadline of February 21st. The Commission has agreed to accept this late submission. However, Ontario Power Generation should ensure that measures are in place so that filing deadlines are met.

As customary, we are going to

begin with the oral presentation by the applicant as outlined in CMD Documents 02-H8.1 and 02-H8.1A and I will turn it over to Ontario Power Generation, Mr. Nash.

02-H8.1/02-H8.1A

Oral presentation by Ontario Power Generation Inc.

MR. NASH: Thank you. Good afternoon, Madam President, members of the Commission and thank you for this opportunity to make a presentation.

My name is Ken Nash, Vice President, Nuclear Waste Management. Hugh Morrison, Director of Nuclear Waste Operations and Atika Khan, Section Manager Safety Assessment are with me today to assist in answering any questions.

May I first of all apologize for filing our documentation late and thanking the Commission for allowing us to proceed. I did sign the letter on the correct date but I failed to ensure that it was transmitted by facsimile and please accept my apologies and assurance that this won't happen again.

The presentation will include a

brief description of how nuclear waste management is organized in OPG. Waste inventories at the Western Waste Management Facility, operational performance, QA management system, our community relations program, projects are under way at the facility and finally how we plan to deal with decommissioning planning, cost estimates and financial guarantees.

Organizationally the Nuclear Waste Management reports to the Executive Vice President and Corporate Secretary, and this is a separate reporting line from that for power reactors. The responsibility for the Pickering, Western and eventually the Darlington waste management facilities and transportation of all radioactive materials is centralized in the nuclear waste organization.

This separation and centralization allows for a dedicated quality assurance and management system for nuclear waste, which results in improved safety and performance. It allows for consistent adherence to regulatory standards, transfer of experience and there is a line with the CNSC organization.

The Western Waste Management

Facility is located at the Bruce Nuclear Power Development. It stores low and intermediate level waste from OPG owned reactors, this includes Pickering and Darlington. And the Bruce reactors, which are operated by Bruce Power.

This view of the facility, I don't know if you can point to this, Hugh, but it shows various storage structures. The low level waste is primarily stored in the buildings to the top left-hand corner of the facility. Intermediate level waste is stored in in-ground containers located at the centre of the picture and several other concrete structures are used to store non-processible low level waste and certain forms of intermediate level waste.

The building just below the low level storage building is the waste volume reduction facility where waste is either incinerated or compacted before being placed in storage. The Western Used Fuel Dry Storage Facility is currently under construction in the area to the top right-hand corner of that picture and I will be talking about that later in the presentation.

The waste inventories accumulated

over 27 years of operation of the facility include 45,000 cubic metres of low level waste and 8,000 cubic metres of intermediate level waste. Over an assumed life of 40 years for all OPG owned reactors, we plan to add a further 10,000 cubic metres of waste storage capacity. The main reason for this rather limited future expansion is based on improved processing at the waste facility and waste reductions in the stations.

Recognizing that there is always room for improvement and the need for a continued vigilance, we are very proud of our operating performance at the facility. Over the past six years we have received almost 34,000 cubic metres of waste, and after processing this has resulted in 14,500 cubic metres being placed in storage.

100 per cent of the regulatory commitments have been met. The collective worker dose in any one year has been less than 10 millisieverts and this averages out to a worker dose of less than 1 per cent of the regulatory limit. There have been no lost time accidents for the past six years. Emissions have remained less than 1 per cent of DRL. There have been zero spills and zero OP&P violations.

The central part of the environmental protection program is a comprehensive monitoring program. Over the past six years, 100 per cent of regulatory dose and emission limits have been met, 100 per cent of the environmental monitoring availability targets have been met, a scoping ecological risk assessment has been completed. The incinerator is now being replaced to reduce the emissions of conventional contaminants. Interim Derived Release Limits have been implemented and action levels proposed to the CNSC. A new storm water drainage system has recently been installed to reduce the release of conventional contaminants and initiatives have been undertaken to reduce both Carbon-14 and tritium releases from the facility.

The public dose resulting from the emissions from the facility remains a small fraction of the regulatory limit. Compared to the limit of 1,000 microsieverts, the dose from the whole Bruce site and that includes the reactors is approximately 5 microsieverts per year. The public dose from the Western Waste Management Facility contributes less than 0.1 microsieverts per year.

This chart shows the history of some of the main components of radioactive emissions from the facility which result in the 0.1 microsieverts public dose. This includes waterborne emissions via surface runoff and airborne emissions.

The radioactive emission and the public dose from the facility have remained steady over the past six years at less than 0.1 microsieverts and there has been no increase in emissions as a result of the increased volumes of waste stored at the facility.

One of the aspects of the monitoring program is a series of 16 bore holes to sample groundwater. Almost 100 per cent of the radioactive emissions and public dose are via airborne emissions or surface runoff. The actual releases via groundwater, the groundwater pathway are diminishingly small.

Groundwater monitoring was started several years ago as an OPG initiative to provide additional assurance and as an extra precaution.

The gross beta levels in all 16 water sample holes have remained steady. Tritium levels in 15 of the water sample holes

have remained steady.

The most sensitive water sample hole, number 231, has shown a recent increase to about 12,000 becquerels per litre.

Historically water sample hole 231 had shown a gradual increase and had remained steady for a period of four years at 6,000 becquerels. During the fourth quarter of 2001 there was a step change to 12,000 becquerels and this was coincident with extensive construction activity in the vicinity of water sample hole 231 to install a new drainage system for conventional emissions.

Our preliminary conclusion is that this change has resulted in a temporary disruption and has caused this increase to 12,000 becquerels per litre.

All other water sample holes remain steady and all the monitored radioactive releases from the site remain unchanged.

Twelve thousand becquerels per litre is well below the generic screening criteria of three million becquerels per litre.

Our scoping ecological risk assessment shows that there is no impact on public

dose or the environment.

We will continue to monitor water sample hole 231 and report to the CNSC on a frequent basis.

Nuclear Waste Management has a dedicated quality assurance and management system in place. It is 100 per cent complete and covers the Western Waste Management Facility.

One of the ways we measure the quality of the management system is to use the International Safety and Environmental Rating System. The Western Waste Management Facility is rated a 7 out of 10, which is in an upper quartile performance, and we have a target to achieve a level 8 in 2003.

The facility has its own ISO 14001 certification. A hundred percent of the licensing documentation, including the safety report, is up to date, and there is 100 per cent configuration management on all containment systems.

Nuclear Waste Management has its own dedicated performance assurance function that reports indirectly to the Vice-President. The primary focus is to ensure regulatory compliance and to drive continuous improvement.

A total of 77 internal and external assessments have been carried out on the facility and its support functions during the past two years.

Corrective action plans are developed and tracked to completion, and there is a weekly oversight meeting of the full management team to oversee this process.

A number of engineering construction projects will be completed at the facility during the course of 2002. These include construction of an eighth low level waste storage building, replacement of the 25 year old incinerator. The new incinerator will meet the latest CCME and MOE guidelines of reduced emissions of non-radioactive contaminants. The addition of intermediate level waste storage capacity and, finally, the completion of the Used Fuel Dry Storage Facility.

No further expansions are planned or envisaged at the facility for the next five years at least.

The environmental assessment for the Western Used Fuel Dry Storage Facility was approved in April 1999 after a comprehensive

assessment. CNSC construction approval was granted in January 2000, after public hearings.

OPG applied for an operating licence in November 2001 and this approval is requested for June this year to allow commissioning and full operation by September 2002.

The Western Used Fuel Dry Storage is a repeat of the Pickering Used Fuel Dry Storage Facility.

The safety report for the Western facility shows the emissions will be negligibly small. Public dose will be less than 0.1 per cent of the limit. The worst case accident dose is 0.5 per cent of the limit.

This level of performance is consistent with that that has been proven at the Pickering Used Fuel Dry Storage Facility where, incidently, they have been seven years without a lost time accident.

This is a view of the Western Used Fuel Dry Storage Facility as it was probably several weeks ago. Construction is right on schedule and is now about 75 per cent complete.

The process building is in the

foreground or to the left bottom corner of that picture. This is where the dry storage canisters are welded closed, vacuum dried and tested.

The storage building is adjacent to the processing building towards the centre of the picture, and this building has a capacity for 500 dry storage containers.

The area to the right of the picture is reserved for future expansion of the dry storage capacity.

This is a view of the inside of the Pickering dry storage building showing the dry storage containers. These containers will be used at the Western Waste Management Facility, in fact they will be identical containers to those used at Pickering.

Each container weighs 70 tonnes and contains eight tonnes of fuel. Approximately 60 of these containers would be required per year to support the production of all four Bruce B reactors at the Western Waste Management Facility.

OPG's community relations program at the Western Waste Management Facility includes newsletters and presentations, annual open houses. OPG is a member of the Kincardine Joint Liaison

Committee and the South Bruce Impact Advisory Committee.

There are seminars with local communities and emergency response agencies along the transportation corridor.

We have bi-annual meetings with the Medical Officer of Health and the program also includes access by First Nations to the ancient burial ground located on the lands retained by OPG.

Nuclear waste and decommissioning plans, cost estimates and trust fund contributions for all OPG facilities are reviewed on an annual basis with OPG's Board of Directors. OPG has now accumulated $1.2 billion in trust funds for this purpose and continues to contribute over $400 million per year.

Waste and decommissioning plans and cost estimates are being submitted to the CNSC for all OPG facilities. This includes power reactors and waste management facilities.

It is intended that a consolidated financial guarantee will be provided for all OPG facilities by the middle of 2002. This will be in accordance with the CNSC guidelines and will be in

the form of the trust funds that have been accumulated and a commitment from the Government of Ontario.

We have provided a summary of the track record of the Western Waste Management Facility over the last three licensing periods, six years. We believe that we have demonstrated public and work safety, environmental protection, compliance with the regulatory requirements, including compliance with OP&Ps, and a management commitment to continuous improvement.

On this basis, we respectfully request a licence for a period of five years.

Thank you.

THE CHAIRPERSON: Thank you.

With the concurrence of the Commission Members I would turn to the CNSC presentation before we open the floor for questions.

This is noted in CMD document 02-H8 and I will turn to Mr. Howden.

02-H8

Oral presentation by CNSC staff

MR. HOWDEN: Madam Chair, Members

of the Commission, for the record my name is Barclay Howden. I am the Acting Director General of the Directorate of Nuclear Cycle and Facilities Regulation.

With me today are Mr. André Régimbald, Head of the Waste Facilities Section of the Wastes and Decommissioning Division, and Ms K. Klassen, licensing Project Officer for the Western Waste Management Facility within the same section.

Ontario Power Generation has applied for the renewal of their Class IB licence to operate the Western Waste Management Facility for a period of five years.

CNSC staff has assessed the application and the performance of the applicant and has developed a position which is document in CMD 02-H8.

I will now pass the presentation over to Mr. Régimbald who will outline our detailed assessment and recommendations.

MR. RÉGIMBALD: Bonjour. For the record my name is André Régimbald. I am Head of the Waste Facilities Section in the Wastes and Decommissioning Division.

I am here to present CMD 02-H8 regarding the application from Ontario Power Generation for the renewal of the operating licence for the Western Waste Management Facility, which was formerly known as Radioactive Waste Operations Side 2.

The Western Waste Management Facility is located on the site of the Bruce Nuclear Power Development in the Municipality of Kincardine, Ontario.

The facility was established in 1974 to provide for the safe management of radioactive wastes from the nuclear power generating stations at Bruce, Pickering and Darlington, Ontario.

The main activities occurring at the facility consist of managing low and intermediate level radioactive waste received from the generating stations and include compacting, baling or incinerating the waste as appropriate and placing it in various engineered storage structures at the facility. A used fuel dry storage facility for used fuel from the Bruce Nuclear Generating stations is also under construction.

In support of the licence renewal the licensee has submitted the required information pursuant to the Nuclear Safety and Control Act and regulations.

Action levels required under section 6 of the Radiation Protection Regulations were submitted by the licensee and are undergoing regulatory review. CNSC expect that appropriate action levels will be established for the facility by June 2002.

The licensee has submitted a preliminary decommissioning plan for this facility which has been reviewed and accepted by CNSC staff. A consolidated financial guarantee for all OPG-owned facilities, which includes the Western Waste Management Facility, will be submitted to the CNSC in 2002. However, OPG has informed us earlier this week that their submission will likely be made in the latter part of 2002 and not by mid-summer as indicated in the CMD.

CNSC staff has assessed the information provided in the application and has verified that the information meets the requirements of the regulations.

CNSC staff has determined that the

information is sufficient to demonstrate that the licensee programs needed to meet the legal requirements are in place or, with respect to action levels and financial guarantees, are expected to be in place before the end of 2002.

CNSC staff has concluded that the application is acceptable for the purpose of the licence renewal.

With respect to risks to persons and the environment, the primary risks at the Waste Management Facility are the radiological hazards associated with the handling, processing and storage of low and intermediate level waste. The potential radiological hazard to the public and the environment is associated with the release of radionuclides primarily from the incinerator.

There is some risk associated with the release of non-radiological hazardous substances at the facility, primarily dioxins and furans associated with the incinerator operation.

There are also conventional hazards to the workers typical to the type of processing and storage that occur at the site.

The risks associated with the operation of the Western Waste Management Facility

are controlled by a number of provisions.

First, the facility features and systems are designed to contain and prevent the uncontrolled dispersion of hazardous substances. Designs include multiple containment barriers, monitoring provisions and filtering systems.

Second, the licensee has programs and procedures in place such as the Radiation Protection Program and the Monitoring Program that provide preventative and mitigative control.

I would like to point out that there is a correction to be made on page 11 of the CMD in section 7.3.4 with respect to groundwater monitoring. There are actually 16 water sample holes monitored and not 9 as indicated in the first paragraph.

Further control is achieved by CNSC inspections and assessments to verify compliance with the Act, the regulations and the licence.

CNSC staff also consults with the Ontario Ministry of the Environment, Ontario Ministry of Labour and Environment Canada as part of a joint regulatory review process with respect to the facility to assure compliance with all

relevant federal and provincial regulations.

The licensee's performance in controlling the risks of the facility has been assessed.

With respect to worker health and safety, doses remain well below regulatory limits. During the current licensing period the most exposed worker received an annual dose of less than 2.5 millisieverts and doses have been similarly low over several previous licensing periods.

The conventional safety record has been good with no loss of time accidents in this or several previous licensing periods.

With respect to the public and the environment, releases of radionuclides to the atmosphere and to water from the facility have remained at small fractions of the operation target of 1 per cent of the derived release limits established by the licensee. Fugitive releases of volatile tritium and Carbon-14 have been assessed to be similarly small. The licensee has taken all reasonable precautions during the current licensing period to mitigate these releases.

The radiological dose to critical

members of the public from the BNPD site, which includes the waste facility, have been less than 3 microsieverts to the adults each year since 1996. As the waste facility contributes less than 1.5 per cent of the radionuclides released to the air and less than .01 per cent of the total radionuclides released to water from the entire BNPD site, the impact of the facility on the public is very small.

With respect to hazardous substances, the licensee has operated in compliance with the CNSC licence and the Ontario Ministry of the Environment Certificate of Approval with respect to these substances.

An ecological effects review did not identify any effects from releases of hazardous substances from the facility. While this is the case, the licensee is currently replacing the old incinerator, which is a current source of dioxins and furans, with a modern incinerator that meets the new federal guidelines for dioxin and furan emissions.

Based on these assessments and monitoring results, CNSC staff concludes that the operations at the Western Waste Management

Facility are effectively controlled with the operating programs and monitoring programs in place.

CNSC staff is satisfied that the operations at this facility do not pose an unreasonable risk to the environment or to the health and safety of the workers or the public.

Other programs of concern in the overall performance of the facility and mentioned in the CMD are security, quality assurance, emergency preparedness and response, decommissioning and conventional health and safety. Some of these programs are currently under regulatory review, like the security assessment being conducted by the licensee under the CNSC security review, or are in final development, such as financial guarantees.

In summary, CNSC staff is satisfied with the status of these programs.

On other issues, OPG has completed several assessments of the risks to non-human biota from tritium in groundwater at the facility. This has addressed a requirement in the current licence to conduct a risk assessment on reaching a trigger value of 10,175 becquerels in water sample

hold 231 at the facility.

The results of these assessments have established a benchmark of 3 million becquerels per litre for non-potable water that represents the estimated no-effects value for non-human biota. This benchmark is acceptable to CNSC staff. So while monitoring results at water sample hole 231 have spiked in December 2001 above the 10,175 becquerels per litre, the tritium concentrations in the borehole are orders of magnitude below the threshold value that might impact on the environment.

The licensee's preliminary assessment attributes the spiking to the repair of a drainage line and some construction that took place relatively near the sample hole in the fall of 2001 and CNSC staff agrees that this is most likely the case.

OPG is continuing with their investigation of the increase, and following their submission of the final report CNSC staff will assess whether or not additional measures will be required.

CNSC staff is satisfied with the actions the licensee has taken throughout this

licensing period in response to the tritium values in water sample hole 231.

With respect to the status of ongoing projects at the facility, OPG expects to have these projects, including the Used Fuel Dry Storage Facility and the incinerator replacement, completed and in operation before the end of 2002. At the present time, the licensee has not identified any definitive plans for other new projects at the Western Waste Facility.

CNSC staff is satisfied with the licensee's program to inform the public about the activities and risks of the facility and its implementation. The licensee is in compliance with the CNSC cost-recovery regulations with respect to the waste facility.

Also, the facility is being operated in conformity with Canada's international obligations under the additional protocol to the existing safeguards agreement and with respect to the joint Convention on the Safety of Spent Fuel and the Safety of Radioactive Waste Management.

With respect to the Canadian Environmental Assessment Act and the relevant provisions of the regulations under that Act, the

renewal of this licence did not require any action to be taken by the CNSC under the Act.

A few changes are proposed to the licence for the Western Waste Management Facility. First, the requirement for an environmental risk assessment associated with a trigger value at water sample hole 231 has been removed as OPG has effectively complied with this requirement.

Secondly, as part of a CNSC initiative with respect to Class I nuclear facility licences, CNSC staff propose the inclusion of five fire safety conditions related to compliance with fire safety codes. The conditions require compliance with the National Building Code, the National Fire Code and third party reviews of the fire protection at the facility.

Finally, CNSC staff propose that the licence be issued for five years rather than two as has occurred in the past. As outlined in the CMD, the hazards of the facility are well-defined and understood, adequate controls and programs are in place to control these hazards and assess compliance, and the licensee has a consistent record of good safety performance and

regulatory compliance established during the operation of the facility.

CNSC staff will provide a report to the Commission containing relevant performance information at the mid point of the proposed licensing period.

In conclusion, with respect to OPG's request to renew the licence for the Western Waste Management Facility, CNSC staff concludes that OPG is qualified to carry on the activities authorized in the proposed licence and OPG will make adequate provisions to protect the environment and the health and safety of persons, and to maintain security and the measures to implement international obligations to which Canada has agreed.

Therefore, CNSC staff recommends that the Commission accepts staff's conclusions, that the applicant is qualified to carry on the activities authorized by the licence and that the applicant will make adequate provision to protect the environment and the safety of persons, and to maintain security and the measures necessary to implement international obligations to which Canada has agreed.

CNSC staff also recommends that the Commission accepts that pursuant to the Canadian Environmental Assessment Act and its regulations, no environmental assessment is required for the renewal of this licence.

Finally, CNSC staff recommends that the Commission issues the proposed licence for a period of five years.

This completes my presentation. Thank you.

THE CHAIRPERSON: Thank you. The floor is now open for questions from the Commission members.

Mr. Graham.

MEMBER GRAHAM: I have two questions. This is to OPG.

In your plan of the site and so on you didn't really show how close the site is to the lake. I am wondering if you could, on the overall site, how -- I am familiar with the site of Bruce Power and it is on that same site, is it, at Bruce Power? How close is this facility to the lake?

MR. NASH: Hugh Morrison would probably give a better answer to that than I in

terms of exact distances.

MR. MORRISON: I don't have the exact distance, but it is in the order of half a kilometre, I would say.

MEMBER GRAHAM: Perhaps in Day 2 you could maybe bring a better perspective of that on the proximity.

Then my question is: what is the monitoring that we are doing? I imagine there are discharge pipes and drainage pipes and so on draining into the lake and so on from containment areas and so on. What monitoring is there? There is always I guess lots of zebra mussels and so on in that lake.

This is to CNSC staff. Do we do monitoring of the aquatic life around the discharge pipes from this site?

MR. HOWDEN: I will ask Dr. Thompson to respond to that.

DR. THOMPSON: Good afternoon. For the record, my name is Patsy Thompson, and as long as I speak it gets better. I am currently Head of the Environmental Protection section of the CNSC.

The monitoring program that is

being conducted is an integrated program for the site. It covers the operation of the nuclear reactors as well as the operations of the waste facilities.

The monitoring program that is currently done focuses on environmental media. There is limited monitoring done of biota. The monitoring of biota is currently conducted to verify compliance with the public dose limit.

OPG and Bruce Power have jointly -- it was started under OPG, it is now jointly -- conducted an ecological risk assessment. On the basis of that assessment, OPG and Bruce Power will need to determine whether environmental effects monitoring needs to be implemented in addition to their current program.

MEMBER GRAHAM: I will only ask one other question because I realize you are struggling, and I would do it on Day 2 really, but my only other question is: is there separate monitoring for the waste management site or do you have separate monitoring of that site compared to the Bruce Power sites?

DR. THOMPSON: No. It is an integrated monitoring program that covers

emissions from the station, the nuclear power reactors as well as the waste management facilities, simply because the proximity of those various sources would not make it possible to discriminate easily what comes from where.

MEMBER GRAHAM: Thank you.

I won't ask any more questions of Dr. Thompson.

THE CHAIRPERSON: Mr. Graham, sorry, I believe that the licensee would like to comment.

MEMBER GRAHAM: Okay. Go ahead, sir.

MR. NASH: Just to add to that and clarify that we do actually monitor, for instance, surface run-off, which is the main form of liquid discharge from the facility, that is monitored at several points from the Western Waste Management Facility.

At a higher level there is an integrated monitoring of the impacts on the environment because it is very difficult to -- you can't distinguish where the impact has come from, the impact to the environment. We do monitor separately the discharges from the facility. We

know where the discharges are coming from and where they are going to.

MEMBER GRAHAM: My other question is to OPG, Madam Chair.

The Western Waste Management Facility is on the Bruce site. The reactors are leased or there is an agreement with Bruce Power to run those reactors. What is your relationship, what is the Western Waste Management Facility's relationship, with Bruce Power? Do you just rent some space to them or do you do fee for service? What is your relationship?

MR. NASH: I will give an awfully short answer on that. Approximately 75 per cent of the land area of the Bruce site is leased to Bruce Power and they have full control over it. Obviously, that includes the power reactors.

The 25 per cent that remains, that is not part of the lease and is still part of OPG's ownership and direct control includes the Western Waste Management Facility, principally the Western Waste Management Facility.

The relationship we have with Bruce Power is that, under the contract we have with them, we accept their low and intermediate

level waste. We remove used fuel from their water pools and store all that material at the Western Waste Management Facility. In return, they also provide us with services such as security support services and certain other -- you know, roads maintenance, et cetera. So there are contractual relationships both ways between ourselves and Bruce Power.

It is quite similar to the division of the organizations prior to the lease to Bruce Power. Bruce Nuclear was one division and the waste management organization was another division, so it is rather easy to create those lines. Instead of just being understandings, now they are contractual relationships.

MEMBER GRAHAM: But Bruce Power does not have any investment in the capital investment in this. Is this what you are saying, it has no capital investment, capital dollar investment, in Western Waste Management?

MR. NASH: That's correct.

THE CHAIRPERSON: Dr. Barnes.

MEMBER BARNES: Just a few small ones here.

WWMF is fenced. Why is it fenced?

The site as a whole is fenced, isn't it?

MR. NASH: There are two levels of fences. The site as a whole is fenced, and then within that fence the Western Waste Management Facility is controlled, the access to that is controlled by another fence and gates, et cetera.

MEMBER BARNES: Is it a two metre high fence? What is it meant to stop? Is it a message or is it an effective mechanism?

MR. NASH: I will let Hugh Morrison answer.

MR. MORRISON: It is partly a message but it is also there as a physical barrier. You know, as people come onto the site, people gain approval to the site and they may be required to visit Bruce A or Bruce B. We want it to be quite clear to them when they come on site that they can't have access to the Western Waste Management Facility so the fence is primarily to keep these people off the site.

It is also a useful device for us in terms of making it clear to our staff and the facility where our responsibilities start and stop and where you have things like monitoring devices and so forth.

MEMBER BARNES: Coming back to the incinerator now, the measurements you have taken are three times over the past five years. This seems to meet provincial regulations, but is the timing of these also within a sort of provincial guideline? Three times over five years doesn't seem very much to me.

MR. NASH: It is my understanding, and Hugh will correct me if I am wrong on this, that we are not required by regulation to make these measurements. We make these measurements as an extra precaution to confirm that in fact we are operating within the guidelines. Is that correct, Hugh?

MR. MORRISON: Yes. Basically, I think that you do all your stack testing and you determine what your releases are. As long as you don't change your waste forms and as long as there aren't significant changes in your equipment, the basic emissions stay very similar so that what we have found is that the stack testing we have done is fairly consistent from the one time to the next time to the next time.

In terms of the regulations, there aren't regulations from the MOE that we are

required to do, for example, annual stack testing in our C of A.

When we put the new incinerator in place, the Ministry of the Environment have requested that we do sort of complete stack testing in the first year and then complete stack testing in the second year for conventional emissions. Now, on top of those conventional emissions of course, we are continuously monitoring for radioactive emissions and those are continuous monitoring.

MEMBER BARNES: So the use of the incinerator is fairly constant, is it?

MR. MORRISON: Yes. The incinerator was operating seven days a week, 24 hours a day, except for periods when it was down for maintenance or other corrective measures.

MEMBER BARNES: You have given us these numbers on capacity and the five years this will give you. Does this takes into account the possibility of additional units on Bruce A coming on stream?

MR. NASH: Yes, it does.

THE CHAIRPERSON: Dr. Giroux.

MEMBER GIROUX: Thank you.

Concerning first water sampling hole 231, which has been troublesome in the past, I have two points. The first one is that from what I read and hear you appear to be confident that you have solved whatever problem was there. Is that a fact that you are now confident that that hole won't be giving you readings above what the others are doing?

MR. NASH: Water sample hole 231. Just for clarification of the question, water sample hole 231 is now at 12,000 becquerels per litre. Is the question will it go above that?

MEMBER GIROUX: No. I think I read that you are expecting it to come down to something like five or six thousand.

MR. NASH: Yes. Our investigations and the advice that we have is that this will over a period of time come back close to the 6,000 becquerels per litre and that this disturbance is somewhat temporary.

MEMBER GIROUX: How much time would that be? Do you have a prediction of that?

MR. NASH: It is my understanding that it will be within a year.

MEMBER GIROUX: Thank you.

Again, reading from the documents, you have done a number of repairs to the hole I think. I read that at least in the staff's document. I think it would be interesting for me to have illustrations of what was done in terms of corrective action. This might be for Day 2 with illustrations to give us a good perspective.

MR. NASH: Yes. We will undertake to do that.

MEMBER GIROUX: Thank you.

My other question is concerning the new methodology that you are using to calculate release limits. The question is what is the purpose of using a new methodology? What are you aiming for? This is mentioned -- you appear to be puzzled by my question.

MR. NASH: If you could clarify where that is mentioned, that will be helpful to us.

MEMBER GIROUX: This is on page 8 of staff's document. Unless I am reading incorrectly and staff is the one that might answer. Maybe the question should be addressed to staff. Okay. On page 8, the second paragraph of article 7.3.1 --

MR. NASH: I will get Atika Kahn to answer that question.

MEMBER GIROUX: Thank you.

MS KAHN: The interim derived release limits were actually completed last year and they were put in place starting this first quarter of 2002. What was done there was only the new dose conversion factors were taken into account when we did that revision. But a further revision is required because the transfer parameters have also changed with the doses coming down.

With the dose limits coming down, a lot of other parameters have changed as well and those were not taken into account in the interim derived release limits so now we have to kind of complete the revision and take it one step further and include the revised transfer parameters now to do the final derived release limits. That we plan to do by the end of this year.

MEMBER GIROUX: Thank you.

That answers my question very well.

The last question. You mention that you have conducted 77 assessments, internal

and external. Could you give me just a few examples of the scope of these assessments?

MR. NASH: Sorry. Of which system?

MEMBER GIROUX: You don't specify but you do mention in your presentation that you have conducted 77 external and internal assessments.

MR. NASH: Yes, 77 assessments. Each year and then on a quarterly basis myself and the full management team we assess where our risks are in our overall operation. We do that in several ways. One of the ways we do it is through our environmental management system. We have to identify aspects and impacts. When we identify those we then determine where we will do assessments. Either those assessments are done with bringing in external auditors or we have our own, reporting directly to me, assessment teams that go out in the field and do observations and write assessment reports.

Also from the higher level, the corporate level also has an assessment function that has additional assessments of what we are doing. That is basically the system.

Did I answer your question?

MEMBER GIROUX: I understand these are more than technical assessments or physical measurements.

MR. NASH: Yes. They include field observations.

I don't know whether you want to add to that, Hugh.

MR. MORRISON: I think you asked if we had some examples of the kind of assessments that we would have done. We certainly have done assessments in our environmental management system and how effective that is and our safety management system and how effective that was. We were to look at how we use protective equipment. We certainly have done an assessment within the last two years on the leadership and our safety program.

As Ken said, basically those are typical assessments that we do. We attempt to make sure that we cover off all the key parts of our business over a reasonable time frame.

THE CHAIRPERSON: Ms MacLachlan.

MEMBER MacLACHLAN: With respect to the assessments on page 11 of the CMD 02-H8, it

states that OPG had conducted two studies to assess the environmental risk posed by tritium in groundwater and that:

> "These assessments have determined that tritium concentrations on the order of tens of thousands of [becquerels] remain orders of magnitude below the ... benchmark representing the estimated no effect value for non-human biota."

What work did the Commission staff do to assess those reports and to reach their own independent opinion on the veracity of the conclusions reached in those reports?

MR. HOWDEN: I will ask Dr. Thompson to respond to your question.

DR. THOMPSON: The technical reviews conducted by CNSC staff were in essentially two phases after an initial meeting with OPG and their consultants. The initial proposal by OPG was that this criterion would be used to manage groundwater issues essentially. To that, our position was that this was not

acceptable as a way of managing emissions because there are provisions in the regulations requiring that the licensee control, to the extent possible, emissions.

Having set that stage, OPG then revised the document and submitted it formally to CNSC staff for review. The review that was conducted essentially looked at all the technical aspects in the document. That included sources of tritium, the environmental fate of tritium in different environmental compartments, as well as an assessment of doses to different human receptors and non-human receptors to tritium.

From that basis, the conservative assessment indicated that the most exposed receptors were biota residing in groundwater. So the assessment essentially is based on groundwater invertebrates living in soil exposed to those levels of tritium during their entire life. That level is set such that under those conditions there would be no effects on biota exposed under those conditions.

On that basis, then, OPG will use that criterion as a cutoff. If it is below that value then we would require that they take action

to mitigate the sources. If it is above those values, then the requirement would be to do a very site-specific assessment to determine if remediation is necessary.

MEMBER MacLACHLAN: Thank you.

Sorry to have to put you through that.

My next question again rises from CMD 02-H8. That has to do with the proposed process to amend this licence should it be issued in the recommended form. That is an amendment required in about six months' time, as I understand it, and that has to do with after the dry storage buildings are commissioned then the licence will require an amendment to permit used fuel to enter the facility.

My question is: what procedure does staff anticipate or suggest would be followed to actually amend the licence; and, given that it is within the next six months foreseeably or within six months of issuing this licence, why was the choice made to not include information on the details of storing used fuel?

MR. HOWDEN: Barclay Howden responding.

The original authorization to construct the facility was given by the Commission back in 2000. Construction is still in process right now. As far as we can tell, everything is going according to plan. Our plan is that the authorization to operate would be done by a designated officer by an amendment to the licence.

MEMBER MacLACHLAN: Thank you. I had another question here.

On page 14 of the CMD you state:

> "CNSC staff has also initiated discussion with OPG on a review of the ... `National Fire Prevention Association ... Standard 801 for Fire Protection for Facilities Handling Radioactive Materials -- 1998'..."

Who was to conduct that review, and when did you anticipate that review would be concluded? Again, the same question: how did you anticipate the licence would be amended if the result of that review suggested that an amendment should be made?

MR. HOWDEN: I am going to ask Kay Klassen, who is the project officer, to reply.

MS KLASSEN: OPG was asked to look at that standard in relation to their activities at the Western Waste Management Facility and present their perspective on how they felt that standard did or did not apply. This information has been presented to CNSC staff, the staff with experience in fire protection. That information is now under review by staff.

Staff is also getting information from other similarly affected facilities. The recommendation at that point, once that review is complete, will determine the applicability of that standard or sections of that standard or some variant in relation to what may or may not be missing from the current set of conditions.

When that is done, if it requires an amendment to the licence, then that could go through a licence amendment process if required. If OPG is agreeable to an amendment to the amendment, then we might be able to incorporate that in a subsequent amendment. If staff proposes it, then it will have to go to the Commission as a staff proposed amendment of the licence.

MEMBER MacLACHLAN: Thank you.

THE CHAIRPERSON: I guess I have a follow-up question to that.

I notice that it said that there are no specific licence conditions on fire safety currently in the operating licence. Is that correct? Is that across all the waste management facilities that there is no current fire safety condition?

MS KLASSEN: Correct. Our requirements have been stated to OPG in letters. OPG is aware of CNSC requirements but there has been no specific identification of conditions in the licence on those requirements.

MR. HOWDEN: May I add one more point?

THE CHAIRPERSON: Sure.

MR. HOWDEN: For this particular licence being proposed we are proposing five new conditions.

THE CHAIRPERSON: I guess my questions revolve around concern about fire safety, number one, and perhaps OPG might want to talk about this. That is number one. My first question is with regard to what is happening now

on fire safety at this facility.

My second question is I would imagine that we would want to put in conditions, et cetera, that may be applicable to this facility but what is the implications of it more broadly. For example, we heard about fire safety changes as part of what I would call a continuous improvement process in some other facilities. That is my second.

My third I guess is regarding the comments that were made about it being agreeable or not. I don't know what that means. I am not sure that a regulator and a licensee usually have a relationship that necessarily is dependent on whether they are agreeable or not.

So there are three parts, Mr. Howden, to that question.

MR. HOWDEN: I will tackle parts two and three first.

In terms of the broader perspective of fire safety, the CNSC has embarked on a program to review fire safety at the licensed facilities over the past few years where we started basically with the higher risk facilities and started moving down towards the lower risk

facilities. We have got to these guys and that is why we are proposing these five because our regulations are lacking in terms of fire protection.

In terms of agreeable, what we are trying to do is we will require certain measures, but in order to impose measures we have to have the full understanding of how they link with the particular facility and, in this case, whether this national fire protection standard is applicable to this particular facility.

We are entering into consultations with other licensees in a similar manner with the end point being that we come to a conclusion that we have specific requirements which then we would impose.

I forget what the first part of your question was.

THE CHAIRPERSON: It was addressed to OPG about what exactly is in place now on fire safety with or without the requirements of CNSC.

MR. NASH: I will provide an answer and then Hugh Morrison may wish to add to it or in fact Atika Kahn.

At our low-level storage buildings

we have fire detection systems and we have fire suppression systems, a carbon-dioxide system.

At our Pickering waste management facility we do have fire detection systems and we have fire suppression systems in place.

In the new facilities we are building that is the same case. When we do build a new facility and we do put a system in, we have independent consultants come along and confirm that we are putting something in that is going to operate well and is compliant with the codes that are in place at that point in time.

So we do have quite an extensive fire prevention system and assessment program in place.

THE CHAIRPERSON: Would I be correct in assuming -- I did see the comments with regard to the co-operation with Bruce Power on emergency preparedness, the fire component of emergency preparedness. Would that be part of that broader program?

MR. NASH: Yes, indeed. We have the arrangements for emergency response between -- at Bruce Power and the Western Waste Management Facility are the same as existed between Bruce

Nuclear when it was a division of OPG and the Western Waste Management Facility right now, so we draw from Bruce Power's emergency response pool that is used to support the power reactors. All of that is in place. It is under contract and it is tested. There are drills and there are audits and assessments to confirm that it is in fact operating in accordance with the plan.

THE CHAIRPERSON: One of the questions we particularly ask licensees when they are applying for a longer licence period, one of the qualities that we are looking for is the stability in terms of the period of time that they are looking at, not stability of the company, stability of operations in terms of major changes or whatever.

Although you have alluded to it in some of the documents, as has the staff, perhaps just in Day 2, just kind of a one-pager in terms of looking at the five year period of time and what are the specific changes that you would see in the facility both in terms of the facility itself and any major changes in terms of operating procedures, et cetera, that we would see.

I think it would be important to

talk about things that may be a part of continuous improvement, if I can put it that way, versus what we can consider major changes. If that could be delineated that would be helpful. I think the staff could give you examples of how that has been done in other areas if you so wish.

Mr. Graham.

MEMBER GRAHAM: I had one question for clarification on 7.1 of your presentation with regard to waste management activities. If you look at that and just did a brush of quick adding, waste received about 32,000 metres and waste handled about 40,000. Your explanation was that:

> "Waste handled, as indicated in the table above, includes not only waste received at the facility but also wastes that are removed from storage to be processed or relocated and returned to storage."
> (As read)

What do you mean by that? You are handling it twice or there was material on site that was not part of this waste received? There is quite a discrepancy; you have handled a lot

more than what you have received.

MR. NASH: I will partly answer that question, then I will pass it over to Hugh Morrison.

From time to time we withdraw waste from the stored inventory and pass it through our waste volume reduction facility. So that is one area where we do handle waste that we haven't recently received, but I will pass it over to Hugh to either clarify --

MR. MORRISON: Yes. We do a certain amount of -- we take waste and we may, for one reason or another, not have either a piece of equipment available or people available when the waste is received so we store it safely in, for example, a low-level storage building. Then perhaps at a later date when waste received from the stations aren't so high we may take the waste out and put it through our incinerator or take waste out and put it through our compactor and that way get some volume reduction.

We would expect in the future, when we build the new incinerator -- for example, we have a certain amount of oil stored in the facility that we would expect to remove and put

through our incinerator. We also have a number of bales that we would plan to put through a shredder and put them through our incinerator, so again quite a bit of volume through doing that sort of thing.

MEMBER GRAHAM: So waste handled can be more than waste received. I guess that was my question. You had extra waste on the site or you handle it more than once so that is why your volume is up.

MR. MORRISON: Yes. It is waste that we may have to handle -- like, we have taken it, we have put it into storage, but then at a later date it is of benefit to the operation to pull it out of storage, process it and put it back into storage again.

MEMBER GRAHAM: Okay.

THE CHAIRPERSON: Thank you very much. That brings us to the end of the question period for this hearing.

This hearing will continue on the 18th of April, 2002, here in the CNSC offices. The public is invited to participate either by oral presentation or written submission on hearing Day 2. Persons who wish to intervene on that day

must file submissions by March 19, 2002.

The hearing is now adjourned, then, to April 18, 2002.

Thank you very much.