--- Upon commencing at 12:57 p.m.

THE CHAIRPERSON: The next item on the agenda today is Hearing Day Two on the matter of the Application by Ontario Power Generation Inc. for the renewal of the Pickering A licence.

The first day of the public hearing on this application was held on February 24th, 2005. The public was invited to participate either by oral presentation or written submission on Hearing Day Two.

April 19th, 2005 was the deadline set for filing by intervenors. The Commission received 71 requests for intervention.

Submissions from the following persons were filed after the deadline, persons or corporations: Mr. Wayne Arthurs, Herizon House, Veridian Corporation and Dr. Greening. A panel of the Commission agreed to accept these late submissions.

A Record of Decision will be sent to the affected parties with regards to this panel decision. These submissions, as noted above, are outlined in CDMs number 05-H7.70 and 05-H7.73.

For the record, please note that CDM 05-H7.67 has been withdrawn.

The Notice of Public Hearing 2005-H-2 was published on November 23th, 2004. Presentations on Day 1

by the Applicant, Ontario Power Generation Inc., under Commission Member Documents CMD 05-H7.1, 05-H7.1A and by Commission staff under CMDs 05-H7 and 05-H7.A.

I note that May 12th was the deadline for filing of supplementary information, and I note that supplementary information has been filed by the Applicant and by CNSC staff.

OPG has filed a written submission as outlined in CMD 05-H7.1B. My understanding, which I will ask Mr. Charlebois to clarify, is that OPG does not have an oral presentation but that OPG representatives are available for questions.

Is that correct, Mr. Charlebois?

MR. CHARLEBOIS: For the record, Pierre Charlebois, Ontario Power Generation.

That is correct, Madam Chair.

THE CHAIRPERSON: Thank you.

On that basis then, I will turn to CNSC staff for their presentation, which is outlined in CMD document 05-H7.B.

On that basis, I will turn to Mr. Grant.

Mr. Grant, you have the floor.

MR. GRANT: Good afternoon, Madam Chair and Members of the Commission.

For the record, Ian Grant, Director General

of the Directorate of Power Reactor Regulation.

Madam Chair, staff does not have a formal presentation. I would just like to make a few words of introduction to the staff written submission in CMD 05-H7.B.

Staff submitted that document as supplementary information to that presented at Day One of the hearing for the renewal of the Pickering A operating licence and the document has three main points. It updates the Commission on the status of Pickering Unit 4 since Day One. It provides additional information to respond to issues raised by some intervenors, and it describes a change to the current operating licence made by the Designated Officer since the Day One hearing.

At the Day One hearing staff recommended the five-year licence period be granted to Ontario Power Generation and we continue to make this recommendation with the further commitment that staff will report on the licensees safety performance midway through the licence term, in fact, continue throughout the licence term.

That concludes my introductory remarks and staff are available to respond to questions from the Commission.

Thank you, Madam Chair.

THE CHAIRPERSON: So to clarify then, the

floor is open for questioning from members of the Commission with regard to OPG and CNSC staff's supplementary information as noted in H7.1B and H7.B.

Are there any questions from Commission members?

Dr. McDill.

MEMBER McDILL: Thank you.

I realize the results aren't completely in yet, but my question is related to the undetected localized thinning adjacent to the welds.

I wonder if you could tell me if that was in the base material or in the heat-affected zone areas?

MR. COLEBY: I would like to call on Dr. Spekkens from our engineering organization to talk to that question.

DR. SPEKKENS: For the record, my name is Paul Spekkens. I am Vice-President, Science and Technology Development at OPG.

The localized attack is found in the carbon steel base material but quite close to the edge of the weld. So we presume that it is in fact in the heat-affected zone.

MEMBER McDILL: I guess the information is probably not easily at hand.

Does staff have any information, or maybe

OPG, on things like the hardness of the base material, the fusion zone, the heat-affected zone?

THE CHAIRPERSON: Perhaps we will start with OPG and then go to staff.

DR. SPEKKENS: For the record, Paul Spekkens. We have not yet made those measurements of hardness, tensile properties, et cetera, et cetera. That is all part of the inspection plan that we have laid out for the removed feeders from Pickering A.

MEMBER McDILL: Thank you, Madam Chair.

I will look forward to seeing that on behalf of the Commission at some later time, I hope. Thank you.

THE CHAIRPERSON: Thank you.

Mr. Graham.

MEMBER GRAHAM: Yes. Perhaps it has been brought up by a couple of intervenors, but I will ask the question now with regard to what intervention has -- or what type of intervention has OPG indicated to either the GTA or Transport Canada, one or the other, with regard to the possibility of an airport being established near the plant? It has been referred that Pickering may have a new airport at some time. I know it is a few years off, but are you active on that file and are you active in the fact that fly zones would be very close to the plant and so on?

I will ask that first to OPG and then to CNSC staff.

THE CHAIRPERSON: However, I would like to note that we talked earlier about the Commission being on enhanced security status. This is OPG.

MEMBER GRAHAM: Yes.

THE CHAIRPERSON: And so I don't want matters of a sensitive security nature discussed in public.

MEMBER GRAHAM: Correct.

MR. COLEBY: I would like to call on Mr. Stan Harvey, our VP of Security to talk to what issues he can talk to in the open forum.

MEMBER GRAHAM: Yes, I don't want to do anything that will prejudice security. All I am asking really is will there be intervention at the time of hearings of the location of the airport or has there been? Really, I don't want to know what your security is, but are you intervening?

MR. CHARLEBOIS: For the record, Pierre Charlebois for Ontario Power Generation.

Mr. Graham, to the best of my knowledge, we have not intervened. We will obviously monitor the proceeding and the decision process that will be taking place, but we, at the present time, do not have any plans

to intervene or participate in that process.

MEMBER GRAHAM: Staff?

MR. GRANT: Mr. Graham, for the record, Ian Grant.

Staff's answer is that we are aware of the possibility, but we have, as yet, made no interventions in this matter but we will keep this under close observation.

MEMBER GRAHAM: I realize this is still a concept, but I am not sure whether there are environmental assessments being done or scoping being done or so on for this. So I guess my question would be will you be active as the file moves forward and proposals may move forward?

MR. GRANT: Ian Grant for the record.

Absolutely, staff will stay active as the concept moves forward, and when there is an opportunity for stakeholder input, we will provide input.

THE CHAIRPERSON: Dr. Barnes?

Maybe we will move to Mr. Taylor.

MEMBER TAYLOR: If I could just follow up on that issue of the airport, which may or may not be significant but appears to be potentially significant.

Do you yet have an idea, staff or OPG, of the timeframe of such an airport? When might it be implemented if it were to be? Would it be within the period of the proposed licence, for example?

MR. COLEBY: Our security VP, Stan Harvey, has those details and he will answer them for us.

MR. HARVEY: For the record, my name is Stan Harvey. I am the VP, Nuclear Security, Ontario Power Generation.

Our understanding is that the airport would not go in service before 2012, meaning it is well outside of the licence period under consideration.

THE CHAIRPERSON: However, it would be built before 2012 and then construction would -- the decision to go ahead would be made before 2012? Any idea when that decision would happen?

MR. HARVEY: At this time we have not been advised when such a review process would commence and we would be monitoring such a process before its commencement and would participate in it, should it start.

THE CHAIRPERSON: Mr. Taylor?

MEMBER TAYLOR: I should like to think that the staff will be actively pursuing, rather than monitoring when this is likely to occur in the whole detail of this proposed airport.

MR. GRANT: For the record, Ian Grant.

Yes, staff will actively pursue. Our information is, as Mr. Harvey has indicated. We understand the airport would not be in service before 2012

and we will pursue an understanding of when the decisions around this concept might be made.

THE CHAIRPERSON: Dr. Barnes?

MEMBER BARNES: Well, just an observation that this is the subject of the first intervenor, so I think it might be best to follow up when we have heard those comments.

I just wanted to ask -- a comment that came out of the supplementary information provided by staff -- and that is at 2.3, the bleed condenser pressure control which, as I read it here, indicates there were a number of failures in Pickering station B, and it gives the reason for this, but it does not seem to provide like an ongoing solution to the problem.

Perhaps OPG might more appropriately respond. I can read it, if you like, while people shuffle papers.

> "These failures of the bleed condenser spray control valve were attributed to vibration caused by the valve being in continuous service which is not the usual mode of bleed condenser pressure control. This mode of operation was necessary due to the degradation of the tube sheet within the bleed condenser. This vibration is not

experienced at Pickering A…"

MR. COLEBY: If I could speak on behalf of OPG? I am John Colby, the senior site VP from Pickering A.

Pickering B has had some problems with its bleed condenser in terms of failures of the support plates for the heat exchangers.

As a result of that they actually had to run in a non-traditional mode within that piece of equipment and that has caused some knock-on problems. Since that time they have been actively replacing those heat exchangers and I belief at least two of them have already been changed.

As far as Pickering A is concerned, we have actually been in on one of the shut-down units, Unit 3, and done a complete examination of the equipment. And Mr. Craig Sellers has the details of that.

MR. SELLERS: For the record, Craig Sellers, Director of Restart Engineering.

As John Coleby has alluded, we have inspected the Unit 3 bleed condenser and have found no degradation mechanism similar to what was found on Pickering B bleed condensers.

So we are operating in our normal configuration at this point in time on Unit 4, which is

through reflux mode and we do not see the same problems as Pickering B in spray mode.

MEMBER BARNES: Thank you.

THE CHAIRPERSON: Are there any further questions at this point?

Dr. Dosman.

MEMBER DOSMAN: Madam Chair, thank you. I have several small points.

In the discussions of last day, on figure 1 of 3.4.4.3-4 of the diagram indicating site fire protection, on the codes of green and the yellow, white and red, the fire system's health was indicated in red. And I am just wondering what additional steps had been taken in the interval to address this issue.

MR. CHARLEBOIS: Could I ask, please, that you repeat the reference figure in the page, please?

MEMBER DOSMAN: I am sorry -- thank you -- it is figure 1 and is 3.4.4.3-4 of the original CMD. It referred to fire system's health and the code for a state of development was red and I am just wondering whether there had been any further information on that item.

MR. SELLERS: For the record, Craig Sellers, Director of Restart Engineering.

The particular weakness that was identified was some ancillary buildings that we had constructed to

support the restart, and those buildings did not have fire detection active in them. That situation has now been corrected.

MEMBER DOSMAN: Thank you, Madam Chair. I have several other small questions.

In the original CMD there was one case of an unplanned radiation exposure on an individual, and I am just wondering if in the interval there had been any further unplanned radiation exposures amongst workers.

MR. COLEBY: For the record, John Coleby, from Pickering A.

There have been no further unplanned exposures to workers. This was an issue where one of our workers was affected by cobalt during fuelling machine operations in the bay, got some slight contamination, both on the outside and the inside of the mouth. And we did all of the required follow up to confirm that there was no contamination within the work area.

We have assumed in the end, having done complete service, that this was a single incident of a hot particle or something like a hot particle. A full-dose assessment was done on the individual and that was shared with the CNSC staff, who did their own independent assessments.

MEMBER DOSMAN: Thank you, Madam Chair. I

have just a couple of other minor questions.

On CMD 05-H7.B from CNSC staff, licence condition 2.2 concerning the requirement for one authorized nuclear operator to be present at the unit's main control panel at all times, I am just wondering whether OPG might be able to explain the significance of this for me.

MR. COLEBY: I am not quite sure of the context of the question.

The licence requires us to have, at some point in the future -- I think it is 2007 -- to always have a licensed operator on a unit that has been through the restart process.

We comply with that. So Unit 4 always has an authorized operator on the panels. Unit 1, as it is coming back, has authorized operators on the panels and as 2 and 3 come back, they will be treated exactly the same.

I do not fully have with me the details of why the wordings of the condition of the licence were changed, but that is a general condition for all of OPG now that we will meet this requirement and each station has different dates with which to comply.

MEMBER DOSMAN: Thank you.

As a matter of interest, perhaps CNSC staff would be willing to explain the reasons behind that

condition?

MR. SCHAUBEL: For the record, Tom Schaubel.

Mr. Coleby is correct in describing what the licence condition is. This has been an ongoing process for a few years and it is just now that that licence condition has been put in, within the last month or so. So we have revised or updated the licence to include that condition for the minimum complement requirements.

MEMBER DOSMAN: So it was not a condition prior to the present time?

MR. SCHAUBEL: That is correct, except OPG, at Unit 4, have met that condition. Other multi-unit stations, including Pickering B, have committed to meeting that within a certain date. Pickering A has met that, but it has still been put into their licence condition, as all of the other multi-unit stations.

MEMBER DOSMAN: Thank you for that information.

THE CHAIRPERSON: Yes, I am getting a bit concerned that we are redoing day one so I would just like to remind everybody that day two is for intervenors and I am getting a bit concerned.

But Mr. Graham, is there a question?

MEMBER GRAHAM: Well, I will cancel one of my questions, but I will ask the other one.

The question I had is with regard to emergency preparedness and so on. Have you anything further to report because it was discussed day one but anything further to report with regard to the installation of sirens and early warning within the community?

MR. CHARLEBOIS: Pierre Charlebois, for the record.

No, there is nothing further to report, Mr. Grant.

MEMBER GRAHAM: There has been nothing installed?

MR. CHARLEBOIS: There has been no -- the sirens have not been installed. There has been nothing go forward. There is no early warning system in place yet.

THE CHAIRPERSON: However, we have some colleagues from Emergency Measures Ontario who -- yes -- who may wish to comment on this. The floor is yours, sir.

MR. McKERRAL: To Chair and members of the panel, Neil McKerral, Chief of Emergency Management Ontario.

I can update you on the situation with respect to the sirens in Pickering. If you recall the last time we met I mentioned that another study was

initiated at the request of the City of Pickering and OPG underwrote the cost of that. That study is almost complete. We are told another week and a half and we will see that study.

We are given to understand that it is recommending a reduced number of sirens from the original report. As I mentioned the last time I was here, the province has no particular feeling one way or the other as to how many sirens there should be. Our only interest is having a science-based decision as to what is necessary to meet the standard. If it is one or it is 150 that is fine as long as it meets the standard.

So when we have this second report the report will be completed, passed along to the regional government in Durham and they will then send it to EMO, and when we have that along with the original report we are making arrangements to engage the services of a, I guess fair to say, world-renowned expert for a peer review of both of these and the objective is not to pick one of them but just to make sure that both of these proposals meet -- or either of them meet the provincial standard and then it will be up to the municipality to go forth.

MEMBER GRAHAM: Without getting into a long answer or anything else, my question to, I guess, CNSC staff are we aware of what that standard is and will we be

part of that review -- are you?

MR. SCHAUBEL: For the record, Tom Schaubel.

Our emergency preparedness people are aware of the standard and are part of the review of this.

THE CHAIRPERSON: Perhaps what Mr. Graham was going to say is we are not neutral on the system of emergency management and preparedness, and forgive if saying that it sounds like a long process and we would hate to see that this long process, understanding that public acceptance is very important for emergency preparedness, but that any of the communities we will be harshly judged, all of us, if we dither and we don't find a way to move forward on emergency preparedness. We understand it is a provincial jurisdiction. I think it is just we would hate to have that happen.

Mr. McKerral.

MR. McKERRAL: Neil McKerral, for the record.

I couldn't agree with you more. If it was up to me I would have gone and dug the holes myself, to be quite frank with you, a couple of years ago. But there are -- there has been agreement among all the parties to get on with this and I and my colleagues met with the mayor of Pickering about a month ago -- wasn't it -- maybe

a little more, six weeks, and he assured us that they are very keen to get on with it. They recognize the need for a proper warning system to go in. It is simply a question of them being, I guess, content with the number and the location of the sirens and they are hoping for public acceptance.

So the work that we are doing to get this peer review done we have indicated that we want it done as quickly as possible so that it is not going to be a protracted process. The indications that we have are that it can probably be started more or less as soon as we get the actual reports, because we have done the groundwork.

So we are just raring to go.

THE CHAIRPERSON: I think that we would ask, then, if CNSC staff if they are monitoring this process to inform the Commission at the appropriate earliest meeting as to the progress on this so that we can provide the support that I think we all would like to this process.

MEMBER GRAHAM: As long as it is not at the next licensing hearing that it has not been decided.

THE CHAIRPERSON: Any other comments or questions at this time?

Then I would like to move on to the interventions.

Before we start I would like to ensure intervenors that we received your written submissions and we have read them and we will duly consider all of the information that you have provided in written form as well as your oral presentation, and we have allotted approximately 10 minutes for each of the oral interventions before you today and we would appreciate your assistance to help us keep on schedule on this day before the long weekend.

So we are going to start then with CMD-05-H7.2, which is Mr. Degan. Sir, the floor is yours.

CMD 05-H7.2

Oral Presentation by

Jurgen Degan

MR. DEGAN: Thank you, Madam Chairman. For the record, my name is Jurgen Degan. Presently I am intervening or attempting to intervene in regards to a five-year licence for the OPG for the Pickering Nuclear Plant for their basically Reactor A, and here are my reasons.

But before I begin, I would like to comment on the date that was sighted for the Pickering airport of 2012. I would like to clarify that. I have a copy of the GTAA's draft, such that it is, and basically 2012 is the

official date where they are hoping to be the airport that will take the spill over from Pearson, a reliever airport. However, as Madam Chairman indicated or went down that direction, basically it will be a general aviation aircraft possibly within a three to four year period, basically within a timeline of five years of Reactor A.

Their timeline right now, they are within a one to two year environmental assessment -- that is the Greater Toronto Airport Authority -- and they will try and make it sooner than later, the reason being GTAA was basically brought into being in 1998 by the Liberal government. They are in essence controlled by Transport Canada, Monsieur Lapierre to be specific, and they know all too well that if there is a change of government they will go the way of the dodo bird.

Essentially, if we are looking at a timeline, as I say one to two years, possibly three to four years for general aviation aircraft, part of my brief here will explain what that means as far as Type-1 or Type-2 aircraft occurrences as per the IAEA regulations.

So I believe I would like to correct -- or not correct -- I would like to submit that this is a time to intervene to look after the best interest for the OPG and/or the best interest of who came first. Let's keep it simple: Who came first, what is more important, and I

think it is a time to intervene.

Anyways, I will go ahead with my brief if I may.

As I said, my name is Jurgen Degan. I am a safety expert in two industries. I am an airline pilot and an officer in the Toronto Fire Service, both 30 years. Presently I am an instructor at Flight Safety Canada. I train airline pilots from all over the world and I teach them to expect the unexpected and how to survive. I also reside east of Pickering Nuclear Power Plant some 2.5 kilometres away to the east.

I am appealing to the OPG and the CNSC and I hope that you see me as the voice of reason. I know that the OPG has a great safety record even though Pickering is one of the largest and oldest nuclear power plants in Canada. I do support the OPG and the Pickering Nuclear Plant as it is the most efficient method of producing hydro for the masses to date.

In regards to the five-year licence that is being sought I am strongly opposed for the following reason.

The GTAA, I will remind again in case no one knows, Greater Toronto Airport Authority, is accelerating its plans to build a large airport consisting of 10,000 foot runways, six runways to be specific, which

will have the oldest most inefficient aircraft passing some 2.5 kilometres to the east of the Pickering Nuclear Power Plant. There will be on approach a beam on the nuclear power plant at approximately 2500 feet above ground level. Departure will be more hazardous as many of the older aircraft when heavily loaded have a degraded climb radiant and could pass by the Pickering Nuclear Plant at considerably lower altitudes, say lower than the CN Tower. This will be a 24/7 operation and a major airport in Canada. There will be no noise restrictions, making it very attractive to some of the largest charter business Purolator and FedEx jets.

There is another serious problem. Because of the Oak Ridges Moraine which stretches from west of Toronto to way to the east and the numerous marshlands associated with it tens of thousands of migratory birds call this area their home. Transport Canada and my airline experience show that these birds alone are a severe hazard to all aircraft, especially on takeoff and landing, and are thus a hazard to the nuclear power plant. For millions of residents this combination spells a potential disaster waiting to happen.

The GTAA is in the process of environmental assessment and based upon their draft plan of Pickering Airport did not include the birds or the nuclear power

plant. Upon completion of the EA all that is required is the permission of the Transport Minister Lapierre, and we have a large busy reliever airport to Pearson and the largest nuclear power plant in Canada in extremely close proximity. The GTAA and Transport Canada are moving ahead aggressively destroying heritage homes and evicting people. Time is not on our side.

Having studied IAEA's NSG3.1 "External Human Induced Events and Site Evaluation for a Nuclear Power Plant", section 5.1 is very specific. I would like to read you an excerpt of that. This is the document. I think most of you are probably familiar with it. On section 5 pertaining to aircraft crashes I will quote "General" 5.1:

> "The potential for aircraft crashes that may affect the plan site should be considered in early stages of the site evaluation process and should be assessed over the entire lifetime of the plants. The potential will result from contributions to the probability of an occurrence of an aircraft crash of one or more of the following events."

This goes back to what I first said. A Type-1 event in this instance covers an area of 100 to 200

kilometre radius. It is only for general aviation aircraft and it would take me a long time to explain what that requires. A Type-2 event is considerably more severe which is ultimately what this airport is designed for. Type-2 event, a crash occurs at a site as a result of takeoff or landing operation at a nearby airport. It furthers go on to explain the number of movements and various other issues. So basically we are dealing with two kinds of events that are quite serious.

The other thing it says in the caption at the bottom, it says, Item 8:

"Wilful actions that may potentially affect the nuclear power plant are excluded from consideration here."

A 9/11 event, you will see later how profound that is.

It also says in section 5.6 in regards to the danger, and I concur with this:

"For Type-2 events for aircraft taking off and landing the most serious area is the takeoff area and landing area within a 7.5 kilometre radius centred from the end of the runways."

There is a lot of statistics to bear that out. So we are in a real hot-zone here.

The nuclear power plant site is excluded

from this consideration, as I said earlier. Also, external events excluding earthquakes in design of a nuclear power plant speaks about the seriousness of external fire and its ability to render the numerous safety devices of the plant inoperative. NSG 1.5, 4.54, 5.13, 5.17 will cover this. I would like to read it. It is fairly brief.

THE CHAIRPERSON: I really recommend that you use your time wisely. You have two and a half minutes.

MR. DEGAN: Just about ready to wrap it up.

Means of protection:

"Since impulsive loads associated with design bases of aircraft may exceed those associated with most natural phenomenon or other human-induced events, the potential for damage to any item important to safety should be assessed. In general, it cannot be conservatively assumed that protection provided for other reasons will suffice to protect against an aircraft crash."

Basically, I will just summarize the next section 5.3, external fires. Basically, this talks about what happened at 9/11.

And the final item:

> "Reinforced concrete structures designed to carry impact loads resulting from an aircraft crash are generally strong enough to resist failures of structural elements..."

Basically, it says up to 500 degrees Fahrenheit. We now know as the result of 9/11 that fuel from an aircraft is way in excess of that which would potentially cause a major problem in regards to the nuclear power plant.

Because of the IAEA safety regulations I would ask the CNSC how they can licence a Reactor A at all until a periodic safety review is completed. The Commission should not grant a five-year licence because to do so would be in violation of agreements in safety zones. This could put the OPG and the CNSC in a very litigious situation or place the public in a potentially dangerous situation as per IAEA's rules and guidelines.

Let's not forget the spent fuel rods which are in a very large swimming pool-type cooling tank for up to 10 years and they are not protected by a concrete roof or dome. It is my understanding that these rods are very unstable and that the OPG needs to build another large tank.

To show that I am not some oversensitive quack I will read an article from the Toronto Sun. I am

just about summing it up here. This is 2003 August:

> "Former Premier Ernie Eves asked Ontario Public Safety Security Commissioner, Dr. James Young, to review the protection of the provinces nuclear power plant following the arrest of 19 people with possible terrorism connections. One man being held in a Toronto jail on suspicion of terrorist links was reportedly enrolled in a flight school."

This is very real.

We at Flight Safety are under constant scrutiny by the FAA and FBI and have special procedures in place to identify individuals who take flight training for other than airline use. Numerous scientists and the Director General Mohamed ElBaradei of IAEA claim that none of the world's 1,300 nuclear installations could withstand a plane impact comparable to those of September 11. It is my strong belief that the maximum licence to be granted at this time is one year subject to stopping the airport planes.

I believe it is incumbent upon the CNSC OPG to inform in the strongest of terms to the GTAA and Transport Canada that to build an airport of this magnitude at this location is in direct violation of IAEA

rules. Since the nuclear power plant came first it is a necessity and the airport is not. They need to stop the EA from the GTAA and reassess the location of the airport.

All other areas where public safety is at issue, fire service airline industry, annual reviews and licensing is a mandatory requirement. The nuclear industry should be no exception. In order to give the public every assurance that the nuclear power plant is extremely safe it would be wise to invite a team from IAEA to do a periodic safety review now as per their regs in reference to during the life of the plant.

Also, because of major changes on the very near horizon using a third-party instead of CNSC would certainly add to the credibility of the PSR. That is not to say that the CNSC is incapable but it would make a PSR bullet proof if ever there was an incident or a class-action suit. It is exactly what we do in the aviation ministry to minimize the potential as a successful lawsuit and keep companies compliant.

It appears that the onus is on OPG CNSC to formally notify the GTAA and Transport Canada they will be in contravention of IAEA's rules and guidelines. Please take a leadership role in this matter as you are the experts on nuclear safety, making you and the IAEA regs our only hope of maintaining your enviable safety record

to date.

If you have questions or need expertise in the area of aircraft safety please contact me.

When making your ruling please think about the millions of people, especially children, involved. I know that you will do the responsible thing for to do otherwise would always be on your conscience.

Thank you for your time.

THE CHAIRPERSON: Thank you.

Because this deals with security I am going to take the lead in terms of the comments and then we will see what the replies are and then we will see if we need an in camera or not, because I do not intend to discuss sensitive security matters in public.

So what I am going to ask is if Pierre Dubé is in the group, please? I think it is appropriate for us to have some words about exactly how the CNSC approaches security of facilities.

I will then ask OPG to speak about IAEA including the OSART work that has been done which -- there is a mixture here of safety and security in the intervention. So I think we will have to separate out the safety reviews from the security reviews.

We will start with Mr. Dubé, please.

MR. DUBÉ: Good afternoon, Madam Chair,

Members of the Commission. My name is Pierre Dubé. I am the Director of the Nuclear Security Division.

In general terms, looking at this proposed location for an airport in the vicinity of a nuclear facility from a terrorist point of view really is not a factor.

I believe the issue here is more of safety than it is of security. No matter where these aircrafts are flying from I believe the fundamental principle is having tight security screening measures at the airports to prevent these people from getting on aircrafts and taking control of them and using them as a weapon of terrorism.

So in my view at this point the issue, I think, is more of safety than of security.

THE CHAIRPERSON: But if we accept, Mr. Dube, that there is a commitment by OPG and by CNSC to interact with the people involved in the Pickering Airport, could you provide the Commission and people here today with an overview of the kind of -- at an appropriate level -- the kind of assessment that is done by the CNSC of facilities and a broad appropriate overview of the measures that are put into place on these areas?

Plus perhaps Mr. Grant would like to speak about robustness in; again, an appropriate way because I

think this could alarm people listening to this.

MR. DUBE: Yes, Madam Chair.

As we know, following the events of 9/11 we did a complete review of security measures at all nuclear facilities from mining right through to the major facilities, the higher risk facilities which are the nuclear power plants, and as such put in place enhanced security measures. These security measures are based on a design basis threat which address a number of threats that the licensee must protect against.

When it comes to the threat of air, the air threat, this is a different situation. I mean, there exists some restrictions, flight restrictions, height restrictions over built-up areas, over critical infrastructure, including nuclear power plants. There are also protocols in place which are coordinated by the Department of National Defence for deployment and quick response should there be an imminent threat to any critical infrastructure including nuclear power plants.

So there is a system in place to rapidly respond to any potential terrorist event and this is coordinated by the Department of National Defence in concert with Transport Canada and CATSA.

THE CHAIRPERSON: Mr. Grant, would you like to speak about robustness of facilities, please?

MR. GRANT: Thank you. Ian Grant, for the record.

First of all, I would like to concur with the advice offered by Mr. Dubé. I am aware of, knowledgeable about the protocols and restrictions of which he speaks, and I also agree that one of the key measures is prevention as opposed to response in the overall spectrum of protection of the public and that I think Mr. Dubé has put his finger correctly on the matters that need to be attended primarily to mitigate the risk in this area.

However, staff are also -- have been for several years and continue to study the issues related to the possibility of aircraft impact on plants and what risk that might pose and we have come to the conclusion, although our studies continue, that the risks are not unreasonable and can be mitigated, and we have done that study in conjunction with the industry. We have had discussions with senior people, experts within the industry on that matter, and that has been our conclusion, although as I say, our studies continue at this time.

THE CHAIRPERSON: Open the floor to questions.

Dr. Barnes.

And remember that I will call an in-camera

and I do have an override. Thank you.

MEMBER BARNES: I would just like -- if I speak of the threat I would take it as safety as opposed to terrorism because I think, as Mr. Degan has indicated, that there is a threat just in terms of normal operations as opposed to the terrorist option too, given the position of potential flight paths.

I would first like to -- it seems to me this is a serious issue, at least as I read the points being made here and certainly concerning safety since we are the Canadian Nuclear Safety Commission. I would like to ask both the Commission and OPG when we had day one was this information known to you and if not why wasn't it brought to our attention in day one?

THE CHAIRPERSON: Are you talking about the Pickering Airport?

MEMBER BARNES: Right. Or even in your documents submitted for day two.

THE CHAIRPERSON: Start with OPG, please.

MR. CHARLEBOIS: Your question -- Pierre Charlebois, for the record, Ontario Power Generation.

Your question were we aware of the intention of building an airport, yes, we were. In fact, the intention to build potentially an airport in Pickering has been the subject of ongoing discussions for many

years, as I believe you know.

There have been a number of reviews in the past conducted with respect to the risk associated with the airport relative to the nuclear power plant and those assessments and those studies in the past have concluded and the fact that the risk remained low in accordance -- and within the design basis for the facility. Of course, without knowing all the details and the final layouts of the airport and so on, one cannot do a final confirmation of that.

So our submission that we made for the restart of Pickering A originally back a few years ago, as well as more recently for the re-licensing, is based on what we currently know of the intentions for the airport.

We know that the risk remains within the framework that was used for the design basis of the plant but we continue to monitor the situation, and if that should, in fact, be not the case and we need to re-evaluate that then clearly we would be a more active participant in the review process.

MEMBER BARNES: And to staff?

MR. SCHAUBEL: Staff were aware over the past several years of the rumours of an airport but we were not told, not informed officially that such an airport would be built. Recently we have been in contact

with the Greater Toronto Airport Authority to discuss this matter. We have just within the last few weeks been in touch with them and communicating with them.

MEMBER BARNES: Madam Chair, if I could just go on? I think this is something that could take a considerable period of time. I am not sure we have all the information.

I think we are all aware of the long-standing either desire, rumours, plans to have an airport somewhere in the Pickering area. I think the point that Mr. Degan is advising of is that there are six 10,000 foot runways and the likelihood of one of the flight paths coming close to the plant. So that is, I think, new information, at least new to me, and if that is the case it certainly deserves rather urgent attention. So I was, in retrospect, then concerned that -- I think OPG said that they were not planning to intervene in the authorities EA process, which would surprise me if that were the case.

It seems to me there are two issues here if we accept most of what has been said. One is that it may affect any decision on license length but, secondly, it might be sensible to have it reported at our next meeting where staff and OPG have had a chance to really discuss this at some depth with the airport authority, possibly

with the airport authority coming to that meeting.

THE CHAIRPERSON: Yes, OPG.

MR. CHARLEBOIS: Pierre Charlebois, for Ontario Power Generation.

When I had indicated that we had no plans to intervene it meant that we did not have any specific information available that would in fact cause us to intervene in the process at this point but we are monitoring the situation. As I indicated, if in fact the proposal continues to demonstrate that the risk profile for the plant remains well within what our design-accepted basis would be then, obviously, we would continue to monitor that situation. If it was not, then, we would take much more active participation in the review process.

THE CHAIRPERSON: Yes, Mr. Graham.

MEMBER GRAHAM: Just one question I would like to ask. Can anybody confirm is -- what I am wondering is we heard a rumour that there was going to be an airport but then we heard the fact that there is one in the planning, that it is at the EA stage. Can anyone confirm that it is at the environmental assessment stage now or not? I mean, if it is now would be the time to gather more information. Can anyone confirm that, either CNSC staff or OPG?

THE CHAIRPERSON: Or the intervenor. I

think that we are taking the intervenor's comments at face value and I think that -- I am really questioning whether this belongs at the CNSC in terms of this licensing hearing. I think what I am hearing is that the intervenor has raised some issues to do with the airport, to do with the planning for the airport and I think it is appropriate that OPG and the CNSC staff take action after this to find out where it is and what the conditions are.

I don't believe this is the suitable forum for a discussion about plans for an airport. I think this is a CNSC licensing hearing. I think the discussion is something coming up that needs to be looked at, as OPG has said, within their framework for their design-based threat and for the CNSC staff to evaluate it within that issue. But I don't intend to turn this into an airport authority hearing and to find out when their EAs are, whatever.

So is there comprehension that this is an issue that needs to be handled and handled appropriately in the context?

MR. CHARLEBOIS: Yes, we understand that.

Pierre Charlebois, for Ontario Power Generation.

We agree with the statement just made.

THE CHAIRPERSON: I think the other thing that I would ask that OPG and the staff assure the

intervenor that they are aware of IAEA standards and that these standards are being looked at. Could OPG comment and then staff, including the document NSG 3.1, which is the document having been referred to?

MR. CHARLEBOIS: I will ask Mr. Stan Harvey to comment on our knowledge of the IAEA guidelines.

MR. HARVEY: For the record, Stan Harvey.

OPG is aware of the document that was cited by the IAEA and consistent with that document has undertaken at the point that the plant was originally licensed and continues to review, both probability and consequence related to potential aircraft crashes.

Most recently we have augmented those studies to include the possibility of deliberate aircraft crashes in light of events post 9/11.

I could summarize very briefly, being very conscious of the fact that beyond this very brief information would become prescribed information. So I will just summarize. On the probability side the studies that have been done show that the very conservative estimates of the probability of an aircraft striking Pickering are in the range of 7 times 10 to the -5 per year. Those specific estimates would be modified by the volume of air traffic and so on that might change and we would take that into consideration when that information

became available.

On the issue of consequences the concern regarding the crash of an aircraft under a nuclear power plant either by accident or deliberately has been the subject of extensive study by all Canadian facilities, including Pickering. The possibility of a deliberate crash is the subject of studies that were performed collaboratively among all of the nuclear licensees in Canada using as benchmarks similar studies done in the United States and Europe.

The analysis considered the worst case scenarios and assessed the consequences to both the physical plant structures, and that would include the fuel bays, due to both aircraft impact and fires caused by the resulting fuel explosions. The case of an aircraft packed with explosives was also assessed.

All studies were submitted to the Canadian Nuclear Safety Commission staff in accordance with staff requirements. While the worst case aircraft crash would be expected to cause significant localized damage and collateral damage in the vicinity of the crash it will not cause a significant release of radioactivity to the public.

Specific conclusions that would support this would be considered prescribed and we can discuss it

in detail if so desired.

THE CHAIRPERSON: CNSC staff.

MR. GRANT: Thank you, Madam Chair. Ian Grant.

I would support Mr. Harvey's observations and I would also confirm for the Commission that staff are well aware of the IAEA publications and this particular publication which prescribes a methodology for the analysis of accidental human-induced events in sighting.

I think perhaps for the record I should also just observe that IAEA standards in the regulatory framework are not regulations. They are advisory documents that staff may take account of and they don't have the force of law in Canada.

Thank you.

THE CHAIRPERSON: My final comment is with respect to Ontario Public Safety for the intervenors' benefit. The areas of nuclear safety and nuclear security are under the federal jurisdiction. It is federal jurisdiction that dictates what licensees do in Canada on both nuclear safety and nuclear security. We certainly appreciate the cooperation of our provincial counterparts in looking at these issues and to the degree that the shareholder of OPG is the Government of Ontario there certainly is some jurisdictional issues that Ontario Power

Generation may have, but it is absolutely clear that there is only one set of standards that exist for nuclear facilities and they come out of the CNSC and that should reassure people about the clarity of jurisdictions and who puts down the specific requirements for nuclear facilities.

Any further questions or comments on this matter?

So thank you very much. Obviously, there is some work to be done on that particular matter.

I would like to move to the next oral intervention which is an intervention by Dr. Fleck of Kinectrics and this is 05-H7.39.

Dr. Fleck, the floor is yours, sir.

CMD 05-H7.39

Oral Presentation by

Kinectrics Inc.

MR. FLECK: Thank you, Madam Chair, and members of the Commission, ladies and gentlemen, good afternoon.

I am Dr. Ron Fleck of Kinectrics and I am representing Mr. David Harris, the President and CEO of Kinectrics.

Kinectrics is a wholly-owned subsidiary of

an organization called AEA technology. It is a United Kingdom organization. We were originally Ontario Power Technology but before that we started life as Ontario Hydro Research division. As such, we have extensive testing capability and staff expertise which has been involved in the CANDU, Canadian CANDU industry since the early 1970s.

Recently, OPG has involved our expertise and capabilities in support of the re-licensing of Pickering A. I would just like to give you some examples of the type of work we have been carrying out in recent months maybe over the last year.

For the restart of Pickering A there is a need to replace certain components which are no longer directly available from the original equipment manufacturers. That is because they either do not make the equipment any more or they no longer maintain a QA program to nuclear standards. What Kinectrics does is purchase the equipment from an OEM. We put it through a rigorous testing procedure. We put it through very detailed quality assurance which is equivalent to nuclear standards and then we sell these components to OPG. We have replaced or worked on some 150 separate components to provide to OPG. During this time there is extensive auditing of our facilities and our QA procedures by OPG.

We also have been involved in the early days of the re-licensing of this Pickering A site with environmental assessment where we were doing soil samples and water sample testing in support of the licensing. We still continue to work on some environmental areas. Primarily, we are looking at helping to reduce the waste inventory on the Pickering site by doing characterization of the waste and then identifying suitable disposal sites for that waste.

We are also involved and have been involved in examining feeder pipes removed from Pickering A. We carry out a metallurgical examination, destructive examination to characterize the condition of these feeder pipes. We supply that information to OPG for them to use in their assessment of the operability of the feeder pipes. We also get involved in some development technologies developing a technique to look at or inspect feeder pipes from the inside diameter, either inspect them or in fact eventually repair them if required.

In steam generators Pickering A has steam generator tubes of an alloy called monel. That is unique to the Pickering site. They can't get operating information from other units on this alloy. We have been looking at material removed from the Pickering A units, characterizing defects in these tubes to see if they

coincide with the UT, field UT inspection. We provide that information back to OPG and then they correlate it with their in-service inspection data.

We are in fact looking at quite a large sample which will improve the statistics significantly for that kind of work.

In the late eighties and early 1990s the Pickering A pressure tubes were removed. New pressure tubes were installed which had lower hydrogen specifications than, I guess, current pressure tubes when they were manufactured. What that means is that the total hydrogen concentration that builds up during operation will remain relatively low and we don't expect to see any issues associated with delayed hydride cracking in these pressure tubes. We are involved in a number of projects looking at delayed hydride cracking in pressure tubes.

Other actions that OPG takes to support their CANDU plants is through the R&D programs, primarily funded through the CANDU Owner's Group. They have extensive programs on supporting steam generator materials, looking at pressure tubes, and these are the main areas in which we are involved.

It is our opinion that OPG exercise extensive due diligence in support of the nuclear plants and in that context Kinectrics would support the re-

licensing of the Pickering A site for five years.

That concludes the presentation.

THE CHAIRPERSON: Thank you very much, sir.

Are there any questions from Commission members? Any questions?

Thank you very much for coming.

We will then now move to the next oral submission, which is an oral presentation by the Society of Energy Professionals. This is outlined in CMD document 05-H7.3 and we have Mr. Heilandt; Is that correct, sir -- with us today. The floor is yours, sir.

05-H7.3

Oral Presentation by

Society of Energy Professionals

MR. HEILANDT: Thank you, Madam Chair.

Commissioners, ladies and gentleman, for the record my name is Olaf Heilandt and I am the Society Vice President of the OPGN and local. With me today is Blaine Donais who is the Society staff officer for that local.

The Society represents approximately 2,200 engineers and other professional staff at OPG and nuclear. I want to make it clear at the outset that the Society is in full support of the application to re-license the

Pickering A generating station for a five-year period.

In previous submissions we raised three concerns; safety and controls, staffing and succession planning and staff morale. Society and OPG have made significant progress in all these three areas.

Under safety and control we raise concerns that contractors don't have long-term interests in OPG in mind are under-represented and subject to coercion on reporting issues and we have an over-reliance on contractors that led to severe confusion on the Pickering A project.

We are very satisfied that OPGN has taken proper steps to deal with these concerns. OPG committed to increased hiring which will lead to reduced reliance on contractors. Procedures put in place to alleviate contractor coercion are a concern. OPG has also taken over control of the management of the Pickering A project.

OPGN has demonstrated a significant improvement in their safety record across all staff.

Under succession planning we raise a concern that OPGN would lose vital capabilities to retirements if significant hiring and training did not take place. OPG now is committed to significant hiring, training and promoting from within to fill those gaps.

Under the issue of staff morale the Society

reported a number of areas contributing to poor staff morale. Significant progress has been made on many of these areas. The Society is working with OPGN to approve morale in all areas.

In conclusion, the Society is committed to working with OPG to deal with the areas of concern and the Society strongly supports the five year re-license of the Pickering A generating station.

That concludes our presentation, Madam Chair.

THE CHAIRPERSON: Thank you very much.

Are there any questions?

Dr. Dosman.

MEMBER DOSMAN: Thank you, Madam Chair.

I would just like to ask the intervenor -- thank you, sir, for your presentation -- on the issue of staff morale whether staff morale has improved to the point of there being an optimal safety culture at the plant?

MR. HEILANDT: For the record, Olaf Heilandt.

Yes, Pickering A -- actually, the safety culture at Pickering A has been shown to be the highest in the corporation, actually, and we basically confirm that. We are quite satisfied with the progress that they have

made.

MEMBER DOSMAN: Madam Chair.

I would just like to inquire are your members active on the health and safety committees, with management and so on within the plant?

MR. HEILANDT: We take an active role on health and safety committees during health and safety committees in all our plants and Pickering A is no exception.

MEMBER DOSMAN: May I ask, Madam Chair?

Would you say your members were open to supporting safety training, to participate in safety training and so on?

MR. HEILANDT: Absolutely.

MEMBER DOSMAN: May I ask for a comment from OPG on the issue of staff morale and the safety training within the group?

MR. COLEBY: Sorry, for the record it is John Coleby.

Myself and Tom Mitchell, the Pickering B site-based president, meet with the joint health and safety committee co-chairs on a monthly basis. In fact the meeting was last week and Olaf represented co-chair, actually works for me. He is one of my work week leaders in my work control department. So I see him on a regular

basis and if there are any issues that they can't resolve within the internal responsibility system they know that my door is open and they don't hesitate to use it.

MEMBER DOSMAN: Would you confirm, Mr. Coleby, that staff morale is at a point where it can contribute to an optimal safety culture within the working group?

MR. COLEBY: I will never be satisfied with it. There are always people that have got issues and concerns and it is something that you have to be constantly working at.

It is swayed by political issues, both inside and outside of the station, and it is up to people like Mr. Heilandt and myself to work together and the local society membership to make sure that their issues get addressed. We do that in regular forums.

THE CHAIRPERSON: Well, we certainly note that this is, as you note, quite a change from before and I think the Commission was looking at this issue and monitoring this issue very carefully. So congratulations to both parties for having worked so hard on this particular issue. We will be hearing from some other union representatives later so it will be an important understanding for us.

Any other questions?

Well, thank you very much. We are just going to take two or three minutes and switch around for the intervenors. So I would appreciate it if you didn't leave the room but we do have a changeover of people.

Thanks.

--- Upon recessing at 2:09 p.m.

--- Upon resuming at 2:14 p.m.

THE CHAIRPERSON: We will move to the next submission, which is an oral presentation from the Power Workers' Union. This is CMD 05-H7.4.

We have Mr. Peter Falconer with us today, and the floor is yours, sir. Welcome back.

05-H7.4

Oral Presentation by

Power Workers' Union

MR. FALCONER: Madam Chair, members of the CNSC, my name is Peter Falconer. I am the Vice President of the Power Workers' Union, Nuclear Sector.

I have with me today on my immediate right Ian Lilburn Sector 1 Representative from Pickering and Paul Rees next to him, PWU staff officer for health and safety.

The Power Workers' Union represents some

2,800 members on the Pickering site. The employees represented by the Power Workers' Union at the Pickering site work in all facets of the facility including operations, administration, maintenance, security, projects and modifications and the line supervisors.

PWU members represent the frontline of the day-to-day operations of the facility.

The major majority of PWU-represented employees at Pickering live with their families in the surrounding communities.

Our presentation to you today will consist of our reasons for supporting the application for the renewal of the operating licence for Pickering A, updating you on some of the current PWU and OPG joint efforts to continually improve safety, bringing you up to date on the labour relations environment at Pickering A and, finally, our summary conclusions in regards to the renewal of the licences and our views of the CNSC staff report.

Our legal counsel as well as our local union leadership at the Pickering site have reviewed OPG's application for the licence renewal of Pickering A. The PWU supports the analysis undertaken and the conclusions reached in the CNSC's staff report. The PWU submits that CNSC's staff reviewed the issues, considered the evidence and reached the appropriate conclusions.

We support the CNSC staff's conclusions that activities at Pickering A have been conducted safely during the current licence period.

The Joint Health and Safety Committees is the main bilateral group responsible for health and safety issues within the facility. Safety issues are treated with seriousness and, overall, the Joint Health and Safety Committee has a good record of cooperative action to resolve issues as they arise.

The PWU is committed to strive for continuous improvement of health and safety performance, to learn from each incident and to implement measures to prevent reoccurrence.

The workers at the Pickering A station have the right to refuse unsafe work, as per the Ontario Occupational Health and Safety Act. In addition, the PWU members of the Joint Health and Safety Committee have the unilateral right to shutdown unsafe work.

Workers have exercised this right on several occasions. The majority of those work refusals are resolved between the workers and the supervisor.

The PWU believes that work refusals should be viewed as a positive action. As identified at the last re-licence hearing, the PWU and management are still working together to ensure appropriate action is taken by

management for either a worker concern or a work refusal.

The PWU plays a role in the decision making in the workplace to the positive impact of the working lives of its membership.

Regular meetings are held between PWU representatives and senior management representatives to discuss workplace issues. A cooperative union management relation is valued by both parties and there is always the ongoing challenge to maintain and improve it. Both parties are committed to doing so.

Skill broadening: This provision has now been in effect for around four years on Pickering A. Skill broadening was developed during 2001 collective bargaining negotiations and has proved to be a benefit for both the company and the workers. One of the important effects of this provision is to improve plant safety as workers are better trained and able to make repairs quicker and more efficiently.

Project crews: These crews consist of qualified and competent trades people that are scheduled to perform critical path work on units during the unit planned outages. The skills and qualifications of these workers are transferable from unit to unit and also between Darlington and Pickering sites. The PWU views project crews as an effective, efficient and safe way for

OPG to decrease their dependency on contract staff and also ensure that the work is performed by qualified, full-time regular employees with a high degree of familiarity with the equipment and the plant.

Worker training: The PWU recognizes the benefits that a high emphasis on continued improvements to the levels of skills and training for its members can provide.

The PWU has long encouraged OPG to maintain an aggressive program of worker training and certification. The PWU recognizes there is considerable work to be done in order to meet the challenge of providing a sufficient complement of fully trained and certified staff.

The PWU supports the analysis and conclusions of the CNSC staff's report in regards to the re-licence of Pickering A. PWU agrees that OPG is qualified to safely operate Pickering A. We support the five-year licence term providing that there is a public review hearing in the mid-term of the five year licence. The PWU believes that all provisions for the protection of the health and safety of workers, the public and the environment are being met and that all the requirements for national security are being adequately met.

Thank you for your time and we will be

pleased to answer any questions you may have.

THE CHAIRPERSON: Thank you, Mr. Falconer.

Are there questions? Yes, Mr. Taylor.

MEMBER TAYLOR: Thank you, Madam Chair.

It is really just a comment. I think it was an excellent presentation and it is extremely important for the Commission to hear the views of workers and get their perspective on the safe operation of the plant.

Thank you very much.

THE CHAIRPERSON: Any further comments?

Mr. Graham.

MEMBER GRAHAM: Just one question. We heard yesterday -- I believe it was from one of the other licences that the average age of the workers in the plant and just so that we don't have an aging workforce and not replacing. What is the average age? I guess that should be to the OPG of roughly of what your workforce is, or do you have that at your fingertips?

MR. CHARLEBOIS: Pierre Charlebois from Ontario Power Generation.

A couple of years ago, I believe, the average age was about 47. It has come down to about 45 or 44 as a result of the recruitment program and so on. So it is in fact decreasing slightly and we have, as I

mentioned during day one hearing, a fairly continuous hiring program going forward for all of the major trade families and engineering.

THE CHAIRPERSON: Dr. Dosman.

MEMBER DOSMAN: Thank you, Madam Chair.

I am just wondering whether I might inquire of OPG as to your view of the success of the skill broadening and worker training program in the context of the safety culture.

MR. COLEBY: For the record, John Coleby.

I think it has had mixed success. We entered into negotiations with the Power Worker's Union primarily out of a productivity issue to gain that, but where it has been successful what we find is that the workers actually take charge of the job and take ownership for it, and I think that's where the benefit comes. When people feel that they have full responsibility and full empowerment to work that job and make it more productive and safer everybody benefits from that.

MEMBER DOSMAN: Thank you.

I am just wondering if I might ask the Fire Workers' Union -- and thank you for your presentation -- your view as to the enthusiasm of the workers for the worker training and skill broadening in the context of a safety culture?

MR. FALCONER: Peter Falconer, for the record.

We talked significantly about this at the last re-licence hearing for Pickering and, indeed, the workers do enhance and endorse the process of moving forward with skill broadening. Most of the recommendations of skill-broadening issues are identified from the field operatives themselves. So a mechanic may make a recommendation that they want to get involved with, trying to take on another little part of the job classification and work that may belong to another group.

An example would be a control tech that is working on a valve, setting up a valve, and he decides that it would save time and it would also make sense if he could also check the oil level in the gear case and, if necessary, be able to top that up rather than having to go and get a mechanic to do that function.

So once that recommendation is put in to the Committee and we would endorse that as something that would be an improvement and something that would save a loss of time and would improve the efficiency of how we get the work done -- and, plus, it allows that worker to top up that crankcase, get that valve tested, complete that work and they can go home in the evening feeling that have accomplished something, rather than having to wait

for a mechanic to come along.

So that is a very simplistic one, but it is one that may emphasize the point that indeed the workers do endorse and work with the skill broadening.

MEMBER DOSMAN: Madam Chair, would -- and your views as to the manner in which this approach contributes to safety culture and safe practice?

MR. FALCONER: The reality for us in regards to safety is that the workers doing the work are now fully qualified and they receive the training, full training, before they are asked to take on any task related to skill broadening.

So a worker would submit what they want to do or the tasks they would like to try and take on from skill broadening aspect. They are then trained fully in that aspect before they are ever asked to do the work.

So the safety carries on through the culture that we have currently got in safety and it gives the worker the satisfaction of having completed the job.

MEMBER DOSMAN: Thank you very much.

THE CHAIRPERSON: Thank you very much.

We now move to the next intervention by the Canadian Nuclear Workers' Council. This is CMD 05-H7.5, and I see Mr. Shier coming towards us to do that.

So welcome again, sir, and the floor is

yours.

05-H7.5

Oral presentation by

Canadian Nuclear Workers' Council

MR. SHIER: Thank you. Sorry for the delay.

Good afternoon, Madam Chair and Members of the Commission. My name is David Shier. I am the President of the Canadian Nuclear Workers' Council.

With me today is Mrs. Jo-Anne Usher. Jo-Anne is a shop floor worker at the Pickering Station. She is also on the Executive of our Canadian Nuclear Workers' Council.

Beside Jo-Anne is Mr. Keith Falconer. Keith is also a shop floor worker at the Pickering Nuclear Station and you will notice that he is well below the average age that was reported earlier. And Mr. Falconer has also lived in the area of Pickering, the Pickering Station, for most of his life.

Our presentation today is we are going to give a quick overview of our views and our Council. So our presentation will be a quick overview of the health and safety at the station, as you have heard from the other two unions that are members of our Council, some comments on the workforce, some of the comments on the

media reports that we hear about the Pickering Station and the youth perspective of the site, the community perspective and our conclusions and recommendations.

Now the Joint Health and Safety Committee, as you have heard, is a worker watchdog at the shop floor level and union-appointed representatives on the Joint Health and Safety Committees ensure that health and safety issues are brought to the attention of management and the unions at the site.

Improving the safety performance, it is our opinion, is due to the actions of these Joint Health and Safety Committees. And the legal rights and bargaining rights for the health and safety of workers does ensure and does create a good safety culture.

Media reports. Media reports tend to create a misconception of the Pickering generating station and to counteract this, CNWC supports and encourages more public education programs by the CNSC and by OPG to counter these stories.

To give an example of that, earlier this week we had a group of labour leaders tour the Pickering site and we had the opportunity to spend most of the day with that group. And a lot of the misconceptions that they had naturally were from the media, and not that they went away great supporters, but they went away a lot more

supportive of the industry and also understanding where these myths, and so on and so forth, come from. And as we all know this, I think we have to encourage and take a more radical approach in trying to engage the public and other leaders in these issues and we should be ensuring that there is proper funding to the information centres and programs to interact with the public in this manner.

The workforce at the Pickering Station is quite varied. And what I would like to do is pass this over to Mrs. Usher here to refer her to give you her views from the perspective of women in the plant.

MRS. USHER: Hello, Madam Chair and Members of the Commission. My name is Jo-Anne Usher and I have worked at Pickering Nuclear Generating Station for 10 years now.

I work in the trades and my daughter, who also works at Pickering, is an operator.

We both are in full support of the re-licensing of Pickering A. The number of females that work at Pickering in non-traditional jobs continues to increase. The numbers are climbing in civil maintenance, in the operator families, chem labs, et cetera.

Pickering has a local committee set up to deal with women's issues. Through my involvement on this committee I feel OPG is very supportive in dealing with

women's issues.

Thank you.

MR. SHIER: Thank you, Jo-Anne.

For the record, Dave Shier again.

There are many people employed at Pickering Station that have other family members also working at the site. And we bring this to your attention as I think this should assure the public that people working there feel that it is a safe operation, or they wouldn't have their family members there.

Now I would like to turn the microphone over to Mr. Falconer so he can provide some views of youth at the plant and in the community towards the Pickering A station.

MR. FALCONER: Good afternoon, Madam Chair and Members of the Commission. My name is Keith Falconer and I am currently employed as a radiation technician.

I have worked for OPG for five years and I have lived in the Pickering community for 18 years. I would like to present to you the perspective of youth in the workplace and those from the local community.

Many of the young people in the community are supportive of the re-licence of Pickering A and want to see the continued safe operation of Unit 4, Unit 1 to come online in the fall, and the complete refurbishment of

Units 2 and 3.

Due to the demographics of the current workforce, OPG has actively been engaged in hiring young workers into positions such as mechanical maintenance, control maintenance and operators-in-training.

In recognition of this need, a joint team of the PW and management have developed an Apprenticeship Committee specific to the nuclear program.

In my current job with radiation protection I have been given the opportunity to look after or supervise new regular workers and contractors doing radioactive work. Some had a misrepresented view of the plant coming from the media. But after working there and seeing the rigorous safety standards, many have said they would like to stay in the nuclear industry because it is among the safest in the world.

I will now turn it back over to Dave.

Thank you.

MR. SHIER: Thank you, Keith.

For the record, Dave Shier.

Many workers live with their families in very close proximity to the nuclear plant and this fact, again, should assure the public that workers at the plant believe the facility is a safe place to work and does not create a threat to the community.

Many of the workers at the plant are also involved as community volunteers in the local community programs, sports teams, et cetera.

CNWC believes the majority of the people in the community have no concerns in regard to the safety of the plant. The union representatives are also at -- our union and also the society union -- are members of the Durham and District Labour Council. The Labour Council is a community watchdog group, from a labour perspective.

Labour Council members have toured the Pickering site and, after their tour, they are supportive of the facility.

The CNWC is fully supportive of renewing the operating licence for Pickering A for a five-year period, conditional on the CNSC holding mid-term public hearings to review. And we believe that this will provide the public with assurance that the facility continues to operate in a safe manner.

Thank you for your time and we are prepared to answer any questions you may have. Thank you.

THE CHAIRPERSON: Thank you, Mr. Shier and thank you very much for your colleagues as well.

Are there any questions? Dr. McDill?

MEMBER McDILL: Thank you.

I wonder if I could ask what fraction of

your membership is female?

MR. SHIER: Statistically ---

MEMBER McDILL: That is fine ---

MR. SHIER: --- maybe I could refer that to OPG.

MR. CHARLEBOIS: I think I may be able to ask Mr. John Froats, who will speak to the current hiring for -- at least he will be knowledgeable of the engineering and he will speak to that.

Mr. Pasquet may know about the operators, but if Mr. John Froats may come up?

MR. FROATS: For the record, my name is John Froats. I am Vice-president Engineering and Chief Nuclear Engineer for OPG.

We have hired approximately 150 new engineering staff in the last year, dominantly young people. We judge our performance in terms of bringing women into the workforce in how we stack up on the relative percentage of population in the graduating classes in universities.

In our last graduating campaign, we hired 55 new engineering graduates, and if I recall right, 23 of them were young ladies.

That was about three times the average population in the graduate classes of that year.

MEMBER McDILL: Thank you, that is very good information.

MR. PASQUET: For the record, Paul Pasquet Director of Operation Maintenance.

We have had an extensive operator hiring program for this year. For the entire OPG we are hiring in the order of about 100 operators this year. About 10 to 20 per cent are female. That will change from year to year. Some years we get more; some years we get less.

In addition to that, we have a number of females in our certification program. We currently have about four or five who are certified and, also, we currently have one female who is on the SSIT program.

MEMBER McDILL: Thank you, Madam Chair.

THE CHAIRPERSON: Thank you very much, sir.

We will now then move to an oral presentation by the Pickering Nuclear Generating Station Community Advisory Council. This is CMD 05-H7.6, and I think this is the first time you have been before us, at least to my knowledge. And I believe Misters Ashby and Earley will be the presenters and please introduce your group to us, and the floor is yours, sirs.

05-H7.6

Oral presentation by the

Nuclear Generating Station

Community Advisory Council

MR. VINCETT: Madam Chair and Members of the Commission, good afternoon. My name is John Vincett and I am the facilitator of the Community Advisory Council to the Pickering Nuclear Generating Station.

I am joined here today by three members of the CAC, as we call it: Mr. Renrick Ashby, a professional planner, who is a resident of Ajax; Mr. John Earley, a retired chartered accountant and President of PESCA, which is the Pickering East Shore Community Association, and Dr. Youssef Mrouef, a retired nuclear scientist and a member of a number of public committees in the region.

Both Mr. Earley and Dr. Mrouef are residents of Pickering.

The mandate that we have in appearing before this Commission is to read the letter into the record, which was a consensus document approved by the Community Council and to answer any questions posed by the Commissioners, to the best of our ability.

MR. ASHBY: Hello, Madam Chair and Members of the Commission. For the record, my name is Renrick Ashby and I will read the first part of the letter.

As the CNSC considers the application of Pickering A Nuclear Generation Station for renewal of its operating licence, we understand that you will be taking

Ontario Power Generation's relationship with the local community into consideration.

While we are not making a specific recommendation regarding the re-licensing application, we would like to tell you about the Community Advisory Committee and its interactions with OPG.

The CAC process is working extremely well. We have been quite candid in our comments and questions to OPG representatives, but have never found them to be defensive in their responses.

The company readily provides all the information we request, listens to our comments about community concerns and responds effectively to the issues we raise.

The CAC traces its history back to the community working group which Pickering Nuclear established in 1998 to open up dialogue regarding strong concerns in the community at that time about station operations.

The CWG was seen as credibly representing the community. Stimulated by an expectation from the AECB, Ontario Hydro, OPG's predecessor, said that if the group would identify issues of concerns to the community, the company would address them.

The group met over a period of five months

and ultimately identified 160 issues on which it sought information as to how these issues are managed at the site.

OPG accepted that, that it needed to respond to this list of questions and concerns.

Madam Chair and Members of the Commission, from that point on there was a change for the better in OPG's relationship with the community.

In 1999 OPG also recognized the need for a broader, more proactive dialogue with the community about operations at the nuclear site. With the CWG's work completed the Community Advisory Council was formed, involving some members of CWG, as well as representation from other groups in the community.

The CAC's mandate was twofold, to monitor the progress of the 160 issues and, more importantly, to participate in an ongoing dialogue about Pickering Nuclear activities in general and provide advice to senior management at the site.

In the last half-dozen years OPG has been extremely proactive in going out into the community, making sure peoples' concerns are listened to and that they understand what is happening inside the plant. In our view, OPG has come a very long way in relating to the community and responding to its concerns.

MR. EARLEY: For the record, my name is John Earley and I will continue to read the letter.

The Advisory Council is a core vehicle for OPG dialogue within the community. Our membership reflects a cross section of the community. There are municipal staffers, businesspeople, regional Conservation Authority representatives, a nuclear scientist, community association members and citizens at large.

Most members report back to one or more constituencies. Our meetings are open to the public and the press is invited. Minutes are posted on the Pickering Nuclear section of the OPG website and are available at public libraries within the region.

The Council meets monthly at the Pickering Nuclear Site with senior managers and experts from various OPG departments. Meetings are conducted by a third party facilitator. Managers regularly bring forward topics for our feedback and advice before they arrive at decisions that have an impact on the community. This consultation is evidence that our advice adds value to decision making at OPG Pickering.

Advisory Council members are also significant contributors to the agenda. Questions and suggested topics are maintained on a carry-forward list, which is one of the planning tools used in creating the

agendas for CAC meetings.

We have raised dozens of issues over the years, in such areas as emergency preparedness, site security, impact of site operations on surrounding habitat and on drinking water quality, on unplanned outages, economic impacts, cost of energy, green energy, spills management, tritium groundwater contamination, transportation of nuclear materials and communicating information on public radiological dosages.

The process is working effectively with open two-way communication between OPG and the Council. The company goes to great lengths to assemble very complete information. Complex subject matter is conveyed in clear and understandable language and that increases our comfort in dealing with nuclear issues.

As well, OPG brings in outside experts from time to time, which enhances our confidence that we are getting complete information.

OPG's readiness to provide such information was demonstrated recently when one of our members raised technical questions about the structure of the dry storage containers of used nuclear fuel.

In addition to a presentation on the questions at a CAC meeting, there was lengthy correspondence between OPG and the Council member, and the

company even organized meetings between the member and OPG and external experts. There were regular updates on the issue at CAC meetings and copies of all correspondence were distributed to Council members.

OPG continued to dialogue with the Council member until he was satisfied that his questions and concerns were fully addressed.

In their meetings with the member, OPG representatives made a point of thanking the CAC for raising such important issues and questions.

The participation of senior site and corporate managers in meetings reflects the seriousness with which OPG considers its interaction with the community and the advice that we can provide.

Recently, OPG Chairman Jake Epp participated at a CAC meeting and demonstrated his familiarity with and appreciation of this Council's role.

DR. MROUEF: Madam Chair, for the record, my name is Youssef Mrouef and I will continue to read the letter.

One hundred and sixty (160) issues over the years, the CAC has made steady progress in reviewing OPG actions on the 160 issues identified by the CWG.

After reviewing information from OPG, issues are dispositioned to one of three categories: (1)

no further action required; (2) the issue is being managed satisfactorily but follow-up reports to the CAC will be needed; (3) further work or information on the issue is required.

To date, the CAC has placed all but four of the issues in categories 1 or 2. We note that many of the 160 issues have prompted reengineering approaches at the Pickering nuclear site, which demonstrates the validity of the questions raised by the CWG and pursued by the CAC. As well, many of these issues gave OPG an opportunity to highlight areas where improvements are being made. Yet it was not so much the questions being asked but how, in openly addressing the questions, that OPG gained the confidence of the community.

We anticipate completing our disposition of the four remaining issues by the end of 2005, at which point our mandate will evolve to focusing even more on identifying community concerns and discussing current and emerging issues at Pickering Nuclear.

OPG managers have indicated that they would like the CAC to continue providing advice and feedback.

MR. VINCETT: For the record, my name is John Vincett.

We hope that this description of the CAC's relationship with OPG will be helpful as you review

Pickering A's Licence Renewal Application.

One concern we have about the CNSC consultation process is that the hearings about Pickering nuclear are being held only in Ottawa. This distance factor inhibits involvement of Pickering area residents.

We suggest the Commission consider holding hearings in this community, meaning Pickering, or at least a local public meeting to be supplementing the Ottawa hearings.

We are pleased to have had the opportunity for input into the Commission's deliberations and would be pleased to answer any questions the Commissioners may have of the CAC.

THE CHAIRPERSON: Thank you very much, gentlemen, and thank you for coming to Ottawa for this hearing.

Are there any questions? Dr. Dosman.

MEMBER DOSMAN: Thank you, Madam Chair.

I greatly appreciated the presentation and also appreciated the model that is being used.

Just as a matter of curiosity, what is an example -- perhaps one example of the four remaining issues?

MR. EARLEY: Perhaps it would be helpful if I handled that one. There are four remaining issues. One

relates to the efficiency of water use at Pickering, and that is not the process water used, but what they call the domestic water use in the buildings.

There are two others that relate to monitoring systems and locations and adequacy of groundwater monitoring and there is another one which is relating to waste oil storage and there is a piece of construction that has to be completed before that issue can be dispositioned.

The water efficiency use item is coming up to the next meeting, which is in June, and the two relating to groundwater are awaiting the completion of a consulting study, so likely end of this year, beginning of next.

MEMBER DOSMAN: Thank you very much.

THE CHAIRPERSON: Any further questions?

Well, thank you very much, gentlemen, for coming.

We would like to then move on to the next submission, the oral presentation by the Citizens for Renewable Energy. This is outlined in CMD Document 05-H7.64, and we are pleased to have Mr. Ziggy Kleinau with us again. We will just give you a chance, Mr. Kleinau, to find a chair.

Welcome. The floor is yours, sir.

05-H7.64

Oral presentation by

Citizens For Renewable Energy

MR. KLEINAU: Thank you very much, Madam Chair and Members of the Commission, for having the opportunity to be here again.

At the outset, I must admit that we were unaware and kind of upset that both CNSC and OPG have been relieved of their obligation to present orally. Both were shown as making oral presentations according to the latest publication of the agenda. So we have to continue on without the knowledge of special issues that would have been raised.

Now, in our supplement, the one thing that I would point out is we would like to make a correction because in our official submission, in the last sentence of the second paragraph, we used Unit 1 instead of Unit 4. So please make the correction where it says:

"Unit 1 is being refurbished at a cost of over $1 billion."

It needs to show that lessons from Unit 4 have been learned as we started.

So thank you again for granting us the time to submit the following comments and concerns on the request of OPG for licence renewal for Pickering A.

This submission is made on behalf of the members and directors of Citizens For Renewable Energy, a not-for-profit organization of over 1,000 members, incorporated in Ontario almost 10 years ago. Quite a few, a considerable number of our members, live in close proximity to this station.

My name is Siegfried Kleinau, better known as Ziggy, and I am the coordinator for the organization.

Right at the start, we need to contest CNSC staff's reasoning for supporting OPG's request for a five-year licence. The older A section of PNGS had been shut down for safety reasons since 1997. Unit 4 was restarted after a huge cost overrun in 2003, facing a number of serious problems even after that. We are aware that Unit 4 has been shut down again because of problems that were found in Unit 1.

We just can't fathom how CNSC staff can predict that reactors of that age can perform safely over any length of time, never mind five years, based on the PA Safety Report.

In point number 3 they even admit that at present, performance programs are in place but implementation weaknesses are being addressed. Being addressed is a long way from being resolved.

Points 4 and number 7 are dealing with a

compliance program being carried out in planning activities and being reviewed, meaning a lot of future actions. How can they assess how these actions are going to impact safe operation?

Units 2 and 3 are in lay-up and after the huge costs incurred in refurbishing 1 and 4, most likely will never be restarted but still need ongoing maintenance.

We strongly believe that, at most, a two-year licence with a midpoint report to the Commission at a public hearing would be appropriate.

More reasons for our opposing the longer licence will be shown as follows. In a couple of months, we can celebrate a birthday, and let's toast Unit 1; it will be 34 years old. Cheers! With a design life of 40 years, this senior member of OPG's nuclear fleet needs a lot of implants after the pressure tubes were replaced about 20 years ago at a huge cost. A lot of the major components were not. As far as we know, the steam generators are still the ones of the seventies vintage and more and more of their tubes are being plugged. How sure can we be that major leaks or even breaks can be averted?

OPG deferred the issuing of the life cycle management plan by 14 months. There must be a reason for it and we don't know if it was issued finally, as

promised, in January of this year.

Regarding exposures to the public from accidental radiation releases, we continuously come across CNSC staff's assurances that values were consistently below the limits. DRLs are below regulatory limits.

A lot has been discussed about the arbitrary setting of these DRLs and the RL. The fact remains that these measurements are based on unsubstantiated estimates and assumptions. The informed public just does not trust estimates and assumptions, especially when it comes to low-level radiation exposures and their effect on human health over time.

We are well aware that this older section of PNGS has not the same emergency system protection as the newer plants. The makeshift shutdown system enhancement does not fully replace the second shutdown system.

CNSC staff at the plant had problems with OPG's reliability study of shutdown systems, the SDSA, quoting many questionable assumptions and model weaknesses leading to a large uncertainty of the model results in Reference Number 65. So even CNSC staff has problems with assumptions.

The response to CNSC's request for clarification arrives three months overdue. So much for

OPG's priority on safety. Staff is still reviewing OPG's response, but already having identified a number of issues related to reliability reporting. That is another quote.

Considering the status of these fragile reactors, we need much more assurance from CNSC staff that Pickering A's emergency shutdown systems are protecting the public now and over the length of the next licence period.

We keep stumbling over the emergency preparedness rating, showing an A which means "Exceed requirements". Then we read in the staff Evaluation Report on the Picking B Emergency Exercise, Phase II -- that is in LPED-2003-31, that:

> "The Evaluation Team noted that participants at the new SNC showed some weaknesses in communication and timing of the information between participants."

It has been an ongoing problem, and it is one of the weakest links in the emergency preparedness, and then it deserves a ranking of "beyond expectations".

In the Record of Proceedings, including Reasons for Decision from the previous renewal application of Pickering -- of OPG and Pickering A -- we come across a reference on page 25 where it has been talked about a previous emergency drill, and there is a report that:

"OPG noted, however, that there were some difficulties experienced in evacuating the large number of people from the site. This finding is being assessed for possible improvements."

Now, that is a major point that we would like to find out upon how they have improved on that. It is just beyond belief to us that emergency preparedness can be assessed as "exceeding requirements" with all these faults. It is just, as far as we know, something to sort of pacify the general public.

We need to keep reminding the Commission that these reactors are only 30 kilometres from downtown Toronto and in the highest density populated area of Ontario.

And then there comes to mind that U.S. Vice-President Dick Cheney had Pickering Nuclear Generating Station on a list of 10 possible terrorist targets.

Has there been special effort made to try and thwart that possible threat? Has an often-requested marine exclusion zone been installed? How about a no-fly zone? Not to our knowledge.

Another aspect is the nuclear liability insurance from the Act over 30 years ago now -- well,

almost 30 years ago -- 1976. It is mentioned in 4.4. Isn't it a pacifying thought that there are $75 million waiting to compensate victims of a major accident? That amount was thought to be insufficient by many when the *Nuclear Liability Act*, the NLA, came into effect almost 30 years ago. Now we have more reactors that are up to 30 years old and decrepit and inflation has certainly eroded that 1976 dollar value by orders of magnitude.

This addresses some of the major issues that should cause the Commission to think twice before agreeing to a five-year licence request. We at least have the most serious concerns with PNGSA operating under the aforementioned problematic conditions now.

And we notice that even on the Pickering Council there was somebody that had concerns about this licence. We have become aware from the Durham Region.com, an online publication by Danielle Milley, and it is called "Pickering Supports Nuclear Plant", but she says down further that:

> "Ward 2 City Councillor Doug Dickerson said he spoke with residents in advance of the Council."

And he is quoted as saying:

> "There is still the feeling of unease I have sensed in the past week with residents

I have [talked] to."

That is what he said.

I just wonder if any of the other Councillors have talked to their constituents to find out what kind of a feeling they have.

In the end, this Councillor was more or less pressed to support the Pickering submission.

So we really urge the Commission to reject OPG's request and CNSC staff's recommendation and only grant a two-year licence, as it had done before, with a mid-point safety report to be brought at a public hearing.

Thank you very much for this time to present the submission on behalf of the directors and members of Citizens for Renewable Energy.

THE CHAIRPERSON: Thank you.

Perhaps, Mr. Kleinau, before I turn over to questions I would just like to clarify a point that you made at the beginning about submissions. In fact, if there is no need for supplementary submissions on day two and there is no discussion that means that the day one submissions and discussion was satisfactory.

In fact, the Commission would like day two to be reserved for people like you, like intervenors, and not to have further submissions by the licensee or the staff. So it shouldn't be seen that because there isn't

submissions that is not a positive step. For us it is considered that they were looking at the issues and they handled them in day one. So we would actually prefer to listen to intervenors in day two if we really could.

MR. KLEINAU: And that they were making oral presentations ---

THE CHAIRPERSON: Yes.

MR. KLEINAU: --- for today.

THE CHAIRPERSON: Yes. I think it was that they would be just -- that there was supplementary sub-presentations. So it doesn't happen very often but it is allowable under the rules.

Are there questions, Mr. Grant -- Mr. Grant -- Mr. Graham?

MEMBER GRAHAM: Thank you. The day is getting long.

Two questions for clarification to OPG. The first one is on the bottom of Mr. Kleinau's first page of his presentation. He is talking about the steam generators are still the ones of the 1970's. Is that a correct statement or not?

MR. COLEBY: Bill Robinson will answer that question for OPG.

MR. ROBINSON: For the record, Bill Robinson, Senior Vice-President for Pickering A restart.

These are the original steam generators that were installed in the plant when the plant was built. We do extensive inspections of steam generators. We are aware of numerous industry issues with steam generators. It has been talked about that these steam generators are different than the standard steam generators that you would find in the industry. The tubes are monel and have performed well for us. As I said, we do extensive examination of these steam generators to guarantee their fitness for service and safety.

MEMBER GRAHAM: Thank you.

Do CNSC staff concur with that statement?

MR. SCHAUBEL: For the record, Tom Schaubel.

Yes, CNSC staff concur that there are requirements for inspections and requirements for OPG to submit those inspections to us. So yes, we are satisfied.

MEMBER GRAHAM: And those inspections are being met; your criteria is being met?

MR. SCHAUBEL: Yes, when they inspect tubes if they find some tubes that are degrading they will ask for -- they will either plug them or ask for dispositions of those. When they see a flaw they will ask for dispositions of that flaw.

MEMBER GRAHAM: Two other questions I have.

Second one is with regards to plugs. It is not uncommon for plugs -- approximately what percentage of the tubes are plugged at this time?

MR. SELLERS: For the record, Director of Restart Engineering, Craig Sellers.

We have an administrative limit at Pickering of 50 tubes to be plugged on average per boiler per quadrant and some boilers do not have a tube plug but we are well below that administrative limit at this point in time.

MEMBER GRAHAM: You say all are below?

MR. SELLERS: Below.

MEMBER GRAHAM: Thank you.

One other question or one other clarification; the second paragraph on page 2 talks about -- and I know in the past there was considerable discussion over the licensing periods of these -- of Pickering A and it refers to the "makeshift shutdown system enhancement that does not fully replace the second STS."

I think that that is quite a strong statement and I would like clarification, if I could, from CNSC staff first of all. Do they classify that as a makeshift secondary shutdown system?

MR. SCHAUBEL: For the record, Tom

Schaubel.

We don't use the word makeshift but it is an enhanced shutdown system. It was an enhancement of the original shutdown system A, the shutoff rods. It is not an entirely independent shutdown system but it serves that purpose as an independent shutdown system.

MEMBER GRAHAM: And CNSC staff were satisfied with its possible performances and so on?

MR. SCHAUBEL: For the record, Tom Schaubel.

This has been an issue that was initiated around the early 1990's where we asked for this second -- this enhanced shutdown system and they have met our requirements with the shutdown system.

THE CHAIRPERSON: Further questions?

I just wanted to ask about the emergency preparedness rating. Mr. Grant, could you speak to the issues of the -- in a general fashion with regards to any issues with regard? Do you accept that A is a correct rating?

MR. GRANT: For the record, Ian Grant.

Madam Chair, staff oversee the licensees' emergency preparedness arrangements. The licensee is required by regulations to have in place arrangements on site for both responding to and mitigating the

consequences of potential incidents and we review that program. Furthermore, the staff carry out inspections or monitor the drills that the licensee carries out, and that is the basis for the rating that staff has accorded. That is the correct rating.

THE CHAIRPERSON: Any further questions?

Well, thank you very much, Mr. Kleinau.

We are just going to take a 10-minute break and then we will be coming back to the intervenors.

Thank you.

--- Upon recessing at 3:11 p.m.

--- Upon resuming at 3:18 p.m.

THE CHAIRPERSON: Mr. Martin.

MR. MARTIN: Hello.

THE CHAIRPERSON: Hi.

MR. MARTIN: Yes.

THE CHAIRPERSON: We are just going to move to the next submission, then, which is an oral presentation by Greenpeace Canada as outlined in CMD 05-H7.66.

We have with us Mr. Martin, the Energy Coordinator. Mr. Martin had sent us an additional document earlier today. However, the Commission has decided not to accept this document and will be not

placing it on the public record. It has been received too late to be considered by the Commission members and participants at this hearing.

So Mr. Martin, you are familiar with the procedures of the Commission so I will just turn it over to you.

Thank you for joining us by telephone today, sir.

CMD 05-H7.66

Oral presentation by

Greenpeace Canada

MR. MARTIN: Good afternoon and thank you for hearing me telephonically.

In our submission of April 19th we included eight safety-related concerns with request for information. Three of those were not answered or not adequately answered.

In one we asked for a review of the status of generic action items and their relevance to Pickering A. We were provided only with a generic review of the generic action items which was part of the annual safety report and it didn't specifically address the relevance for Pickering A. I think that kind of review is crucial.

Secondly, we asked if significant event

reports are still available to the public and how we can access them. There has been a lot of confusion over this request. It was not a request for "significant development reports" and it was also not a request for reportable events. It was a request for what used to be called significant event reports or SER's and I believe are now simply called event reports. These were historically made available to the public and now seem to have all gone secret. My question is what is the policy on disclosure for both CNSC and OPG?

The third item, we asked for a copy of the fuel channel aging and lifecycle management strategy and plan. CNSC staff did not provide this document and told us to ask OPG for it, and I would like to do that now. Will OPG provide us with a copy of that document?

I would like to raise the issue of ongoing technical and safety related problems at Pickering A because I think there are a lot of them, and I think they are even more significant insofar as there has only been Reactor 4 in operation since the fall of 2003.

I would just bring your attention to some of the items noted in the annual CNSC Safety Report for 2004. Pickering A was rated with a "C" rating, below requirements for implementation of quality management. The Pickering A emergency cooling system was unavailable

for two hours and ten minutes due to a seismic breaker failure in 2004. Pickering A had seven unplanned transients in 2003 and four in 2004. Pickering A had an unplanned capability loss factor of 18.5 per cent in 2004, by far the highest, I should note, of any nuclear station in Canada. That unplanned capability loss factor is the percentage of electrical output lost due to unplanned events. It is an economic indicator but it is also, and I quote from the CNSC "a reflection of overall management of the plant". Pickering A registered 72 instances of non-compliance in 2004 with licence conditions or the *Nuclear Safety and Control Act* and its regulations. At 5.4 Pickering A registered the highest of any nuclear station on the radiation occurrence index for 2004.

As part of our information request we also asked for a list of reportable events. We were given the third and fourth quarter operational reports for 2003. They didn't provide details on those reportable events, but I would just note that there were 60 of them, 6-0, 60 in the last half of 2003.

We were also given the quarterly operational reports for all of 2004 and, similarly, I will just note the aggregate figure there. There were 85 reportable events noted in those four quarterly reports.

I will just mention a few other specific

issues that were noted, some of them in, again, in the annual safety report.

On November 13th, 2003, just a few months after restart, Reactor 4 was forced to shutdown after a liquid release valve in the primary heat transport system failed dumping heavy water into the bleed condenser. That accident was blamed on a substandard component.

On November 24th, 2004, a seismically qualified circuit breaker in Pickering A station was discovered in an open position and that was what rendered the emergency core cooling system inoperative for several hours. A switch on the breaker had been accidentally bumped.

November 24th, again, impairments were discovered in the Pickering A steam barrier around Reactors 3 and 4.

On December 9th, 2004 Reactor 4 was forced to shutdown following a loss of power due to a transmission problem. This occurred at a time when the alternate lime wasn't in service in order to test new remote generators.

December 24th, 2004, the shutdown system enhancement actually shut down Reactor 4. A power fuse failure had shut down a calandria spray control, which closed calandria inlet valves, which lowered the calandria

level, which resulted in the SDS tripping the reactor.

The quarterly operational reports were not available for 2005 and we actually received as a result of our request a number of actual event reports which was extremely helpful and very interesting. There was actually 18 of those reports that I thought were particularly significant and in the report which I tried to submit earlier today those items were listed. I don't think I am going to go into them in detail but I will submit them to you, President Keen, for your interest and I hope for the interest of the Commission members.

I would like to address the licence period question and our conclusions as well.

As we all know, the staff have recommended that the Pickering A licence be extended from its current two-year period to five years to expire June 30th, 2010. Historically, of course, nuclear plants have operated under consecutive two-year licenses and there are a number of reasons why Greenpeace believes that a five-year licence for Pickering A would be very unwise.

OPG intends to restart Reactor 1 in late June or early July 2005 for a commercial operation expected in September or October. Further, while the McGuinty government claims it is not given political approval for the rebuilding of Reactors 2 and 3 OPG is

acting as if the project is already approved. So we heard in day one of the hearing Mr. Robinson, Senior Vice-President, Pickering A returned to service stating that, "We have been authorized to start the design work necessary to support the restart of Unit 2." Furthermore, Mr. Robinson stated that it is possible that both Reactors 2 and 3 could be returned to service "within the period of this licence."

Pickering A began operation in 1971. OPG hasn't suggested how long it intends to operate the Pickering A reactors once they have been rebuilt for a second time. These reactors have been shutdown since 1997, seven and a half years. These are old reactors and they should be subject to greater public scrutiny, not less. They are the only reactors in the country. It has been earlier noted that they do not have a complete second fast shutdown system. It does have a higher risk of catastrophic accident and, as we know, the Pickering Nuclear Station is in closer proximity to more people than any other nuclear plant in the world. In the short term, restart of Reactors 1, 2 and 3 involves a great deal of uncertainty and risk.

A shorter licence period is going to mean greater leverage for the CNSC as regulator to fix problems if and when they develop, and they will develop. From a

public interest point of view shorter licenses result in greater transparency. Transparency results in greater accountability and longer licence periods, I believe, allow licensees to become complacent. Delegation of crucial multi-billion dollar decisions such as reactor restarts to CNSC staff reduces and minimizes the role of the Commission members themselves and it reduces public involvement.

The world knows that Ontario Power Generation is responsible for a truly disastrous fiasco in the restart of the Pickering A reactors. The restart project is four years late. The cost of refurbishing all four reactors has escalated fivefold from an estimated $780 million to over $4 billion.

I think the recent problems that we have seen with feeder pipes indicates just how much OPG and CNSC have ignored the warnings that have come and are willing to sacrifice safety in order to meet a political and industry goal of restarting these reactors.

Rest assured, I think the list of problems that I have identified indicate that all is not well at Pickering A and the Commission should be striving for greater accountability, not less. The Commission should act prudently and should exercise the precautionary principle, and Greenpeace would therefore recommend that

Pickering A should be given a two-year licence, not a five-year licence.

Thank you.

THE CHAIRPERSON: Thank you, Mr. Martin.

I just wish to note that there are now annual reports that are put before the Commission on all the reactors, one by one, or station by station in terms of their performance.

You are aware of those annual reports?

MR. MARTIN: I am, yes.

THE CHAIRPERSON: Mr. Martin?

MR. MARTIN: Yes, I am aware of those reports.

THE CHAIRPERSON: Because they are put before the Commission and they are publicly available, and they were available yesterday.

So just to let you know that the Commission does annually have oversight over all the reactors in the country and looks at it very seriously annually as well.

Questions from my colleagues, from the Commission members?

There are no questions for you, Mr. Martin. Thank you very much.

MR. MARTIN: Thank you for hearing me.

THE CHAIRPERSON: Thank you.

We will now move to a series of written submissions, some of which have been grouped and some have not been. So we are going to start with discussions of ones that have been grouped since they reflect very similar comments or requests to the Commission.

I will ask the Secretary to read the list of interventions, after which I will ask members if they have questions on the issues raised in each one of these groups of letters.

Monsieur Leblanc.

MR. LEBLANC: The following written interventions which reflect similar comments, concerns or requests have been submitted to the Commission by the following unions. I will now list these intervenors.

With respect to CMD 05-H7.11, International Union of Painters and Allied Trades, District Council 46; also, the Sheet Metal Workers' & Roofers' Local Union No. 30; the Ironworkers Local 721; the Teamsters Local Union No. 230; the International Association of Machinists and Aerospace Workers and the International Brotherhood of Electrical Workers, Local 894.

05-H7.11/05-H7.16/05-H7.18/05-H7.19/05-H7.41/0H-05.49
Written submissions from
International Union of Painters and Allied Trades,
District Council 46;

Sheet Metal Workers' & Roofers' Local Union No. 30;
Ironworkers Local 721;
Teamsters Local Union No. 230;
International Association of Machinists
and Aerospace Workers;
International Brotherhood of Electrical Workers,
Local 894

THE CHAIRPERSON: Are there any questions from Commission members with regards to this list of submissions by Unions?

Thank you. Mr. Secretary.

MR. LEBLANC: The following interventions which reflect similar comments have been submitted to the Commission by the following companies or business organizations: Black & McDonald Limited; Comstock Canada Ltd.; Crosby-Dewar Projects Inc.; Vipond Fire Protection; Babcock & Wilcox Canada Ltd.; Siemens Canada Limited; Durham Radio Inc.; Durham Region Manufacturers Association; the Whitby Chamber of Commerce; the Ajax-Pickering Board of Trade; the Viridian Corporation.

05-H7.13/05-H7.14/05-H7.21/05-H7.29/05-H7.40/05-H7.47
05-H7.55/05-H7.58/05-H7.60
Written submissions from
Black & McDonald Limited;
Comstock Canada Ltd.;

Crosby-Dewar Projects Inc.;

Vipond Fire Protection;

Babcock & Wilcox Canada Ltd.;

Siemens Canada Limited;

Durham Radio Inc.;

Durham Region Manufacturers Association;

Whitby Chamber of Commerce;

Ajax-Pickering Board of Trade;

Viridian Corporation

THE CHAIRPERSON: Are there any questions or comments with regards to these CMDs by companies and business organizations?

Mr. Secretary.

MR. LEBLANC: The following interventions have been submitted to the Commission by municipalities and representatives of the government, from: Ms. Judi Longfield, M.P., Whitby-Oshawa; from Mr. Mark Holland, M.P. Ajax-Pickering; from Mr. Jim Flaherty, M.P.P., Whitby-Ajax; from the City of Pickering; from the Honorouable Dan McTeague, P.C., M.P., Pickering-Scarborough-East; from the Town of Ajax; from the Regional Municipality of Durham; from Mr. Wayne Archers, M.P.P. Pickering-Ajax-Uxbridge.

05-H7.7/05-H7.9/05-H7.12/05-H7.17/05-H7.27/05-H7.50/ 05-H7.61

Written submissions from
Ms. Judi Longfield, M.P., Whitby-Oshawa;
Mr. Mark Holland, M.P. Ajax-Pickering;
Mr. Jim Flaherty, M.P.P., Whitby-Ajax;
City of Pickering;
Hon. Dan McTeague, P.C., M.P., Pickering-Scarborough-East;
Town of Ajax;
Regional Municipality of Durham;
Mr. Wayne Archers, M.P.P. Pickering-Ajax-Uxbridge

THE CHAIRPERSON: Are there any questions or comments from Commission members with regards to these submissions by municipalities and representatives of government?

Mr. Secretary.

MR. LEBLANC: The following interventions have been submitted to the Commission by members of the public or community organizations. These are: Women in Nuclear Durham; PineRidge Arts Council; Pickering Naturalists; Big Brothers & Sisters of Ajax-Pickering; Rouge Valley Health System; Women in Nuclear Canada; the United Way of Ajax-Pickering-Uxbridge; the Ajax-Pickering Toastmasters Club #5425; the Toronto and Region Conservation for the Living City; Canadian Blood Services; the Pickering Public Library; WindReach Farm; the Pickering Soccer Club Inc.; Adrian Sos; Michael Chan;

Dinesh Singh; Terry Young; Xiaolin Zhang; Durham Nuclear Health Committee; the Durham District School Board; Andrew Daley; Usman Hamdani; the Safe Communities of Pickering/Ajax; Frenchman's Bay Watershed Rehabilitation Project; Terry Price; the Durham West Girls Hockey Association Inc.; the University of Ontario Institute of Technology and Durham College; the Friends of the Ajax Public Library; the Whitby High School; Abuzafar Ali; Durham Catholic District School Board; the Pickering Hockey Association; J. Clarke Richardson Collegiate; Don Terry; the Pickering Community Concert Band and Herizon House.

05-H7.8/05-H710/05-H7.15/05-H7.20/05-H7.22/05-H7.23/ 05-H7.24/05-H7.26/05-H7.28/05-H7.30/05-H7.31/05-H7.32/ 05-H7.33/05-H7.34/05-H7.35/05-H7.36/05-H7.37/05-H7.38/ 05-H7.42/05-H7.43/05-H7.44/05-H7.45/05-H7.46/05-H7.48/ 05-H7.51/05-H7.52/05-H7.53/05-H7.54/05-H7.56/05-H7.57/ 05-H7.59/05-H7.62/05-H7.63/05-H7.65/05-H7.68

Written submissions from

Women in Nuclear Durham;

PineRidge Arts Council;

Pickering Naturalists;

Big Brothers & Sisters of Ajax-Pickering;

Rouge Valley Health System;

Women in Nuclear Canada;

United Way of Ajax-Pickering-Uxbridge;

Ajax-Pickering Toastmasters Club #5425;

Toronto and Region Conservation for the Living City;

Canadian Blood Services;

Pickering Public Library;

WindReach Farm;

Pickering Soccer Club Inc.;

Adrian Sos;

Michael Chan;

Dinesh Singh;

Terry Young;

Xiaolin Zhang;

Durham Nuclear Health Committee;

the Durham District School Board;

Andrew Daley;

Usman Hamdani;

Safe Communities of Pickering/Ajax;

Frenchman's Bay Watershed Rehabilitation Project;

Terry Price;

Durham West Girls Hockey Association Inc.;

University of Ontario Institute of Technology and Durham College;

Friends of the Ajax Public Library;

Whitby High School;

Abuzafar Ali;

Durham Catholic District School Board;

Pickering Hockey Association;

J. Clarke Richardson Collegiate;

Don Terry;

Pickering Community Concert Band;

Herizon House

THE CHAIRPERSON: Are there any questions from Commission members with regards to these submissions by members of the public or community organizations?

We will now move to the last two written submissions which were not part of any of these previous groups. We will move to the written submission filed by Brian Cochrane as outlined in CMD Number 05-H7.25.

05-H7.25

Written submission from

Brian Cochrane

THE CHAIRPERSON: Are there any questions or comments from Commission members with regards to this written submission?

Seeing none, I will move to the next written submission. It is a written submission filed by Dr. Greening. It is outlined in CMD 05-H7.73 and 05-H7.73.A

05-H7.73/05-H7.73.A

Written submission from

Dr. Greening

THE CHAIRPERSON: Are there questions? Mr. Taylor.

MEMBER TAYLOR: Thank you, Madam Chair. With respect to 7.73.A, Dr. Greening requests OPG provide details of feeder pipe inspections and some other details, and I ask whether OPG is willing to provide this information?

MR. CHARLEBOIS: Pierre Charlebois for Ontario Power Generation. Any information that we have provided to the CNSC obviously would be available for Dr. Greening to review. I am not sure of the specific requests, Mr. Taylor, and maybe you can point me to the area in question.

MEMBER TAYLOR: It is in 05-H7.37.A -- sorry, 73.A. I am getting dyslexic.

THE CHAIRPERSON: I think it is para 2; is that right?

MR. CHARLEBOIS: Pierre Charlebois again for Ontario Power Generation. The request is for the information on the results of the inspections for Units 1 and 4 as well as the radiation dose for the people that have been involved,

and that information currently is not in final form yet, but we will provide that information once we in fact have it available and we will also submit that information to the CNSC.

MEMBER TAYLOR: Thank you.

THE CHAIRPERSON: Dr. Barnes?

MEMBER BARNES: I had three questions that come out of Mr. Greening's documents. Since we are on the supplementary 73.A, I think over the page, his last paragraph, I would specifically like to know if OPG has measured the corrosion rate for the outside surface of the carbon steel feeder pipes in Pickering A units and whether or not OPG has factored outside surface corrosion into its wall-thinning predictions?

MR. CHARLEBOIS: Pierre Charlebois for Ontario Power Generation.

I would like to ask Dr. Paul Spekkens to respond to the question.

DR. SPEKKENS: For the record, Paul Spekkens.

The answer is that we have not observed any corrosion on the outside surface of the pipes at Pickering A. We do fairly extensive visual inspections.

Furthermore, on the pipes that have been removed from Unit 1, the outer surface of the pipes

actually looks in pretty good condition. There is no visible sign of any corrosion.

In response to the question of do we take outside surface corrosion into account in our flow-assisted corrosion program, the answer is yes. When we measure the thickness of a pipe using ultrasonics and determine how much material has been lost from the original nominal thickness, we don't distinguish between material that might have been lost from the internal surface versus material that might have been lost from the external surface. We conservatively assume that any material that appears to have been lost was in fact lost due to flow-accelerated corrosion and then we recognize that that is an overestimate, but then we conservatively use that thinning rate when we project the behaviour of those feeders going forward.

MEMBER BARNES: Thank you.

The last two questions pertain to his other submission, the first submission which is 05-H7.73, dated April 25. The first one of those is in the second paragraph. It is really the lower half of that paragraph, the one that includes the section in italics and he asks a question for the last sentence in there. So I will read it:

"In NUREG CR-5632(2001), it was reported

that pits formed by selective attack on carbon steel 'grow until they touch' and thus the surface becomes rough. The dependence on mass transfer and on velocity is greater for a rust surface than for a smooth surface."

I would like to know if OPG have considered this effect in their assessment of FAC in Pickering A units?

DR. SPEKKENS: For the record, Paul Spekkens.

We have not considered that effect specifically in that we don't know whether that is the way pits behave or not.

What we do know from the examination of the feeders that we have removed from Pickering 1 is that there is no sign of pits on the internal surface. As I explained previously, we assume that any material that has been lost has been lost to flow-accelerated corrosion. And so indirectly, if the mechanism proposed by Dr. Greening was what was going on, then yes, it would be captured by our flow-accelerated corrosion rate estimate because it would mean material had been lost and that would now show up as a thinner material.

But we don't attempt to predict

mechanistically how the surface thins because our understanding of flow-accelerated corrosion is not sufficiently detailed to predict on the basis of mechanisms. We predict on the basis of measured thickness and we assume that any material that is not there has been lost to flow-accelerated corrosion.

MEMBER BARNES: Thank you.

The last one is at the start of his final paragraph:

"In view of the fact of the above information as provided to CNSC in May 2003, I have to ask why it has taken almost two years for OPG to carry out ultrasonic inspections at feeder pipe locations well downstream of the outfit feeder elbows nearest to the end-fittings."

Would you like to comment or respond to that question?

DR. SPEKKENS: For the record, Paul Spekkens.

There is a couple of reasons for that. The first is that when the -- when it was decided, as was discussed at the hearing in 2003, that we would be removing feeder pipes, this represented a first-of-a-kind evolution for Ontario Power Generation. Up until that

point, only Point Lepreau had carried out removal of feeder pipes. So it did take time to ensure that we could plan the removal of those for feeders from Pickering 1 into the extensive set of activities that were involved in the restart of Unit 1.

So two years is the length of time that was required to plan the activity and to schedule it into the large volume of work that was already being done in Unit 1.

As a result of the removal of these four feeders, we now have the ability to look at the straight section of pipe downstream of the elbows and to get some very good information on the condition of the surface downstream of those elbows and to confirm that in fact the pipes are relatively thick downstream of the elbows which supports the picture that we have of thinning being primarily of concern in the elbows and the feeders, which is where the turbulence is highest.

MEMBER BARNES: I appreciate the responses.

I just ask if staff has any comment? Perhaps not. I assume not.

MR. GRANT: Forgive me; I was going to -- Ian Grant for the record.

Staff have been overseeing the work conducted by Ontario Power Generation and by other

licensees. Generally speaking, we are satisfied with the inspection work and with the findings that licensees have been carrying out.

I will now call upon Mr. Andrei Blahoianu for a brief overview of that work.

MR. BLAHOIANU: For the record, my name is Andrei Blahoianu, Director of Engineering Assessment Division.

Madam Chair, Members of the Commission, yes, we were briefed weekly, on a weekly basis, by OPG. Every single statement from previous transcripts and also previous briefings -- I am referring to 2003 -- including the notes of Dr. Greening. In addition to this, all other questions that we found necessary to ask OPG, we asked OPG to address, and I could say that all of them were answered satisfactorily.

There is more work going on and OPG may inform about this before the restart will be approved. So there is more work going on on behalf of OPG, and they have to inform us about how things are going on.

At this time we feel like all these concerns of Mr. Greening, which are also our concerns, were fully addressed.

THE CHAIRPERSON: Dr. Dosman.

MEMBER DOSMAN: Thank you, Madam Chair.

I am referring to Dr. Greening's -- the same letter, H7.73, the second last paragraph. Dr. Greening says he believes that the ultrasonic technician examining feeder pipers will have excess radiation doses and he specifically asks the question:

> "What is the expected radiation dose to an ultrasonic inspection technician when he or she manually probes feeder pipes, say, after one year of operation of a Pickering unit?"

MR. CHARLEBOIS: Ontario Power Generation, Pierre Charlebois, for the record.

Clearly, the limits that are set out for all of the workers, individual workers, apply to all of the people who do inspections as well. So in effect, those people are not subjected to greater levels of exposure to radiation. Essentially, their work is governed by the regulations for radiation protection and basically the same limits apply to all of our workers.

The amount of dose that is required in order to conduct a full inspection is obviously distributed amongst people observing all the required limits and I believe that Dr. Spekkens may be able to give examples of recent campaigns conducted at our plants to outline what is involved in doing these inspections.

DR. SPEKKENS: For the record, Paul Spekkens.

Yes, I would like to reemphasize that OPG is, of course, very conscious of the need to minimize doses for its inspectors, and that is why all of the inspection campaigns that we conduct on feeders and on other components, for that matter, are governed by ALARA planning, job safety assessments, et cetera, to ensure that we have taken the right measures to minimize the dose.

To give you an example, we had an inspection recently at a Pickering B unit which had a dose budget of 22 REM as the collective dose that would be absorbed by the inspectors. Now, the exact dose that is associated with a particular campaign does depend on the size of the campaign, how many feeders you are going to inspect, how many types of inspection you are going to do, but that Pickering B number is not untypical for the kind of large campaigns that we currently do in our reactors.

MEMBER DOSMAN: So I take it the short answer is that OPG believes that no one ultrasonic inspection technician should exceed the allowable dose?

MR. CHARLEBOIS: Pierre Charlebois for Ontario Power Generation.

Yes, that is correct. And moreover, Dr.

Spekkens could describe, in fact, a number of tooling and technology enhancements that we have invested in and continue to invest in in order to be able to collect a lot of this information more remotely, as much as possible, in order to minimize that in accordance with our ALARA program.

MEMBER DOSMAN: Thank you.

MR. COLEBY: Could I add to that? John Coleby for the record.

For those people that are conducting campaigns on Pickering A, each one of them wears an electronic dosimetry device which is read at the end of every shift, and we check those with our Radiation Control Department to make sure nobody goes anywhere near our own internal administration limits.

This inspection is performed off what we call the fuelling and machine bridge. So we take it up on top of the reactor. We take up there with it shielding cabinets where we bring the workers back to whenever there is a stall in the proceedings. When there are doses on the face that we need to deal with, we will shield them and, finally, what we have done is trained a large number of unskilled workers to take over some of the menial tasks to relieve the skilled technicians, those tasks which would accumulate dose where they don't need to do that

work.

MEMBER DOSMAN: Thank you.

THE CHAIRPERSON: Any further questions?

Thank you very much. This completes the record for the public hearing on the matter of the Application by Ontario Power Generation to renew Pickering A nuclear generating station operating licence.

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

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

I would like to thank you all very much and have a safe trip back before the long weekend. Thank you.

--- Upon adjourning at 3:53 p.m.