

DARLINGTON NEW NUCLEAR POWER PLANT PROJECT

**JOINT REVIEW PANEL**

PROJET DE NOUVELLE CENTRALE NUCLÉAIRE DE DARLINGTON

**LA COMMISSION D'EXAMEN CONJOINT**

**HEARING HELD AT**

Hope Fellowship Church  
Assembly Hall  
1685 Bloor Street  
Courtice, ON, L1E 2N1

**Friday, March 25, 2011**

**Volume 5  
REVISED**

**JOINT REVIEW PANEL**

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(ii)

**ERRATA**

**Transcript :**

**Page 225, line 25**

25 and compensation plans, the N&D project as defined

**Should have read:**

25 and compensation plans, the **NND** project as defined

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**Page 227, line 7**

7 N&D intake is 1,350 kilograms per year or .4

**Should have read:**

7 **NND** intake is 1,350 kilograms per year or .4

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1 Courtice, Ontario

2

3 --- Upon commencing at 8:30 a.m./

4 L'audience débute à 8h30

5 CHAIRPERSON GRAHAM: Good morning  
6 everyone and welcome to day five.

7 I'll ask my co-manager to read a  
8 few rules and information into the record.

9 Ms. Myles?

10 MS. MYLES: Thank you, Mr. Graham.

11 Good morning, everyone. Welcome  
12 to the Darlington New Nuclear Power Plant Project  
13 Joint Review Panel public hearing. My name is  
14 Debra Myles and I'm the panel co-manager.

15 I'm just going to go through a  
16 couple of logistical matters relating to the  
17 proceedings.

18 Please silence your cell phones  
19 and electronic devices. The panel staff are  
20 available at the back of the room. If you have any  
21 questions, please speak to Julie Bouchard if you're  
22 scheduled to present at today's session and haven't  
23 spoken to her already.

24 If you want permission from the  
25 Chair to put a question to a presenter or if you

1 weren't previously registered and would now like to  
2 speak to the panel, please see Julie. All requests  
3 to address the panel must first be discussed with  
4 the panel Secretariat staff.

5                   Opportunities for questions or to  
6 make a brief oral statement are subject to the  
7 availability of time.

8                   We have simultaneous translation  
9 and headsets are available just behind the black  
10 curtain here. English is on channel one and French  
11 is on channel two.

12                   Please keep the pace of your  
13 speech relatively slow so that the translators can  
14 keep up and be sure to identify yourself before  
15 speaking to make the transcripts as meaningful as  
16 possible. A written transcript will reflect the  
17 official language used by each speaker. The audio  
18 files in the transcripts will be posted on the  
19 Canadian Environmental Assessment Registry internet  
20 site for this project.

21                   The link to the live webcast is on  
22 the Canadian Nuclear Safety Commission website and  
23 archived webcasts are also housed on the CNSC  
24 website. If you're having trouble finding any of  
25 this information, please see the Secretariat staff

1 and we'll help you.

2                               As a courtesy to everyone in the  
3 room, please silence your cell phones. In  
4 accordance with today's agenda, the Joint Review  
5 Panel will resume with the presentation by  
6 Emergency Management Ontario.

7                               Thank you, Mr. Graham.

8                               CHAIRPERSON GRAHAM: Thank you  
9 very much, Debra, and good morning, everyone. Just  
10 one other logistic -- during the last five days  
11 we've had a number of undertakings that were given  
12 to both -- to various parties within the room and  
13 Mr. Saumure will address those after the first  
14 break this morning, an update on all of them to see  
15 where they stand, bring them up to date.

16                              So with that, I want to welcome  
17 Emergency Preparedness Ontario. Thank you for  
18 taking time out of your schedule to come to what is  
19 a most important hearing and we hope that we can  
20 garner a lot of information from your presentation  
21 this morning.

22                              And I believe Mr. Hefkey -- am I  
23 pronouncing that right -- is here this morning and  
24 you will introduce your team and give us your  
25 presentation. Thank you very much and good

1 morning.

2 --- PRESENTATION BY MR. HEFKEY

3 MR. HEFKEY: Merci, monsieur le  
4 président.

5 Permettez-moi premièrement de vous  
6 présenter mon équipe. Alors à ma gauche, j'ai  
7 monsieur Dave Nodwell, qui est gestionnaire  
8 responsable pour les exercices et les plans. À ma  
9 droite j'ai mon député qui est Mike Morton et aussi  
10 un gestionnaire qui est responsable pour la filière  
11 nucléaire qui est Kathy Blyer.

12 Pour le restant de la  
13 présentation, je vais la faire en anglais était  
14 donné que la langue officielle ici pour  
15 l'administration c'est en anglais.

16 So with that said, I guess I can  
17 also introduce myself for the record. My name is  
18 Dan Hefkey. I'm the commissioner responsible for  
19 community safety for the Province of Ontario.  
20 Prior to and I think it's germane for the  
21 presentation, prior to my appointment to  
22 Commissioner, I was also the Chief of Emergency  
23 Management Ontario. I'm responsible for this  
24 particular portfolio.

25 So with that if we can just move

1 on to the -- the second page of the presentation  
2 and speaking of the purpose for our presentation.  
3 And there are really three points that we'd like to  
4 make. The first is we want to be able to provide  
5 you with what we see as an overview of the mandate  
6 of EMO and the legislative framework within which  
7 we operate as it relates to the nuclear file.

8                   Second, is provide you with a  
9 description and some detail as to the Emergency  
10 Management arrangements that are in place currently  
11 within our provincial nuclear emergency plan.  
12 While, again, I appreciate -- and just to digress  
13 one bit, I appreciate that for everyone the focus  
14 is always on response. While that is a credibly  
15 important, equally important are the other pieces  
16 related to preparedness and exercising and planning  
17 and all the consultations that go in with that.  
18 That is how, for us, we believe that our response  
19 is -- is that much more robust.

20                   But lastly, is to speak again,  
21 very specifically, on the impact of the Darlington  
22 New Nuclear power plant project, on nuclear  
23 emergency management here in the province. So  
24 those are the three points that we want to get  
25 across in our presentation.

1                   So first our vision and I'm going  
2 to go through these very quickly. At EMO our  
3 vision is just this: A safe, secure and resilient  
4 Ontario. It's important to note that because for  
5 us it isn't just about Darlington; it isn't just  
6 about the communities of Clarington or Courtice or  
7 even Durham Region, but we are truly provincial.  
8 So appreciate as we talk, we dig deep to our  
9 municipalities and our municipal colleagues and our  
10 other partners, but we're also considering the  
11 impacts, and I'm sure you too are very much aware  
12 of the impacts of this provincially. And that is  
13 our role to look at both at a local, regional,  
14 provincial level.

15                   Now, in order to affect our  
16 vision, our mission is through those effective  
17 partnerships because it has to happen that way. We  
18 cannot do this alone. EMO leads in the co-  
19 ordination, development and implementation of --  
20 and these are the pillars of Emergency Management,  
21 prevention, mitigation, preparedness, response and  
22 recovery strategies to maximize the safety and  
23 security of all Ontarians.

24                   Now, in terms of our core  
25 functions, and this is really interesting. This is

1 our core lines of business if you will. The first  
2 is, our doctrine. It's important for everyone in  
3 Ontario who is responsible for and working in  
4 Emergency Management, that we all sing from that  
5 same song sheet. The doctrine is that song sheet.  
6 It is something that has been in place for a number  
7 of years; something that we have used in order to  
8 develop our incident management system, but it's  
9 something that all of us work on and we work from  
10 that same sheet.

11 As I talked about before, one of  
12 our core services as well, speaks to emergency  
13 response obviously, and that is why we have a 24/7  
14 provincial emergency operation centre in Toronto  
15 and it is staffed 365 days a year. But then there  
16 are the other pieces around preparedness, things  
17 like planning and exercising and guidelines.

18 Now, in terms of exercises, we do  
19 have a provincial exercise program. So this is  
20 something that we've developed in consultation with  
21 our many partners. That is how we come to  
22 developing exercises such as the one we did last  
23 year for the G8 and G20 summits. And two years  
24 before that a regional exercise we did in  
25 Northwestern Ontario that looked at some of the

1 other hazards that face our province. And how next  
2 year, or I should say later on this year now, in  
3 2011, we will be running an exercise involving  
4 radiological material.

5                   Be we also develop training for  
6 emergency management professionals, as well as  
7 senior elected officials, so that they get to  
8 understand and better appreciate what it means to  
9 be prepared and what we can do better respond. And  
10 then we get into public education. So this is how  
11 do we get to folks? And in a couple weeks, come  
12 the first week in May we'll have EP week again, and  
13 so that's where we throw it into high gear and we  
14 provide education and public education messaging to  
15 not only through our members, but also through our  
16 community partners, our community emergency  
17 management co-ordinators.

18                   But with everything, and I know  
19 that you do it as well within your organization, we  
20 evaluate. We are constantly in a cyclical approach  
21 to assessing, then testing, and then planning some  
22 more, and then improving on that. So everything  
23 we've learned from our 2008 exercise, or the  
24 exercise we did in Chalk River in 2007, or the one  
25 that we did for Darlington in 2005, we've taken

1 those lessons learned and incorporated them into  
2 our plans, into our programs, so that we're better  
3 prepared.

4                                 But we also advise and assist  
5 emergency managers and responders. And this is  
6 really important. While we have a small cadre,  
7 relatively speaking, at about 14 across the  
8 province, those field officers are the ones who  
9 provide advice to folks who may not be that  
10 familiar with emergency management principles. And  
11 they provide advice. They also provide the linkage  
12 for us back to the province so that we gain  
13 absolutely great, accurate situational awareness.

14                                 And lastly is analysis, and that  
15 area is very important to us, because that is  
16 something that is done not just during the response  
17 cycle, but well before that. And so we have staff  
18 dedicated to analyzing what are the threats. And I  
19 say threats, plural, because well, today, we're  
20 talking about nuclear. Appreciate that in Ontario  
21 we have 36 other, what we call, hazards. And that  
22 analysis group looks at assessing a risk to those  
23 hazards.

24                                 Now, moving on to the legislative  
25 mandate. I think this is very important for you to



1 municipal nuclear emergency plans conform to the  
2 provincial plan. So the kind of -- and I speak in  
3 pictures, to give it to you very simply, the  
4 provincial is the umbrella plan. So we have a  
5 provincial nuclear emergency response plan.

6 Under that umbrella, from it flows  
7 the other plans, be it for Bruce, Darlington,  
8 Pickering, Chalk River, or for Fermi, as it relates  
9 to nuclear. Municipalities in non-nuclear  
10 communities also have plans, and those plans  
11 conform with our provincial emergency response  
12 plan. But we have two in Ontario, two provincial  
13 plans that speak to -- one specifically to nuclear,  
14 and another that speaks to the non-nuclear hazards.

15 Now, in terms of the provincial  
16 nuclear emergency response plan itself. For us we  
17 have defined an emergency as something that occurs  
18 where there is an actual or potential hazard to  
19 public health property or the environment from  
20 ionizing radiation. Such a hazard will usually be  
21 caused by an accident or malfunction, loss of  
22 control involving radioactive material of that --  
23 in that nuclear facility.

24 Now, we use that -- again, going  
25 back to this point about singing from the same song

1 sheet. This is our definition provincially. All  
2 nuclear facilities use this definition so that we  
3 understand each other as we're talking and as we  
4 start to report information across lines.

5                   Now, in terms of a time line, I'm  
6 very proud, I've got to tell you, for -- and I look  
7 to my team here, because they're the ones who did  
8 it. Last year, in -- or I should say two years ago  
9 now, 2009, we were able to start the regularized  
10 updating of our plans. We had heard and we work  
11 with our nuclear safety partners, both the  
12 municipalities, OPG and Bruce, and worked with them  
13 very closely on developing improvements to our  
14 provincial nuclear response plan. And when we did  
15 that, we did that in 2009, we were able to go  
16 before cabinet.

17                   And again here, this is why I  
18 think it's very important that you appreciate that.  
19 For us in Ontario, this is the one provincial plan  
20 across the spectrum that has to be approved by  
21 cabinet. Others, it is the minister who is  
22 responsible for that particular hazard. So if  
23 we're talking about a health hazard, it's the  
24 Minister of Health who is responsible for that  
25 plan. However, when it comes to nuclear emergency



1 cabinet, hopefully at some point this year, to be  
2 approved. And then, again, it'll be on a regular  
3 cycle of updating.

4                               So with that said, again, our  
5 stakeholders and making this pretty clear, our  
6 nuclear operator stakeholders are OPG, Bruce,  
7 Atomic Energy Canada, as well as Detroit Edison.

8                               In terms of designated  
9 municipalities, again, depending on the -- on the  
10 facility, if you go to the stakeholder piece here,  
11 when we speak of -- about Pickering and Darlington,  
12 and you are looking at Durham region and the City  
13 of Toronto as with our primary zone, and the host  
14 municipalities of Peterborough and Toronto. They  
15 too are our stakeholders and they participate in  
16 what we call our provincial nuclear emergency  
17 management co-ordinating committee.

18                              For Bruce there is Concardon, and  
19 the host communities are Saugeen Shores and Deep  
20 River. My apologies, that should just say Saugeen  
21 Shores. Deep River is related to our Chalk River  
22 facility obviously, where the primary zone involves  
23 Laurentian Hills and Deep River. And with respect  
24 to Fermi 2, it's the town of Emmersburg and the  
25 hosts are in Windsor and Essex.

1                                   Moving on. Our nuclear facilities  
2 and -- and here they are, this is just a pictorial  
3 representation of where they are. Other  
4 stakeholders, as I mentioned, our co-ordinating  
5 committee is large, but we really do appreciate all  
6 of the input that we receive. Again, we are not  
7 nuclear engineers. We are not representatives of a  
8 municipality. And it's for those reasons that we  
9 bring in other folks to our committee to provide  
10 their particular perspective. That is something  
11 similar to what you do here when you have your  
12 hearings.

13                                   So from the province we have Ag,  
14 Food and Rural Affairs, clearly, and you're seeing  
15 this and it's playing out in the news with the  
16 Japanese emergency. Food and agriculture are very  
17 important aspects in the recovery phase, and in  
18 Ontario we recognize that and they are involved in  
19 our planning processes.

20                                   The Attorney General, obviously --  
21 we're talking about a piece of legislation and we  
22 want to make sure that they are there and they  
23 provide us with good sound legal advice.

24                                   Community and Social Services,  
25 well, we're talking about moving people,

1 potentially, evacuating them from an area. We need  
2 to make absolutely certain that that social network  
3 system is in place for those folks, and it is this  
4 Ministry who is responsible for that at a  
5 provincial level, again, appreciating that it goes  
6 beyond just a municipality, it goes beyond just a  
7 region.

8                                   Energy, clearly; Environment,  
9 again, I understand you've already spoken so I  
10 won't go into them in detail. Health/Long-term  
11 care, you're aware of.

12                                   Labour, very important; our  
13 Ministry of Labour wants to ensure worker safety.  
14 So when these kinds of incidents occur they want to  
15 make absolutely certain that they also have the  
16 right information. And they also provide us with  
17 good information. They have physicians on staff  
18 who come and work with us in our provincial  
19 emergency operation centre. Now, they've been  
20 doing that to date as it relates to exercises, but  
21 when the real event were to occur they would be  
22 there for us.

23                                   Municipal Affairs and Housing,  
24 obviously, and I understand yesterday you had an  
25 intervention from that representative, so you

1 understand their role.

2 Natural Resources, as well as  
3 Northern Development, Mines and Forestry.

4 And Transportation, and just to go  
5 a little bit here, appreciate that in Ontario we  
6 have a joint traffic control centre and that  
7 particular approach to how we manage the traffic  
8 flow is really important.

9 So in my previous life, prior to  
10 being the chief, I was also working with the  
11 Ontario Provincial Police and so that's where I  
12 first met Cathy Blyer (ph), where we were looking  
13 at developing a joint traffic control centre.

14 So it wasn't just the Ontario  
15 Provincial Police but it involved Toronto, it  
16 involved York, it involved Peterborough and also  
17 the Ministry of Transportation, and so they house  
18 that particular joint traffic control centre as it  
19 relates to Darlington.

20 And federally we have Health  
21 Canada, Public Safety Canada, the CNSC. And we  
22 meet with the CNSC and our colleagues from there on  
23 a fairly regular basis. We tried to meet twice a  
24 year when I was the chief. And Arcan.

25 Now, going into the PNERP

1 structure itself, you should -- again, as I talked  
2 about, in 2009 we were able to receive approval  
3 from Cabinet on the master plan, and what it does  
4 is it describes and it really lays out those  
5 overall principles, the provincial policies, the  
6 basic concepts, organizational structure, and I  
7 talked earlier about the incident management  
8 system, and responsibilities and response for a  
9 nuclear or radiological emergency.

10                   And then from that flow the seven  
11 implementing plans and those plans again all have  
12 to connect with that master plan. So there is an  
13 implementing plan for each of the nuclear  
14 generating stations, but there's also a  
15 transborder, a Chalk River and other radiological  
16 emergencies plan, again, appreciating that we also  
17 have research facilities that exist. And so we've  
18 tried to capture it all in the various aspects of  
19 nuclear safety under these seven implementing  
20 plans.

21                   Now, in terms of preparedness,  
22 probably the biggest investment that we've made in  
23 preparedness is the creation of and the ongoing  
24 work that is provided to us by a coordinating  
25 committee. It has membership, and as I was

1 mentioning, from federal representatives, from  
2 provincial ministries, the nuclear facility  
3 owners/operators themselves, as well as designated  
4 municipalities.

5                               So we're hearing from all the  
6 different perspectives, again, trying to achieve  
7 our vision of that safe, secure and resilient  
8 Ontario. We don't get that by just talking to one  
9 person or for thinking that we can do it all by  
10 ourselves, we can't, and that's why we bring them  
11 in.

12                              They meet quarterly, and I can  
13 tell you the conversations are lively and we get  
14 through a lot of things. But they are responsible,  
15 again, for ensuring that optimum state of  
16 preparedness. That's what they do. That's what we  
17 force from them. And we also set up, as it says at  
18 the last bullet there, we do set up subcommittees,  
19 at times, to look at specific issues. So, for  
20 example, a couple years back the KI issue came up  
21 so there was a subcommittee developed for that.

22                              The other piece on preparedness is  
23 the incident management system, and we're very  
24 proud of this because this is Ontario's incident  
25 management system, and it is the way in which we

1 manage all emergencies, nuclear, non-nuclear, it  
2 doesn't matter, this is the approach.

3                   And I say Ontario's approach  
4 because it took us some time; we started this post-  
5 911, however, a couple -- three years ago we were  
6 finally able to achieve consensus amongst all of  
7 our stakeholders, and that included first responder  
8 communities, because it's really important that,  
9 again, we all sing from that same song sheet, and  
10 that's what this all about.

11                   And so what we do is when we are  
12 responding everybody understands when we talk about  
13 an operation cell this is what it looks like. When  
14 we talk about the command cell, this is who it's  
15 related to and these are the folks who speak to it,  
16 or administration, or logistics, but it's all part  
17 of that process. And so we developed that and the  
18 entire province works on that particular concept.

19                   Now, in terms of preparedness, and  
20 again the diagram that you're seeing here is  
21 exactly how we prepare.

22                   Now, what's really important for  
23 Ontario, which is different from my colleagues in  
24 Quebec, in New Brunswick, for example, we have a  
25 cabinet committee responsible for emergency

1 management, so this is sub-set of the full cabinet  
2 committee, and they look at emergency management  
3 specifically.

4                   They will convene, and we do  
5 convene them from time to time, and we will discuss  
6 issues both proactively and reactively on the issue  
7 of emergency management, and then that information  
8 -- and we share that and that information then gets  
9 up to the Premier and the Lieutenant Governor-in-  
10 Council, but that particular piece comes to and  
11 they get information from myself and the provincial  
12 emergency operation centre.

13                   So I'm also receiving information  
14 from my various ministries and the federal  
15 departments who comprise that provincial emergency  
16 operations centre.

17                   But what you're also seeing here  
18 is the connection with the nuclear installation --  
19 so you see that over to the right-hand of the sheet  
20 -- and how they connect in with our provincial  
21 emergency operations centre.

22                   But you also have the  
23 municipalities. So we get that from the facility  
24 but you also have the municipalities, and they're  
25 connecting, and they're connecting up in various

1 ways, both on the public information piece as well  
2 as operationally so that their centres, again,  
3 operating on an incident management system, are  
4 then connected up to our provincial system.

5                   Again, for us, the big piece here  
6 is common situational awareness. When I hear  
7 something or I'm communicating something to Cabinet  
8 and a policy decision is being made I want to make  
9 sure I have the best information possible. I want  
10 to make sure that that's the same information as  
11 the mayor, for example, of Clarington has gotten.

12                   As you can well appreciate, we do  
13 not -- absolutely do not -- want to have confusing  
14 messages. It's going back to safe, secure and  
15 resilient Ontarian, well, for me to get and achieve  
16 that vision I've got to make sure that folks are  
17 confident in the messages that we're sending out,  
18 so it's absolutely critical that we have that  
19 strong connection with our municipalities.

20                   And then you're seeing other  
21 entities that also exist during a nuclear emergency  
22 response.

23                   Now, exercises in terms, again,  
24 preparedness, this is very, very important to us,  
25 and I've spoken with the CNSC on this point,

1 appreciate that nuclear is one of those 37 hazards  
2 that we have in Ontario and, therefore, we have to  
3 look at other parts of the province in exercising  
4 them.

5                   That's why, for example, we take  
6 advantage of things like in the G20 to exercise  
7 things that are occurring in Central Ontario, or  
8 two years before that, as I mentioned, in  
9 Northwestern Ontario, using a major weather event,  
10 because in Ontario that is a significant hazard.

11                   But nuclear is also a hazard and  
12 it is to that end that we, again, develop  
13 exercises. So in 2005 we did one for Darlington,  
14 and lessons were learned and those lessons were  
15 applied to our implementing plan. So we were able  
16 to fold those in. And then come June of this year  
17 we begin the whole issue of developing, as well, an  
18 exercise related to a radiological emergency that  
19 would occur in Ontario, no. It's an exercise we  
20 don't want to give too much out to our players, but  
21 appreciate that it will involve radiological  
22 material.

23                   But we're looking at again, for  
24 us, and the focus for us in Emergency Management  
25 Ontario is the effects, the consequential effects

1 of that particular emergency.

2 Now, plans are also underway to  
3 exercise the new emergency public information  
4 component in June during OPG's exercise. So this  
5 is a new -- public information is really, really,  
6 an ever-evolving aspect to nuclear preparedness and  
7 response.

8 And so to that end, the province  
9 and our communications branch, because we are not  
10 communications experts, so we bring them in, and  
11 they've been working with the municipalities on  
12 developing a new arrangement.

13 So whereas we only had one place  
14 where we were sending information, we've now  
15 decided that it's probably best if we had two. One  
16 locally, because that's what folks want, for them  
17 to gain confidence and knowing exactly what's to be  
18 said, they want to hear from their head of council.  
19 And we appreciate that and recognize that.

20 But then there's also that other  
21 dimension at the provincial level, so we have  
22 another centre there. So, again, that's what we're  
23 going to test this year.

24 Now, in terms of public alerting,  
25 I think what's important that you appreciate here

1 in terms of public alerting, which is again  
2 different from public information, right? Public  
3 alerting is about the sirens and the Tonar radios,  
4 but in this case the nuclear emergency response  
5 plan requires that the entire primary zone, the PZ,  
6 and the entire population has to have been alerted  
7 within 15 minutes of that event being assessed and  
8 reported.

9                               So that is a condition within our  
10 response plan. So the population within that  
11 three-kilometre radius requires a very stringent  
12 notification due to the proximity of the hazard. I  
13 think that's pretty evident.

14                              So alerting for practically  
15 100 percent of that population, both indoors,  
16 meaning the Tonar radios, and outdoors in terms of  
17 sirens.

18                              Now, the population within the  
19 remainder of that primary zone, that's again from  
20 the three to ten-kilometre, would be notified in an  
21 area-wide basis. Again, there we're looking at  
22 sirens.

23                              OPG is required to, and has,  
24 resourced that system under the terms of the  
25 Nuclear Emergency Response Plan.

1                   In terms of specifics -- let me  
2 just go back to that page. Currently, there are 14  
3 sirens that have been installed within a three-  
4 kilometre area around, and surrounding Darlington,  
5 so that's that contiguous zone.

6                   Tonar radios, that's the indoor  
7 technology, have been purchased and are ready to be  
8 distributed.

9                   And again, as I told you before,  
10 we just received approval recently, the latter part  
11 of last year, on the new and improved implementing  
12 plan for Darlington, Pickering and Bruce. Within  
13 that plan, within those new plans, we asked that we  
14 also get public alerting to go from three, and we  
15 got it to go out to ten.

16                   And I say that we did not do that  
17 unilaterally; we spoke with the municipalities that  
18 were impacted. We spoke with the owners and  
19 operators. All agreed that it would make great  
20 sense in order to have a safe, secure and resilient  
21 Ontario and to gain that public confidence to  
22 expand that public alerting radius to ten  
23 kilometers.

24                   So, again, in speaking with Ivan  
25 Ciuciura from the Region of Durham, we understand

1 that they are now in process. So appreciate that  
2 it's for us relatively hot off the press, and so  
3 now they are underway, taking steps to now move  
4 form the three to the ten.

5                   Also, in terms of preparedness,  
6 the infamous KI thyroid-blocking, I guess what -- I  
7 want to put this in a context and, appreciate, I am  
8 not a physician and not a health professional, and  
9 so I will allow my colleagues from Ministry of  
10 Health and Long-Term Care to speak to this, or  
11 Health Canada.

12                   But the point here is that while  
13 the KI pills are important and we had them as a  
14 piece in terms of preparedness, for us, our big  
15 piece is avoidance. Let's get folks to avoid the  
16 radiation in any way possible, and then if we need  
17 and we do have this strategy in place, sure, we  
18 will use it. But again, for us, it's not the very  
19 first thing that we're saying, "Oh, this is it."  
20 Again, we reach out to our colleagues from the  
21 Ministry of Health to assist us in understanding  
22 exactly what is the most appropriate time.

23                   Again, what you were seeing in  
24 Japan, you were hearing that, "Exactly when do we  
25 take it?" And you also saw -- and for us this in

1 very important. Appreciate that we've been -- and  
2 I know from the CNSC's perspective, we've been  
3 learning a lot from that Japanese experience.

4                   But watching the reaction on the  
5 western part of North America, and you were seeing  
6 folks who were wanting KI pills, thinking that they  
7 had to take them.

8                   And that's important. That is  
9 something that we are now learning from, because  
10 this is what you're going to hear. You're going to  
11 hear the folks from Kenora, saying, "So should I be  
12 taking KI?" And we need to have a message out to  
13 them. It's important, again, to maintain that  
14 confidence, public confidence.

15                   So as you know, KI pills provide  
16 that measure of protection from thyroid cancer by  
17 saturating the gland with regular iodine, not the  
18 radioactive kind. And then therefore it allows it  
19 -- as it says, it blocks the radioactive iodine.

20                   Now, Durham Region must facilitate  
21 the availability of KI pills for primary zone  
22 institutions and emergency centres, as well as any  
23 member of the primary zone who wishes to possess a  
24 supply.

25                   OPG is responsible for procuring

1 it. So OPG buys it; Durham then distributes it.  
2 What I can tell you is that's been done. So the  
3 retirement homes, long-term health care facilities,  
4 reception centres, schools, community centres, and  
5 some pharmacies -- there are designated pharmacies  
6 -- all have potassium iodide pills that, again, in  
7 the case of an emergency, can be given to everyone  
8 within that primary zone. So we've covered that  
9 way.

10 Now, moving from preparedness, I'm  
11 now moving into response.

12 The red area you're seeing there  
13 is the exclusion zone. So this is the onsite area.  
14 It's inside the station boundary. That is not --  
15 and just to be very clear in terms of the Nuclear  
16 Emergency Response Plan, that is the domain of CNSC  
17 and the owner-operator. They're the ones who take  
18 care of that.

19 We count on them to take care of  
20 that and provide us with information so that we're  
21 then better able to manage the consequential  
22 effects that go out into the other areas, so from  
23 three and all the way up to 16, and those are the  
24 areas.

25 Now, clearly there are lake

1 sectors, as you can see, but we have the contiguous  
2 area and that's in that three-kilometre zone, and  
3 then the primary zone which is at 10 kilometres.

4                   For Darlington, in that contiguous  
5 zone, we're looking at about 1,500 people. Now, as  
6 you know, that's today. But we have always looked  
7 outwards and studies have been done outwards to  
8 2025, and so we have that kind of information, as  
9 well as in the primary zone, where you have  
10 currently 118 and how that's going to increase up  
11 to 2025.

12                   And then there is, again, a  
13 secondary zone, and where ingestion control  
14 measures may be required. So things like milk,  
15 things like produce, and measures that we will put  
16 into place to make sure that that material is not  
17 ingested or sent outside the zone, should there be  
18 a nuclear emergency impacting those particular  
19 areas or sectors.

20                   And so here you are, in a  
21 graphical representation, this is what it looks  
22 like in terms of response on the next slide.

23                   Now, in terms of response, there  
24 are certain rules to this approach and to our plan.  
25 Number one, OPG must notify both the province and

1 the Region of Durham within 15 minutes of  
2 recognizing that an event has occurred. So once  
3 they're done that assessment and recognized there  
4 has been an event, they've got 15 minutes to get  
5 that information to us.

6 OPG also accomplishes that  
7 notification by communicating one of four  
8 notification categories which denotes the severity  
9 of the incident.

10 So again, here, that's our plan.  
11 So we have -- depending on the incident, we could  
12 be reportable all the way up to that emergency.  
13 But they, again, are telling us -- appreciate that  
14 from us and the province, while we do have nuclear  
15 scientists on staff, we count on the folks with  
16 that expertise from CNSC to the owners and  
17 operators, to provide us with that detailed  
18 information as to not what the cause is, but what  
19 the possible effects would be, and then that's what  
20 we run on, and that's what we're trying to manage,  
21 is the consequential effects.

22 The province, in turn, decides on  
23 the response level to be adopted and within 15  
24 minutes notifies Durham region, and the response  
25 level is then adopted. So it's a cycle, and we

1 provide it back.

2 I think what's important also to  
3 note is that we also have an arrangement with the  
4 Geological Society. And so what we do is anytime  
5 there is an earthquake of a magnitude 5 or higher  
6 within 500 kilometres of any nuclear facility in  
7 the -- any nuclear facility in the province, they  
8 tell us.

9 And then what we do -- when I say,  
10 us, my apologies, to be clear, they tell Emergency  
11 Management Ontario. And then our duty officer who  
12 receives that information then gives a call to the  
13 impacted or affected nuclear generating stations or  
14 facilities and says, "This is what we've been told  
15 by the geological society; any impacts in your  
16 area?" And then we get the information and  
17 confirmation either way.

18 Now, the categories -- and I had  
19 mentioned these earlier, and here they are.

20 There's a reportable event and for  
21 us, are offsite. So that can -- that can happen,  
22 and we go to a routine monitoring.

23 When there's an abnormal event,  
24 then we go to enhanced monitoring.

25 If there's an onsite emergency, we

1 do a partial activation, and that's very, very  
2 important. Partial activation for us means we will  
3 bring in key partners. So we'll bring in the folks  
4 from Public Safety Canada. We'll bring in our  
5 partners from Agriculture, from Health, from Labour  
6 at the provincial level. And we'll bring them into  
7 our provincial emergency operation centre, and we  
8 begin to look at and assess what that onsite  
9 emergency -- what does that mean for us, and we  
10 begin the process of managing and responding to  
11 that emergency.

12                               If there's a general emergency,  
13 that's when we go to full activation.

14                               Now, also in terms of response,  
15 protective measures, it's all about minimizing the  
16 exposure to the radiation, to that hazard.

17                               And there are really two controls,  
18 and that's how we -- basically in the plan, how  
19 we've chunked them out. The one side is the  
20 exposure controls, things like evacuation. And, as  
21 I said, that's something that we think about and we  
22 look at very seriously.

23                               But we also consider sheltering.  
24 Again, depending on the nature of the emergency  
25 that has occurred, we then make that decision. Is

1 it best to keep folks in their homes, and so that  
2 when that -- that material falls from the sky that  
3 they're protected by their roofs? Or can we get  
4 folks out and away from the hazard?

5                   Then there's thyroid blocking,  
6 I've told you about that.

7                   Entry control, so not only getting  
8 people out, but making sure nobody comes in. And  
9 this is really important, and that's why for us at  
10 the provincial level -- and as you know, the 401 is  
11 one of the busiest arteries in North America. And  
12 so we need to consider, what does that mean, and  
13 how do we make sure that the many thousands of  
14 tractor trailers and cars that run that road east  
15 and west bound are protected? So we, again,  
16 minimize that entry control.

17                   And then there's decon. So once  
18 we've got those vehicles coming from the impacted  
19 area out and perhaps to reception areas, how do we  
20 make sure that they're properly decontaminated? We  
21 talk about that in our plan.

22                   And also the use of protective  
23 equipment, but then that's on the exposure side.

24                   Now, on the ingestion side is the  
25 controls measures we put into place, both for --

1 well, not both, but for water, for milk, for the  
2 pastures that have perhaps been impacted, to  
3 produce and crop, livestock, food, and other kinds  
4 of land, not pasture, but just simple land, and  
5 environmental decontamination.

6                   So these are all things that we  
7 talk about within the nuclear emergency response  
8 plan.

9                   Now, in terms of evacuations and  
10 sheltering, and I mentioned this, we currently have  
11 developed an evacuation strategy that is related to  
12 those sectors where projected doses are expected to  
13 be prescribed evacuation action levels. So we've  
14 got those identified within the plan.

15                   And there's also a joint traffic  
16 control plan that speaks to how we're going to get  
17 folks out.

18                   But we also appreciate that what  
19 we were going to get and why we have this strategy,  
20 it's not just a single strategy that will work.

21                   We do recognize that individuals  
22 will self-evacuate. The first sound of this kind  
23 of a thing happening, there are going to be certain  
24 individuals who will say, you know what, I'm  
25 leaving. And that's okay. We appreciate that, and

1 we've taken that into account.

2                   So within our strategy and within  
3 the estimated times of evacuations, we've taken  
4 those pieces into -- into consideration.

5                   Now, sheltering, here again  
6 depending on the circumstances, that's where the  
7 direction would come to folks within, be it, the  
8 contiguous zone, and perhaps the primary, to  
9 shelter. So we have those.

10                   Thyroid blocking, as I mentioned,  
11 we are not the medical specialists, and we count on  
12 our Ministry of Health and Long-Term Care to  
13 provide detailed guidance regarding the  
14 administration of KI pills.

15                   Again, as you know, some years  
16 back there were issues about what kind of KI dosage  
17 should a child or an infant take in terms of vis-a-  
18 vis the adult dosage, so those kind -- that kind of  
19 information was folded into our plan.

20                   Now, communicating emergency  
21 information, again, this is important. The  
22 province does issue bulletins and advises the  
23 affected public on measures they need to take.

24                   But, as I said to you earlier,  
25 there are two centres. There is one locally, and

1 there's also one provincially.

2                   Appreciating that locally folks  
3 are going to hear from their local elected  
4 officials. Those -- the police chief from Durham  
5 region, the fire chief, they're going to want to  
6 hear from those folks. That's who they gain their  
7 confidence and comfort with, not from Dan Hefkey,  
8 because they know those folks. They're local.  
9 That's who they have confidence in. That's what we  
10 acknowledge, and we want to promote.

11                   But we also appreciate that this  
12 has a provincial implication, and that's why we  
13 have that provincial centre as well. So we're  
14 talking about this and the impacts on the province  
15 because it isn't just about Durham region. It's  
16 also about the consequential effects beyond those  
17 borders.

18                   Now, the impact of the Darlington  
19 new build now. The planning basis for the current  
20 PNERP was based on probabilistic risk assessments  
21 conducted by the nuclear facility to determine  
22 potential nuclear accident scenarios for the four  
23 existing Darlington reactors. So we're looking at  
24 what currently exists, like the current can-do  
25 nuclear technology.

1                   So as such, the planning zones  
2 were defined. And I know we'll probably get into  
3 this in terms of why did you decide on ten and  
4 three and that?

5                   Again, those were all based, not  
6 on ourselves, but were based on studies that go  
7 back 20 years and that speak to this and that have  
8 been subsequently reviewed, and the data has been  
9 corroborated. And the -- so those zones are okay.  
10 They are still valid. And so that's what we've  
11 been working on.

12                   So, again, appreciate that we went  
13 out, reached out and asked folks, the experts in  
14 the field, to tell us about this, so experts from  
15 the University of Toronto as well as some other  
16 areas.

17                   But they provided us with, again,  
18 that is how because of those zones; we were then  
19 able to develop those preparedness measures.

20                   And there are, in fact, zone  
21 specific response measures to protect public safety  
22 going -- going back. That is what it's all about,  
23 protecting the public.

24                   Now, while it's expected that the  
25 principles of emergency management as currently

1 prescribed by the PNERP will remain essentially the  
2 same, new and yet-to-be-determined reactor  
3 technology will likely result in changes to that  
4 risk assessment.

5                                 Both myself and my staff felt  
6 very, very strongly that we needed to communicate  
7 that to you, that -- appreciate that, as you heard  
8 before about our implementing plans -- and that's  
9 why we were able to speak with Cabinet and get this  
10 kind of regular cyclical updating, is that we  
11 recognize, as do our partners on our nuclear  
12 emergency committee -- is we need to look at this,  
13 and as we look at it, we need to adapt and adopt.  
14 So whatever is happening, you need to share that  
15 with us so then we can adapt our plan. So  
16 appreciate that when I talk to you today. I'm  
17 talking about what is here today.

18                                 Both myself and the staff at EMO  
19 who are responsible for this file appreciate that  
20 that could change in time, and that's okay. If it  
21 does, you just tell us, and we'll get those studies  
22 done, and we'll -- and then we will adapt the same  
23 way as it says here, we'll continue to work closely  
24 with our partners to ensure that those changes are  
25 properly reflected within the nuclear emergency

1 response plan for the province.

2 So, summary, we work with the  
3 communities to create a safe and secure Ontario.  
4 That's what's important to us.

5 The chief has a legislated mandate  
6 to coordinate emergency management programs across  
7 the province, not just here, but across the  
8 province.

9 An approved plan is in place to  
10 respond to a nuclear emergency at Darlington today.  
11 As I mentioned to you, that approval came from the  
12 highest level of government, our Cabinet --  
13 provincial government, our Cabinet.

14 The province will work closely  
15 with all stakeholders to determine the appropriate  
16 modification to the Darlington implementing plan  
17 should changes be required as a result of new  
18 nuclear -- I'm sorry -- reactor technology -- be  
19 put into Darlington.

20 And that is my presentation.

21 CHAIRPERSON GRAHAM: Well, thank  
22 you very much for a presentation which I'm sure  
23 will be helpful to the panel.

24 And I'm going to start off with  
25 some questions now from panel members, and I'll go

1 to Mr. Pereira first.

2 --- QUESTIONS BY THE PANEL:

3 MEMBER PEREIRA: Thank you, Mr.  
4 Chairman, and thank you for that excellent  
5 presentation.

6 With any plan, the real proof is  
7 when it's tested or implemented in a real accident,  
8 but I see from your presentation that you had a  
9 major, full-scale exercise at Darlington in 2005.

10 What were the principal  
11 conclusions and lessons learned from that exercise,  
12 and what actions did EMO take arising from that  
13 exercise?

14 MR. HEFKEY: Oh, thank you. I  
15 don't even need the button now.

16 So the three points, Mr. Pereira,  
17 the three -- I guess the three major lessons  
18 learned that have been now applied.

19 One was that emergency information  
20 piece that I mentioned in my presentation; is that  
21 whole concept of -- because at the time, in 2005,  
22 we were only going with one emergency information  
23 centre.

24 So you can well appreciate -- and  
25 again, it was a simulation, but what we looked at

1 as we thought about it was, can you imagine a real  
2 situation? You're going to be getting folks going  
3 outwards and here we have provincial officials  
4 trying to go against the stream, if you will.

5                   And so we said, you know what, we  
6 can do work on that, hence the reason why we now  
7 have two centres. That was lesson learned number  
8 one.

9                   Lesson number two was around  
10 evacuations and, again, you have to appreciate my  
11 bias from my policing background; was this whole  
12 issue of evacuation and can we do this.

13                   And what we did was -- and with  
14 all exercises -- we try, in some cases, stress it  
15 to the point where it will break in a simulated  
16 way.

17                   And so we created during the  
18 exercise a number -- and now I'm remembering -- a  
19 number of different breakdowns; a bridge for  
20 example that would normally not hold the weight of  
21 a tractor-trailer now having traffic from those  
22 kinds of tractor-trailers going back-and-forth and  
23 then collapsing that particular bridge and then  
24 causing traffic chaos.

25                   So what that did was then cause



1 MR. BEAUDIN: For the record,  
2 Bernie Beaudin.

3 From the 2005 exercise we learned  
4 that our role at the provincial emergency  
5 operations centre was very detailed so we needed  
6 some training in that area. So, basically, that  
7 was one of the first things that we learned.

8 The other thing was the internal  
9 procedures that we had in our communications area,  
10 we needed to expand a bit on that as well.

11 The partnership with the federal  
12 nuclear emergency preparedness, public safety, it  
13 had to be enhanced as well.

14 So those were the three main keys.

15 MEMBER PEREIRA: Thank you.

16 And OPG?

17 MR. SWEETNAM: Albert Sweetnam,  
18 for the record.

19 I will ask Rick Bell to respond.

20 MR. BELL: Yes, Rick Bell, for the  
21 record.

22 As in all our exercises, we always  
23 strive for continuous improvement.

24 In the 2005 exercises we took some  
25 various actions out of that that we have also

1 implemented.

2 Public information, we have  
3 established a new crisis communication program that  
4 was started based on that exercise.

5 We have a new safety management  
6 software program called WebEOC to enhance the  
7 method in what we communicate, either internally  
8 and externally, and that is now been in place. And  
9 that was a result of that exercise and other drills  
10 and exercises within the plant.

11 And we also have a new  
12 notification system that is now in place within  
13 OPG; that we notify our emergency response  
14 organization much more effectively and efficiently,  
15 and those types of things come out of that exercise  
16 as well as the drills.

17 We also have exercising drill  
18 reports that go into more specifics and we can make  
19 that available if you wish.

20 MEMBER PEREIRA: Thank you.

21 I'd like to go on to alerting  
22 next, but I was pleased to note that you tested out  
23 the evacuation because earlier in this hearing I  
24 and my colleagues asked questions about the  
25 predictions for evacuation following an

1 hypothetical accident at the Darlington facility.

2                                 So going on to alerting, and you  
3 spoke about the different measures taken to improve  
4 the efficiency of alerting.

5                                 Now, the system, I presume, is  
6 still in the process of being installed, the  
7 expanding to the 10-kilometre radius.

8                                 How does EMO plan to test the  
9 alerting on a periodic basis because, clearly, if  
10 the system is functional today it may not be as  
11 effective in five years time because of  
12 obsolescence or the public losing interest in the  
13 devices or whatever.

14                                 So how would you plan to ensure  
15 that the public remains aware and is responsive to  
16 the measures you have in place for alerting?

17                                 MR. HEFKEY: Yes, thanks for the  
18 question.

19                                 So when we're talking about, as  
20 you were saying, in terms of ongoing -- how can I  
21 put it -- confirmation that we do have good, sound  
22 public alerting, and that's where in terms of our  
23 plan we require the municipality to be the one to  
24 do that.

25                                 So, again, I would ask that we

1 direct that question to the -- yeah, the  
2 municipality of the Region of Durham on how they  
3 plan on testing it.

4 For us, what our point and our  
5 baseline was, okay, we need in our new plan, we  
6 need to have that alerting out to 10 kilometres.

7 You, Durham, we'd like you to now  
8 tell us how you're going to do that because we're  
9 not that prescriptive; the province is not so  
10 prescriptive. All we need to do is provide the  
11 baseline or the reference points and then we ask  
12 Ivan and his group to then work on that.

13 And it's my understanding that  
14 that's what they've been doing.

15 MEMBER PEREIRA: Is anyone from  
16 the municipality here to be able to respond?

17 CHAIRPERSON GRAHAM: One gentleman  
18 is -- do you want to take the mic at the back, sir?

19 MR. WEIR: Gord Weir, for the  
20 record. I'm the fire chief here in Clarington.

21 At Durham Emergency Management  
22 Ontario, Ivan, they have a process. Our sirens are  
23 tested, I believe it's monthly. It's not -- they  
24 have tested for the loudest but they can do what  
25 they call a "silent test" to make sure that each

1 siren receives the signal and is able to alert.

2 I'm not sure though if anybody  
3 from the Region is here to qualify that, but I know  
4 our sirens are active right now.

5 CHAIRPERSON GRAHAM: Thank you for  
6 that information. Mr. Pereira?

7 MEMBER PEREIRA: Thank you. I'll  
8 go on to a different topic.

9 In your coverage of what would  
10 happen in an emergency at the different levels of  
11 activation, I didn't see any details on medical  
12 facilities, like hospitals, that would be -- that  
13 receive casualties or people who receive doses how  
14 is that covered? Is that something that has been  
15 planned and is kept up-to-date in terms of knowing  
16 what the expectations are?

17 MR. HEFKEY: Actually, for me,  
18 there are actually two aspects I'd like to bring to  
19 your attention, and I go back to this, for me, is  
20 what I call shared accountability framework, so I  
21 look to my colleagues at the Ministry of Health and  
22 Long-Term Care. So Allison Stewart is the  
23 Assistant Deputy Minister responsible for the  
24 Emergency Management Unit within the -- within the  
25 ministry, and her and our Chief Medical Officer of

1 Health work on these points.

2                                 The two I'd like to bring to your  
3 attention, and, again, I would ask that you speak  
4 with them for more detail, but the pieces that we  
5 know are, number 1, is that they, the Ministry of  
6 Health and Long-Term Care, have what is called an  
7 Emergency Medical Assistance Team, EMAT for short,  
8 and that EMAT, we actually tested as a -- as I was  
9 mentioning, we had an exercise in Thunder Bay, so  
10 we actually deployed it. They actually -- in fact,  
11 in real life, they deployed it.

12                                 If you remember, there was an  
13 incident, a fire that occurred in a hospital in  
14 Sudbury a couple years ago. They actually deployed  
15 the EMAT to, again, assist in the consequential  
16 effects on that -- on that facility, so we do have  
17 that, so that's number 1.

18                                 Number 2 is the chem bio  
19 radiological nuclear explosive capacity  
20 provincially. And to that end, on the medical  
21 side, that's where Allison and her team are  
22 building that capacity. So currently within the  
23 province we have three teams; one in Toronto, one  
24 in Ottawa, also one in Windsor, and those are level  
25 3 teams so they provide us provincially with a

1 CBRNE response capability.

2 MEMBER PEREIRA: Thank you. And my  
3 final question is -- concerns the planning basis,  
4 and you said it's based on a probabilistic risk  
5 assessment. Can you tell me a bit more about how  
6 that is rolled out?

7 MR. HEFKEY: Sorry, I've been  
8 reminded, Dan Hefkey for the record. So the --  
9 good staff. So the point, Mr. Pereira, to this is,  
10 first off, is that we get information from the  
11 owners and operators. That information is then  
12 validated by organizations, like I know I was  
13 mentioning about the University of Toronto, some of  
14 the experts there. One of the other organizations,  
15 and I apologize I didn't mention it at first, was  
16 the Royal Society of Canada as well as the Canadian  
17 Academy of Engineers. So they, back in 1996, for  
18 example, were the ones who validated the  
19 information that was being received by the owners  
20 and operators of the facilities, and then we then  
21 take that information and then translate that into  
22 our plans and exactly how we will respond to the  
23 consequential effects. So that's how we make those  
24 determinations.

25 MEMBER PEREIRA: Thank you.

1                   CHAIRPERSON GRAHAM: Thank you  
2 very much, Mr. Pereira, and thank you, Mr. Hefkey,  
3 for those responses. Now I'll turn to my other  
4 panel member, Madame Beaudet.

5                   MEMBER BEAUDET: Thank you, Mr.  
6 Chairman. You said that there was a sub-cabinet  
7 committee. In case of an emergency, would it be  
8 the PM who is the -- has the lead role?

9                   MR. HEFKEY: So the quick answer  
10 is yes. The -- just to give you a bit more, in  
11 terms of the cabinet committee in its --

12                  CHAIRPERSON GRAHAM: Identify  
13 yourself, if you don't mind, each time, because  
14 when the -- it's when they do the transcript.

15                  MR. HEFKEY: Sorry, Your Honour.

16                  CHAIRPERSON GRAHAM: No, when they  
17 do the transcripts, they have to know.

18                  MR. HEFKEY: Yeah, that's right.  
19 So for the record again, Dan Hefkey. So, again,  
20 just to put a point on it, the composition of the  
21 cabinet committee on emergency management is  
22 chaired by the premier. There is also a vice-chair  
23 should the premier not be available, and that is,  
24 again, designated depending on the cabinet  
25 composition.

1                   And then there are a variety of  
2 both ministers, so my Minister for Community Safety  
3 of Correctional Services, Health, Attorney General,  
4 Ag Food Rural Affairs are all on it, but as well,  
5 we have other non-minister members on that sub-  
6 cabinet committee.

7                   MEMBER BEAUDET: Thank you. We  
8 know that at the federal government it's Health  
9 Canada, but I believe Environment Canada already --  
10 also has a role, and I think we have someone today  
11 with us who can explain a bit more the role of  
12 Environment Canada, please.

13                  MR. CLEMENT: Hi. For the record,  
14 I'm Steve Clement, I'm with Environment Canada.  
15 I'm the Regional Environmental Emergencies  
16 Coordinator, and we're located in Toronto. I was  
17 asked to come here to answer some of your  
18 questions. You're asking Environment Canada's role  
19 in emergency management, but can I ask you just to  
20 be a bit more specific in terms of what aspect of  
21 emergency management?

22                  MEMBER BEAUDET: Well, what are  
23 the aspects? We heard yesterday that you would  
24 have -- for instance, you would monitor air  
25 pollutants because you have the proper models. I

1 believe also climatology is probably under you or  
2 is it in R-Can to see where -- which way the winds  
3 are going and (inaudible).

4 MR. CLEMENT: For the record  
5 again, Steve Clement. We have the Federal Nuclear  
6 Emergency Response Plan, and Health Canada is the  
7 lead for that. Environment Canada feeds into  
8 Health Canada providing modeling services taking  
9 into consideration the atmospheric conditions.

10 MEMBER BEAUDET: And you would be  
11 called automatically? How does it function? And  
12 you give advice to the Province of Ontario? I'd  
13 like to hear a bit more about the process.

14 MR. CLEMENT: Okay. Steve Clement  
15 for the record again. I'll back up a bit. I'm  
16 going to go a bit more over some of the prevention,  
17 preparedness, response, and recovery aspects of  
18 Environment Canada. It applies to primarily  
19 hazardous materials, non-radionuclides. The  
20 Federal Nuclear Emergency Response Plan deals more  
21 with the major releases of nuclear releases type  
22 aspects.

23 So the program with Environment  
24 Canada Environment Emergencies, again, look at  
25 prevention, preparedness, response, and recovery.

1 Our prevention efforts are largely focused on two  
2 aspects. One is when we're doing environmental  
3 assessments, these kind of processes where we're  
4 looking at the facilities which are being  
5 constructed, we're looking at providing advice on  
6 regulatory or process management, emergency  
7 planning kinds of recommendations.

8                   The other aspect of prevention is  
9 something called environmental emergency  
10 regulations, which I believe was also mentioned in  
11 the past few days at one point. That regulation  
12 looks at facilities across Canada. It looks at  
13 certain facilities with quantities on site of  
14 certain substances, as an example: propane. It's a  
15 hazardous material. If it -- if there's a --  
16 sorry, a facility with a container over four-and-a-  
17 half tonnes, they'll have to provide to us  
18 information advising us of that, they'll have to  
19 communicate with their communities, they'll have to  
20 prepare environmental emergency plans, which looks  
21 at their controls and how they are going to ensure  
22 the safety of the people off their property.

23                   Propane is one example, hydrazine  
24 is another one, 6.8 tonnes. Gasoline is at 150  
25 tonnes, chlorine is 1.13 tonnes, so there's many

1 different substance facilities such as Darlington  
2 may -- at this time have not registered with us in  
3 terms of having those quantities, but with an  
4 expansion, maybe they will. We do not know that at  
5 this time.

6                   The E2 Regulation does not cover  
7 radionuclides; it does not deal with those.  
8 Canadian Nuclear Safety Commission is the one that  
9 primarily deals with control of the radionuclides  
10 at the federal level.

11                   I mentioned prevention; there's  
12 also preparedness. We're involved with the  
13 Ministry of the Environment and many communities in  
14 terms of exercises, preparing with them, planning  
15 them, and participating in them, and that's mostly  
16 to do with spills of oils and chemicals to the  
17 lakes or to the lands and at federal facilities.

18                   The nuclear plants have various  
19 other substances on site, various kinds of oils and  
20 chemicals, and so we will be involved with them at  
21 the time -- in some of the exercises that they may  
22 run.

23                   Part of preparedness and verging  
24 into response are notification procedures. Dan  
25 Hefkey mentioned the requirements for OPG to notify

1 the provincial government when there is an incident  
2 and there's a certain timeframe for that.

3 It's actually one of the few times  
4 when there is a time requirement, which is nice to  
5 see, because in most cases it's as soon as  
6 possible.

7 So when we're given such serious  
8 incidents that may involve radionuclides, it's good  
9 to have that time requirement. Oils and chemicals  
10 it's as soon as possible. Usually that is within  
11 an hour though. They're very, very quick.

12 In Ontario, we have arrangements  
13 between Environment Canada and the Ministry of the  
14 Environment where the Ministry of the Environment  
15 is the first taker of those calls.

16 Industries like OPG, any other  
17 company, they report to the Spills Action Centre.  
18 It's a 24/7 operation and the Spills Action Centre  
19 and the provincial -- sorry, Provincial Emergency  
20 Operation Centre are in close communication because  
21 there will communications on instance coming in  
22 from both channels. They're both very closely  
23 connected for communications electronically and  
24 voice.

25 So any industries which have to

1 report under federal requirements for releases of  
2 hazardous materials will be reporting to the Spills  
3 Action Centre. Environment Canada has people on  
4 call 24 hours a day. Our meteorological centre is  
5 available for the modelling 24 hours a day and the  
6 calls will come from the Spills Action Centre to  
7 Environment Canada under that agreement.

8                   If there is an incident linked at  
9 Environment Canada legislation being the *Fisheries*  
10 *Act* or *Canadian Environmental Protection Act* of  
11 1999, Environment Canada's key role is going to be  
12 providing the responsible parties -- that would be  
13 the facility operator or lead agency such as the  
14 Ministry of Environment or Canadian Nuclear Safety  
15 Commission or Health Canada maybe or Canadian Coast  
16 Guard -- advice on hazardous material properties,  
17 fate and effects, behaviour.

18                   Depending on the situation, if  
19 it's going to the Great Lakes, we will be probably  
20 running dispersion modelling of that substance to  
21 see how far it's going to go and over what  
22 timescales.

23                   We look at response strategy  
24 development, cleanup priorities, sampling and  
25 monitoring requirements, those kinds of assets, and

1 we'll be helping also the operator with that.

2                                   Again, I just want to back up.

3 This is not so much -- this is not dealing with  
4 major nuclear emergencies. This is the oils and  
5 chemicals or small-scale radionuclide releases that  
6 happen not necessarily from the reactor but from  
7 other aspects of the operations of the facilities.

8                                   There are some circumstances where  
9 we'll be providing advice to the responsible party  
10 if there's also this situation if they don't -- if  
11 they're not willing or they're not able, then  
12 Environment Canada, as Ministry of Environment or  
13 other agencies can do is require them -- make the  
14 requirements for them to do that in the form of  
15 directions or orders and if they aren't able to do  
16 that, undertake those activities themselves and  
17 recover the cost.

18                                   I mentioned earlier about the  
19 Canadian Meteorological Centre and I believe  
20 they've been discussed in the pass in terms of  
21 their services and how they fit into the Federal  
22 Nuclear Emergency Response Plan that's led by  
23 Health Canada.

24                                   MEMBER BEAUDET: Thank you.

25                                   So if I understand well, where is

1 the role of CNSC? Are you falling under also  
2 Health Canada or are you working as completely co-  
3 presiding the federal response?

4 MR. HOWDEN: Barclay Howden  
5 speaking.

6 I'll give a little oversight and  
7 I'll ask Bernie Beaudin to fill in the details but  
8 depending on the nature of the event, we could be  
9 working under the Federal Nuclear Emergency Plan if  
10 it was activated and then the federal family works  
11 together to be able to deliver advice and  
12 assistance to a province under that umbrella.

13 If there's events that don't  
14 require the activation of that, then we have other  
15 means in which to provide that.

16 So basically our role during a  
17 nuclear emergency is our regulatory role remains  
18 unchanged. We continue to have oversight of the  
19 licensee, basic with the focus to ensure that they  
20 are implementing their emergency response plans  
21 that they have developed and exercised.

22 We also have a role to communicate  
23 outwards to the public on the event. We have a  
24 role to analyze because we have technical resources  
25 that we can bring to bear, areas in nuclear safety,

1 health, dose predictions and those types of things,  
2 and we have an advisory function that we can  
3 provide to provincial agencies or federal agencies.

4                   If there is an activation of the  
5 provincial plan, we have staff -- first of all, we  
6 have staff at the site because we have site  
7 inspectors. They would go in and embed themselves  
8 in OPG's Emergency Operation Centre. So they would  
9 have access to raw data that we could look at and  
10 do some validation of the work that OPG was doing.

11                   We send staff to the provincial  
12 operation centre to do liaison and technical work.  
13 We send staff to the government operation centre.  
14 Regardless of whether FNERP is activated or not, we  
15 would send people there.

16                   Generally they're liaison people  
17 that we can provide technical advice through them  
18 to the government and we also have our own  
19 emergency operation centre that we activate. It's  
20 currently activated because of the events in Japan  
21 and it's running 24/7.

22                   Another important facet that we  
23 have is communication with the international  
24 community. We communicate with the IEA and get  
25 information back from them because they become the

1 clearinghouse internationally for information.

2                   For example, in Japan, rather than  
3 100 countries trying to get information, Japan  
4 supplies the information to the IEA and then they  
5 forward it out to everyone else.

6                   We also have a very unique or we  
7 have a unique relationship with the United States  
8 Nuclear Regulatory Commission where we exchange  
9 information bilaterally with them. Because they  
10 are a close neighbour to Canada, that is one  
11 conduit of information that we use. With that,  
12 they're able to provide information to their  
13 federal agencies.

14                   There's also many other bilateral  
15 arrangements that the provinces take with the  
16 neighbouring states and the federal government with  
17 the Government of the United States.

18                   So if you wanted anymore details,  
19 please pose the question and Mr. Beaudin can answer  
20 that.

21                   MEMBER BEAUDET: I don't know if  
22 my colleague has but for the moment, it's okay  
23 because I have other subjects also to cover.

24                   I'd like to go back to alerting  
25 and I understand that you have sirens that will

1 alert people up to 10 kilometres, but we've seen  
2 for instance in Japan, you know, the first thing is  
3 you evacuate but then also you tell people not to  
4 go out and stay in your house.

5                   How do you make people aware of  
6 exactly what they are supposed to do because if  
7 they hear the siren, how do they know if they're  
8 supposed to leave or stay?

9                   I mean this is one example but  
10 it's very difficult in terms of communication and  
11 you must know that you can have a broad campaign  
12 and you'll reach about 20 percent of the people.  
13 So how is that articulated?

14                   MR. HEFKEY: Dan Hefkey, for the  
15 record. Thank you, Madame Beaudet, for that  
16 question.

17                   What you have now described in  
18 your question is the transition between public  
19 alerting and public information.

20                   Alerting is important but what it  
21 also does -- and this is why it's always coupled  
22 with a strong public education component. You're  
23 right. When that siren goes off, what does it mean?

24                   What it means for folks who live  
25 in this community is that they are to go and listen

1 and that they are to go and listen to what the  
2 instructions are from their community officials.

3                   That siren doesn't say "leave".  
4 It's for them; they could decide to leave. But  
5 what it's saying is get further information.  
6 Something has occurred. We need you to go to your  
7 radio station and it will most likely be on  
8 television and get that information.

9                   Now, what I'd like to talk with  
10 you about is how we, within the province, are  
11 assisting in that regard.

12                   What we've done is we've come to  
13 discover, and as pretty well everyone around here,  
14 is that not everyone listens to a radio. Not  
15 everyone listens to a TV, that we need to broaden  
16 the reach of our messaging to get that infamous  
17 message.

18                   And I go to -- if you don't mind,  
19 I'd like to use the example of the Tokyo mayor  
20 giving the instruction to residents of Tokyo not to  
21 mix the local water in order to make baby formula.  
22 I think that was a couple three days ago now that  
23 that alert went out.

24                   So in this case, what you saw  
25 there was information being given by a credible



1 and also of the protective measure. So do we need  
2 you to shelter in place; do we need you to  
3 evacuate? So that's how we've done it in Ontario.  
4 That would be, as I mentioned to you before, that's  
5 the provincial strategy. We would apply that  
6 strategy in this particular case as well to get  
7 that information. So in addition to getting the  
8 siren activated, you would be getting the  
9 complementary instruction or protective action  
10 through a credible source. And we use our  
11 partnerships with folks like the Weather Network  
12 and the Ontario Association of Broadcasters to get  
13 that message out.

14 MEMBER BEAUDET: Thank you. The  
15 second point I'd like to look at is centres of  
16 population that you would have to evacuate. You  
17 have here on -- on your slide where you determined  
18 the different zones -- primary zones or contiguous  
19 zones, slide 20. We've discussed with the Ministry  
20 of Housing and Municipal Affairs and also with the  
21 municipalities yesterday in the Durham Region, a  
22 concern that there would be some potential living  
23 areas closer and closer, coming closer and closer  
24 to -- to the Darlington site. We were reassured  
25 that nothing of the kind would happen till 2031, I

1 think. I'd like to look with you, if you have -- I  
2 know the Minister of Environment has setbacks for  
3 other industries in terms of a buffer zone, and I  
4 was wondering if you do have advice that you give  
5 to the municipalities on that or if you have  
6 setbacks that -- that -- you know, you would advise  
7 them to -- to keep from a centre where, you know,  
8 there's a possibility of -- of an accident, and if  
9 you do have, we'd like to hear about it.

10 MR. HEFKEY: Dan Hefkey for the  
11 record. Madam Beaudet, the -- the answer to your  
12 question for us within the province, is that land  
13 use planning is the issue and is the purview of  
14 Municipal Affairs and Housing Ministry. They are  
15 the ones who provide us with that information.  
16 Again, depending on what they do and how they --  
17 how they did it, and you heard from the Ministry of  
18 the Environment as well with some of the stuff --  
19 some of the work they've been doing.

20 For us, we take that information  
21 and then adapt the plan based on those givens. We  
22 call them givens because it is something that,  
23 again, in -- you know, in good process, they would  
24 have consulted and done everything. And then it is  
25 for then -- for us to look at the consequential

1 effects of that particular development. So when  
2 you talk about setbacks, if that is how -- if -- if  
3 that is what is being suggested and what is being  
4 implemented, then we, in turn, adapt our plan to  
5 that particular reality, that given.

6 MEMBER BEAUDET: So if I  
7 understand, you have absolutely no influence on --  
8 on -- it's from past experiences. I mean, you --  
9 you're not on the advisory committee for planning  
10 and -- where you would say, you know, we would  
11 advise you to respect setbacks in your planning --  
12 you -- you usually take the situation as is?

13 MR. HEFKEY: Dan Hefkey for the  
14 record. Yes, Ma'am.

15 MEMBER BEAUDET: When we look here  
16 at the -- the exclusion zone is one kilometre,  
17 contiguous zone is three to four kilometres. You  
18 have a population of 1,500, as you said, this is  
19 for now. It will increase with time. You already  
20 have, let's say within the -- I think it's a  
21 kilometre or .5, you already have a school of 600  
22 children and 60 teachers that you would have to  
23 evacuate. And -- and that's not -- we're not  
24 looking here to -- I don't know how you call them,  
25 sectors. I mean, this -- this is not in sector

1 number 12, I mean, it's closer than that. It's in  
2 your sector number two. Do you have any special  
3 arrangements for, if you already have sensitive  
4 populations in -- in what would be even the  
5 exclusion -- well, not quite, on the border of the  
6 exclusion zone or contiguous zone?

7 MR. HEFKEY: Dan Hefkey for the  
8 record. So the -- the quick answer, Madam Beaudet,  
9 is that that is for the municipality so the  
10 municipality region of Durham, are the ones who  
11 then acknowledge these. And I -- and my apologies,  
12 I used the term vulnerable populations so those  
13 primary school children or if there is, for  
14 example, a retirement home or long-term care  
15 facility in that area, it is for them to decide.  
16 This goes to my whole point around exercising as  
17 well. While Durham would identify these -- these  
18 places, during the exercising we would talk about  
19 that, that particular reality, and the fact that  
20 they, in those areas, don't have access to a  
21 vehicle. So what do we do?

22 Now, I do know, again, from  
23 experience, that in fact there are arrangements  
24 that when those places -- thank you, yes -- that in  
25 terms of evacuation arrangements, when we talk

1 about those vulnerable populations, that, yes, that  
2 (a) we recognize them; we identify them, and then  
3 we -- very specifically, they will go to a  
4 particular reception centre. So to give you the  
5 example, and it's quite interesting, last week I  
6 was on a boat and we have the -- the evacuation  
7 drill there as well. And the same thing, within  
8 the -- the nuclear communities, and that is that  
9 that school, for example, is not waiting for the  
10 parents, while that does happen sometimes, but the  
11 game plan is to have those students get on a bus  
12 and that they be taken to a reception centre when  
13 -- again, when required and when instructed to do  
14 so, but that that's part of the plan. And so they  
15 would -- and so they would do that.

16 Did I answer -- my apology. I  
17 think I answered your question.

18 MEMBER BEAUDET: Yes, you did. My  
19 last point would be on evacuation. We have a -- a  
20 traffic update about -- a summary of -- rather  
21 recommended improvements that OPG has -- has  
22 prepared in -- in one of the technical support  
23 documents. We had confirmation with them that it  
24 would be over time up to -- I think 2021. I'd like  
25 to confirm with OPG that the evacuation activities

1 and planning and -- and the number of hours that  
2 they have arrived at, would be within the  
3 respective evolution of the road improvements?

4 MR. SWEETNAM: Yes, they will be.

5 MEMBER BEAUDET: Thank you.

6 MR. SWEETNAM: Sorry, Albert  
7 Sweetnam for the record.

8 MEMBER BEAUDET: So we -- we have  
9 here the evacuation planning on -- on the  
10 assumption that, you know, 401 eventually will --  
11 will have some improvements; the 407, et cetera, et  
12 cetera. For you -- do you -- do you study that?  
13 Do you make sure -- I mean, like, you had documents  
14 here, okay, and if this doesn't happen, it doesn't  
15 mean that everything is going -- everybody is going  
16 to be evacuated in nine hours. This is on the  
17 assumption that the road improvements are there.  
18 How do you deal with that situation because I mean,  
19 the road improvements, we already received notice  
20 that it may take some time?

21 MR. HEFKEY: Dan Hefkey, for the  
22 record.

23 Madam Beaudet, to your point, and  
24 that's where we go to our colleagues, to the  
25 Ministry of Transportation. So again, where KLD

1 Associates did those estimated time of evacuations,  
2 both -- and just to be very, very clear, we're  
3 talking about now, and they also looked at what was  
4 going to happen for 2025.

5                   And again there there were a  
6 number of operating assumptions and as you talked  
7 about, road improvements and road enhancements to  
8 the whole provincial grid were taken in.

9                   But that's where currently our  
10 colleagues at the Ministry of Transportation are  
11 actually looking at that. And it goes back to your  
12 other question with respect to land use planning.

13                   We then take that information,  
14 when we look at the Joint Traffic Control Centre,  
15 and that is then fed into that centre and we make  
16 decisions on how is it we're going to do those  
17 evacuations. What does this now mean; is there now  
18 a better alternative than using -- I don't know --  
19 a particular county road now that the new 407 has  
20 come to that point.

21                   So that information is -- you're  
22 absolutely correct, it is vital and that's why I  
23 keep going back to -- that's where, for us, our  
24 strength lies in that kind of close collaboration  
25 with our various ministries, is that they may

1 provide that to us.

2                               It would be impossible -- and  
3 also, it would not be very effective for us to be  
4 experts in traffic management.

5                               We have a whole ministry with  
6 staff, experts in that, in traffic flow and the  
7 management. Even on the policing side, we count on  
8 the MTO to provide us with that kind of expertise  
9 and so they would in fact be providing us with that  
10 information, again, both now and up to 2025, so  
11 those estimated times of evacuations.

12                              I guess my question would be did  
13 they -- have you been provided with those estimated  
14 times?

15                              MEMBER BEAUDET: They say that  
16 there were delays and these improvements are  
17 proposed from the time the site preparation, up to  
18 2021.

19                              So I think there is, to some  
20 extent, a concern in the evaluation of evacuation  
21 times if this is not implemented.

22                              My last point, and maybe it is  
23 more municipality's responsibility but you have a -  
24 - your slide number 10 here, municipalities  
25 expected to be hosting the evacuees.

1                   You must have some definitions on  
2 short term and mid term and long-term. If you have  
3 people, for instance, in the school, for a week --  
4 really it's long, a week, what do you for a longer  
5 term?

6                   Because if you're in a school and  
7 you have a thousand people or 600 people and  
8 there's about eight toilets, no showers, how do you  
9 react -- how do you plan this when you organize  
10 these things?

11                   MR. HEFKEY: Dan Hefkey, for the  
12 record.

13                   Thank you. That's actually a very  
14 -- I love that question and the reason why is  
15 because we have now experience from the non-nuclear  
16 experiences in Ontario that I can relate to you.

17                   And in fact, it's going to be --  
18 probably right now we're planning for it.

19                   Every year we have major flooding  
20 along the Moose, the Albany, the Attawapiskat  
21 Rivers that flow into James Bay in Northern  
22 Ontario. We have remote isolated communities  
23 along, and usually at the mouths of those rivers  
24 who are impacted. The residents of those  
25 communities are impacted and we evacuate them.

1                   To your point about short and  
2 long-term, and again, appreciate that for us we --  
3 you can only stay -- actually one of our other  
4 staff is actually -- he had come from Hungary and  
5 said that he had been in one of those gyms for many  
6 weeks and appreciates the reality of being in a  
7 situation like that for many weeks.

8                   So our plan and we look, again at  
9 our experience with evacuating flood victims is  
10 that we have folks in community centres as a first  
11 step. So again, remove them from the hazard, get  
12 them out as quickly as possible to somewhere safe  
13 and secure.

14                   So for the first two weeks the  
15 general population goes to a community centre which  
16 -- again, what we plan for and folks like Geraldton  
17 or Greenstone now, have developed whole systems to  
18 receive large populations. That's for the general  
19 population.

20                   What we've also done is we've  
21 provided a bit of a triage. So folks who are  
22 currently being care for in hospital and need  
23 ongoing medical attention, Ministry of Health,  
24 Orange Program evacuates them and takes them  
25 directly from the community and moves them into a

1 hospital-setting somewhere in Southern Ontario.

2                                 Then there are others, there are  
3 the elderly who need -- perhaps they're in home  
4 care right now but they need constant assistance,  
5 so they and their escorts are then provided with a  
6 hotel room.

7                                 But we don't stop there because we  
8 also appreciate that even with a flood -- so in the  
9 context of a nuclear emergency and you're -- as you  
10 know, pretty evident, that we're looking at the  
11 longer term.

12                                 And that's why at the provincial  
13 level that's where the strength really lays because  
14 now we're not just touching on, and you saw -- and  
15 thank you for that -- Peterborough, and York  
16 University and Sir Sanford Fleming, places like  
17 that, like those are transit points, if you will.

18                                 Now what we've come to discover  
19 from our situation, but as well as what we've seen  
20 in other incidents, non-nuclear, is that typically  
21 -- and this goes back to the ice storm of '98 as  
22 well, is typically folks, when given a choice, will  
23 stay somewhere but then they're looking for  
24 somewhere else, to stay with family, to stay with a  
25 relative or someone they know.

1                   And so really the populations that  
2 are impacted, for us, the estimates are now ranging  
3 in the 20 percent that need a facility.

4                   So that's both in the short as  
5 well as in the long-term.

6                   Now, when it comes to long-term we  
7 count on two things; provincially we look at what  
8 we can do to accommodate these folks on a longer  
9 term basis in other facilities.

10                  And that's where again we draw on  
11 the strength of other municipalities and the  
12 experience we've had with -- and you saw last --  
13 sorry -- not last year but the year before, when we  
14 moved folks from Northern Ontario, far north, into  
15 places like St.-Mary's and Stratford.

16                  Places that typically had not been  
17 host communities but had raised their hand saying,  
18 you know what, we want to see -- because if this  
19 were ever -- if something were ever to happen in  
20 our communities we'd like to see how well we could  
21 do and so they provided us with that.

22                  Now, the other piece that wasn't  
23 mentioned in my presentation and I'm sure you're  
24 very much aware, is the issue of long, long-term  
25 and that's where we look at the *Nuclear Liability*

1 Act and then that kicks in.

2 So the federal government now  
3 provides, in terms of long-term, provides those  
4 kinds of options of how are we going to  
5 reconstruct.

6 So not just recover but how are we  
7 going to reconstruct and that's where we count on  
8 our colleagues from the federal government to play  
9 that significant role.

10 That is already defined within  
11 that particular Act.

12 MEMBER BEAUDET: Thank you very  
13 much.

14 CHAIRPERSON GRAHAM: Thank you,  
15 Mr. Hefkey and thank you, Madam Beaudet.

16 Your enthusiasm impresses me as  
17 someone that is really trying to make this whole  
18 organization work and work successfully.

19 I had several questions and I'm  
20 not going to reiterate -- a couple of them were  
21 covered by Madam Beaudet.

22 One that concerns me though is, as  
23 a follow-up, yesterday, the region of Durham was  
24 here and we heard -- they represent I guess 620,000  
25 people and it's going to go to 900,000 by 2030 I

1 guess it is or somewhere like that which is -- and  
2 I use the parallel that that's more than the whole  
3 Province of New Brunswick in a very small area.

4                   But my concern is is that with  
5 your knowledge and with your experience and with  
6 your -- the planning tools you have, why you're not  
7 involved in that planning of development and so on,  
8 near a nuclear power plant, why you do not --  
9 you're told what's going to happen and you make it  
10 work. I think that's what you said today.

11                   That concerns me. It concerns me  
12 that you should be part of the solution and looking  
13 to the solution before your expertise is needed for  
14 a disaster or something that happened, and I'm  
15 wondering, is there any move towards having your  
16 department's expertise there right from the get-go  
17 as far as if there's planning with regard to  
18 development and so on, whether it's a one-mile,  
19 two-mile -- or one-kilometre, two-kilometre, three-  
20 kilometre radius and all that, that you have a say,  
21 and say, look, if you make that decision, here's  
22 the consequences, and so on?

23                   Do you have that -- do you have  
24 that ability? Are you recognized by the planning  
25 groups as being able to deliver your experience?

1                   MR. HEFKEY: Dan Hefkey, for the  
2 record. Thank you, Mr. Chair, for that question.

3                   So a couple things in -- in kind  
4 of reacting to your question. First, and I guess I  
5 just want to repeat the fact that we have a nuclear  
6 emergency management co-ordinating committee. On  
7 that committee sit municipal representatives as  
8 well as the owner/operators, as well as members of  
9 the provincial ministries and some federal  
10 departments. So we sit there. So I guess -- and  
11 my apologies if I'm making it sound like they're  
12 operating in isolation.

13                   What we tried to do in this shared  
14 accountability framework is that we mind our  
15 knitting, they mind theirs. We're not going to  
16 micromanage because they know best how their  
17 situation will play out. But with that said, I  
18 wouldn't want you to think that we're somehow, you  
19 know, just kind of walking down, you know, however,  
20 you know, the wind blows, we'll go with that. We  
21 do provide, through that emergency -- the nuclear  
22 emergency management co-ordinating committee, we do  
23 provide that opportunity for input.

24                   And it, again, goes back and there  
25 was one message I wanted to get across today was

1 that close collaboration we have. Like, we're on  
2 first name basis with the Ivans of the world. And  
3 we know what's happening, and some of the issues,  
4 and we do try and provide consultative services or  
5 expert opinion to them.

6                               But now to go to your -- the last  
7 part of your question, which spoke to the issue of  
8 the zones. Again, I go back to -- I've got a  
9 nuclear scientist who's -- who's on staff, but the  
10 information is information that is garnered from  
11 the owners and operators, and these independent  
12 groups who do the assessments. And what they're  
13 doing -- and again, I'm sure the panel is more  
14 familiar than I, but there are a number of factors  
15 that go into deciding how big of a radius. Hence  
16 the reason why for us it's different than it is in  
17 Japan as it is in Europe as it is in the US. Given  
18 the size of our nuclear generating station, the  
19 power out -- I'm sorry, the power that can be  
20 outputted from it, and its -- and the technology  
21 that's being used, they, the experts, confirmed by  
22 our EMO staff, and then pushed back again in  
23 looking at some independent assessors, said, you  
24 know what, this is -- this is what you need. You  
25 need to look at this, three and ten, and that's

1 where we went.

2 CHAIRPERSON GRAHAM: I guess what  
3 I wanted to hear from you and I guess you've said  
4 it, is that you can give advice, let's say, if --  
5 if the planning commissions make this decision,  
6 this is the consequences. Or if you make this  
7 decision, this is the consequences, and you're able  
8 to raise those alarm bells.

9 MR. HEFKEY: And if you don't mind  
10 -- sorry, Dan Hefkey, for the -- for the record.  
11 Mr. Chair, and the one piece I do want to say is,  
12 again, going back to, that is the strength and  
13 beauty of the relationships we have with our  
14 communities, is we are not at odds with them. They  
15 willingly come and contribute to our committees,  
16 and we are talking with them on a regular basis.  
17 And it isn't just on a quarterly basis, Cathy's  
18 talking to them on a daily basis.

19 CHAIRPERSON GRAHAM: Thank you.  
20 Another question, just -- and I don't want to --  
21 because time is going, in a short way a lot of  
22 discussion and a lot of debate -- not debate, but a  
23 lot of concern with regard to the events that  
24 recently happened in Japan. There is an ongoing  
25 lessons learned that will go on for a very long

1 time with regard to that involved by Government of  
2 Canada, by CNSC, by OPG, by a lot of different  
3 stakeholders. How do you -- how do you tie into  
4 this and how are you involved in these lessons  
5 learned to be able to put different things in -- in  
6 perspective for the -- for reacting here in Canada  
7 if ever you needed to have some sort of emergency  
8 plan with regard to a nuclear accident?

9 MR. HEFKEY: Thank you. Actually  
10 there's -- I'd like to make three points to this.  
11 Dan Hefkey, for the record. And my colleague from  
12 the CNSC mentioned this about their role that they  
13 play. So for me, one of the big pieces that we've  
14 learned thus far on the Japanese experience is  
15 exactly how information, good, confirmed, evidence-  
16 based information, so it's not coming from some  
17 other source, but it's coming from, you know, the  
18 authorities, how do we get that?

19 Well, I feel really good today to  
20 know that I can go to my -- and lean on my friends  
21 at CNSC or Public Safety Canada as well to talk  
22 about the CNSC, to talk about the nuclear piece,  
23 the technological piece. But from Public Safety  
24 Canada to also appreciate what's going on in terms  
25 of the -- how they're managing the consequential

1 effects. And Public Safety Canada has been  
2 providing regular updates, and I'm very, very  
3 comfortable with that because that is the role as  
4 set out in their plan and the way we've run it for  
5 others.

6 Now, in terms -- and so the second  
7 point I wanted to make was the fact that for me --  
8 and it goes to Madam Beaudet's question around  
9 public information. I am looking with great  
10 interest on how information is being communicated  
11 to the public and internationally because, again,  
12 but by the grace of God goes I.

13 And for me, as I look at that, I  
14 am looking at how the mayor of Tokyo, for example,  
15 is communicating to his residents. And how the  
16 Government of Japan, the ministers, are responding  
17 and communicating their pieces. To me that is  
18 absolutely critical that we do that.

19 My third point is that we are  
20 still -- and again, we are in early days. So we  
21 are all still collecting information and reactions  
22 to, you know, their decisions on how they did this,  
23 how they communicated a particular piece, and the  
24 apparent up and down, up and down of that infamous  
25 reactor or unit number 2. So to all that, when --

1 when things are much more stable, we are going to  
2 sit down collectively.

3 I feel very good about the fact  
4 that we have another organization that I chair  
5 currently. It's the Canadian Council of Emergency  
6 Management Organizations. This is a  
7 provincial/territorial organization, and I meet  
8 with -- on a regular basis I meet with my  
9 representatives from New Brunswick and from Quebec.  
10 So Ernie MacGillivray as well as our new -- we have  
11 a new member out of -- out of Quebec and we meet --  
12 and I've met with the previous from Quebec, but we  
13 talk about nuclear safety as well. And so we will  
14 take this opportunity to do just that.

15 CHAIRPERSON GRAHAM: Thank you.  
16 The only other question I have is a weak link, and  
17 that is my concern with regard to nine-hour  
18 evacuation plans and so on. Is the senior that  
19 doesn't have a car that maybe -- that lives alone,  
20 that doesn't have access; the single parent that  
21 may be at home with two children or so on that  
22 doesn't have a vehicle, and so on; the street  
23 people that are -- and -- or the population, the  
24 side of people that have no residence. How do you  
25 communicate with them and provide the necessary

1 evacuation methods? Is -- is there -- I don't need  
2 to go into detail, but I'd like to know, is there  
3 an plan for that type -- those type of people which  
4 I look at as the weak link at -- at evacuation?

5 MR. HEFKEY: Dan Hefkey for the  
6 record, and thank you, Mr. Chair, for that question  
7 as it relates to the plan. So -- and this goes to  
8 your -- the last question you asked.

9 This is, again, going back to  
10 talking with Durham, and yes, Durham does look at  
11 -- and I use the term "vulnerable populations."  
12 The homeless and others who, as you say, and just  
13 so you know, that during the 2005 exercise, that  
14 was my point as a -- at the time I was a police  
15 officer, was what do we do for that elderly couple  
16 who no longer drive? They can't. They're over 80,  
17 they couldn't pass that infamous test. And just --  
18 everybody's giggling because all of us have parents  
19 about that age now.

20 CHAIRPERSON GRAHAM: And -- and  
21 not only that, not -- not maybe even turn a radio  
22 on in the morning or television until after nine  
23 hours go by.

24 MR. HEFKEY: That's correct. And  
25 so -- and that's what Durham's doing. So know that

1 that -- that vulnerable persons population is being  
2 identified.

3 We also acknowledge the fact that  
4 that -- that population varies. It can change from  
5 today to next week, to next month, to next year  
6 because of, you know, just people moving, people  
7 passing away, et cetera.

8 And so that's what at the local  
9 level -- that's why I meant about the strength of  
10 having that partnership is, they know best.

11 At the province, I wouldn't be  
12 able to tell you about -- if my parents didn't --  
13 they don't live here, but if Mike's parents lived  
14 in this area, I wouldn't know where, at a  
15 provincial level, but at a local level, at the  
16 Durham Regional Police level, at the community  
17 level, they would know those things.

18 CHAIRPERSON GRAHAM: I have a note  
19 or an indication that Sandro Leonardelli had some  
20 very relevant information from Environment Canada  
21 to add to the information that's been presented and  
22 would like to go ahead.

23 So Mr. Leonardelli, the floor is  
24 yours.

25 MR. LEONARDELLI: Thank you.

1 Sandro Leonardelli, for the  
2 record.

3 So when Steve spoke, there was a  
4 lot of information presented, and unfortunately we  
5 don't have any slides to provide you with a quick  
6 summary, so I thought it would be important for  
7 your own clarify to summarize a few points.

8 So as Steve indicated, he manages  
9 a team that deals primarily with conventional oil  
10 and chemical spills, both in terms of preparedness  
11 and response.

12 Under our Canadian *Environmental*  
13 *Protection Act*, we have environmental emergency  
14 regulations that would apply to the Darlington new  
15 build project. We would evaluate the new build  
16 project to see if they have the quantities of  
17 substances that Steve mentioned a few examples.

18 If they meet certain quantity  
19 thresholds, then they would be subject to those  
20 regulations, but I emphasize that's for  
21 conventional chemicals, and some specific examples  
22 that might apply would be things like ammonia and  
23 hydrazine perhaps. So we'd have to evaluate that  
24 at a later date.

25 The other thing would be that in

1 terms of the radiological release scenarios,  
2 Environment Canada provides support to Health  
3 Canada by running computer models to predict wind  
4 patterns, and identify areas that might be affected  
5 by a radiation release.

6 Our Canadian meteorological centre  
7 is designated by the World Meteorological  
8 Organization as one of eight regional specialized  
9 meteorological centres around the world that could  
10 provide this type of expertise, and I would note  
11 that the CMC is prepared to provide that service at  
12 all times.

13 So for example, when the events at  
14 Fukushima were unfolding, the CMC began to run  
15 modelling to determine the dispersion that might  
16 affect Canada, dispersion of radionuclides into  
17 Canada from that scenario. So I just thought I'd  
18 provide that as a summary.

19 CHAIRPERSON GRAHAM: Thank you  
20 very much.

21 Mr. Hefkey, would you like to  
22 respond?

23 MR. HEFKEY: Dan Hefkey, for the  
24 record.

25 Mr. Chair, it wasn't a response;

1 it was actually just kind of to add to that point  
2 and to build upon a question that was asked by  
3 Madame Beaudet that I felt was important, again, in  
4 light of what was stated.

5                   Within our plan there are actually  
6 -- we have -- and, my apologies, I kind of glazed  
7 over this -- incident management system and its  
8 structure.

9                   You had asked and you had started  
10 the question asking about asking about our Cabinet  
11 Committee.

12                   Two levels down from that we have  
13 a scientific group within the Provincial Emergency  
14 Operations Centre. That scientific group actually  
15 has two functions. One is the -- and it's in the  
16 plan -- the Environmental Radiation Monitoring  
17 Group.

18                   That group is led by Health  
19 Canada, and what they do, and as it says here, it's  
20 responsible for planning, surveying fixed and  
21 aerial and ground monitoring activities, directing  
22 the radiation monitoring teams, federal, provincial  
23 and nuclear facilities and private sector.  
24 The teams are made up of those groups. I think  
25 that's important to note.

1                   There is also another subset of  
2   that scientific group that look at assurance  
3   monitoring, and that involves the folks from Labour  
4   who lead this, as well an Environment, AG Food,  
5   Rural Affairs, Health. Canadian Food Inspection  
6   Agency are also involved, as is Health Canada.

7                   So we bring them all together, and  
8   as the last intervenor spoke about the modelling,  
9   that's who we're connecting with.

10                  And that was your question, Madame  
11   Beaudet, is that's who we connect with. At the  
12   federal level we use our Health Canada connection,  
13   and they provide that kind of data back, and then  
14   we use it as we are also in our scientific group  
15   developing those models.

16                  CHAIRPERSON GRAHAM: Thank you  
17   very much.

18                  I'm going to go to OPG. Do you  
19   have any questions?

20                  MR. SWEETNAM: Albert Sweetnam for  
21   the record.

22                  No questions.

23                  CHAIRPERSON GRAHAM: CNSC, do you  
24   have any questions?

25                  MR. HOWDEN: Barclay Howden.

1 No questions, thank you.

2 CHAIRPERSON GRAHAM: Okay. with  
3 that, we have four registered intervenors, and we  
4 cut it off at the four, but I think we'll take a  
5 10-minute break and then come to the intervenors  
6 right after the 10-minute break.

7 Thank you very much.

8 --- Upon recessing at 10:33 a.m./

9 L'audience est suspendue à 10h33

10 --- Upon resuming at 10:48 a.m.

11 L''audience est reprise à 10h48

12 CHAIRPERSON GRAHAM: Will everyone  
13 please take their seats?

14 Before we go to intervenors, I  
15 generally call other government departments. I  
16 know that Environment Canada went to the mic. Are  
17 there any other government departments?

18 Then if there are none, we will go  
19 to intervenors, and the first intervenor on the  
20 list is Mr. Stensil of Greenpeace.

21 And since you are just the first  
22 time before us here, Mr. Stensil, just a couple of  
23 things. The questions all go through the Chair, if  
24 you don't mind and, secondly, please keep them as  
25 short as possible and to the point.

1     --- QUESTIONS BY THE INTERVENORS:

2                             MR. STENSIL:  Merci, monsieur le  
3  président.

4                             I have three questions, and the  
5  first one follows your line of questioning,  
6  Mr. Chair.

7                             While I appreciate the enthusiasm  
8  that we heard from Emergency Management Ontario,  
9  one word didn't come up and that was "Katrina."  
10  And following the Katrina disaster in New Orleans,  
11  there's been some interesting articles appearing in  
12  the academic literature that often refer to  
13  emergency planning documents as "fantasy"  
14  documents.  That's not my word; that's the word  
15  that's being used in academics, by academics.

16                            We're preparing certain documents  
17  that we want to believe we'll be able to implement,  
18  and that was one of the learnings that's coming out  
19  of New Orleans.

20                            And following through on that with  
21  the conclusions, is -- this is leading up to my  
22  question, sir ---

23                            CHAIRPERSON GRAHAM:  As quickly as  
24  possible.

25                            MR. STENSIL:  --- is that instead



1 that is why in Ontario we moved from plans to  
2 programs. Because, a plan is just that; it's a  
3 document. Without any kind of testing, any kind of  
4 education, that's -- when I say "education," both  
5 training for the staff who are having to implement  
6 that plan, but also education to Madame Beaudet's  
7 point around the larger, the broader public sector,  
8 or the public, period -- is that it's so important,  
9 and that's what makes it change from fantasy to  
10 reality, in that you have to exercise that plan.

11 Now, as it related to the -- and  
12 again, if I can just kind of paraphrase, or frame  
13 -- tell me if I've got this correct -- but if  
14 you're asking if there is some kind of a -- this is  
15 a density, if you will, and beyond that there won't  
16 be any -- you know, you're not to do anything?

17 At this point, we have nothing in  
18 our legislation under the *Emergency Management and*  
19 *Civil Protection Act*, or within the plan, which is  
20 again, as I said, cabinet approved, that speaks to  
21 if the population density were to go to this, that  
22 that's it, you know, we wouldn't allow.

23 CHAIRPERSON GRAHAM: Thank you.  
24 And your next question?

25 MR. STENSIL: Yes. There was a

1 number -- it was noted that the plans are based on  
2 probabilistic risk assessments on how the zones are  
3 determined. Are those probabilistic risk  
4 assessments public and transparent, or are they  
5 commercially confidential to Ontario Power  
6 Generation?

7 MR. HEFKEY: So in terms of are  
8 they, I can only say that the folks who shared it  
9 with was -- it was OPG.

10 And, again, being respectful, I  
11 would -- if you don't mind, I'd like to just  
12 transfer that question to OPG to be able to say if  
13 it's public.

14 CHAIRPERSON GRAHAM: Yes, I would  
15 say -- suggest that.

16 OPG, would you care to respond?

17 MS. SWAMI: Laurie Swami for the  
18 record.

19 This is a matter that's currently  
20 under review in a -- in a court system, so I prefer  
21 not to comment at this time.

22 CHAIRPERSON GRAHAM: -- accept  
23 that. Your next question, Mr. Stensil.

24 MR. STENSIL : I'll take that as a  
25 no.

1                   Last week, the Canadian Government  
2 asked or advised Canadians within 80 kilometres of  
3 the Fukushima nuclear plant to evacuate.

4                   Has Emergency Preparedness Ontario  
5 considered a scenario where we have to evacuate 80  
6 kilometres around the Darlington nuclear station?

7                   MR. HEFKEY: So that's an  
8 excellent question, and, yes, I can answer that  
9 question.

10                  CHAIRPERSON GRAHAM: Identify  
11 yourself.

12                  MR. HEFKEY: My apologies, Dan  
13 Hefkey, commissioner of community safety.

14                  That's an excellent question. And  
15 this goes back to our plan and its flexibility.

16                  So -- and you talked about in the  
17 previous question about the probabilistic risk  
18 assessments, so know that our plans have to be  
19 based on something, and that's where probability  
20 comes in. That's where you assess risk.

21                  So what we looked at was, based on  
22 the reactor size, based on the technology, and the  
23 -- again, on the expert advice that's being  
24 provided to us, this is how we planned.

25                  However -- and this, again, goes

1 back to a very good question that was asked by  
2 Madam Beaudet and then as well as you, Mr. Chair,  
3 was -- but that's the beauty of this being a  
4 provincial plan, and that is we can then easily go  
5 out to 80, to 100, to 150, whatever it is. That's  
6 why the province has taken charge of this at a  
7 provincial level.

8                                 We then work very, very closely  
9 with our municipal colleagues to figure out, okay,  
10 if that has to happen, how are we going to use  
11 Quinte West, how are we going to use Belleville,  
12 how are we going to use Kingston, if needed? And  
13 that's what we would do, and that's why we --  
14 again, going back to our provincial exercise  
15 program, that's what we try and do as we did in  
16 north-western Ontario and like we're going to do  
17 later this year in central Ontario and south-  
18 central Ontario, is see and test exactly to what  
19 point are we resilient and how can we exercise  
20 those arrangements.

21                                 CHAIRPERSON GRAHAM: Thank you.

22                                 We'll go to the next presenter,  
23 Mr. Mattson -- next intervener, I mean to say.

24                                 MR. MATTSON: Thank you very much,  
25 Mr. Chairman.

1                   With respect to -- this is to Mr.  
2 Hefkey. It's with respect to the notice, the 15  
3 minute -- the hope is that the message will get out  
4 within 15 minutes, and one of the tools is this red  
5 alert system we heard of.

6                   And I'm wondering if Mr. Hefkey  
7 could educate the board on whether that red alert  
8 system is open for the public to subscribe or if  
9 it's limited only to the partners, OnStar, The Sun,  
10 and The Weather Network that I noticed are  
11 currently partners in the project.

12                   CHAIRPERSON GRAHAM: Mr. Hefkey?

13                   MR. HEFKEY: Thank you. Dan  
14 Hefkey for the record.

15                   So I -- there's actually two  
16 points or two parts to the question that I just  
17 want to clarify.

18                   In terms of the 15 minutes, so to  
19 be clear, it is the requirement within the  
20 provincial nuclear emergency response plan that  
21 when a facility has done its assessment, then it  
22 has 15 minutes to notify the province.

23                   Then the province has 15 minutes  
24 to then loop back to the affected municipality, in  
25 this case, we'll talk about the municipality for

1 the Regional Municipality of Durham, and to get  
2 that message out.

3 So know that that's kind of the  
4 first part of the question.

5 Now, relative to red alerts -- and  
6 the question specifically is, can anyone subscribe  
7 to a red alert, or is it somehow only the red alert  
8 only goes to the -- and thank you very much.  
9 You've obviously seen the website.

10 So going -- you know, does it go  
11 directly to OnStar or to members of the Ontario  
12 Association of Broadcasters?

13 The quick answer is that anyone in  
14 the province and outside the province can subscribe  
15 to being a receiver of those red alerts.

16 But what I didn't mention in my  
17 initial as you were asking the question is we also  
18 have emergency advisories. So when we have things  
19 like tornado season or we have floods, flooding  
20 season, or anything else, we use that opportunity.  
21 And it goes back to our vision of that safe,  
22 secure, and resilient Ontario. We understand and  
23 appreciate and want to get messages out, and so we  
24 use that.

25 So, yes, any citizen can go to our

1 website and subscribe, and they will receive when  
2 we issue it, the red alert that is. They would  
3 receive it as well.

4 CHAIRPERSON GRAHAM: Thank you.  
5 Theresa McClenaghan.

6 MS. McCLENAGHAN: Thank you, Mr.  
7 Chairman.

8 Theresa McClenaghan from Canadian  
9 Environmental Law Association.

10 And I have two questions.

11 One is in follow-up to a question  
12 the other day that was deferred to this panel. And  
13 that has to do with the distance to the evacuation  
14 centres and how long it would take to get to those  
15 centres.

16 I believe OPG told us that their  
17 time lines in their analysis were to get to just  
18 outside of the 10-kilometre evacuation zone, and  
19 that those times didn't -- didn't deal with  
20 anything beyond that, but that perhaps EMO could  
21 address that.

22 So I'm wondering if that has been  
23 evaluated and how far it is exactly that it is from  
24 the Darlington plant to those evacuation zones,  
25 which you say here, are in Peterborough and Toronto

1 -- those evacuation centres, pardon me.

2 CHAIRPERSON GRAHAM: Mr. Hefkey?

3 MR. HEFKEY: So in terms -- and  
4 the question -- sorry, Dan Hefkey, commissioner of  
5 community safety.

6 Thanks for the prompt.

7 So to your question in terms of  
8 timing and then also distance, as I mentioned, two  
9 of the -- there are many, but two of the major  
10 reception centres would be York University and the  
11 other would be Sir Sandford Fleming.

12 Time and the distance, I -- and my  
13 apologies, I do not have the distances. I can ask  
14 my staff. I don't have them, and I can get those,  
15 and we'll get them in just a sec. We just go to  
16 Google Map and get them.

17 CHAIRPERSON GRAHAM: Just an  
18 approximate today because if you have them, we just  
19 need to know the approximate, if you -- do you have  
20 approximate in your -- top of your -- tip of your  
21 fingers?

22 MR. HEFKEY: Yeah. It's about 50  
23 k to Peterborough -- I'm sorry, 50 kilometres to  
24 Peterborough and about 80 kilometres to York  
25 University.

1                   Now, the question that was asked -  
2 - the first part of the question was with respect  
3 to timing. How long would it take to get there?

4                   Again, now I'm putting back my  
5 police officer hat on. That is going to -- there's  
6 a lot of factors that that's going to be dependent  
7 upon.

8                   One, it's going to be the number  
9 of people who are -- who are leaving at the same  
10 time. It's going to matter on the time of day.  
11 It's going to matter on the time of the year.

12                   If you look two days ago, that  
13 highway was ice covered. And so there's all these  
14 factors that are going to happen.

15                   And that is why -- and I go back  
16 to that's why with our -- with respect to our plan  
17 and when we look at this, what we're looking at is  
18 getting folks out of the area. That if they can't  
19 get to the reception centre in as short a time as  
20 it would take this morning, for example, it's okay.  
21 As long as we can get them out of that impacted  
22 area as quickly as possible, that's good, as long  
23 as they know that this is where the reception  
24 centres are and they're going to take whatever time  
25 it takes to get there.

1 CHAIRPERSON GRAHAM: Thank you.

2 Ms. McClenaghan, do you have one  
3 more question?

4 MS. McCLENAGHAN: Yes, I do.

5 In follow-up to a comment, Mr.  
6 Chairman, that the commissioner made today about  
7 long -- long-term relocation, he referenced relying  
8 on the Nuclear Liability Act, and I wondered if the  
9 commissioner is aware that as it's presently  
10 structured, the Nuclear Liability Act limits the  
11 total available dollars for a severe nuclear  
12 accident to \$75 million in entirety and that above  
13 that, it's completely up to the discretion of the  
14 Federal Cabinet whether to institute the commission  
15 and use federal taxpayer dollars to do any long-  
16 term reparation.

17 CHAIRPERSON GRAHAM: I believe  
18 that's a question to the Chair.

19 And, yes, I'm familiar with bill  
20 C-15.

21 MS. McCLENAGHAN: I was wondering  
22 if the commissioner is aware of that because he was  
23 relying on that for the long-term relocation  
24 answer.

25 CHAIRPERSON GRAHAM: Yes. We are

1 aware of bill C-15 going -- the 75 million  
2 liability going to the six -- no. We are -- the  
3 commission is aware of that, yes.

4 MS. MCCLENAGHAN: I'm sorry. I  
5 meant -- I meant Mr. Hefkey.

6 CHAIRPERSON GRAHAM: Okay, you  
7 kept saying it's the commission, so --

8 MS. MCCLENAGHAN: I apologize.  
9 There's two commissioners in this room.

10 CHAIRPERSON GRAHAM: Okay, to Mr.  
11 Hefkey, thank you.

12 MS. MCCLENAGHAN: Wrong one. My  
13 apologies, that was my fault.

14 MR. HEFKEY: Dan Hefkey,  
15 Commissioner of Community Safety, just for the  
16 record. So, A, yes, I am aware of the fact, and,  
17 again, as the Chair of the Commission, I'm also  
18 aware of the bill that's before the house. What I  
19 can say to that point is that for us, on two  
20 pieces, one, and this goes to a point of Madame  
21 Beaudet's with respect to our municipal affairs and  
22 housing, our working in close cooperation with  
23 their federal counterparts on exactly that. How are  
24 we going to move from the current 75 to something  
25 beyond that?

1                   Second point is we've also created  
2 a subcommittee at the provincial level to also look  
3 at this, and this goes to a point, Mr. Chair, that  
4 you made, and that's where we all come together,  
5 provincial ministries, and provide our perspective  
6 and our input on what this means.

7                   So EMO and my good friend to my  
8 left here, Dave Nodwell, will be providing our  
9 perspective in terms of emergency management. And  
10 then the folks from agriculture would be speaking  
11 to how that would potentially impact the food and  
12 agriculture industries, and then others would speak  
13 to their pieces.

14                   CHAIRPERSON GRAHAM: Thank you.  
15 We'll now go to Brennain Lloyd for -- of Northwatch  
16 for her question.

17                   MS. LLOYD: Thank you and good  
18 morning. Brennain Lloyd for Northwatch. I have  
19 two questions, the first for the Environmental --  
20 Emergency Management Ontario. I would like to  
21 know, given that the scope of this project review  
22 is set out in your guidelines, Mr. Graham includes  
23 the management of conventional and radioactive  
24 waste. I have reviewed the documents submitted by  
25 EMO and I've listened carefully today and I've not

1 found any discussion or address of the transport of  
2 nuclear waste, and in particular, nuclear fuel  
3 waste in the advice given from -- by EMO to the  
4 panel. And I would just like if I could have a  
5 confirmation from Emergency Management Ontario that  
6 they did not address those issues, which are within  
7 the scope of this review.

8 CHAIRPERSON GRAHAM: Mr. Hefkey,  
9 you have the question.

10 MR. HEFKEY: Dan Hefkey,  
11 Commissioner of Community Safety for the record.  
12 Actually, that's a -- that's a fair question. I  
13 did not -- I mentioned it very briefly when I  
14 talked about the implementing plans. Part 8 of  
15 those implementing plans speaks to the  
16 transportation of radiological materials.

17 Now, again, going back to that  
18 shared accountability framework, legislatively,  
19 Transport Canada on the *Transportation of Dangerous*  
20 *Goods Act* speaks to exactly who can transport under  
21 what conditions, et cetera, et cetera. But also  
22 there's my colleagues from CNSC who are also --  
23 because it's radiological material who also within  
24 their Act have responsibility to make sure that  
25 that stuff is safe.

1                   So for us, recognizing that that  
2 is a -- it's a reality, it's a real hazard, and,  
3 again, not to give too much away about our exercise  
4 coming up, but that's what we want to test is our  
5 radiological material and its transportation.

6                   CHAIRPERSON GRAHAM: Thank you.  
7 Your second question.

8                   MS. LLOYD: Thank you. My second  
9 question, we heard from Emergency Management  
10 Ontario when they were -- fairly early in their  
11 presentation, a description that they are -- have a  
12 relationship with -- I think it was Geological  
13 Services. I've forgotten the exact name of the  
14 organization -- Geological Society of Ontario, and  
15 they would get a call from the geological service,  
16 this was with respect to seismic activity, they  
17 would then call the nuclear generating station was  
18 my understanding of EMO's description.

19                   And I'm wondering if they have a  
20 performance target in terms of how long from when  
21 they get that call to when the nuclear generating  
22 station receives the information and takes action  
23 on it and if there's a similar arrangement around  
24 weather -- extreme weather events.

25                   The tornado -- if the tornado that

1 came off Georgian Bay last year came off Lake  
2 Ontario this year, what's the relationship and  
3 what's the performance target in terms of  
4 information transmitted and acted upon?

5 CHAIRPERSON GRAHAM: Thank you for  
6 your last question. Mr. Hefkey, can you give us  
7 your response, please.

8 MR. HEFKEY: Thank you. Dan  
9 Hefkey, Commissioner of Community Safety. Thank  
10 you for that question. That's actually a very good  
11 question, and my apologies, I did state -- I did  
12 use the term a geological society when, in fact,  
13 it's the Geological Survey of Canada, so I mislead  
14 the commission, and my apologies.

15 During the break, I don't know if  
16 it was a member, but someone made a point of  
17 pointing that out to me, so --

18 CHAIRPERSON GRAHAM: It's noted.

19 MR. HEFKEY: Thank you, thank you.  
20 It allows me not to go over to your transcriber and  
21 -- and tell him. So in terms of timing, so when  
22 that happens, that information is then shared with  
23 us, and you are absolutely correct in how you had  
24 received the information. We would then speak to  
25 the nuclear facilities in question, again, in that

1 -- in that 500 kilometre ring.

2                               When we do that, it is then for  
3 that effected or impacted nuclear facility to then  
4 do an assessment, and that's all part of that, you  
5 know, is it a reportable event or not.

6                               So once we've given them the  
7 information, it is -- again, it is for they, and it  
8 would be best for OPG now to speak to exactly how  
9 long for them, if they wish to speak to that, it  
10 would take to do that assessment. But they would  
11 do the assessment, and once they've done that, they  
12 would come back to us with no effect or, you know,  
13 this is what we've come to discover.

14                              But in terms of a performance  
15 measure as to what exactly that timing would be  
16 between the time we gave the information to them  
17 and the time they then got back to us, I did not  
18 state that because there is no performance measure  
19 or some kind of a criteria on the timeline. It  
20 will depend, again, on -- on that facility and, you  
21 know, how long it takes for them to do the  
22 assessment.

23                              CHAIRPERSON GRAHAM: OPG, would  
24 you like to respond to clarify that a little  
25 further?

1                   MR. SWEETNAM: Albert Sweetnam for  
2 the record. OPG at its stations already has the  
3 required monitoring devices that would -- and  
4 subscriptions to the relative agencies that would  
5 provide us with the same information that the EMO  
6 would receive by phone, so we would actually have  
7 this information at the same time and would already  
8 be acting on it.

9                   CHAIRPERSON GRAHAM: Thank you.  
10 With that, I'd like to thank the team from  
11 Emergency Management Ontario for coming before us  
12 this morning and providing a lot of information.  
13 And I'd also like to thank Steve Clement from  
14 Environment Canada being with -- with you also for  
15 his participation. Thank you very much, and we  
16 will move into the Department of Labour once the  
17 podium -- once your chairs are vacated. Thank you  
18 very much.

19                   Yes. At the outset, I'd said that  
20 between the two presenters this morning, I would  
21 ask legal counsel to deal with the undertakings, so  
22 Mr. Saumure, would you like to deal with those now?

23                   MR. SAUMURE: Thank you, Mr.  
24 Graham. My name is Denis Saumure. I just wanted  
25 to let you know that the table of undertakings will

1 be available shortly on the registry and we will be  
2 updating it as required. We will also have some  
3 paper copies available at the back of the room  
4 within -- maybe by the end of the day or by  
5 tomorrow.

6 I will now go over the list and  
7 address the undertakings that are completed or the  
8 ones for which answers or information is due today.  
9 I would like to start with the number 1 to 4  
10 undertakings and number 6 have been answered.  
11 Number 5 was an undertaking undertaken by CNSC;  
12 What are the requirements for ground acceleration  
13 for the American reactors on Lake Ontario? Is CNSC  
14 prepared to --

15 MR. HOWDEN: Yeah. Barclay  
16 Howden. I'll ask Dave Newland to speak to that.

17 MR. NEWLAND: For the record, Dave  
18 Newland. I thought that -- just to clarify the  
19 question, I thought it was specific to two specific  
20 reactors, Nine Mile Point and Perry. Just for your  
21 information, for Nine Mile Point, it's a BWR on the  
22 shore of Lake Ontario, and the design peak ground  
23 acceleration is 0.11 g.

24 For the second, Perry, again, BWR,  
25 this time on the shore -- shoreline of Lake Erie

1 and it is designed to 0.15 g.

2 Thank you.

3 MR. SAUMURE: Thank you.

4 I would like to go to Undertaking  
5 Number 9, also again CNSC, which was to clarify of  
6 the recommendation on page 48, the second paragraph  
7 of PMD 11-P1.3.

8 DR. THOMPSON: Patsy Thompson, for  
9 the record.

10 We have -- the undertaking was  
11 with regards to clarification of the staff's  
12 expectations that were described in the second  
13 paragraph of page 48 of the staff CMD.

14 We've examined our recommendations  
15 in light of Madam Beaudet's question and what we  
16 suggest is that in order to be clearer we propose  
17 that CNSC staff's recommendation to the Joint  
18 Review Panel Number 6 be modified to include the  
19 additional baseline water quality data needs  
20 identified on page 48

21 And those refer to shoreline and  
22 offshore locations, future embayments, areas  
23 located by the outlet of Darlington Creek and any  
24 environmental monitoring programs associated.

25 And so what we would propose, if

1 the Commission -- the panel would accept is that we  
2 would recommend that Recommendation 6 be revised as  
3 follows:

4 "OPG conduct a comprehensive  
5 assessment including, but not  
6 limited to baseline water  
7 quality data for all proposed  
8 shoreline, offshore and  
9 offshore locations, any  
10 future embayment area  
11 associated with the outlet of  
12 Darlington Creek, specific  
13 details on effluent releases  
14 (quantity, concentration,  
15 points of release)  
16 Description of effluent  
17 treatment, including  
18 demonstration that the chosen  
19 option has been designed to  
20 achieve best available  
21 treatment, technology, and  
22 techniques economically  
23 achievable and monitoring  
24 programs specifically  
25 associated with these points

1 of release.  
2 OPG shall then undertake a  
3 risk assessment on proposed  
4 residual releases to  
5 determine whether additional  
6 mitigation measures may be  
7 necessary."

8 And if you would like, we can  
9 provide this in writing.

10 CHAIRPERSON GRAHAM: Direction  
11 from the panel, the panel had asked the questions,  
12 I believe Madam Beaudet, so we'll go from there.

13 Madam Beaudet?

14 MEMBER BEAUDET: Yes. Would you  
15 consider that it covers also the concerns from  
16 Health Canada? Yesterday where there was some  
17 confusion as to what was going to be done.

18 DR. THOMPSON: Patsy Thompson, for  
19 the record.

20 Yes, the last part of the  
21 recommendation where a risk assessment on proposed  
22 residual releases would cover the requirements.  
23 The risk assessment covers public uses of beaches  
24 and the drinking water supply plants.

25 MEMBER BEAUDET: Thank you.

1                   CHAIRPERSON GRAHAM: Mr. Pereira,  
2 do you have anything further on that? You're  
3 satisfied.

4                   Mr. Saumure, the next one?

5                   MR. SAUMURE: Thank you.

6                   I'd like to move now to  
7 Undertaking Number 12, again to CNSC. It was to  
8 provide the Ontario Drinking Water Advisory Board  
9 report which I understand has now been filed with  
10 the secretariat and I guess a link will be provided  
11 to the public to that report.

12                  DR. THOMPSON: Could I -- if you  
13 allow me to add something.

14                  CHAIRPERSON GRAHAM: Dr. Thompson?

15                  DR. THOMPSON: We have provided  
16 the link to the report.

17                  What I would like to add, if I  
18 may, Mr. Chair, is when I was providing verbal  
19 information to the panel on the Advisory Council's  
20 recommendations, I would like to make sure that I  
21 didn't leave the impression that OPG does not  
22 currently monitor tritium in its discharge.

23                  In fact, OPG does monitor tritium  
24 in its discharge. This is an important requirement  
25 to protect public health and to provide sufficient

1 notification.

2                                   What would be changed if the  
3 Advisory Council's recommendations are adopted by  
4 the province is the trigger, the level of tritium  
5 that would trigger notification to the  
6 municipality. But currently tritium monitoring is  
7 being done in the discharge channel, it would  
8 continue. It's simply the level at which reporting  
9 would happen that would be changed.

10                               CHAIRPERSON GRAHAM: Thank you,  
11 Dr. Thompson.

12                               Any questions from the panel on  
13 this?

14                               If not, then Mr. Saumure, the next  
15 undertaking.

16                               MR. SAUMURE: Thank you. I just  
17 go to Number 16 which was a joint undertaking by  
18 Environment Canada and CNSC to provide the  
19 comparative analysis of hot and cold plume  
20 releases.

21                               I guess the information that was  
22 required today was with regard to who would lead  
23 and the timeline as to when that info would be  
24 available to the panel.

25                               MR. NEWLAND: Dave Newland, for

1 the record.

2 The CNSC will take the lead and we  
3 hope to provide something to the panel by -- around  
4 the 5<sup>th</sup>, 6<sup>th</sup> of April. And I guess we're seeking  
5 your views on whether that is an appropriate  
6 timeline.

7 CHAIRPERSON GRAHAM: Panel  
8 members, I'm not sure who had asked, I think it's  
9 Madam Beaudet. You're satisfied with that  
10 timeline, Mr. Pereira?

11 Yes we are so we'll date that  
12 undertaking for that time.

13 MR. NEWLAND: Thank you.

14 CHAIRPERSON GRAHAM: Mr. Saumure,  
15 is there any others?

16 MR. SAUMURE: Yes, I just have two  
17 others directed to OPG. Number 10 was with regard  
18 to sustainable development benchmarking documents.

19 MR. SWEETNAM: Albert Sweetnam,  
20 for the record.

21 This relates to the sustainability  
22 documents offered by Clara Clairman and we will  
23 submit these today.

24 CHAIRPERSON GRAHAM: Thank you  
25 very much. The commitment is taken.

1                   Mr. Saumure, there's one other one  
2 you have?

3                   MR. SAUMURE: I have a last one.  
4 Again, to OPG which was regarding clarification  
5 with reference to the 2003 CSA Standards and to  
6 88.1 Guidelines for Calculation Derived Release  
7 Limits.

8                   MR. SWEETNAM: Albert Sweetnam,  
9 for the record.

10                   We're willing to speak to this now  
11 if you would like.

12                   CHAIRPERSON GRAHAM: Please do.

13                   MR. SWEETNAM: I'd ask that Dr.  
14 Jack Vecchiarelli to respond.

15                   DR. VECCHIARELLI: Jack  
16 Vecchiarelli, for the record.

17                   To clarify, the version that was  
18 used, it is identified on page 119 of the Site  
19 Evaluation Report, Part 2, in the List of  
20 References it is CSA Version N288.1-08.

21                   CHAIRPERSON GRAHAM: That's  
22 satisfactory to my colleagues. If that's the case,  
23 then thank you very much and that item is closed.

24                   And the other undertakings that  
25 are published will be reviewed each day as they

1 become due.

2 Thank you very much.

3 It's been drawn to my attention  
4 that Madam Lloyd was not completely -- did not  
5 completely get her answer.

6 In the spirit of trying to make  
7 all intervenors feel that they are getting correct  
8 answers and getting responses, I'm going to ask Mr.  
9 Hefkey to just clarify that one point. Just to be  
10 brief.

11 MR. HEFKEY: Thank you, Mr. Chair.  
12 Dam Hefkey, for the record.

13 And I very much echo your  
14 sentiment.

15 The question specifically was as  
16 it related to a weather event. So what is, again -  
17 - basically what is the performance indicator  
18 there.

19 So again, going back to what we  
20 do. Is when there is a significant weather event  
21 and it somehow -- and I'll use the example of  
22 something that happened -- that has happened in  
23 real life.

24 Where if you have the external  
25 power source to the nuclear facility shut down, so



1                                   For the record, my name is Lothar  
2 Doehler; I'm the Manager of the Radiation  
3 Protection Service for the Ministry of Labour.

4                                   So the purpose of my presentation  
5 is to provide the Review Panel, relevant  
6 stakeholders and the general public an overview of  
7 the Ministry of Labour's role and responsibilities  
8 towards the Darlington New Nuclear Power Plant  
9 Project.

10                                  I'll be outlining the Ministry of  
11 Labour's vision, mission and implementation, their  
12 mandate, memorandum of understanding with federal  
13 government agencies, our responsibilities under the  
14 Provincial Nuclear Emergency Response Plan; my own  
15 group, which is comprised of the Radiation  
16 Protection Monitoring Service, and the Radiation  
17 Protection Field Service, and a summary to wrap up.

18  
19                                  The Ministry of Labour's vision is  
20 to ensure that Ontario's workplaces are safe,  
21 healthy, fair and harmonious, in balance with the  
22 need to support a competitive and sustainable  
23 economy. Our mission to achieve that vision is to  
24 advance practices that address those issues. The  
25 implementation is composed of setting,

1 communicating and enforcing legislation to achieve  
2 the vision and the mission. During a recent review  
3 of the Ministry of Labour's structure, there will  
4 be a future prevention module established.

5                   A mandate: In general, the mandate  
6 of protecting the health and safety of workers is  
7 guided by Safe at Work Ontario, which is a risk-  
8 rating strategy, and enforced by workplace  
9 compliance to *The Occupational Health and Safety*  
10 *Act*.

11                   The second main mandate is to  
12 protect workers from unfair employment practices.  
13 And this is addressed by enforcement of *The*  
14 *Employment Standards Act*, which sets out mainly  
15 standards that employers and employees must follow  
16 with respect to rates of pay, hours of work,  
17 vacation, overtime, public holidays, various  
18 required forms to fill in.

19                   The third item is the promotion of  
20 labour relations; promoting stable and instructive  
21 labour relations climate, fostering productive  
22 workplace relationships, and this is handled by the  
23 Employment and Labour Policy and Program  
24 Development Branch, and various agencies. The  
25 Ontario Labour Relations Board oversees and

1 mediates in common issues that apply to collective  
2 agreements and collective bargaining processes.

3                   So these general mandates and  
4 legislative responsibilities that I've just  
5 mentioned relate to workers that will be involved  
6 with the proposed Darlington New Nuclear Power  
7 Plant Project during its entire life cycle, which  
8 encompasses site preparation and construction,  
9 operation and decommissioning.

10                   Just as an example, prior to the  
11 site preparation phase, our regulation for  
12 construction projects requires that each  
13 constructor and employer engaged in construction  
14 complete a registration form and notify the  
15 Ministry of Labour before construction begins of  
16 any project having a total expected cost of more  
17 than \$50,000. And I think we can all agree that  
18 this project will meet that criteria.

19                   And subsequent to the initial  
20 phase, there are additional regulations that come  
21 into play under *The Occupational Health and Safety*  
22 *Act*, and I've just listed some of them here. The  
23 main programs will be industrial establishments,  
24 possibly mines and mining plants, and then there  
25 are other regulations to support that. My personal

1 favourite is the X-ray Safety Regulation, but I  
2 believe that will be limited to the installation of  
3 security x-ray scanners.

4                   In 1998 the Ministry of Labour  
5 entered into a memorandum of understanding with  
6 Human Resources and Skills Development Canada,  
7 representing Labour Canada. Exclusions were made  
8 to the Canada Labour Code, which empowered the  
9 Ministry of Labour to enforce *The Occupational*  
10 *Health and Safety Act*, *The Employment Standards Act*  
11 and labour relations in Ontario nuclear facilities  
12 in place of their federal counterparts. And when I  
13 say nuclear facilities, it's defined under the  
14 Canada Labour Code as, first of all, being under  
15 the jurisdiction of *The Nuclear Safety Control Act*,  
16 and it was also owned -- sorry, previously owned or  
17 owned by Ontario Hydro. So that defines Pickering,  
18 Darlington and Bruce.

19                   As a result of that MOU, the  
20 Ministry of Labour acknowledges that the Canadian  
21 Nuclear Safety Commission has shared jurisdiction  
22 with regard to the health and safety of workers in  
23 general, and specifically in the handling and  
24 exposure to nuclear energy and nuclear substances  
25 under *The Nuclear Safety Control Act*.

1                   We are currently developing a  
2 memorandum of understanding, an agreement that  
3 provides for information data and technical  
4 expertise sharing to promote partnership in  
5 protecting workers at nuclear facilities. In  
6 addition to these three criteria, we will also be  
7 conducting joint planning, joint field visits, and  
8 joint facilitation in conducting workplace  
9 inspections.

10                   My thanks to Mr. Hefkey for  
11 outlining the legislative structure responsible for  
12 the Provincial Nuclear Emergency Response Plan.  
13 The Ministry of Labour has 20 ordering council  
14 responsibilities assigned to it under the Response  
15 Plan. The general mandate, of course, is to ensure  
16 that employers meet their obligations under *The*  
17 *Occupational Health and Safety Act*, even during a  
18 nuclear emergency. Most of the other  
19 responsibilities are covered by the Ministry of  
20 Labour's Radiation Protection Services.

21                   The RPS is comprised of two units,  
22 a radio-analytical laboratory and a radiation  
23 protection enforcement field service. To highlight  
24 the laboratory: It is the only provincial radio-  
25 analytical laboratory in Ontario. It's comprised

1 of a laboratory co-ordinator, a quality insurance  
2 officer and four radio-chemical technologists.

3 RPMS serves as the watchdog of  
4 Ontario, as it continually monitors the environment  
5 around the provincial nuclear installations to  
6 ensure that the exposure to radiation received by  
7 workers and the general population be kept as low  
8 as reasonably be achievable.

9 The mandate of the RPMS is to  
10 ensure that the health, safety, welfare and  
11 property of workers and the general public are not  
12 adversely affected by radioactive emissions  
13 stemming from Ontario nuclear reactors by providing  
14 the infrastructure to support a radiation-  
15 monitoring program.

16 I won't go into all of the assigned  
17 responsibilities. Three of the primary tasks are  
18 to, as I've just said, monitor radioactivity in the  
19 environment around nuclear installations, and  
20 notify the Premature Emergency Operations Centre of  
21 Emergency Management Ontario of any abnormal above-  
22 background results.

23 We also provide and arrange for  
24 laboratory facilities for the analysis of air,  
25 water, soil, garbage, milk, foodstuffs, et cetera.

1 And we maintain a network of fixed radiological  
2 monitoring stations in the secondary zones of the  
3 reactor installations.

4                               Notification: In the event of a  
5 nuclear radiological emergency, the RPMS reassures  
6 the public of their safety, and if protective  
7 measures are required. Recommendations are made to  
8 Emergency Management Ontario, they report to their  
9 scientific group.

10                              Under the Ontario Reactor  
11 Surveillance Program, the RPMS uses established  
12 fixed sites to monitor air particulates, tritium in  
13 air and drinking water. And we also have special  
14 studies to monitor milk, fruits and vegetables  
15 during the respective seasons, and recreational  
16 surface waters around the adjoining provincial  
17 parks.

18                              The reactor program is a  
19 combination of external monitoring sites, sample  
20 collection, analysis by the laboratory and  
21 reporting of results to the relevant authority.

22                              Each year we compile all the  
23 results of the preceding year into an annual report  
24 that is made available to interested stakeholders.

25                              If any results exceed Ontario's



1 sprawl and the potential gaps required for the new  
2 Darlington build.

3                   Here you see some examples of our  
4 monitoring sites. Air particulate pumps are used  
5 to draw air through which the volume is carefully  
6 monitored by a calibrated meter. Tritium and air  
7 is captured on an absorbent and then re-analyzed.  
8 And here you see two of our technologists doing  
9 some maintenance on the sites.

10                   The laboratory is accredited by  
11 the Canadian Association of Laboratory  
12 Accreditation to meet the requirements of ISO 1725,  
13 which is a general requirement for the competence  
14 of calibration and testing laboratories. We  
15 participate in proficiency testing bi-annually, and  
16 I'm happy to report that we've always met the  
17 pass/fail criteria.

18                   Accreditation provides formal  
19 recognition of the competence of the laboratory and  
20 it increases the confidence of the data information  
21 produced by the laboratory.

22                   Some pictures of our sample  
23 preparation room and our liquid scintillations  
24 counters which are used for tritium analysis of --  
25 in water and in air and in milk.

1 I mentioned the annual report.  
2 The 2009 result confirmed that the results are far  
3 below concentrations that would result in a  
4 committed effective dose of .1 milliSievert to the  
5 public from either inhalation or ingestion.

6 Each radioisotope has a certain  
7 activity that is equivalent to this .1  
8 milliSievert. For example, tritium is 7,000  
9 Becquerels per litre and we typically see just  
10 maybe twice background as an average concentration.

11 Just a brief slide about the other  
12 part of the service which is the radiation  
13 protection field service. Their main mandate is to  
14 enforce the regulation respecting X-ray safety but  
15 they also have a mandate to respond to worker  
16 complaints or work refusals regarding nuclear  
17 energy substances, non-ionized and radiation such  
18 as lasers, radiofrequency microwave, Wi-Fi has been  
19 in the news recently, and naturally occurring  
20 radioactive materials such as radon which are not  
21 licensed by the Canadian Nuclear Safety Commission.

22 Some of the responsibilities on  
23 the provincial Nuclear Emergency Response Plan are  
24 to audit emergency worker centres, radiation safety  
25 community programs and designated nuclear response

1 hospitals.

2 We also have a partnership with  
3 the Radiation Safety Institute of Canada to act as  
4 a consultant and training delivery provider.

5 To summarize, the Ministry of  
6 Labour is prepared to meet its roles and  
7 responsibilities with regard to workers involved in  
8 New Darlington Power Plant Project for enforcement  
9 of its legislation and acting as provincial  
10 radiation monitoring watchdog.

11 Workers and the public in the  
12 vicinity of the DNPP will be assured that their  
13 health, safety, welfare and property are not  
14 adversely affected by emissions stemming from it.

15 Thank you.

16 CHAIRPERSON GRAHAM: Thank you  
17 very much, Mr. Doehler.

18 Colleagues, Mr. Pereira, do you  
19 have any questions?

20 --- QUESTIONS BY THE PANEL:

21 MEMBER PEREIRA: Thank you, Mr.  
22 Chairman.

23 I note on Slide 9 you talk about  
24 the 1998 MOU with HRSDC and the CLC may be amended  
25 to incorporate the DNNPPP. So this is an action

1 that's got to be taken if the project proceeds.

2 Who would take that initiative to  
3 seek amendment of the agreement, the MOU?

4 MR. DOEHLER: Lothar Doehler, for  
5 the record.

6 I apologize for not elaborating on  
7 that point. There is a process ongoing to amend  
8 that MOU and the exclusions of the *Canada Labour*  
9 *Code*. We have had legal opinion that the new build  
10 may not be encompassed by the scope of the current  
11 MOU and the *Canada Labour Code*, but rest assured it  
12 is in process.

13 MEMBER PEREIRA: But who has the  
14 responsibility of making sure that that coverage is  
15 in place; under what jurisdiction does it fall?  
16 It's with HRSDC I presume?

17 MR. DOEHLER: Yes, they were the  
18 ones who proposed the initial transfer of  
19 responsibility from Labour Canada to the Ministry  
20 of Labour. There has been a team constructed  
21 comprised of representatives from the Ministry of  
22 Labour and Human Resources and Skills Development  
23 Canada.

24 MEMBER PEREIRA: This is to go to  
25 the CNSC.

1                   Is there any involvement by the  
2 CNSC in ensuring that there's appropriate coverage  
3 on the site for labour issues?

4                   MR. HOWDEN:   Barclay Howden, for  
5 the record.

6                   Yes, there is.   The preference of  
7 OPG is to be under the same regime that they're  
8 under now because it involves health and safety as  
9 well as labour relations.

10                  The wheels are in motion between  
11 OPG, HRSDC and Ministry of Labour.   We've actually  
12 met with the groups through a teleconference, so  
13 that's the way they're going to go, and we support  
14 that view.

15                  If they didn't go that way, HRSDC  
16 would then be responsible for the conventional  
17 health and safety on the site and under the *Canada*  
18 *Labour Code* 1, 2 and 3.   But the expectation is it  
19 will go to the province through exclusion  
20 regulations.

21                  MEMBER PEREIRA:   You made a  
22 comment about conventional health and safety.   Is  
23 there another aspect of health and safety and who  
24 is responsible for that?

25                  MR. HOWDEN:   As mentioned by the

1 presenter, there's also an aspect of work refusals  
2 involving nuclear substances.

3                   When you go over to the radiation  
4 protection plans, those are covered under the  
5 *Nuclear Safety and Control Act* and, specifically,  
6 the radiation protection regulations.

7                   MEMBER PEREIRA: So the CNSC is  
8 responsible for that aspect?

9                   MR. HOWDEN: That is correct,  
10 however, we are entering into an MOU with the  
11 Ministry of Labour to be able to do closer  
12 cooperation to share our expertise and part of that  
13 is to be able to do joint inspections, share  
14 information because there are synergies between the  
15 two organizations, so we're looking at formalizing  
16 a closer agreement with them.

17                   MEMBER PEREIRA: Does Ontario  
18 Power Generation have any comment on how this  
19 aspect of worker safety is being handled?

20                   MR. WEBSTER: Alan Webster, for  
21 the record, Senior Manager, Licensing.

22                   As Mr. Howden indicated, it is  
23 OPG's preference to continue under the regimes that  
24 currently exist and we're satisfied with that  
25 arrangement.

1                   MEMBER PEREIRA: Thank you.

2                   In your presentation you talk  
3 about the surveillance results from 2009 and you  
4 report very low doses. Is that result typical of,  
5 say, the last 10 years at Darlington?

6                   MR. DOEHLER: Lothar Doehler, for  
7 the record.

8                   Yes, we have seen no major changes  
9 or trends over the last 10 years of the program.

10                  MEMBER PEREIRA: And to OPG, do  
11 you have your own surveillance program on site for  
12 radiological protection issues?

13                  MS. SWAMI: Laurie Swami, for the  
14 record.

15                  Yes, we do. We have that covered  
16 under our radiological environmental monitoring  
17 program where we have a number of sampling  
18 locations, as well as ongoing monitoring of our  
19 site, and we provide that information to the CNSC  
20 on an annual basis and it's publicly available  
21 information.

22                  MEMBER PEREIRA: And what about  
23 workers?

24                  MS. SWAMI: Worker information is  
25 also monitored on a regular basis and of course our

1 employees are fully aware of any impacts that they  
2 receive and the information is also provided to the  
3 regulatory requirements of dosimetry files, et  
4 cetera, that are shared with the CNSC.

5 MEMBER PEREIRA: Thank you.

6 That's all, Mr. Chairman.

7 CHAIRPERSON GRAHAM: Thank you,  
8 Mr. Pereira.

9 Now Madam Beaudet.

10 MEMBER BEAUDET: Thank you, Mr.  
11 Chairman.

12 I have two questions. The first  
13 one regards nuclear accidents. You mention on  
14 slide number 11 the responsibilities, most of --  
15 you talk about here, rather, the responsibilities  
16 of the Proponent or the people operating the plant.

17 We've seen in Japan that -- I  
18 think when its normal operation there probably is  
19 no issue but when you have a nuclear accident and  
20 you have OPG say that they would have shifts so  
21 that the workers would not exceed the dose, but we  
22 have seen that in Japan it does happen that, you  
23 know, we have the two workers already in hospital.

24 I'd like to see the fine line  
25 between what the workers should do or not do and

1 what is the responsibility of the operator and to  
2 what extent he's limited to ask something, and if  
3 somebody wants to be a volunteer then he gets hurt,  
4 you know, does he get any compensation afterwards.

5 How do you see this issue and what  
6 are the limits and constraints and the  
7 recommendations that you would have for this  
8 particular situation?

9 MR. DOEHLER: Lothar Doehler, for  
10 the record.

11 In an emergency every employer  
12 must ensure that their workers are protected. The  
13 Provincial Nuclear and Emergency Response Plan has  
14 specific exposure limits but there is a caveat that  
15 an individual may volunteer to exceed those limits  
16 to save a life or for the general protection of the  
17 community.

18 I can't speak to what occurs on  
19 site because our inspectors will not be going into  
20 the primary zone during an emergency. What we will  
21 do is monitor emergency worker centres which  
22 process workers going into the primary zone and  
23 ensure that they are properly outfitted with  
24 personal protection, monitoring and are trained to  
25 observe the limits applied.

1                   MEMBER BEAUDET: I don't know how  
2 it works in Ontario. I know in Quebec if a worker  
3 is hurt on site then he has access to compensation.  
4 And where's the fine line if you volunteer; are you  
5 still allowed to ask for compensation if you get  
6 hurt in such a case?

7                   MR. DOEHLER: Lothar Doehler, for  
8 the record.

9                   I would assume that you are still  
10 considered to be a worker and because of that you  
11 would be fully compensated and the necessary forms  
12 for injury would have to be filled out at some  
13 point. So I can't give you a definitive answer but  
14 the assumption that an injured worker receives  
15 compensation would probably apply in this scenario  
16 as well.

17                   MEMBER BEAUDET: Can I have OPG's  
18 comments on that, please?

19                   MR. SWEETNAM: Albert Sweetnam,  
20 for the record.

21                   Any worker that's injured on site  
22 or in the execution of work related activity is  
23 fully compensated.

24                   CHAIRPERSON GRAHAM: I think Madam  
25 Beaudet's question was, was a volunteer, someone

1 that wasn't.

2                                   And my experience as an employer  
3 was/ is that worker's compensation is based on  
4 salary and if somebody was a volunteer there's no  
5 basis for salary to determine the compensation.

6                                   And I don't think Madam Beaudet's  
7 question is answered, and it's not answered to my  
8 satisfaction, that compensation is based --  
9 generally in New Brunswick it's 80 percent of wages  
10 and so on. I have no idea about Ontario. But if  
11 somebody's in there as a volunteer, who fills out  
12 the forms, who makes the application to worker's  
13 compensation or health place work safety or  
14 whatever jurisdiction that is, and I don't think  
15 we're getting the answer and I'd like to have that  
16 clarified.

17                                   And I didn't mean to interrupt,  
18 Madam Beaudet, but ---

19                                   MEMBER BEAUDET: No, thank you  
20 very much. Because there were many cases, for  
21 instance in New York when the towers went down,  
22 with the firemen and the policemen. I mean, a lot  
23 of them -- I think when you have a catastrophe like  
24 that, you know, you don't think, but a lot of them  
25 in the end were not compensated and I think it's

1 something that we have to look at because it's  
2 lessons learned.

3 MEMBER GRAHAM: I would like to  
4 suggest that that be an undertaking from someone  
5 and I'm not sure who yet, but -- because we're  
6 dealing with volunteers and I'd like to -- either  
7 Labour or OPG to speak to this to see who's willing  
8 to take as an undertaking to get an answer because  
9 I think this is a very important one.

10 MR. SWEETNAM: Albert Sweetnam,  
11 for the record.

12 OPG has in place insurances in  
13 addition to what's available through the Ministry  
14 of Labour related to compensation.

15 However, we will take this as an  
16 undertaking to check with our HR organization and  
17 come back to specifically address the question  
18 around volunteers.

19 CHAIRPERSON GRAHAM: Madam  
20 Beaudet, is that satisfactory for OPG to give it an  
21 undertaking?

22 And we'll give that number 24.

23 CHAIRPERSON GRAHAM: Do you have a  
24 timeline or do you want ---

25 MR. SWEETNAM: Albert Sweetnam,

1 for the record.

2 We will get back to you by Tuesday  
3 morning.

4 CHAIRPERSON GRAHAM: Tuesday  
5 morning. Thank you very much.

6 Mr. Doehler, if you have -- no,  
7 Madam Beaudet, I guess, to Mr. Doehler.

8 MADAM BEAUDET: My second question  
9 regards slide 24 where you say that you audit  
10 emergency worker centres radiation safety, et  
11 cetera, and designated nuclear response hospitals.

12 I believe there is one in the  
13 region here that has been designated a nuclear  
14 response hospital.

15 So the audit would be done how  
16 often and what are the main points of your  
17 auditing?

18 MR. DOEHLER: Lothar Doehler, for  
19 the record.

20 Although we use the Provincial  
21 Nuclear Emergency Response Plan as a template we  
22 are basically ensuring that workers are protected  
23 under the *Occupational Health and Safety Act*.

24 So the scenario would involve  
25 contaminated workers and how they are handled by

1 the hospital receiving them. So we would look for  
2 proper detection, decontamination and how are the  
3 workers protected from that contamination. We  
4 would ensure that their portable monitors have been  
5 calibrated; that workers are trained in their use  
6 and then trained in all procedures that safely  
7 protect them and safely contaminate the workers.

8 MADAM BEAUDET: So if I understand  
9 well, it would be done only if there was an  
10 emergency. It's not on a regular basis that you go  
11 around and make sure that they would have the  
12 proper staff or proper equipment and the equipment  
13 is working, et cetera?

14 MR. DOEHLER: Lothar Doehler For  
15 the record. We have not established frequency.  
16 What we've asked the hospitals to do is inform us  
17 when they are exercising their own response plans  
18 because, as you can imagine, it's very difficult  
19 for us to arrive unannounced and ask for their  
20 entire radiation contamination program to be set up  
21 and functional. So we -- through the -- there's a  
22 subgroup under Emergency Management Ontario that  
23 deals with emergency planning exercises and through  
24 that subgroup we are informed of when a  
25 municipality or a region intends to do their own

1 internal emergency exercise.

2 MEMBER BEAUDET: Thank you.

3 CHAIRPERSON GRAHAM: Thank you,  
4 Madam Beaudet. I have one question and I'm not  
5 sure -- most Departments of Labour or the ones that  
6 I've been experienced with in Canada, is Labour and  
7 Training. Is training part of your department?

8 MR. DOEHLER: We're not known as a  
9 training ministry although we do have partners in  
10 training. We have occupational health and safety  
11 associations that do provide training. And WSIB  
12 also provides certain training so the Ministry of  
13 Labour as such is not a training organization. But  
14 as I mentioned in my presentation, there has been a  
15 recent review and there will be a prevention  
16 section of the Ministry established that will  
17 probably address training issues.

18 CHAIRPERSON GRAHAM: The reason  
19 for my question is -- is that in -- well, in some  
20 Departments of Labour and Training, or that has  
21 that training jurisdiction, my question was going  
22 to be about training -- special training programs  
23 for Aboriginals -- young Aboriginals who may want  
24 to work in the nuclear industry and I'm wondering  
25 how the province of Ontario is addressing that as a

1 special program, if there is one and how that --  
2 how that might be put towards a -- a project of  
3 this size that will employ many hundreds or -- or  
4 thousands of people that they have a -- rightfully  
5 be able to compete in a -- in a training program --  
6 come out of a training program with the -- the  
7 skills that are required to meet the employment  
8 obligations of OPG. So I'm wondering if -- if you  
9 don't do it, could -- could we see which department  
10 we might be able to obtain that information from?

11 MR. DOEHLER: Lothar Doehler for  
12 the record. I believe that would fall under the  
13 Ministry of Training Colleges and Universities. I  
14 know of a program at the University of Ontario  
15 which does address some of the curriculum that  
16 you've just mentioned.

17 CHAIRPERSON GRAHAM: Well, I'm  
18 going to just -- thank you very much. I -- I'm  
19 going to ask maybe -- and I guess I'll look at OPG,  
20 if they could find out what programs might be  
21 available under an undertaking to -- unless they  
22 can answer that, that specifically designated  
23 towards young Aboriginals that they can come out  
24 with the -- a higher level of skill sets to be able  
25 to compete for some of the job opportunities. Mr.

1 Sweetnam, maybe you have an answer; if you do,  
2 fine. If you don't, if we'd get an undertaking to  
3 try and find that out before we conclude our -- our  
4 hearings.

5 MR. SWEETNAM: Albert Sweetnam for  
6 the record. We'll accept that as an undertaking.

7 CHAIRPERSON GRAHAM: Thank you  
8 very much and that will be number 25 and it may  
9 take some time so let's put it on for next Friday  
10 and if you don't have it, we can extend it. I'd  
11 accept that.

12 CHAIRPERSON GRAHAM: Okay, thank  
13 you very much. Now, we will go -- first of all, to  
14 CNSC, are there any questions for the Ministry of  
15 Labour?

16 MR. HOWDEN: No questions from us.

17 CHAIRPERSON GRAHAM: Mr. Sweetnam  
18 and OPG are there any questions?

19 MR. SWEETNAM: No questions.

20 CHAIRPERSON GRAHAM: Any other  
21 government departments within the -- the meeting  
22 this morning that may have questions? I see none.  
23 Then we will then proceed to intervenors and we  
24 have two intervenors and I'll close the list now so  
25 that we can follow on. And the first one is from

1 CELA, Theresa McClenaghan.

2 --- QUESTIONS FROM THE INTERVENORS:

3 MS. McCLENAGHAN: Thank you, Mr.  
4 Chairman. I have two questions if I may. The  
5 first is regarding slide 11, and I was also  
6 wondering, the other aspect of what we've seen in  
7 Japan, as -- as I understand it, is that the  
8 workers' safety dose limits had to be increased in  
9 order to allow the workers to continue there. And  
10 I also understand that the workers who are  
11 continuing there are volunteers and in a different  
12 sense than the volunteer discussion we were just  
13 having. I believe they were workers, but they  
14 volunteered to -- to stay or to go back into the  
15 plant from time to time.

16 So my question is whether or not  
17 the standards would be waived in a very severe  
18 emergency or whether there would be a process to  
19 change them in a short timeframe what that process  
20 might be and if that's been explicitly discussed  
21 with the workers here?

22 MR. DOEHLER: Lothar Doehler for  
23 the record. The emergency worker dose limit is  
24 established under the Provincial Nuclear Emergency  
25 Response Plan and we defer to the Canadian Nuclear

1 Safety Commission as setting those limits. As I  
2 understand, the limit is currently at 500  
3 millisieverts with the caveat, as I mentioned, that  
4 if a worker or a volunteer voluntarily decided to  
5 exceed those limits, they would be permitted to.  
6 But it would be relative to saving life or saving  
7 the community at large.

8 CHAIRPERSON GRAHAM: Ms.  
9 McClenaghan?

10 MS. McCLENAGHAN: The other  
11 question I had was with respect to slide 16 and the  
12 Ontario reactor surveillance program. And I'm  
13 wondering, it indicates measurement of -- of three  
14 -- three parameters air particulates tritium in the  
15 air and drinking water. And I'm just wondering,  
16 because of the evidence we heard yesterday from Dr.  
17 Caldicott, if the witness is able to mention  
18 whether those programs measure Beta, Alpha or Gamma  
19 radiation?

20 MR. DOEHLER: Lothar Doehler for  
21 the record. Yes, the appropriate -- depending on  
22 what the radionuclide is, all of those Alpha, Beta  
23 and Gamma radiation are measured.

24 MS. McCLENAGHAN: Well, for -- for  
25 these three, which -- which parameters are

1 measured? We heard specifically about tritium and  
2 particularly tritium in air as opposed to water.

3 MR. DOEHLER: Lothar Doehler for  
4 the record. Tritium is a Beta emitter so it would  
5 be only measured for -- for Beta using the  
6 radioisotope depending on it -- what it emits, is  
7 measured by the most appropriate analytical  
8 instrument.

9 MS. McCLENAGHAN: Thank you.

10 CHAIRPERSON GRAHAM: Thank you  
11 very much for that answer. The other one is  
12 Brennain Lord -- Lloyd, pardon me again, from  
13 Northwatch.

14 MS. LLOYD: Thank you. Brennain  
15 Lloyd from Northwatch. Mr. Chairman, my question  
16 for the Ministry of Labour is -- relates to the  
17 part of this project that pertains to nuclear waste  
18 and its longer term management. As you know  
19 there's some speculation in the environmental  
20 impact statement prepared by Ontario Power  
21 Generation, that the nuclear fuel waste might be  
22 shipped off site at some point.

23 And I have reviewed the three  
24 documents provided to you by the Ministry of Labour  
25 and it seems to me in my review that the documents

1 are really limited to the reactor stations, and --  
2 you know, as summarized in slide 13 of the  
3 presentation today. And I'm wondering -- now, I  
4 haven't seen work done by OPG either when acting as  
5 OPG or acting as the -- the Nuclear Management  
6 Organization, much work on effects of workers  
7 during transport of nuclear fuel waste. But there  
8 has been a -- a considerable body of work done by  
9 the state of Nevada and I -- that work does  
10 identify certain concerns. And I would just like  
11 the Ministry of Labour to confirm for me or point  
12 me in the direction of work -- confirm for me that  
13 their submissions to you do not address transport  
14 concerns for workers, transport of nuclear fuel  
15 waste or point me in the direction of where they  
16 have provided you with information or advice  
17 related to that.

18 CHAIRPERSON GRAHAM: Thank you.  
19 Mr. Doehler.

20 MR. DOEHLER: Lothar Doehler for  
21 the record. I think it's been previously been  
22 pointed out by Mr. Hefkey that the transport of  
23 radioactive fuel in this case would be under the  
24 jurisdiction of Transport Canada and the Canadian  
25 Nuclear Safety Commission.

1 MS. LLOYD: So, Mr. Graham --

2 CHAIRPERSON GRAHAM: Just if I  
3 could, maybe --

4 MS. LLOYD: My question, though,  
5 was about Ministry of Labour's submissions, not  
6 about Emergency Management of Ontario's  
7 submissions.

8 CHAIRPERSON GRAHAM: Are you  
9 asking for a position or -- he had pointed out that  
10 it wasn't, it fell under the jurisdiction of CNSC  
11 and -- and another department, so do you have  
12 anything else to add, sir?

13 MS. LLOYD: I take it, then, he's  
14 stating that because of his ministry's view that  
15 it's covered by other departments, that's the  
16 reason he didn't provide you with any information  
17 or advice; is that correct? Am I understanding him  
18 correctly?

19 MR. DOEHLER: Lothar Doehler for  
20 the record. Yes.

21 MS. LLOYD: Thank you.

22 CHAIRPERSON GRAHAM: Thank you  
23 very much. That concludes the presentation by the  
24 Department of Labour along with questions and  
25 intervenor questions, and, Mr. Doehler, we thank

1 you very much for coming this morning and providing  
2 us with the information about your department and  
3 its role in this -- this Impact Review. Thank you  
4 very much.

5 MR. DOEHLER: Thank you, Mr.  
6 Chair.

7 CHAIRPERSON GRAHAM: Now we go to  
8 -- it's 12:00, and I am going to -- my  
9 understanding is that there -- Mr. Jennings, I  
10 believe, is here this morning from -- from Ontario  
11 Ministry of Energy. Is Mr. Jennings here this  
12 morning?

13 MR. JENNINGS: Yes, sir.

14 CHAIRPERSON GRAHAM: Okay. When  
15 Mr. Doehler vacates, the floor is yours, sir, and  
16 you have a team with you.

17 (SHORT PAUSE)

18 CHAIRPERSON GRAHAM: Good morning,  
19 Mr. Jennings.

20 MR. JENNINGS: Good morning.

21 CHAIRPERSON GRAHAM: The floor is  
22 yours.

23 --- PRESENTATION BY MR. JENNINGS:

24 MR. JENNINGS: Okay. My name is  
25 Rick Jennings. I'm Assistant Deputy Minister of

1 Energy Supply, Transmission, and Distribution with  
2 the Ontario Ministry of Energy, and with me today,  
3 I have Cedric Jobe who's Director of Nuclear Supply  
4 and Wilson Lam who's a Senior Advisor Nuclear.

5                               So in terms of the presentation  
6 today, the objectives of the presentation are to  
7 provide the panel the details of the legislative  
8 policy framework and directives under the  
9 responsibility of the Ministry of Energy, and  
10 particularly those that provide important context  
11 for the environmental assessment and licencing  
12 reviews of the proposed Darlington New Nuclear  
13 Project, and to provide the panel with information  
14 on the ministry's direction to OPG regarding the  
15 proceeding with new nuclear at the Darlington site  
16 and to provide the panel with the Ministry's  
17 assessment of the environmental impact statement  
18 and the application of this to the ministry's  
19 mandate.

20                               So in terms of legislative policy  
21 directives under the responsibility of the  
22 ministry, the ministry has a broad policy mandate  
23 to maintain -- it's responsible for maintaining  
24 adequate, safe, sustainable, and reliable  
25 electricity supply in Ontario and the

1 responsibility for managing and planning  
2 electricity resources and supply and demand  
3 particular to this -- this aspect.

4                               So in establishing the policy  
5 framework, the ministry consults broadly, including  
6 providing opportunities for public comment as well  
7 as specific stakeholders.

8                               The Ontario -- Ontario's Long-term  
9 Energy Plan, and this is a document that I believe  
10 has been available to the commission but this was  
11 released in November of 2010, of last year,  
12 November 23<sup>rd</sup>, this sets out what the ministry's  
13 plan is for the -- for the province, and the  
14 ministry is confident that this policy framework  
15 represents the needs of Ontarians for balanced  
16 electricity supply.

17                               So the -- in addition, this  
18 framework -- so the launch of energy plan was  
19 prepared within the province's legislative  
20 framework for electricity planning as set out in  
21 the *Electricity Act*. This was an amendment to the  
22 Act in December 2004 to establish the Ontario Power  
23 Authority. It provided it with, among other  
24 responsibilities, the responsibility of preparing  
25 an integrated power system plan, and the plan

1 specifically is to be a 20-year plan, and it is  
2 redone or revised every three years to give -- to  
3 provide flexibility on an ongoing basis.

4                   The term "integrated" used in this  
5 case means we're referring to integrating demand  
6 for electricity, conservation, supply generation,  
7 and transmission and distribution. So it is an  
8 integration of all the aspects that you need to do  
9 for electricity planning, bring them all together  
10 on an integrated basis.

11                   So, again, the -- to reiterate the  
12 flexibility, so the plan will identify then on this  
13 basis, if we're working together, integrated basis,  
14 what requirements there are for new supply. The  
15 individual projects identified under the plan are  
16 subject to the applicable environmental assessment  
17 that -- and then these depend, of course, on the  
18 types of projects.

19                   So they -- in terms of the  
20 objectives under the plans, so the Long-term Energy  
21 Plan will ensure that Ontario continues to be the  
22 North American leader for clean energy jobs and  
23 technology and continues with the government's  
24 policy of phasing out coal by the end of 2014.

25                   The Darlington -- proposed

1 Darlington New Nuclear project is an important  
2 component of Ontario's Long-term Energy plan.

3                   In developing the plan, so there  
4 was extensive consultation in its development. The  
5 government had posted on its website a series of  
6 questions for public comment, and during the period  
7 of September to mid-November of last year, we  
8 received over 2,500 comments, 25 different  
9 individuals, and in addition to that, there were  
10 extensive consultations. We held over 40  
11 stakeholder meetings, and there was also engagement  
12 and outreach to First Nations and Métis groups.

13                   And as well, the ministry  
14 consulted with the agencies in the energy sectors,  
15 the Ontario Power Authority, Hydro One, Ontario  
16 Power Generation, and the Ontario Energy Board and  
17 the Independent Electricity System Operators, so we  
18 received information and advice from all of those  
19 entities as well.

20                   So consistent with the legislative  
21 framework, the ministry provides -- the minister  
22 provides a cabinet-approved -- so it's an order in  
23 council, supply mix directive, and this -- that  
24 gives the direction to the Ontario Power Authority  
25 in terms of developing an integrated power system

1 plan.

2                                 So in this instance, the supply  
3 mix directive was a draft directive, was published  
4 for public comment on the environmental registry,  
5 and this was released at the same time as the long-  
6 term energy plan. And they -- there was a comment  
7 period for the supply mix directive which ran out  
8 -- which I guess is illustrated, really, on the  
9 next page, the sequence.

10                                So it was a 45-day posting. We  
11 had 375 comments on the environmental registry  
12 posting. 40 of those were from stakeholder groups,  
13 5 from First Nations, and the rest were from --  
14 essentially from individuals. So those -- that  
15 comment period ended January 7<sup>th</sup>, 2011. Subsequent  
16 to that, a final version of the supply mix  
17 directive was prepared, and that was approved by  
18 Ontario cabinet and released on February 17<sup>th</sup> of  
19 2011.

20                                So based on that, the Ontario  
21 Power Authority will be developing a detailed  
22 integrated power system plan, and they have -- will  
23 be starting consultations with the public beginning  
24 in April. Again, very extensive consultations will  
25 arise from that, and the intention of that is to

1 have a -- a draft integrated power system plan  
2 submitted by late summer as is the expected date  
3 that would go to the Ontario Energy Board that it  
4 will be and subject to a full proceeding, full  
5 review, including public hearings towards the end  
6 of the process, and so this is just to illustrate  
7 the extent of the planning process in Ontario and  
8 also the extent to which there's public  
9 consultation and input.

10                   So in terms of the supply, the  
11 challenge -- demand supply challenge, it went  
12 through a period of -- since between mid-'90s and  
13 2003, when there was fairly limited investment,  
14 both in transmission and generation, since that  
15 period the government has committed to adding a  
16 significant generating capacity. This states we  
17 now have about 35,000 megawatts of capacity, and I  
18 guess to say what -- illustrate what that means,  
19 the all-time peak demand on the Ontario system has  
20 been about 27,000 megawatts. That's a very, very  
21 hot day in the summer.

22                   And the reason we would have --  
23 have more, some of this includes some coal units  
24 that will be coming off. Some of the nuclear  
25 plants at Pickering, for example, that will

1 ultimately come out of the mix. And in addition,  
2 renewable projects, about 2,100 megawatts that are  
3 in service now, and from a capacity-meeting  
4 capability, they're not really comparable with the  
5 other generation. So during -- over the time  
6 period of this plan 15,000 megawatts will have to  
7 be renewed or replaced. So that could be either  
8 new capacity or refurbishment of existing capacity.

9                   So a challenge in the planning, as  
10 of course, you need to have a balanced mix. You  
11 have to take prudent decisions to ensure you will  
12 have the supply of both adequacy and the type of  
13 generation that you need in the long term. And  
14 then that also -- there has to be flexibility built  
15 in the system, partly illustrated by the fact that  
16 the expectation is while a 20-year plan, it's  
17 required to be renewed every three years.

18                   So in terms of the types of things  
19 we'd have to take into consideration in this  
20 planning, there's different types of generation, it  
21 can meet different types of loads. So we are -- a  
22 major focus to the plan is conservation. And I'll  
23 go into a bit more detail about that -- that now,  
24 we've got very aggressive conservation targets. We  
25 have to plan for meeting base load generation,

1 which is the requirements of the system that are  
2 fairly steady throughout the day, throughout the  
3 year. And so the generation has to be planned that  
4 can meet that. We have intermittent sources of  
5 generation, such as the solar and -- and wind. And  
6 those are available basically when -- when the  
7 conditions are appropriate for them to run. But  
8 they aren't really able to meet peak demand. We  
9 will also have to rely on other generation that is  
10 flexible enough to meet changes in the load and to  
11 meet intermediate and peaking load as load -- as  
12 demand ramps up and ramps down.

13                               So in terms of what we have in the  
14 long-term plan, we have again quite ambitious  
15 targets with respect to renewables. So this plans  
16 on an increase in the amount of wind, solar and  
17 bio-energy in total to 10,700 megawatts by 2018.  
18 So in service today there's about 2,100 megawatts.  
19 And this figure represents in effect the amount  
20 that could be physically connected to the system in  
21 terms of recognizing transmission and distribution  
22 limits. And to be able to meet this the plan also  
23 identifies five priority transmission projects,  
24 which would have to be completed before we would be  
25 able to link these projects, this amount of

1 generation.

2                               The 2018 is -- represents, in  
3 fact, where these additional transmission projects  
4 because of approvals, construction, various other  
5 requirements, the projects, the five priority  
6 products we have identified that will need to be  
7 completed, we're not expecting them to be in  
8 service until at least 2017, the two major of them.  
9 So the new line as an example of one that would  
10 facilitate doing more renewals.

11                              And it also includes 9,000  
12 megawatts of hydro-electric supply, which is a  
13 significant increase from today. The hydro is  
14 about 8,000 megawatts in service today.

15                              So conservation, another major  
16 area in the long-term energy plan. And there are  
17 -- the target we've set out, and this is an  
18 increase from the previous one, the previous target  
19 was 6,300 megawatts by 2025. We have a demand  
20 management target of 7,100 megawatts by 2030.  
21 There are also targets for -- so this is peak  
22 demand use.

23                              There are also target --  
24 significant targets for energy, in this case you  
25 have 28 terawatt hours or billion kilowatt hours.

1 There are also interim targets set out in the plan  
2 by five-year intervals, and local targets that  
3 local distribution companies have to meet. And  
4 this is met through a combination of provincial  
5 programs, many of which are delivered by the local  
6 distribution companies, as well as appliance  
7 efficiency regulations and -- and other measures  
8 related to interior building code, et cetera.

9                   So, again, the plan, the main  
10 points of the plan or the objectives of the long-  
11 term energy plan, build a clean energy future,  
12 clean, modern and reliable electricity system, meet  
13 the needs of an evolving economy, shifting  
14 electricity demand. Use the right generation mix  
15 to ensure balanced supply. And we need a balanced  
16 supply that's reliable, modern, clean and cost  
17 effective, and make best use of Ontario's existing  
18 assets. It's including upgrading, expanding or in  
19 some cases, converting facilities.

20                   So the Ministry is confident that  
21 this policy framework set out in the LTP, the long-  
22 term energy plan, meets the needs of Ontarians for  
23 a balanced, clean, modern and reliable electricity  
24 supply over the next 20 years.

25                   So again, the features, so the --

1 underlying any electricity plans, first the demand  
2 growth. This chart sets out three low-growth  
3 possible scenarios. So a low which is a fairly  
4 flat growth, and these really take different  
5 assumptions about population growth, economic  
6 growth, the future of manufacturing. And so we've  
7 set out three different scenarios.

8                               So the moderate growth, which is  
9 really one that we are kind of focusing for  
10 planning purposes on it, is for a 15 percent growth  
11 over the 20 years, so that's about .7 percent a  
12 year, so that's the growth net of conservation, net  
13 of the conservation planning and initiatives that  
14 the government's going to do. And I guess just for  
15 context, in the period -- the ten-year period, '95  
16 to 2005, the electricity demand growth was about  
17 1.3 percent per annum. There was a decline in  
18 consumption during the -- the recession of 2005,  
19 was kind of the peak period. So between then and  
20 2009 demand fell about 10 percent, but over the --  
21 in terms of returning to the growth, there was a 2  
22 percent growth 2010 over 2009, and the outlook is,  
23 as I said, for fairly moderate growth going  
24 forward.

25                               In terms of what would drive that

1 growth, well, for one thing we're expecting a  
2 population increase, about 3.7 million in Ontario  
3 over that period. Over a million new households  
4 corresponding, and about 130 million square metres  
5 of commercial floor space. So those will all be  
6 added to the mix, so there will be some efficiency  
7 improvements, of course, and that's certainly  
8 reflected by the fact that the demand growth will  
9 be significantly expected -- or we're planning on  
10 the basis of it being significantly lower than  
11 economic growth.

12                   The higher growth scenario is one  
13 where in addition to having higher population and  
14 economic growth, it would also be driven by greater  
15 electrification, and some of this would result in  
16 more electric vehicles. More electrification of  
17 urban transit, and in addition if we have a policy  
18 of -- an aggressive policy of reducing carbon use,  
19 that will result in higher carbon pricing, which  
20 will drive some more use of electricity as opposed  
21 to fossil fuels.

22                   And the Ontario system with the  
23 phase out of coal, and the plans for refurbishing a  
24 nuclear fleet, we would end up with electricity as  
25 a fairly low carbon -- carbon source compared to

1 some other jurisdictions, particularly in the US.  
2 And this is illustrated -- this graph, which shows  
3 the expected greenhouse gas emissions from the  
4 electricity sector, so the major reason this has  
5 been achieved is through the phase out of coal fire  
6 generation. And coal has -- in terms of its  
7 generation of greenhouse gases, it's about three  
8 times that for new combined-cycle natural gas, but  
9 when it combines with the natural gas, still is a  
10 -- but that would be what the emissions are  
11 post-2015 on here from natural gas. If we had more  
12 natural gas, of course, you'd end up having a  
13 higher greenhouse gas scenario.

14                   The electricity sector is fairly  
15 key to the government's Go Green policy, which is  
16 the Ontario Government's clean -- greenhouse gas  
17 targets.

18                   And, in fact, if you looked at the  
19 reductions of Ontario's -- we're targeted to  
20 achieve that by 2014. Seventy-seven (77) percent  
21 of that is accounted for by the coal phase-out in  
22 the electricity sector and, as you move out even to  
23 2020, it's still about 67 percent of the reductions  
24 as accounted for by coal.

25                   So part of the goals under this

1 plan, is having achieved these reductions in  
2 greenhouse gases in this sector, to maintain that  
3 going forward.

4                               So, in terms of nuclear, we have  
5 10,000 megawatts at the Darlington and Bruce sites  
6 that are either existing -- in the case of Bruce,  
7 two units are currently being refurbished, so the  
8 plan involves refurbishing of those, that's 10,000  
9 megawatts, and then an additional 2,000 megawatts  
10 for the new build at Darlington.

11                              Those, in fact, to a large extent  
12 are really to offset the closing over time of the  
13 Pickering unit, so the Pickering B units are about  
14 2,000 megawatts; the two continuing operating units  
15 at Pickering A are another 1,000 megawatts.

16                              One thousand (1,000) megawatts  
17 have already been closed at Pickering A, so that,  
18 in total, is about 4,000 megawatts.

19                              So, in effect, the plan is to  
20 replace the 4,000 megawatts closing with 2,000  
21 megawatts of new, so rather than an expansion of  
22 nuclear capacity there's in effect a modification  
23 of even the plan that had been proposed a couple of  
24 years ago.

25                              So, in terms of other features of

1 natural gas generation, it's very important for  
2 meeting peak needs. And, in some cases, for local  
3 and system reliabilities, in terms of areas that  
4 they can be located, although there has been  
5 certainly some community resistance to natural gas  
6 as well.

7                                 It will allow an advantage natural  
8 gas has, similar to some of the replacements of the  
9 coal. It is generation that can move up and down  
10 to meet changes in load and demand, both minute by  
11 minute, and also over time, ramping it up during  
12 the morning as demand increases, for example.

13                                 It's always also fairly important  
14 in terms of a system that has a lot of renewable  
15 generation which itself doesn't provide peaking  
16 capability. You would, in effect, have to build  
17 the equivalent generation capacity from natural  
18 gas, to be able to rely on that.

19                                 The plan identifies five  
20 transmission projects, priority projects, two  
21 related to northern Ontario, three in southern  
22 Ontario. Of those three in southern Ontario, one  
23 is new transmission lines; that obviously has  
24 longer lead times than some of the other projects.

25                                 And that, again, has a lead time

1 until about 2017, which will be required before we  
2 could enable the renewable -- all the renewable  
3 generation set out in the plan.

4                   So, in terms of other aspects, the  
5 plan does examine potential for storage and imports  
6 from other jurisdictions, some of which would  
7 probably be longer term options that could be  
8 considered when the plan is reviewed in three  
9 years. And, of course, the plan is consistent with  
10 all the regulatory requirements and statutory  
11 requirements being met.

12                   So then, to illustrate here a  
13 summary of what the plan has in terms of  
14 generation, this shows the reduction in coal.

15                   So, 2003, 25 percent of generation  
16 was coal. That's down to 8 percent, as of last  
17 year, and of course will be out of the mix over the  
18 long-term period of the plan.

19                   The plan counts as part of its  
20 planning conservation, as an asset, as a means of  
21 meeting the requirements -- and you can see we've  
22 moved up so conservation by the end of the period,  
23 2030, is about 14 percent of what would be total  
24 requirements that are in effect met by  
25 conservation.

1                   The nuclear, this illustration, is  
2 about 46 percent. Again, if you took the  
3 conservation out, and it was of generation, it  
4 would be more than 50 percent of generation.

5                   And this sets out the rapid growth  
6 in wind and in solar over the period. Although the  
7 solar still is a relatively modest amount of  
8 generation, it still has a fair amount of capacity.

9                   This reflects the fact that -- how  
10 often the capacity runs on solar, would be in the  
11 range of 15 percent of the time. Wind, 30 percent,  
12 for a good wind regime, or less.

13                   Now, again, this is just a repeat  
14 of that greenhouse gases.

15                   So, again, the highlights in terms  
16 of the supply mix directive, which is really the  
17 guidelines or the instructions for the OPA, and the  
18 Power Authority in terms of developing the  
19 integrated power system plan -- so the supply mix  
20 directive, again, this is cabinet-approved so it's  
21 an order-in-council; it sets out that the Power  
22 Authority should plan on the basis of medium growth  
23 scenario, but also the plan should have the  
24 flexibility to accommodate the potential for higher  
25 growth outcome.

1                   And in terms of nuclear build, as  
2 I've set out there, it talks about the  
3 refurbishment of the 10,000 megawatts of the  
4 existing generation, Bruce and Darlington, and the  
5 procurement of two new nuclear units of about 2,000  
6 megawatts at the Darlington site. And, again, the  
7 overall framework of that is that approximately  
8 50 percent of Ontario generation is to continue  
9 from nuclear.

10                   So, in terms of objectives -- so  
11 setting out what Ontario, the government, has done  
12 with respect to directing the new nuclear -- so on  
13 the basis of new nuclear, is it's a reliable, safe  
14 supplier of the province's baseload generation  
15 needs, counting for 50 percent of the generation.

16                   Because of the nature of nuclear  
17 plants, they are able to operate more or less  
18 continuously, and they're -- particularly for  
19 greenhouse gases, no emissions in operation, and a  
20 plentiful, consistent supply of energy, at stable  
21 prices.

22                   And, in addition, the fuel costs  
23 for a nuclear plant is small relative to its total  
24 cost, so it's generally less susceptible to changes  
25 in fuel prices and escalation.

1                   So then this next part just talks  
2 about -- refers from the existing units and those  
3 -- expected that the refurbishment schedules for  
4 those would require about three years in each case.

5                   So, again, with government  
6 support, nuclear power continues to be the  
7 workhorse of electricity generation in Ontario,  
8 providing half of the power, and the ministry is  
9 committed to modernizing the nuclear fleet.

10                  And, as per the long-term energy  
11 plan, during the first 10 to 15 years of the plan,  
12 10,000 megawatts will be refurbished, and then  
13 2,000 megawatts will be nuclear, and the  
14 expectation we would have is that that's in the  
15 period 2020 to 2022, for the new build.

16                  So I just have a quote here. This  
17 is from the Minister of Energy, The Honourable Brad  
18 Duguid, as of January this year:

19                         "We will be moving forward with  
20                             the purchase of these two new  
21                             units and the refurbishment of  
22                             our existing units. That's not  
23                             in question. Our preference is  
24                             to do it domestically and to do  
25                             as much as we can to grow the

1 nuclear industry in Ontario and  
2 Canada."

3 Further to that, the comments on it have talked  
4 about ensuring that the interests -- that any  
5 procurement is in the interests of Ontarians and  
6 Ontarian ratepayers.

7 So, just back in terms of the  
8 supply mix directive, we talked about the one in  
9 2011. One was issued in 2006, which was the  
10 guidelines for the first integrated power system  
11 plan.

12 At that time the Minister of  
13 Energy, then The Honourable Dwight Duncan, directed  
14 OPG to begin the federal approval process for new  
15 build nuclear units at an existing site, and  
16 including commencing the environmental assessment.

17 There was a procurement process  
18 for new units that was initiated in 2008, and that  
19 was a competitive request for proposals. We did  
20 receive three submissions, from Atomic Energy  
21 Canada Limited, AREVA and Westinghouse. And this  
22 process was suspended in -- actually the  
23 announcement, I guess, was June of 2009. And this  
24 was -- the suspension was based, I guess, on two  
25 things, uncertainty about the -- the ownership of

1 AECL and the nature of the bid that -- that had  
2 been received.

3                                 So in terms of -- of the  
4 relationship where there was still some answers to  
5 get sorted out in terms of -- of AECL and their  
6 discussions. The discussions are -- are that the  
7 federal government was having with -- with bidders  
8 in respect to AECL. So in terms of -- we will  
9 certainly be engaging in -- in the procurement  
10 process and I guess how that relates to the -- this  
11 proceeding. It's either given the -- the lead time  
12 to -- to licence and construct in the nuclear  
13 plant. It is consistent with the plan and prudent  
14 and provides flexibility in -- in terms of the  
15 process of going ahead.

16                                 Okay. So I guess then, just to  
17 specifically comment on the environmental impact  
18 statement, the Minister of Energy has -- has  
19 reviewed the statement of -- particularly in the  
20 areas of how it has dealt with alternatives to the  
21 -- to the undertaking. And in our review that the  
22 -- the -- this proposal is consistent with the  
23 government's policy; consistent with the province's  
24 supply mix perspective and -- so then the  
25 government strongly supports OPG as the proponent

1 in this case. So the Ministry confirms that the  
2 conclusions from OPG's environmental assessment and  
3 licencing efforts align with the police objectives  
4 of the long-term energy plan and supply mix  
5 directive.

6                                   Okay. Some -- some of this is  
7 repetitive and this just re-affirms the -- the role  
8 of the new build, the 2,000 megawatts, both in  
9 terms of meeting requirements that we're expecting  
10 under the -- the demand growth. And then, of  
11 course, as I said, we've -- the direction under the  
12 plan is to have the flexibility to meet higher  
13 demand growth that -- that could develop. And  
14 again, this is consist with the government's plan  
15 for coal phase-out and -- and overall maintaining  
16 the greenhouse gas reductions that we've already  
17 have achieved in the sector to date and we'll have  
18 fully achieved by 2014.

19                                   Okay. So then as noted the  
20 government -- the Ministry has reviewed the  
21 statement and is -- particularly with respect to --  
22 in our area of responsibility, how it has dealt  
23 with alternatives and that is -- we're confirming  
24 that it is consistent with the long-term energy  
25 plan and supply and mix directives that have been

1 given to the -- the Ontario Power Authority.

2                                   Okay. So then, I guess again in  
3 terms of the -- the question about multi-technology  
4 or bounding envelope, given there has not been a --  
5 a decision on technology or procurement that's been  
6 completed, the Ministry believes that OPG's  
7 approach is appropriate at this stage in project  
8 planning; allows both the adequate and proper  
9 assessment of environmental effects and the  
10 continued study of technologies considered for  
11 eventual deployment. And based on experience with  
12 the existing nuclear fleet, the Ministry agrees  
13 with the proponents conclusions and proposed  
14 mitigation measures in the EIS document. And just  
15 -- OPG continues to engage provincial authorities  
16 regarding ministerial responsibilities in the  
17 process.

18                                   So that's the conclusion of the  
19 presentation and we certainly welcome any  
20 questions.

21                                   CHAIRPERSON GRAHAM: Thank you  
22 very much, Mr. Jennings. It's a little after  
23 12:30. I think we'll adjourn for one hour for  
24 lunch and at 1:30, in 45 -- or 55 minutes we will  
25 then reconvene with questions from panel members,

1 then questions from either CNSC or OPG and  
2 government officials, and then I have four  
3 intervenors that have questions. So we'll  
4 reconvene at 1:30. Thank you very much.

5 --- Upon recessing at 12:38 p.m./

6 L'audience est suspendue à 12h38

7 --- Upon resuming at 1:30 p.m./

8 L'audience est reprise à 13h30

9 CHAIRPERSON GRAHAM: Please take  
10 your seats.

11 (SHORT PAUSE/COURTE PAUSE)

12 CHAIRPERSON GRAHAM: This is going  
13 to take a minute or so -- the -- they're just going  
14 through security, our -- our intervenors. So  
15 they're here now so that's wonderful.

16 (SHORT PAUSE/COURTE PAUSE)

17 CHAIRPERSON GRAHAM: Thank you  
18 very much. I'll call on the co-manager, Ms. McGee  
19 to make a few comments and announcements.

20 MS. MCGEE: Good afternoon.

21 Welcome back to the continuation of today's public  
22 hearing. As Mr. Graham said, my name is Kelly  
23 McGee. Je suis la co-gestionnaire de la Commission  
24 d'examen conjointe du projet de nouvelle centrale  
25 nucléaire de Darlington et j'aimerais aborder

1 certains aspects touchant le déroulement des  
2 audiences.

3 Panel Secretariat staff are  
4 available at the back of the room. Please check in  
5 with Julie Bouchard if you are scheduled to present  
6 at this session, if you want permission of the  
7 Chair to put a question to a presenter or if you  
8 were not previously registered, but now wish to  
9 speak.

10 Opportunities for questions or to  
11 make a brief oral statement are subject to the  
12 availability of time.

13 We have simultaneous translation  
14 with English on Channel one. La version française  
15 est au poste 2.

16 As a courtesy to everyone in the  
17 room, please silence your electronic devices. I  
18 also want to take this opportunity to advise  
19 participants here and on online or listening to our  
20 audio feed, that there's been a change to today's  
21 schedule. Natural Resources Canada, who was  
22 scheduled to be the next presenter is going to be  
23 rescheduled to a later date and we will advise  
24 people when we've determined that date.

25 We will move now to questions for

1 the Ontario Ministry of Energy.

2 CHAIRPERSON GRAHAM: Thank you  
3 very much, Kelly. And with that, Mr. Pereira, you  
4 can open -- I'll ask you to open the question  
5 please.

6 --- QUESTIONS BY THE PANEL:

7 MEMBER PEREIRA: Thank you, Mr.  
8 Chairman. My first question concerns the  
9 consultation that the Ministry of Energy did in --  
10 in arriving at the decision to maintain a certain  
11 level of nuclear -- nuclear generation which  
12 includes some increase in capacity. And on your  
13 slide 5, you outlined the consultation that you did  
14 at different stages and different means of doing  
15 that. In those consultations, did you find there  
16 was broad support for the commitment to maintaining  
17 the level of 12,000 megawatt nuclear generation?

18 MR. JENNINGS: For the record,  
19 Rick Jennings. So the consultations included the  
20 -- the broad general public in terms of a web-based  
21 consultation and with 40 different stakeholders.  
22 The stakeholders, of course, the -- the gamut of  
23 people across -- they have interest in the energy  
24 sector, so that was certainly mixed; some for; some  
25 against. I -- we -- we haven't actually provided

1 or -- or developed a summary of that.

2                                 There is, though, for the  
3 Environmental Registry, it was on the -- it's more  
4 of a formal legalistic process. So there will be a  
5 summary of that coming out and that we can  
6 certainly provide to the committee.

7                                 MEMBER PEREIRA: Have you any idea  
8 or estimate as to when that will come out?

9                                 MR. JENNINGS: Over the next  
10 month, so April, I would say.

11                                MEMBER PEREIRA: The reason I ask  
12 is because in the interventions from a broad range  
13 of intervenors there's tremendous interest in this  
14 subject of choices of alternatives, although the EA  
15 guidelines do say that with a provincial directive  
16 it's outside the scope of this panel, but  
17 nevertheless it's a matter of some interest.

18                                So we'd be interested in receiving  
19 that. I don't know how we would capture that.

20                                Mr. Chairman?

21                                CHAIRPERSON GRAHAM: I'm not sure.  
22 I guess perhaps it would be through OPG, would it?

23                                MR. SWEETNAM: Albert Sweetnam,  
24 for the record.

25                                The website that was referred to

1 it's a government website so we would be unable to  
2 do that because the responses go directly to the  
3 government. It should really be a government  
4 undertaking.

5 MR. JENNINGS: So we can insure  
6 you get it. I would have to work on how we do it  
7 but we can certainly do that.

8 CHAIRPERSON GRAHAM: I guess we  
9 ask you to send it to us just as soon as it's  
10 available.

11 MR. JENNINGS: Okay.

12 CHAIRPERSON GRAHAM: Make sure we  
13 get it and that -- because if I go on undertaking  
14 it's -- I think it's easier to handle it this way.  
15 And we'll make sure once we get it, it is made  
16 public.

17 MEMBER PEREIRA: The next question  
18 concerns some of the information on your  
19 presentation on the projected proportions of power  
20 from different sources.

21 In the conservation segment would  
22 that include expansion to combine heat and power or  
23 is that another issue?

24 MR. JENNINGS: We've counted that  
25 as a generation option. So that is part of the

1 natural gas -- sorry, Rick Jennings, for the  
2 record. The combined heat and power is part of the  
3 generation.

4 MEMBER PEREIRA: Okay, and it  
5 serves under natural gas?

6 MR. JENNINGS: Natural gas, yes.

7 MEMBER PEREIRA: Because, again,  
8 there's considerable amount of interest in what can  
9 be achieved through combined heat and power.

10 And the final bit of clarification  
11 there is in water power increase in hydroelectric  
12 generation, and there was a comment about imports  
13 from other jurisdictions. Would that be import of  
14 hydroelectric generated power?

15 MR. JENNINGS: That 9,000 number  
16 is Ontario generation. So we have had ongoing  
17 discussions with Manitoba and Quebec and in fact  
18 Newfoundland. The province has expanded its  
19 interconnection with Quebec so there's a 1,250  
20 megawatt DC link with Quebec. So that has -- now  
21 that's not tied to a specific purchase but  
22 certainly power flow is back and forth on that way  
23 and we are certainly open to further discussions.

24 MEMBER PEREIRA: So that certainly  
25 is an alternative that can be expanded I presume?

1 MR. JENNINGS: Rick Jennings, for  
2 the record.

3 So it's not actually in -- the  
4 supply mix doesn't actually assume the conclusion  
5 of a further purchase but certainly continuing to  
6 look at that is part of the plan.

7 MEMBER PEREIRA: And in terms of  
8 options for increasing generation, is there scope  
9 for further hydroelectric generation in Ontario in  
10 the long-term?

11 MR. JENNINGS: Most of the  
12 expansions of the 9,000 that we have there would  
13 cover existing hydro near-term additions, major  
14 challenges, most of the larger scale hydro.

15 Now, there's some large being  
16 built now. Lower Matagami is 450 megawatts.  
17 There's potential north of that. What is required  
18 is a significant transmission build out. And there  
19 is a requirement for a bigger north-south link,  
20 which is really a line from the Barrie area up to  
21 Sudbury, another transmission.

22 So it becomes a major step of a  
23 couple of billion dollars for that kind of  
24 investment that you'd have to make before you could  
25 do any of that.

1                   So the hydro we don't envisage it  
2     expanding much until at least 2018. We have a 2018  
3     target. So it should really reflect the  
4     transmission system as it is or it could be built  
5     out by then.

6                   So certainly you would need a  
7     major commitment. You'd also have to -- where  
8     there is hydro potential in Ontario you need a long  
9     transmission link up to Albany River, Attawapiskat  
10    in the north.

11                  So there is some. It's expensive.  
12    We certainly don't have the same potential as  
13    Quebec or Manitoba.

14                  MEMBER PEREIRA: And one which  
15    invites you to speculate a bit.

16                  What's your anticipation of having  
17    access to the 2,000 additional megawatts on line --  
18    in service?

19                  MR. JENNINGS: Well, I think we'd  
20    be thinking the period 2020 to 2022.

21                  And so in part it needs to be  
22    there or it would ideally be available as the  
23    Pickering units reach their end-of-life. So  
24    factoring that in is both, you know, how long it  
25    would take to actually get them in service and also

1 the other requirement.

2 MEMBER PEREIRA: Thank you very  
3 much.

4 CHAIRPERSON GRAHAM: Thank you,  
5 Mr. Pereira.

6 Madam Beaudet?

7 MEMBER BEAUDET: Thank you, Mr.  
8 Chairman.

9 I'll pursue a little bit on my  
10 colleague's refection. We did, yes, get a lot of  
11 intervenors proposing alternatives to nuclear. I  
12 think the debate has gone over, as I said  
13 yesterday, over just the project but also nuclear  
14 debate at large.

15 And you've just expressed some of  
16 the constraints that you would have to move to one  
17 technology to another in terms, for instance, of  
18 capability with transmission lines, and there are  
19 other restrictions as well.

20 So I was wondering, what is your  
21 biggest communication challenge?

22 Because I was reading the briefs,  
23 for instance, that are only written submissions,  
24 and you see people suggesting things like buying  
25 more from Quebec and expressing that you should do

1 these things now, but you just mentioned that  
2 you've looked at them and there's a possibility of  
3 doing it, for instance, when Pickering finishes  
4 off.

5                                 For me, I'm trying to understand.  
6 It doesn't seem to be a well-informed public, and I  
7 may be wrong, in Ontario as to what you're trying  
8 to do.

9                                 MR. JENNINGS: Rick Jennings.

10                                I think another constraint, which  
11 also relates to the public, there has been --  
12 always been concern about prices but in the last  
13 half of year or so there's been considerable public  
14 resistance to cost pressures in terms of pricing in  
15 the system. So this is another factor that becomes  
16 a major constraint on some of the choices that  
17 you'd have to make, particularly if you wanted to  
18 do more near term than you necessarily need.

19                                So our current situation, from a  
20 supply/demand situation, we're doing quite well and  
21 in fact we probably added more supply in the near  
22 term than we need. That has an impact on prices.

23                                So I guess some of the things that  
24 people want to pursue, you know, near term options,  
25 more solar or more wind, or whatever, that has to

1 be seen in the constraint. The public also is very  
2 concerned about prices and so a communications  
3 thing is really some of the cost around some of  
4 these alternatives.

5                   And, in fact, we do have -- in  
6 addition to some of the people who may be focused  
7 on this hearing, in terms of their concerns, there  
8 are people who are raising concerns about spending  
9 money on alternatives, given they've seen a rise in  
10 their bills.

11                   MEMBER BEAUDET: You said that the  
12 possibilities you're looking at now, like, for more  
13 hydro power, et cetera, we'll go, let's say, we  
14 could possibly be in construction starting to plan  
15 or to build for production around 2018.

16                   Have you -- we are talking here --  
17 we're looking at 60 years, 70 years.

18                   There are also possibilities of  
19 new technology or more efficient technologies. I  
20 know there's a big debate in the States and  
21 internationally about carbon capture, new  
22 technologies which would probably help some  
23 countries to continue using coal.

24                   So I'm just wondering; have you  
25 looked at the possibility of eventually phasing out

1 nuclear?

2 MR. JENNINGS: The province has  
3 made a major commitment to phasing out coal, and so  
4 the carbon capture and storage is not really an  
5 option. The government did choose to go the way of  
6 phasing out coal.

7 If you were to look at the  
8 argument for phasing out nuclear, nuclear does  
9 provide 50 percent of our generation now and it has  
10 provided a substantial portion for a long time. If  
11 you were to -- if, for whatever reason, you were to  
12 replace it, only the viable, immediate way of doing  
13 it is if you wanted to build natural gas plants.

14 So we have, for example, 2030,  
15 about 90 terawatt hours, a billion kilowatt/hours  
16 from nuclear. If you were to produce that from  
17 natural gas, you'd have 33, 34 mega tonnes of  
18 carbon dioxide, which is about what we were  
19 producing from coal before we started phasing it  
20 out.

21 So if you were to explore an  
22 option like natural gas, you would basically end up  
23 back with the same level of emissions from coal,  
24 from the greenhouse gases that we had to start.

25 And the province has greenhouse

1 reduction targets, as most jurisdictions do. A big  
2 reliance on that is on the phasing out of coal. If  
3 we were to replace that, because we're not just  
4 phasing out coal; we're now replacing another  
5 source that doesn't produce greenhouse gases, you  
6 would end up basically having not achieved any net  
7 reductions from phasing out coal.

8                   So the greenhouse gases is going  
9 to be a major constraint on any choices.

10                   MEMBER BEAUDET: So you would be  
11 left really with a major area where you could  
12 reduce the conservation of energy and energy  
13 efficiency if eventually you would want to phase  
14 out gradually Bruce, et cetera, and eventually  
15 Darlington, I mean, if you look on the long term,  
16 because we usually look in the long term, in terms  
17 of 60 to 100 years.

18                   MR. JENNINGS: Rick Jennings.

19                   So we are already doing more on  
20 conservation than other jurisdictions. If you  
21 looked across North America -- and I don't know  
22 whether we could actually prove it's the most  
23 ambitious -- it's certainly among the most  
24 ambitious. So we are, in effect, planning on  
25 meeting 14 percent of what would be generation

1 requirements through conservation by 2030.

2                               If you were to try to also replace  
3 the 50 percent that comes from nuclear with  
4 conservation, that would effectively mean you're  
5 reducing by two-thirds your electricity consumption  
6 over a period when the province will be adding  
7 three plus million people, one plus million  
8 households. We use the number -- it's hard to  
9 visualize what it is -- but 132 million square  
10 metres of commercial floor space.

11                              So with all that growth going on,  
12 and we are pushing conservation in a fairly  
13 aggressive way, that still does mean that you will  
14 need to replace or refurbish the system that you  
15 have.

16                              MEMBER BEAUDET: My other point,  
17 you said this morning in your presentation that at  
18 the moment you are looking for 2,000 megawatts of  
19 electricity, but you agree with the plan of OPG in  
20 the EIS to look for a maximum of 4,000.

21                              What would be the consequence to  
22 limit it only to 2,000? Because we are -- I mean,  
23 we say "jongler" in French -- I don't know the word  
24 in English here, but we're trying to have a  
25 project, looking at the different recommendations.

1 And maybe you are aware one of them is to reduce  
2 the lake infill to a contour line of a two-metre  
3 depth, and that restricts a lot if you want to have  
4 four units on land because you go from 40 hectares  
5 to -- I don't know -- I think 29.

6 We also have mitigation measures  
7 that require recreation of existing ponds, and the  
8 list is fairly long when you lose already a piece  
9 of land.

10 We're looking at different  
11 possibilities such as having cooling towers instead  
12 of once through, and I'm sure next week other  
13 things will add up, so we suddenly feel that the  
14 site is getting smaller and smaller.

15 I'd like to hear from you what  
16 would be the consequence of limiting it to 2,000  
17 megawatts?

18 MR. JENNINGS: Rick Jennings.

19 We have the plan based on the  
20 moderate growth. I've identified 2,000 megawatts.  
21 Now, the government -- the Ministry is saying that  
22 for prudence or flexibility of planning purposes,  
23 we think the plan -- so this is not just this  
24 proposal but the Ontario Power Authority, which  
25 does the planning -- should plan to have the

1 flexibility to meet the higher growth scenario.

2                   So I guess you could say it  
3 provides greater flexibility or from a planning  
4 perspective, it gives you more -- it's more prudent  
5 to be able to meet if the higher growth  
6 materializes.

7                   Now what that means, we would  
8 expect that over the next few years the growth  
9 probably doesn't diverge very much. It starts to  
10 diverge if you have stronger carbon controls, a  
11 much greater penetration of electric vehicles; you  
12 start having more electrified transit. So there  
13 will be a time period, we would think, that you  
14 would identify that you're on the higher growth  
15 path.

16                   But again, the principal argument  
17 for it is that it's more prudent to be able to  
18 address the possibility of higher growth because we  
19 can envisage from technology changes that this  
20 could happen. So I guess we would say, from a  
21 planning principle, it's prudent to include that  
22 flexibility.

23                   MEMBER BEAUDET: Thank you.

24                   My last point is regarding  
25 features in the procurement documents. The

1 official line of thought for the Ontario government  
2 in choosing a technology is threefold: the  
3 lifetime cost of power; the ability to meet  
4 Ontario's timetable to bring new supply in 2018  
5 and; the level of investment in Ontario.

6 Now, we've been reviewing, with  
7 CNSC especially, PMD documents. Some of the  
8 aspects will come online or will meet the  
9 requirements for safety and different aspects only  
10 in details of the licence to construct, but by that  
11 time you will have made a choice of a vendor.

12 And I'm sure in the bidding  
13 documents there are different aspects that the  
14 bidders have to comply to and they're probably  
15 rated according to different things.

16 And you obviously have the staff  
17 also to advise you on the different technologies  
18 from a technical point of view, but I'd like to  
19 hear a little bit more on how that is done. I  
20 mean, the final decision can be more an economic  
21 one, but what about in choosing the vendor; how  
22 does it rate, the compliance of the technology to  
23 what we require in Canada?

24 MR. JENNINGS: Well, the  
25 procurement that was launched in 2008, we ended up

1 having the three respondents; so Atomic Energy of  
2 Canada Limited; AREVA, which is the EPR 1600, which  
3 is one of these; and the AP1000 from Westinghouse.

4                   So the first review in that  
5 looking at that RFP is really whether they are  
6 compliant with the documents. So the stage after  
7 that was that, at that time, that it was only AECL  
8 who was compliant.

9                   Since then and I think the  
10 government has been on the record that they would  
11 want to have further discussions with AECL and it's  
12 really based on an understanding of when the  
13 federal process is complete in terms of  
14 understanding who the -- who the successor is or  
15 who owns that.

16                   So it's fair to say that the  
17 government has -- the Ontario government has said  
18 that the first priority is to have discussions with  
19 respect to Canadian technology. This is having  
20 completed that earlier process.

21                   So that having been said, they've  
22 also been clear that they would be looking for a  
23 contract and agreement that is in the best interest  
24 of Ontario and Ontario ratepayers.

25                   So if we were unable to resolve an

1 agreement that was felt to be satisfactory from the  
2 government's perspective, then we could look at,  
3 again, a process like the previous one. But so at  
4 the moment, the government has said it's interested  
5 in having discussions with the next stage of AECL.

6 Now, we don't know in terms of  
7 knowing when the federal process will complete, we  
8 understand that there is a bidder -- I'm not sure  
9 of the exact term but someone that they are dealing  
10 with on an exclusive basis at the moment, but we  
11 don't really have any insights into when that  
12 federal process would be complete.

13 MEMBER BEAUDET: And if you go  
14 outside, let's say if you take AREVA or  
15 Westinghouse, then that's where the hick is. I  
16 mean there are certain things that we will know for  
17 sure whether -- they all claim that they can comply  
18 to the Canadian requirements of the CNSC analysis.

19 But you will have made your  
20 decision before CNSC can come in and check all this  
21 and there's sort of a little grey area. And maybe  
22 CNSC can explain a little bit more what I'm trying  
23 to say.

24 We have discussed this for several  
25 days that you will have to go, when you do the

1 licence to construct, do more tests as, you know,  
2 if they meet for instance the 500 metres.

3 I know there's one technology at  
4 the moment that doesn't. If you have all the  
5 information regarding fire hazards, et cetera, and  
6 by the time you get the documents, the choice is  
7 already made.

8 MR. HOWDEN: Barclay Howden  
9 speaking.

10 That may be the case. However,  
11 the vendors that have been involved in this are  
12 fully knowledgeable of the regulatory requirements  
13 because they have all been engaged in reviewing RD-  
14 337 which is the design requirements for new  
15 nuclear power plants.

16 So they should know what the  
17 criteria they have to meet. As well, when that  
18 document was created, it was put out for public  
19 comment and a number of the vendors -- I don't know  
20 if all of them -- did put in comments on the thing,  
21 on the document.

22 So there should be no lack of  
23 awareness by someone who is trying to sell reactors  
24 to the Province of Ontario of what the regulatory  
25 requirements are.

1                   But you are correct. When you go  
2 to licence to construct, that's when the details  
3 are there to demonstrate that the safety case that  
4 they have claimed to meet, the details are there to  
5 validate that the safety case is there and the onus  
6 will be on them to meet that.

7                   CHAIRPERSON GRAHAM: I also think  
8 that OPG would like to respond. Mr. Sweetman?

9                   MR. SWEETMAN: Albert Sweetman,  
10 for the record.

11                   The vendors are all fully aware of  
12 the requirements of the CNSC and they have also  
13 undergone -- AECL in terms of the ACR-1000 has  
14 undergone both Phases 1 to 3 of the CNSC review.

15                   AREVA has started Phase 1 and  
16 suspended and the AP1000 has completed Phase 1. So  
17 they're familiar with the Canadian regulations on  
18 what the requirements are.

19                   As part of the eventual EPC  
20 contract, it will also encompass all of the  
21 commitments that OPG is making to the EA and that  
22 will be detailed in the Licence Condition Handbook.

23                   So the vendors are fully aware of  
24 what's happening here. They're fully aware of all  
25 of the commitments that are being made and these

1 commitments will become contractual as part of a  
2 final contract.

3                               So they will not be able to say  
4 that they cannot meet a certain requirement.  
5 They're fully aware before they sign a contract of  
6 all of the requirements that this panel might place  
7 upon them.

8                               MEMBER BEAUDET: Thank you for  
9 these clarifications.

10                              CHAIRPERSON GRAHAM: Just a couple  
11 of questions.

12                              How long can you wait for the  
13 decision of AECL? I mean we're probably going to  
14 be in an election. There are uncertainties in how  
15 fast things move and so on. Is it months, is it  
16 years? How long can you wait before there is a  
17 decision that the AECL is either in the game or not  
18 and you have to go somewhere else?

19                              MR. JENNINGS: When we launched  
20 the process in 2008, there was a target date of  
21 2018. Now, since then, we've had the decline in  
22 demand that occurred during the recession and we're  
23 starting to grow back out of that, but that has  
24 probably reduced some of the urgency from the  
25 province's perspective.

1                   So we would still be looking at  
2 the early 2020s period.

3                   Certainly from the government's  
4 perspective we would like it resolved sooner rather  
5 than later but I think there should be some urgency  
6 on both sides is what I think.

7                   CHAIRPERSON GRAHAM: But 2020 I  
8 believe is for coming on-stream with electricity?

9                   MR. JENNINGS: Yes, yes, yes.

10                  CHAIRPERSON GRAHAM: So decisions  
11 along the way before you can go to that, I'm not  
12 sure how long the build would take depending on the  
13 chosen technology but still, what I'm wondering is  
14 to get to an application for a licence to  
15 construct, how long would -- when would you have  
16 to; is it 2012 or 13 or when?

17                  MR. JENNINGS: Rick Jennings.

18                  So without being definitive, I  
19 would think 2012 is probably where we would want to  
20 have a decision by.

21                  CHAIRPERSON GRAHAM: Thank you.

22                  Another question I have is there  
23 seems to be, in reading the interventions, a lot of  
24 the interventions, a lot of not understanding your  
25 policy or your government's policy as to

1 replacement, why we shouldn't be -- why you  
2 shouldn't be building more wind or solar and so on.

3                   And I guess a question, I don't  
4 know whether I can rule myself out of order I  
5 guess, but cost.

6                   Is wind and solar -- first of all,  
7 is it reliable 100 percent of the time, which is  
8 not but if enough of it is in place and so on, then  
9 is the cost comparable to nuclear?

10                   MR. JENNINGS: So wind we are now  
11 paying 13.5 cents a kilowatt/hour for wind. Solar  
12 projects cost between 40 and 80 cents, depending on  
13 their size.

14                   CHAIRPERSON GRAHAM: Is that with  
15 subsidy or without subsidy?

16                   MR. JENNINGS: Well, that's really  
17 where the subsidy comes from. Those prices are  
18 offered on a 20-year basis to developers. They get  
19 paid by electricity consumers. The cost gets  
20 passed on.

21                   So a feature of the solar and wind  
22 is that they are intermittent. So you have the  
23 wind when the wind blows. You have the solar when  
24 the sun shines. Probably on a wind basis if you're  
25 in a good wind regime, they'll operate around 30

1 percent capacity factor. Solar is more like 15  
2 percent.

3                   A challenge with the wind is,  
4 first of all, you have wind in areas of the  
5 province which aren't necessarily where people are.  
6 So you have to build those transmission  
7 requirements. You also have, while it can operate  
8 around 30 percent of the time if it's in a windy  
9 area, it isn't able to meet peak demands.

10                   So you would actually have to have  
11 natural -- sufficient natural gas fire generation  
12 to be able to meet the capacity requirements,  
13 because you can have that running on peak. And  
14 then the wind or solar would go to reduce your gas  
15 burn, but you can't.

16                   So on a summer day if you needed  
17 1,000 megawatts, the wind -- from a planning  
18 perspective what's usually used is about 10 percent  
19 capability. In other words, if you had 1,000  
20 megawatts of wind, you should be able to reliably  
21 count on about 100 megawatts, and that's partly  
22 because our peak is summer, often hot, still day  
23 and the wind is unavailable.

24                   I think people will sometimes say,  
25 well, you could just use storage, and storage can

1 be expensive, but also one of the things of wind,  
2 it isn't just sort of day to day. We have a lot  
3 more wind in the winter than we do in the summer,  
4 for example. So you would actually have to be able  
5 to store large amounts of power for several months.  
6 So there are all those factors.

7                   But the plan that we have is  
8 actually the 10,700 megawatts that are referred to  
9 in the plan. That is -- has us connecting all that  
10 can be -- can actually be taken on the existing  
11 transmission system, plus the completion of a  
12 transmission line between the Bruce Nuclear Station  
13 and Milton, which is coming on by late 2012, early  
14 2013, plus five other priority transmission  
15 projects that we have identified here. And given  
16 the timeline for building transmission projects, a  
17 couple of those are in the 2017 timeframe.

18                   So we have actually, in this plan,  
19 identified basically with the existing system and  
20 the feasible build-out in the near term, identified  
21 all the renewables that you could put in -- that  
22 you could put in place. There will be challenges,  
23 actually, incorporating that much in the system,  
24 and there is work under way -- our independent  
25 electricity system operator and the Ontario Power

1 Authority that holds these contracts working with  
2 the wind projects that are on now and coming now to  
3 make sure they're able to dispatch them off the  
4 system when there's too much power. So you have to  
5 be able to control the generation quite carefully  
6 when you've got that much of it. So the 10-7, which  
7 we have in the plan, is on its own, will be -- is  
8 ambitious to me.

9 CHAIRPERSON GRAHAM: And when you  
10 -- when you quote 13 and a half cents or 40 plus  
11 cents, does that include the transmission, because  
12 some of these capacities, I mean, you've got an  
13 \$865 million transmission line coming down from  
14 Bruce, or I think that's the cost.

15 My experience in transmission  
16 lines are 1 to \$2 million a kilometre to build.  
17 What is -- is this 13.5 half cents the customer  
18 pays or not?

19 MR. JENNINGS: Rick Jennings.  
20 It's just what the generator gets for the power.  
21 So the customer -- the customer pays that ---

22 CHAIRPERSON GRAHAM: The whole --

23 MR. JENNINGS: --- over to the  
24 other costs.

25 CHAIRPERSON GRAHAM: -- regime

1 on transmission and so on, yes.

2 MR. JENNINGS: Yes, yes.

3 CHAIRPERSON GRAHAM: The other  
4 question I guess I have is cost of nuclear, really  
5 three parts. The build, the operate and then the  
6 disposal fuel and this seems to be always coming  
7 back to the unknown in anywhere in the world is  
8 what it's going to cost to dispose fuel.

9 You do, when you generate  
10 electricity, I understand there is a fund set up,  
11 and that fund is paid into when it's supposed to be  
12 -- meet the criteria set out by CNSC as to what --  
13 what that decommissioning fund is going to cost,  
14 which includes fuel. And what -- what is the base  
15 cost for -- or what is the cost including those  
16 three aspects of -- of build, operate and disposal  
17 of spent fuel or decommissioning for nuclear -- for  
18 a new nuclear project like this?

19 MR. JENNINGS: Okay. Rick  
20 Jennings. So partly when we're talking about  
21 procuring a nuclear -- a new nuclear plant, it is  
22 in a sense to find out what those are, so we had in  
23 our competitive process to try to determine what  
24 those were. And all those aspects were included in  
25 that bid. Certainly can say experience with

1 existing nuclear.

2                               In the case of the OPG assets,  
3 they are currently receiving about 5.5 cents a  
4 kilowatt hour. That includes what they set aside  
5 for the spent fuel.

6                               The Bruce Nuclear is somewhere  
7 around 6 cents for funds being refurbished, and a  
8 bit less.

9                               So as you say, you parse those, so  
10 the spent fuel there is a fund that's set aside for  
11 that and the decommissioning of the reactors. That  
12 is revisited periodically, to see if ---

13                              CHAIRPERSON GRAHAM: I'm aware of  
14 that. That's about 11 point some billion dollars  
15 right now.

16                              MR. JENNINGS: Yes. And it's been  
17 funded and it is being funded again from per  
18 kilowatt hour. There's a charge set aside. The --  
19 so then, of course, you know, the fuel costs with  
20 depend on the price of uranium, although in the  
21 case of nuclear, that's a fairly modest part.

22                              So to say what -- what new nuclear  
23 build will be, we have looked at what other  
24 jurisdictions have got, some -- some who are  
25 building. I guess the more comparable ones, there

1 are two in the US that are going ahead. I mean,  
2 there's China and Korea and various other countries  
3 to look at. You would have to really, I guess, do  
4 the comparison.

5                                 In the plan that we have done we  
6 have a capital cost estimate, so we have estimated  
7 for the new build, and this is in terms of 2010  
8 dollars overnight cost, so really what -- not  
9 escalation and inflation. So we've used a range in  
10 there of 11 to \$15 billion. That's kind of in that  
11 -- that estimate that we have there. Wouldn't  
12 argue that that's firm or we can --

13                                 CHAIRPERSON GRAHAM: No.

14                                 MR. JENNINGS: -- prove that, but  
15 that's kind of the range, which is, say, 5,000 to  
16 \$8,000 a kilowatt, is the kind of numbers that are  
17 out there.

18                                 CHAIRPERSON GRAHAM: The other --  
19 the only other question I have is you're talking  
20 this morning or you've talked today about 2,000  
21 megawatts in the first phase or in your phase that  
22 we're -- that you presented to us today. Pickering  
23 B goes offline first, decommissioned. And you're  
24 saying that would be replaced by hydro, either  
25 coming from Quebec or some other hydro projects; is

1 that correct? Did I read that -- hear you say that  
2 correctly?

3 MR. JENNINGS: Oh. Rick Jennings.  
4 So what I've actually been saying is the 2,000  
5 megawatts of new build is in effect to make up for  
6 the fact that we would be losing 2,000 megawatts  
7 from Pickering B, 1,000 megawatts from Pickering A,  
8 and then you could say there was 1,000 of Pickering  
9 A that aren't -- that weren't refurbished or are  
10 mothballed.

11 CHAIRPERSON GRAHAM: And then you  
12 also have to have replacement power, do you not,  
13 for Darlington refurb around 2020?

14 MR. JENNINGS: Yes, so there --  
15 there is a schedule that's been developed, we --  
16 ourselves or with OPG, Bruce Power, the Ontario  
17 Power Authority, on managing that schedule because  
18 it's both the Bruce and the Darlington unit. So  
19 that refurbishments of the two Bruce units are --  
20 are underway now, they'll be completed 2012. The  
21 other ones -- so there was a schedule developed,  
22 and it may not be -- so say it's 20 -- 2015, 2016  
23 they start being, and it's scheduled. So they --  
24 those aren't really -- that's not really finished,  
25 probably, until about 2023. So there will be

1 periods when some of those units are being  
2 refurbished basically throughout that schedule.

3                                 So if you looked at when the new  
4 build or whether you wanted more new build, I guess  
5 another risk around the amount of new build, if  
6 it's decided at some point that some of those units  
7 can't be refurbished for whatever reason, it may  
8 turn out that there's conditions that you can't do  
9 it then you, you know, may want to pursue more new  
10 build.

11                                 CHAIRPERSON GRAHAM: And you had  
12 more or less indicated that hydro is very limited  
13 because of the distance it is and the cost of  
14 transmission and so on, it becomes expensive also,  
15 or not?

16                                 MR. JENNINGS: It does become  
17 expensive, yes. So if -- it would also require --  
18 so you would have to make a major commitment not  
19 just to the hydro plant, but to transmission  
20 infrastructure, expanding the existing transmission  
21 infrastructure. So Barrie to Toronto, plus --  
22 sorry, Barrie to Sudbury, Sudbury north, and then  
23 further north than the lines are now. So not that  
24 it couldn't be done. There's also other government  
25 policies with respect to the far north, the Boreal

1 Forest and endangered species that you would have  
2 to look at to see how feasible any of that was.

3 Thank you. I could go on, but I  
4 think that that's sufficient for me. Now we will  
5 -- by the way, my panel members, any other  
6 questions? Madame Beaudet?

7 Now we will go to questions from  
8 other parties, OPG first of all. Without  
9 negotiating a price increase or anything, do we  
10 have other questions?

11 MR. SWEETNAM: No questions at  
12 this point.

13 CHAIRPERSON GRAHAM: CNSC.

14 MR. HOWDEN: No questions.

15 CHAIRPERSON GRAHAM: Other  
16 government departments that may -- Environment  
17 Canada and other -- any government departments have  
18 any questions to the ministry? If not, then we go  
19 to -- I guess it's intervenors, and my first  
20 question is -- first intervenor for the -- with a  
21 question is Mark Mattson from Lake Ontario  
22 Waterkeepers. Mr. Mattson.

23 --- QUESTIONS BY THE INTERVENORS:

24 MR. MATTSON: Thank you, Mr.  
25 Chairman. Through you to Mr. Jennings. Mr.

1 Jennings, there seems to be some misconceptions  
2 about the public process in Ontario for approving  
3 the energy plan as a result of some of the  
4 questions and responses I heard to the Joint Review  
5 Panel.

6 Tell me, my understanding is that  
7 the 20-year energy plan started with the IPSP three  
8 years ago formed by the OPA. It was then -- the  
9 hearing never occurred. The OEB was supposed to  
10 hear that plan. Then your government came out with  
11 another long-term energy plan and the supply mix  
12 directives, which is now going to the OPA after  
13 some public consultation and then will go before  
14 the OEB.

15 So right now, it's not fair to say  
16 to this Joint Review Panel that there is or has  
17 been public consultation that could support an  
18 understanding that -- where Ontario wants to go or  
19 how it chooses to go forward is clear.

20 CHAIRPERSON GRAHAM: Mr. Jennings.

21 MR. JENNINGS: Okay, Rick  
22 Jennings. So the sequence of, again, the  
23 *Electricity Act 2004* sets out the legislative  
24 requirements for electricity planning in the  
25 province. And a step is that the province or the

1 ministry, but it's a cabinet approved our in-  
2 council, sets out the supply mix directive to the  
3 Ontario Power Authority, and that is used by them  
4 as the basis of developing integrated power system  
5 plan.

6                   So the first supply mix was issued  
7 on June -- in June 2006. The power authority  
8 developed an integrated power system plan that was  
9 submitted to the Ontario Energy Board in August  
10 2007, so they -- that was in that process in  
11 proceedings. The hearing started in September  
12 2008, so that was that -- so that's the first draft  
13 version of that plan.

14                   The minister at the time issued a  
15 directive shortly after the hearings had started,  
16 which was basically a revised supply mix that has  
17 to do more in several areas. So that proceeding  
18 was then stopped, there wasn't -- further on that  
19 proceeding.

20                   The ministry developed the Long-  
21 term Energy Plan in the fall of 2010, again, with  
22 extensive consultations as I have set out, as I  
23 described earlier. And in addition to the Long-  
24 term Energy Plan, there's a supply mix directive  
25 that was put out for consultation and then

1 finalized February 17<sup>th</sup> of this year.

2                               So the OPA will be using that in  
3 terms of guidelines for developing an integrated  
4 power system plan, which our expectation is that  
5 they would file with the Ontario Energy Board in  
6 late August -- well, late summer, so perhaps it's  
7 into September. Then the OEB would have to start a  
8 proceeding, which would include, at the end of the  
9 process, public hearings, and so that would likely  
10 be concluded in 2012.

11                              So I think what we would be fair  
12 to describe, and this is really how it is set out  
13 in the legislation, the integrated power system  
14 plan, is a 20-year plan. It's redone every three  
15 years, and it is guided by a supply mix directives  
16 that are approved by cabinet.

17                              MR. MATTSON: And then just a  
18 follow-up, Mr. Chairman, just maybe --

19                              CHAIRPERSON GRAHAM: No, just --  
20 I've got six intervenors --

21                              MR. MATTSON: Oh, I know, Mr.  
22 Chairman, but this is so important and you weren't  
23 -- you weren't told any of that before, so I think  
24 it's really important that you get a full  
25 understanding of what's going on in Ontario because

1 you were very concerned about it. You asked many  
2 questions, and we've been here listening to these  
3 questions and yet you hadn't heard anything about  
4 the IPSP, you hadn't heard about the Ontario Energy  
5 Board, you hadn't heard --

6 CHAIRPERSON GRAHAM: And we're  
7 not --

8 MR. MATTSON: Ontarians hadn't  
9 heard any of this discussion that Mr. Jennings put  
10 before you in a hearing yet, so we're hearing it  
11 for the first -- if I could just finish my  
12 question --

13 CHAIRPERSON GRAHAM: Mr. Mattson,  
14 I --

15 MR. MATTSON: (Inaudible) I'll  
16 just object and I'll sit down.

17 CHAIRPERSON GRAHAM: Mr. Mattson,  
18 the rules of procedures say that we may take  
19 questions. I have never refused a question in the  
20 last four days. I have let every intervenor go  
21 ahead, I've come back and got information for a  
22 couple of intervenors, I've permitted another --  
23 another intervenor to bring back a presenter and  
24 ask their question, and I'm trying to be fair.

25 Mr. Jennings has outlined the

1 legislated process, and that legislative process,  
2 he's brought that forward. So I'm going to go now  
3 to Mr. Stensil for his comment -- his question.  
4 Mr. Stensil.

5 MR. STENSIL: Thank you. I have  
6 three questions without a long preamble this time.  
7 The first one deals with the Candu 6. The  
8 government did a procurement process in 2009 with  
9 the three designs. The Candu 6 in those three  
10 designs were generation three reactors, did not  
11 include the generation two Candu 6 design. Has the  
12 government given instruction to OPG to prepare to  
13 build the Candu 6? And if it moves forward with  
14 the Candu 6, will it reopen the competitive  
15 procurement process for new reactors?

16 CHAIRPERSON GRAHAM: Mr. Jennings.

17 MR. JENNINGS: Rick Jennings. So  
18 I -- I think what I have outlined in terms of what  
19 -- the government's next steps, there was a  
20 procurement process that the submissions came in in  
21 early 2009. The process was suspended in June  
22 2009, and the bids were really only held or  
23 preserved until February 2010. So that process, in  
24 effect, is -- was essentially concluded in February  
25 2010.

1                   In terms of the government's  
2 discussions that were had -- or we would propose to  
3 have with the ACL when that's -- their situation is  
4 resolved, the government has talked about that  
5 those negotiations would be towards ensuring that  
6 Ontarians and Ontario consumers, that any deal was  
7 in the best interests of those, so the government  
8 has -- you know, the preference would be to talk to  
9 Canadian technology supplier, to ACL, but it would  
10 have to be a deal and agreement that would be  
11 favourable to Ontarians. And so --

12                   CHAIRPERSON GRAHAM: Since this is  
13 your first time up, I'll allow you for -- if you  
14 have not got sufficient -- you can have one  
15 supplementary.

16                   MR. STENSIL: Oh, thank you. So  
17 what I've heard then is there will not be -- excuse  
18 me -- there will not be an open competitive bidding  
19 process, then, reopened with the Candu 6 design if  
20 it is included?

21                   MR. JENNINGS: What I've said was  
22 that we have had an open competitive process to  
23 secure, I guess, interest and to understand what  
24 the price was, so we have had a process which has  
25 completed. The government proposes to have a

1 discussion and negotiations with the ACL to see if  
2 a deal can be struck that are -- is in the  
3 interests of Ontario consumers. If such a deal is  
4 not struck, I guess we would have to revisit the  
5 next steps.

6 CHAIRPERSON GRAHAM: Thank you.  
7 Steven Cornwall -- Cornwell.

8 MR. STENSIL: Sorry, I have two --  
9 two other questions I note at the top really  
10 quickly. The directive states cost effectiveness,  
11 only -- reactors will only go forward if it is cost  
12 effective. How will the government determine cost-  
13 effectiveness? Will it be done through the Ontario  
14 Energy Board, or will it be done in-house and by  
15 directive?

16 CHAIRPERSON GRAHAM: That will be  
17 your last question because I am being lenient, and  
18 in fairness to Mr. Mattson who has been loyal and  
19 been here every day, I have been lenient, and, in  
20 fairness to Mr. Mattson, who has been loyal and  
21 been here every day, I have been a little more  
22 lenient, but that will be your last question, Mr.  
23 Stensil.

24 MR. JENNINGS: Rick Jennings.  
25 So in terms of cost effectiveness,

1 we would have to look at how the cost compared to  
2 the cost of alternatives.

3                   So that is a process that -- the  
4 government has undertaken review of that. We have  
5 included -- so an entity, we have Ontario Power  
6 Authority, which does look at alternatives, and, of  
7 course, does develop the integrated power system  
8 plan.

9                   So we would be assessing it on how  
10 it compares to -- to what the alternative is of a -  
11 - nuclear.

12                   Now, we also will be looking at  
13 and have been reviewing what the costs are for  
14 other nuclear procurements.

15                   And, as I said, the ones in the US  
16 are probably the most immediately comparable to  
17 Ontario, so those would be the two things that we  
18 would be looking at.

19                   CHAIRPERSON GRAHAM: Thank you.

20                   Stephen Cornwall, please --

21 Cornwall.

22                   MR. CORNWELL: Thank you, Mr.

23 Chairman.

24                   Stephen Cornwall for the record.

25 I'm an intervener in the process.

1 I have another question regarding  
2 alternatives to the project.

3 I'm wondering is it the policy of  
4 the ministry to allow green-energy options to  
5 replace aging nuclear if it is proven more cost  
6 effective than new nuclear?

7 CHAIRPERSON GRAHAM: Mr. Jennings?

8 MR. JENNINGS: Okay. Rick  
9 Jennings.

10 Well, I would certainly be  
11 interested in seeing what the analysis is.

12 So if we're talking about the  
13 overall plan, one of the objectives of the long-  
14 term energy plan, besides reliability,  
15 sustainability, is, of course, price and cost  
16 effectiveness.

17 So, you know, having put that  
18 forward, if there were some -- but we would have to  
19 look at it in the context of is it comparable  
20 energy supply; like, in other words, is it -- is it  
21 going to be base-load power, are all the costs  
22 factored in, if it requires storage, additional  
23 transmission.

24 So we would really want to  
25 understand what the -- what the analysis -- what

1 the assumptions were and what was behind it.

2 CHAIRPERSON GRAHAM: Thank you.

3 MR. CORNWELL: Could I just add  
4 one more thing? I know --

5 CHAIRPERSON GRAHAM: Very quickly  
6 because, as I say, in the rules it says I may, not  
7 shall, and I -- I've always allowed some every  
8 time, but we are trying to -- people have come here  
9 and sat for a couple of days to present, so I --  
10 I'll allow that, but that'd be it.

11 MR. CORNWELL: I understand.

12 This is -- this is a slightly  
13 different -- or this request is slightly of a  
14 different character.

15 We've been out over the weekend in  
16 Toronto collecting signatures on this banner, which  
17 say Stop Darlington, and no nukes for --

18 CHAIRPERSON GRAHAM: Your  
19 question, please.

20 MR. CORNWELL: My question is,  
21 will Mr. Jennings take the banner from us when he  
22 leaves the building today?

23 CHAIRPERSON GRAHAM: That's Mr.  
24 Jennings' decision. You can discuss that when you  
25 leave. I don't think that's relevant to the panel

1 and us making a decision.

2 Mr. Jennings, you can have a  
3 discussion on that later.

4 Thank you very much.

5 I will go to Theresa McClenaghan  
6 from CELA.

7 MS. McCLENAGHAN: Thank you, Mr.  
8 Chairman.

9 My question also has to do with  
10 clarifying the approvals process for the long-term  
11 electricity plan and the subsequent IPSP.

12 And further to the discussion we  
13 just had, I just want to clarify and have Mr.  
14 Jennings confirm for the record that section 25.30  
15 of the Electricity Act requires that the IPSP be  
16 approved by the Ontario Energy Board after a  
17 hearing. And it explicitly includes, in addition  
18 to compliance with the minister's supply mixed  
19 directives, also economically prudent and cost-  
20 effectiveness test by the OEB.

21 CHAIRPERSON GRAHAM: Mr. Jennings?

22 MR. JENNINGS: Rick Jennings.

23 So, again, the next steps are the  
24 integrated power system plan -- is -- will be  
25 developed, consultations submitted to the OEB.

1 That process was -- so this would be late summer.  
2 It would take about a year.

3                   Among the things that the OEB  
4 would look at as cited from that section in the Act  
5 is the -- the economic prudence and cost  
6 effectiveness.

7                   MS. McCLENAGHAN: Thank you.

8                   CHAIRPERSON GRAHAM: Thank you  
9 very much.

10                   Brennain Lloyd, please, for your  
11 question.

12                   MS. LLOYD: Thank you, Mr. Graham.

13                   My question is further to Mr.  
14 Jennings' slide 16.

15                   And we've heard statements like  
16 this from the nuclear industry in many venues. His  
17 statement is around nuclear power plants don't  
18 produce any primary air pollution or greenhouse  
19 gases.

20                   And I'd like Mr. Jennings to speak  
21 to that statement.

22                   In my region, in north-eastern  
23 Ontario, we have a uranium refinery, which fuels  
24 Ontario Power Generation's nuclear power plants,  
25 and it releases 50 tonnes of primary air pollutants

1 per year.

2                                   And the Darlington facility, it  
3 produces -- the Darlington nuclear generating  
4 station is listed on the NPRI as releasing 42  
5 tonnes of primary air pollutants.

6                                   So could Mr. Jennings give me a  
7 fact-based explanation of why this messaging is in  
8 his slide?

9                                   CHAIRPERSON GRAHAM: Thank you,  
10 Ms. Lloyd.

11                                   MS. LLOYD: Thank you.

12                                   CHAIRPERSON GRAHAM: Mr. Jennings.

13                                   MR. JENNINGS: Okay. Rick  
14 Jennings.

15                                   So the particular reference -- and  
16 I think when I spoke to it was to -- to talk about  
17 release during operation and how definitive it is -  
18 - so I think that primary air pollution in that  
19 case is probably a reference to sulphur dioxide,  
20 nitrous oxides.

21                                   But in terms of greenhouse gases  
22 in its operation -- so it -- it's a very large  
23 facility, so there would be, you know, people  
24 driving trucks around the site, and things like  
25 that would obviously release some emissions.

1                   But in terms of a generation  
2 source, the operation of -- the operation of a  
3 nuclear power plant would produce very little, if  
4 any, greenhouse gases.

5                   In terms of a life cycle analysis,  
6 if you factor in the cost -- what is done in  
7 actually constructing a plant, there's obviously  
8 greenhouse gases that are used in the construction,  
9 just as there is with wind plants and solar plants.

10                  And because of the different  
11 amount of output, if you were to factor that per  
12 kilowatt hour, a nuclear plant as greenhouse gas  
13 emissions, the life cycle cost basis is comparable  
14 to wind on the basis of several analyses that I'm  
15 familiar with.

16                  And solar is -- would actually be  
17 much larger because of the higher materials  
18 component.

19                  CHAIRPERSON GRAHAM: Thank you.

20                  Anna Tilman, please.

21                  MS. TILMAN: Good afternoon. Anna  
22 Tilman from International Institute of Concern for  
23 Public Health.

24                  The primary question about the two  
25 to four reactors and clarification, I appreciate

1 that being raised by Madam Beaudet because from the  
2 public perspective, that is confusing. That was my  
3 first.

4 My real question now goes to OPG -  
5 - or, sorry, Ministry of Energy, page 13 on their  
6 slides on projected generations, and it is the  
7 third pie chart, the 2030 projected generation in  
8 terawatt hours.

9 But why is conservation considered  
10 generation? I don't believe it should be in a pie  
11 chart of generation.

12 And I would like to know  
13 where the 14 percent -- how did you arrive at a  
14 figure of 14 percent, which is equivalent,  
15 according to this chart, 28 terawatt hours?

16 CHAIRPERSON GRAHAM: Mr. Jennings?

17 MR. JENNINGS: Yes. Rick  
18 Jennings.

19 So there's obviously different  
20 ways of portraying it.

21 So the way that this is intended  
22 to do is, if not for the government's and peoples'  
23 conservation efforts, which we have -- there's a  
24 target, and there are initiatives designed to reach  
25 28 terawatt hours, terawatt hours being billed in

1 kilowatt hours.

2                               So if not for those conservation  
3 efforts, we would have had to -- we would have to  
4 in 2030 generate 120 -- 198 terawatt hours of  
5 generations.

6                               So it is to say that the money  
7 spent, the terawatt hours saved through  
8 conservation is as important as what we generate.  
9 So that's really how that is intended to show it.  
10 I mean, I guess people can take -- have different  
11 interpretations and -- and not like the way it's  
12 portrayed, but essentially that's why it's  
13 portrayed that way on the pie chart.

14                              MS. TILMAN: May I just suggest  
15 that you redo that pie chart. As a mathematician I  
16 find that's not quite the honest way of -- of --  
17 proper way of doing it.

18                              CHAIRPERSON GRAHAM: Thank you.  
19 With that, Mr. Jennings, thank you very much for  
20 bringing your staff here, bringing here -- coming  
21 and answering the questions which is a -- a very  
22 large part of -- of a lot of the intervenors'  
23 questions and what we'll be hearing over the next  
24 few days. So thank you very much for coming.

25                              MR. JENNINGS: Okay. Thank you.

1 CHAIRPERSON GRAHAM: And a safe  
2 trip back to Queen's Park.

3 MR. JENNINGS: Okay.

4 CHAIRPERSON GRAHAM: The -- next  
5 on the agenda is aquatic biota and habitat which is  
6 going to be a presentation by OPG. And it worked  
7 out yesterday and I'm going to try it again today,  
8 we're also going to ask -- once OPG is finished, we  
9 will ask Fisheries and Oceans to make their  
10 submission and Ontario Ministry of Natural  
11 Resources to make theirs. And they can all sit at  
12 the table here other than OPG that has their place.  
13 And we will then probably have a break for ten  
14 minutes then, and then when we come back we'll  
15 start with panel member questions and go the  
16 routine that we have with -- with panel member  
17 questions, government and then intervenors.

18 So if we could start, Fisheries  
19 and Oceans and Ontario Minister of Natural  
20 Resources can be here and I'll ask Mr. Sweetnam to  
21 proceed -- Sweetnam, I'm sorry, pardon me, with the  
22 presentation on aquatic biota and habitat. So OPG,  
23 the floor is yours first then we'll go to the other  
24 two. Thank you.

25 --- PRESENTATION BY MR. PETERS:

1                   MR. PETERS: Good afternoon,  
2 Chairman Graham and members of the panel. For the  
3 record, my name is John Peters and I am the manager  
4 of the Environmental Assessment for the new nuclear  
5 project.

6                   OPG conducted a comprehensive  
7 assessment of the potential environmental effects  
8 on the aquatic environment. In doing so and  
9 continuing since the EIS was submitted, we have  
10 utilized the findings of the assessment to identify  
11 suitable mitigation measures and to design a  
12 compensation program, including a fish habitat  
13 compensation plan.

14                   As described in previous  
15 presentations, we have also built on the aquatic  
16 environment assessment program to optimize the  
17 design of the site, to further reduce the effects  
18 on the aquatic resources identified. Most notably  
19 the design optimization process has allowed that  
20 some bounding assumptions used for EA purposes,  
21 including the extent of lake infill, can be reduced  
22 substantially if the once-through cooling option is  
23 adopted for the project.

24                   Considering mitigation measures  
25 and compensation plans, the NND project as defined

1 by its bounding envelope and most certainly in an  
2 optimized design context, will not result in  
3 significant adverse effects on the aquatic habitat  
4 or biota. Our studies have established that the DN  
5 site near-shore aquatic habitat is not unique in  
6 any way. It exhibits low productivity and is  
7 sparsely inhabited. The continuous videos and the  
8 graphics on the slide presented here illustrate the  
9 lake bottom in the area of the proposed infill. No  
10 evidence of sensitive or unique habitats were  
11 identified in the near-shore environment. It is  
12 exposed to winds and waves and it is -- it has  
13 limited cover and aquatic vegetation and is  
14 generally found to be nutrient poor.

15                   Impingement and entrainment losses  
16 to the cooling water intake and the -- are  
17 dominated by invasive forage species such as  
18 Alewife, Round Goby and Common Carp. The overall  
19 lake-wide populations will not be affected by the  
20 small losses predicted based on monitoring at our  
21 existing Darlington nuclear generating station.

22                   Round Goby and Alewife represent  
23 over 90 percent of the total fish impinged. These  
24 -- this species are also predominant amongst the  
25 fish entrained by the existing diffuser and intake

1 structure. To put these losses in context, the  
2 current commercial quota of the Canadian portion of  
3 Lake Ontario is 310,000 kilograms per year, focused  
4 on the harvesting of Lake Whitefish and Yellow  
5 Perch for which we have no interaction or effects.  
6 OPG's bounding assumption for impingement of the  
7 NND intake is 1,350 kilograms per year or .4  
8 percent of that commercial quota.

9                   Thermal discharges are well  
10 understood as having limited effects, focused on a  
11 few days each winter as the research that we have  
12 been doing with Environment Canada has shown, and  
13 several options to enhance the diffuser performance  
14 during detailed design have been identified and  
15 proposed.

16                   Since submission of the EIS, OPG  
17 has continued to work with regulatory agencies and  
18 other stakeholders to ensure that the potential  
19 effects of the project are fully understood and  
20 appropriate measures are taken to address each of  
21 them. Specifically, we have worked closely with  
22 the Central Lake Ontario Conservation Authority,  
23 Fisheries and Oceans Canada, and Environment Canada  
24 to identify and plan specific habitat compensation  
25 projects focused in Durham Region. We already

1 initiated development of the Round Whitefish Action  
2 Plan and commenced field studies.

3                                 We will continue to consult with  
4 Environment Canada to establish the detailed  
5 thermal plume modeling scope and methods and we  
6 support the recommendations they have made to this  
7 effect. We will continue to conduct and submit  
8 seasonable fish, community sampling to further  
9 understand the fish community in the vicinity of  
10 the DN site and lake-wide populations.

11                                 OPG has studied Round Whitefish in  
12 the vicinity of the Darlington site for over 30  
13 years. The core area we have used for our studies,  
14 for spawning, was assessed to be five to ten metres  
15 of depth in our original studies. Our current  
16 intake and diffuser designs were constructed and  
17 operated to avoid effects in this area of known  
18 concern. As a prudent planning assumption, OPG has  
19 accepted that some eggs may be deposited in water  
20 as shallow as three metres based on the studies and  
21 findings of the other federal agencies. Round  
22 Whitefish is not a designated species at risk,  
23 however, MNR has specifically identified a  
24 potential decline in the lake-wide population.

25                                 As a result, OPG has committed to

1 a multi-year Round Whitefish Action Plan. The plan  
2 will be developed in collaboration with the  
3 Department of Fisheries and Oceans Canada, CNSC,  
4 the Ministry of Natural Resources and Environment  
5 Canada. Information derived through the Round  
6 Whitefish Action Plan will provide us future inputs  
7 to the detail design process. It will contribute  
8 to strategies to minimize physical effects of lake  
9 infill. It will create optimized intake and  
10 diffuser structure locations. It will confirm that  
11 no effects on the -- the Round Whitefish population  
12 from our cooling water system, and it will indicate  
13 appropriate compensation options as required.  
14 These will all be captured in the follow-up program  
15 as we've stated.

16                               The EIS describes the proven,  
17 once-through lake water intake and discharge  
18 structures in operation at the DNGS site today.  
19 These structures have been highly successful in  
20 managing effects on aquatic biota and will serve as  
21 the design basis for the once-through cooling water  
22 system for the new nuclear project. The actual  
23 configuration of the intake and discharge  
24 structures will be refined during the detail  
25 design, taking into consideration the results of

1 the Round Whitefish Action Plan.

2 In close collaboration with DFO,  
3 OPG has initiated the study of fish habitat  
4 compensation beginning in 2009. The objective of  
5 the compensation will be to replace habitat loss  
6 associated with lake infill and the cooling water  
7 intake and discharge structures and to facilitate  
8 authorization under the *Fisheries Act* for works or  
9 undertakings affecting fish habitat.

10 Compensation planning has been  
11 based on DFO's habitat alteration assessment tool  
12 or HAAT, H-A-A-T. The HAAT model is used to assess  
13 whether a project achieves no net loss to the  
14 habitat and to estimate any changes in the  
15 productive capacity of the fish habitat. The  
16 proposed compensation actions are focused on  
17 habitat enhancement initiatives in McLaughlin Bay,  
18 a 42-hectare provincially-significant coastal  
19 wetland adjacent to the Darlington Provincial Park  
20 about six kilometres to the west of our site.

21 We also are considering  
22 watercourse improvements on the Bowmanville Creek  
23 and on Harmony Creek. The compensation projects  
24 selected to date are intended to support local  
25 habitat improvement priorities. The proposed

1 compensation plan is endorsed by the CLOCA, the  
2 DFO, MNR and the CNSC staff.

3                   As has been noted previously, the  
4 EIS assumed a bounding site development layout that  
5 included approximately 40 hectares of lake in-fill.  
6 The bounding scenario was prudent at the time of  
7 our initial studies and reflect a precautionary  
8 approach inherent in the EIS.

9                   We have continued to refine the  
10 design concept with the benefit of extensive  
11 interaction with the regulatory agencies, as you  
12 have seen.

13                   With the once-through lake water  
14 cooling option, we have been able to reduce the  
15 extent of lake in-filling, from the initial  
16 assumption of 40 hectares, to a much smaller area  
17 of approximately 19 hectares, defined by the two-  
18 metre water depth.

19                   The reduced extent of in-fill is  
20 illustrated on the slide. With cooling towers, the  
21 extent of in-fill is likely to remain closer to  
22 40 hectares.

23                   Enhancements to both the intake  
24 and discharge structures will be further considered  
25 in the detail design, based on the options we have

1 identified through our studies. The final designs  
2 will incorporate best available technology  
3 economically achievable features, specific to the  
4 Darlington site. An integrated approach will be  
5 taken to maximize opportunities for reducing  
6 potential effects on habitat and biota throughout  
7 this process.

8 In conclusion, the NND project  
9 will not result in significant adverse effects on  
10 aquatic habitat or biota. OPG is committed to  
11 optimizing the design of the once-through lake  
12 water cooling system to further reduce potential  
13 effects.

14 OPG continues to undertake  
15 sampling and monitoring programs to refine the  
16 understanding of potential changes in the aquatic  
17 environment in the vicinity of the Darlington site.

18 OPG remains committed to  
19 incorporating compensation and mitigation measures  
20 into the design, and we have advanced a  
21 compensation plan in collaboration with DFO and the  
22 conservation authorities.

23 OPG would like to thank you for  
24 the opportunity to make this presentation and we're  
25 ready to respond to any questions you may have.

1                   CHAIRMAN GRAHAM: Thank you very  
2 much for that presentation.

3                   As I indicated, we're going to do  
4 the other two, and next on the agenda that I have  
5 here is Fisheries and Oceans Canada and,  
6 Mr. Hoggarth, the floor is yours for your  
7 presentation.

8 --- PRESENTATION BY MR. TOM HOGGARTH:

9                   MR. HOGGARTH: I'd like to thank  
10 the panel for giving us the opportunity to be here.

11                   For the record, my name is Tom  
12 Hoggarth.

13                   Our review focused on Fisheries  
14 and Oceans Canada habitat management mandate, which  
15 is to protect fish and fish habitat.

16                   In reviewing the new nuclear at  
17 Darlington project, Fisheries and Oceans' ultimate  
18 goal was to work with Ontario Power Generation to  
19 reduce the impacts to fish and fish habitat through  
20 redesign and relocation where possible, then  
21 mitigating impacts such that they would have no  
22 residual effect, and, finally, through habitat  
23 replacement or compensation, when appropriate.

24                   Habitat compensation was only  
25 looked at when the previous options were not

1 possible.

2                                   My presentation has been divided  
3 into four main sections. These include our  
4 mandate, project interactions with fish and fish  
5 habitat, baseline fisheries information and,  
6 finally, our recommendations.

7                                   So why does Fisheries and Oceans  
8 have a role in this project? At the highest level,  
9 the Canadian constitution gives the federal  
10 government the authority to manage coastal and  
11 inland fisheries, conduct fisheries research, and  
12 to administer the *Fisheries Act*.

13                                   It should be noted that in Ontario  
14 the federal government has delegated the management  
15 of the fisheries to the province while still  
16 maintaining the legislative authority to protect  
17 fish and fish habitat.

18                                   As just mentioned, the federal  
19 government has the authority to administer the  
20 *Fisheries Act*. This act manages and protects  
21 Canadian fisheries resources.

22                                   It applies to all fishing zones,  
23 territorial seas and inland waters, and it is  
24 binding on all Canadians, including all levels of  
25 government.

1                   As I indicated at the start of  
2 this presentation, we've focused our review on our  
3 roles and responsibilities of the fish habitat  
4 management program within Fisheries and Oceans.

5                   The *Fisheries Act* has several  
6 sections and definitions which are key to our  
7 review.

8                   The *Fisheries Act* defines fish as  
9 shellfish, crustaceans, marine animals, and any  
10 part of fish, shellfish, crustaceans or marine  
11 animals, and the eggs, sperm, spawn, larvae, spat  
12 and juvenile stages of fish, shellfish, and marine  
13 mammals.

14                   A further definition is one for  
15 fish habitat. The act defines habitat as spawning  
16 grounds, a nursery, rearing food supply, migration,  
17 and any other area which fish depend directly or  
18 indirectly in order to carry out their life  
19 processes.

20                   These definitions are important to  
21 how and when Fisheries and Oceans applies the  
22 habitat protection provisions of the *Fisheries Act*.

23                   The key habitat protection  
24 provisions of the *Fisheries Act*, in relation to the  
25 new nuclear at Darlington project, are section 35,

1 sub-section 1, which prohibits the harmful  
2 alteration, disruption, or destruction of fish  
3 habitat, unless authorized under section 35,  
4 sub-section 2.

5 Another key section is section 32,  
6 which prohibits the killing of fish by means other  
7 than fishing, again, unless authorized.

8 And, finally, section 30,  
9 sub-section 1, provides the Minister with the  
10 authority to request fish guards or screens to  
11 prevent passage of fish into water intakes.

12 Along with the definitions in the  
13 habitat protection provisions within the act,  
14 Fisheries and Oceans has developed policy around  
15 the habitat protection provisions of the *Fisheries*  
16 *Act*. This policy provides further guidance to  
17 staff on how to apply the broad powers of the  
18 *Fisheries Act*.

19 The overall objective of this  
20 policy is the net gain in habitat for Canada's  
21 fisheries resources, to three goals: Conservation,  
22 restoration and habitat creation.

23 Within the first goal,  
24 conservation, we have our guiding principal of no  
25 net loss. It is through this lens, the no net

1 loss, that we review projects like the proposed  
2 nuclear at Darlington project.

3                               To achieve no net loss, Fisheries  
4 and Oceans has a hierarchy of preferences. Our  
5 first preference is to maintain without disruption  
6 the natural productive capacity of habitat. To do  
7 this, we work with Proponents to redesign or  
8 relocate their project, or to mitigate potential  
9 impacts to avoid harmful alteration disruption or  
10 destruction of habitat.

11                              Only when these alternatives prove  
12 impossible, or impractical, would Fisheries and  
13 Oceans explore replacement of harmfully altered,  
14 disrupted, or destroyed habitat. We refer to this  
15 replacement as compensation.

16                              When exploring compensation, our  
17 preferences would be like-for-like habitat on-site,  
18 like-for-like habitat off-site, and then unlike  
19 habitat on- or off-site.

20                              As a final note on our mandate,  
21 under the federal *Species At Risk Act*, Fisheries  
22 and Oceans is responsible for all listed aquatic  
23 species except individuals located in Parks Canada  
24 land.

25                              The *Species At Risk Act* has

1 sections which speak directly to protect fish and  
2 fish habitat. These include section 32, which  
3 prohibits the killing, harming, harassment, buying,  
4 collecting or selling of extirpated, endangered or  
5 threatened Schedule 1 species.

6                   Section 33 protects the residence  
7 of listed species. Currently, there are no  
8 identified residences for aquatic species, and  
9 section 58 prohibits the destroying of critical  
10 habitat as defined in a recovery strategy.

11                   Presently, it is anticipated the  
12 proposed new nuclear project will not impact any  
13 aquatic listed species at risk.

14                   Fisheries and Oceans staff use the  
15 authority vested within the *Fisheries Act*, the  
16 *Species At Risk Act*, as well as the guiding  
17 principals within our policies as the basis for our  
18 review.

19                   Staff have also been guided -- or  
20 provided, standard operating policies to help guide  
21 them in their review process. These policies have  
22 been developed to improve coherence and  
23 predictability in decision-making.

24                   A key operating policy is our  
25 guide to risk management. Through this guide,



1 impact of these water bodies can be mitigated with  
2 standard best management practices, and if  
3 required, compensated for using standard  
4 approaches.

5                                   Ontario power generation  
6 originally proposed to infill 40 hectares of Lake  
7 Ontario. We've since heard that they have accepted  
8 our recommendation and are moving to two-metre  
9 contour mark. The reason for this infill was to  
10 dispose of excess material from site clearing,  
11 create land for reactors, create construction  
12 staging and lay-down areas, and create 100-metre  
13 security buffer along the existing facility.

14                                   Fisheries and Oceans strongly  
15 believes to propose 40 hectare infill will pose a  
16 high risk to fish and fish habitat. We are also  
17 unsure that Ontario Power Generation will be able  
18 to compensate for the loss of habitat at this  
19 location. As has already been mentioned, therefore  
20 we recommend redesigning the proposed bounding  
21 scenario to limit infill to the two-metre contour  
22 line.

23                                   OPG has indicated that limiting  
24 the infill to the two-metre contour line will still  
25 result in an infill of approximately 1,900 -- 19





1 effluent. As already discussed, Environment Canada  
2 is assessing the impact of thermal discharge in the  
3 aquatic environment.

4                   As discussed earlier, when  
5 Fisheries and Oceans is assessing potential impacts  
6 on fish and fish habitat we use a risk-based  
7 approach. Through this method we assess to scale a  
8 negative effect in relationship to the sensitivity  
9 of fish and fish habitat. The preceding section  
10 spoke specifically to items we use to judge scale  
11 of negative effect. In other words, how much fish  
12 habitat may be impacted.

13                   I will now speak to issues that  
14 relate to the sensitivity of fish and fish habitat.  
15 Ontario Power Generation has provided baseline  
16 Fisheries data for the -- for the water varieties  
17 on site, as well as for Lake Ontario. As the  
18 impacts of fish and fish habitat are greatest  
19 within Lake Ontario, I will focus on this  
20 information.

21                   Ontario Power Generation Sampling  
22 Program has identified a long list of fish which  
23 have been found and are utilizing the Lake Ontario  
24 habitat in front of the existing nuclear station.  
25 This includes, but is not limited to salmon, trout,



1                   The sampling program has -- the  
2 sampling programs have captured adult round  
3 whitefish in spawning condition during the fall  
4 spawning program. It's captured larval round  
5 whitefish during the spring sampling program. They  
6 have documented sub-straight composition offshore  
7 of the proposed Nuclear Darlington Project that is  
8 suitable spawning habitat for round whitefish.  
9 These facts indicate that round whitefish spawn at  
10 or immediately adjacent to the existing Darlington  
11 site. Without additional information Fisheries and  
12 Oceans has taken the precautionary approach that  
13 round whitefish use the area offshore of the  
14 proposed New Nuclear Darlington site as spawning  
15 and nursery habitat.

16                   Ontario Power Generation studies  
17 have also concluded that round whitefish population  
18 is in decline in Lake Ontario, and they have  
19 concluded that they -- there may be a loss of  
20 recruitment. This additional bit of information  
21 tends to support the fact that round whitefish  
22 populations are already showing stress prior to the  
23 development of the proposed facility. It is for  
24 these reasons that Fisheries and Oceans recommended  
25 restricting the infill to the two-metre contour

1 line. We do not consider that habitat and depth  
2 less than two metres critical to the survival of  
3 round whitefish.

4                               Based on our understanding of the  
5 scale of negative effect of the proposed project  
6 and the sensitivity of fish and fish habitat,  
7 Fisheries and Oceans Canada developed the following  
8 recommendations: To protect round whitefish  
9 spawning and nursery habitat the proposed infill  
10 should be limited to the two-metre contour line.

11                              Ontario Power Generation needs to  
12 finish the habitat compensation plan to offset  
13 residual impacts associated with the Proposed New  
14 Nuclear Darlington Project. This plan should  
15 include a monitoring program to verify compliance  
16 and effectiveness of the fish habitat compensation  
17 plan.

18                              We further recommend the need for  
19 a multi-stakeholder workshop to identify  
20 information gaps and develop an implementation plan  
21 for the whitefish action plan. This plan will be a  
22 key document forming part of the regulatory  
23 approvals and identifying key roles and  
24 responsibilities. The intent of the round  
25 whitefish action plan is to develop a clear

1 understanding of the life, history, strategies of  
2 round whitefish, and to develop best management  
3 practice, mitigation strategies and potential  
4 compensation options to reduce the residual impact  
5 of the proposed project on round whitefish.

6                   If the once-through cooling option  
7 is selected, Fisheries and Oceans Canada recommends  
8 looking at options to move the intake to deeper  
9 water, developing further mitigation measures to  
10 assist in decreasing the expected number of fish  
11 being impinged and entrained and finally, to design  
12 the intake with flexibility to make future  
13 retrofits possible.

14                   I would like to thank the panel  
15 for providing Fisheries and Oceans this  
16 opportunity.

17                   There's just a couple of other  
18 points. That ends that presentation but there's a  
19 couple of other points that I'd like to add and may  
20 provide some clarity on issues that have been  
21 raised so far this week.

22                   Madam Beaudet, you had issue or  
23 your understanding of the relationship between  
24 Section 35, Section 36, and you're asking questions  
25 around deleterious substance and that, and this

1 might help or hopefully this will help clarify some  
2 of those issues.

3                               The *Fisheries Act*, as I mentioned,  
4 is there to manage and conserve and protect the  
5 Canadian fisheries. As I mentioned, in Ontario  
6 we've delegated the responsibility of the  
7 management of Fisheries to the province but we  
8 still look after federally the conservation and  
9 protection, and we do that mainly through Section  
10 35 of the *Fisheries Act* and by protecting habitat.

11                              So with this project we will be  
12 requiring authorizations, and we have mentioned in  
13 some of our statements that we will provide  
14 authorizations for the diffuser. Those  
15 authorizations under Section 35 of the *Fisheries*  
16 *Act* are just for the footprint where it's required  
17 for construction works as well as any sort of  
18 residual habitat lost by the structure in and of  
19 itself. We are not providing Section 35  
20 authorizations for any of the habitat that might be  
21 associated with the plume area of the diffusers.

22                              So it's those areas that if there  
23 is an impact because of a -- if it's decided or  
24 determined that the thermal effluent is considered  
25 deleterious it'd be under Section 36 that we would



1 during the conversations that when we've done our  
2 review OPG accepted our recommendation to move back  
3 to the two-metre contour line, and therefore  
4 they're indicating that because they're moving back  
5 to the two-metre line their only alternative for  
6 cooling would be once-through cooling.

7                   I want to make it -- I think it's  
8 important to stress that for DFO when we were  
9 reviewing this project, as set out by the bounding  
10 scenario, we were reviewing the worse case of all  
11 potential options as the bounding scenario puts  
12 forward, that is 40-hectare infill, plus combine  
13 that with impingement/entrainment issues with the  
14 intake structure.

15                   So when we looked at that, DFO  
16 feel strongly that the impacts through  
17 impingement/entrainment we would have better bang  
18 -- we'd have better ability to mitigate those  
19 impacts through design options, whereas, with an  
20 infill it will be a permanent loss of fish habitat,  
21 and with that permanent loss of fish habitat if --  
22 through our precautionary approach it was and it is  
23 round whitefish spawning habitat being destroyed,  
24 we're not too sure that there are a way that we can  
25 compensate for it right now.

1                   If, however, we did have the  
2 ability to review a specific project we may at that  
3 point in time would have had the ability to look at  
4 tradeoffs.

5                   So would it be more acceptable for  
6 DFO for a larger infill if once-through cooling  
7 wasn't selected? That may be an option. But at  
8 this stage we don't have that project in front of  
9 us to review.

10                  So although we have, at this  
11 point, because of the bounding scenario, have  
12 indicated we would like the infill back to two  
13 metres, there may be other options out there where  
14 we might be saying absolutely going beyond the two  
15 metre might be a better design project.

16                  So I just wanted to make that  
17 clear as well.

18                  Thank you. I just wanted to  
19 clarify a couple of those points before we moved  
20 on.

21                  CHAIRPERSON GRAHAM: Thank you  
22 very much, Mr. Hoggarth.

23                  We'll now proceed to Ministry of  
24 Natural Resources for Ontario and Ms. Pella-Keen.

25                  And if you need some time to set

1 up your computer take what time you need. I notice  
2 you were a little concerned that while we're  
3 trading off because I know the other presenter had  
4 the computer on so we'll give you the time you  
5 require. Maybe one of our technicians can help, or  
6 not.

7 (SHORT PAUSE)

8 CHAIRPERSON GRAHAM: Yes, Ms.  
9 Pella-Keen, you're ready to present.

10 Thank you very much.

11 --- PRESENTATION BY MS. PELLA-KEEN:

12 MS. PELLA-KEEN: Thank you for  
13 your patience.

14 I'm Deb Pella-Keen for the record.  
15 I'm with the Ontario Ministry of Natural Resources.

16 Our presentation will be done by  
17 two individuals, myself and Andy Todd, who is  
18 sitting to my left. He is the Lake Ontario  
19 Management Unit Manager. I am the District  
20 Manager. So there's a division of expertise  
21 between the two of us.

22 The Ontario Ministry of Natural  
23 Resources is one of the many review agencies that  
24 have an interest in the Darlington project. There  
25 are three areas of MNR responsibility and interest

1 related to the project that I'd like to review with  
2 the panel.

3                   The first is the management of  
4 Crown lands; 86 percent of the land in Ontario is  
5 Crown land and that also includes, in most cases,  
6 the beds of Ontario's lakes.

7                   When managing Crown lands our goal  
8 is the sustainable development of these lands where  
9 we consider a number of factors, such as  
10 preservation of title integrity and fair return for  
11 use, support for socio-economic development and  
12 protection of the natural environment.

13                   The second area of interest is  
14 natural heritage and features.

15                   In Ontario, we are involved in the  
16 inventory assessment and protection of natural  
17 features and functions, such as wetlands and  
18 woodlands.

19                   And the third area is fish and  
20 wildlife management.

21                   In Ontario, we're responsible for  
22 sustainably managing Ontario's fish and wildlife  
23 resources, including species at risk and  
24 biodiversity.

25                   Our presentation today will

1 provide details of our review of these three areas  
2 of interests as they relate to the project.

3                   Since April of 2008, the Ministry  
4 of Natural Resources has been engaged with the  
5 Ontario Power Generation in the review of the  
6 Darlington project.

7                   MNR has also been working  
8 collaboratively with the Department of Fisheries  
9 and Oceans regarding aquatic resources and impacts  
10 in Lake Ontario.

11                   We have reviewed the environmental  
12 impact statement for the project and then provided  
13 comments to the panel in June 2010 and January  
14 2011.

15                   And the information presented are  
16 as based on MNR's review of the information of the  
17 project up to the end of January 2011.

18                   So the first area is the Crown  
19 Land Management.

20                   So the bed of Lake Ontario  
21 adjacent to the proposed project site is provincial  
22 Crown land. Any proposed lake filling or any  
23 proposed construction on the bed of the lake will  
24 require MNR approval and a form of tenure.

25                   MNR is not conceptually opposed to

1 authorizing lake filling for shoreline development  
2 purposes; however, this would be subject to site-  
3 specific considerations, such as environmental  
4 impacts.

5                   The Crown lake bed has been made  
6 available for a variety of projects along the Lake  
7 Ontario shoreline, and this just gives you some  
8 context of where there are other examples in -- in  
9 this area, so Humber Bay Park, Bluffer's Park and  
10 Marina, Leslie Street Spit, and the original  
11 Darlington nuclear project.

12                   So the bounding scenario as stated  
13 in the EIS proposes up to 40 hectares of filling of  
14 the bed of Lake Ontario, and we understand that the  
15 filling will be required for a number of purposes,  
16 such as the construction of a new shipping wharf,  
17 shore protection and security setbacks,  
18 construction staging areas, and installation of  
19 condensing cooling water intake and discharge  
20 structures.

21                   In late 2009, OPG made an  
22 application to MNR to secure the Crown lake bed for  
23 this project; however, MNR will not begin  
24 processing this application until the federal  
25 environmental assessment process is complete and a

1 decision is made on the actual extent and design of  
2 the lake filling component.

3                   When considering any approval for  
4 the use of Crown land, the lake bed for this  
5 project, the following conditions would need to be  
6 met:

7                   Federal approvals would need to be  
8 obtained under the Canadian Environmental  
9 Assessment Act, the Canadian Nuclear Safety and  
10 Control Act, the Fisheries Act, and the Navigable  
11 Water Protection Act.

12                   We also require a satisfactory  
13 coastal processes report which indicates that the  
14 works will cause no significant effects on shore  
15 process.

16                   The current peer review of the  
17 report is with us and under review at this point in  
18 time.

19                   MNR's policies and procedures also  
20 need to be followed for the authorization of use of  
21 Crown land, including Aboriginal consultation and  
22 satisfactory consideration and our mitigation of  
23 the environmental impacts.

24                   I'm sure you've seen this map  
25 before, but it just gives a little bit of a context

1 of the current land ownership from the Crown in the  
2 first project Darlington, that was the red, noted  
3 in a light shade of pink, and then the dark red of  
4 the two discharge and intake structures.

5                   So they, back in 1978, obtained 17  
6 hectares from us, and it was sold as the measure of  
7 tenure.

8                   So the dotted yellow line on this  
9 map indicates, from OPG's application, where they  
10 propose to require land fill. And this is the  
11 bounding scenario of 40 hectares.

12                   So the second area of interest to  
13 the Ministry of Natural Resources is natural  
14 heritage features and functions.

15                   On this slide, just for interest,  
16 that is not a wetland on the site in question, but  
17 just for illustrative purposes.

18                   However, the bobolink, which has  
19 been discussed earlier this week, is on the right.  
20 There's a female on the -- on the top slide and a  
21 male on the bottom slide.

22                   So the natural features, this map  
23 is produced by MNR and is for illustrative  
24 purposes. There are a number of natural features  
25 found on this site.

1                   First of all, there are some small  
2     created wetlands on the east side of the property.  
3     There's Coot's Pond on the west. There are two  
4     grassland areas in -- with a little "g" notation on  
5     the northwest corner and the southeast corner. As  
6     well, there is the 1.1-kilometre shoreline bluff,  
7     which is habitat for bank swallows.

8                   In addition, the green shading on  
9     the map is forested areas, and it could be 100  
10    percent forested to scrub forest.

11                   So the Ontario provincial policy  
12    statement and other legislation, such as the  
13    Endangered Species Act, and our evaluation  
14    criteria, such as the Ontario Wetland Evaluation  
15    System, help us determine provincial significance  
16    for these natural features.

17                   Pursuant to the provincial policy  
18    statement, there was one feature which was  
19    identified as significant on the site, and that is  
20    the shore bluffs, which I showed on the map  
21    previously.

22                   There are approximately 1,300  
23    nesting sites in this shoreline bluff and, as such,  
24    according to our evaluation criteria, is --  
25    considers significant.

1                   We understand the bluffs will be  
2 impacted and mitigation should include minimizing  
3 the amount of bluff removal to the extent possible  
4 and avoiding any habitat disturbance during the  
5 breeding season of May to July.

6                   MNR is of the opinion that with  
7 the habitat compensation proposed to date that the  
8 compensation is satisfactory.

9                   However, information on the extent  
10 of the disturbance, the location for habitat  
11 creation, and a detailed design will be required to  
12 be provided to MNR for review.

13                   Other features located on the  
14 property, there were no provincially significant  
15 wetlands, woodlands, or areas of natural and  
16 scientific interest.

17                   However, as mentioned earlier this  
18 week, there's three small created wetlands  
19 approximately .5 hectares in size, and they could  
20 be lost due to the project. They do not contain  
21 any provincially-threatened or endangered species.

22                   And we understand new wetlands are  
23 being proposed to be created elsewhere on the site  
24 to create -- to compensate for the loss of these --  
25 this feature.

1                   Coot's Pond, which is on the  
2 northwest portion of the property, is a stop-over  
3 for migratory birds. It's also an amphibian and  
4 insect breeding habitat. And we understand the  
5 pond is not proposed to be impacted by the project.

6                   Next, we move into the endangered  
7 species on the site from a provincial regulatory  
8 perspective.

9                   The three species of threatened --  
10 are threatened that we found -- that were found on  
11 the site include bobolink, the chimney swift, and  
12 the least bittern.

13                   So the yellow marks on this map  
14 show the approximate location, not exact, because  
15 it's used for illustrative purposes, of the pairs  
16 of bobolink that were observed, as well as a  
17 chimney swift located in the south part of the  
18 property. And there was a least bittern observed  
19 in Coot's Pond.

20                   Under the Ontario Endangered  
21 Species Act of 2007, our purpose is to protect  
22 provincially-endangered and provincially-threatened  
23 species and habitat and promote their recovery.

24                   The least bittern, which is  
25 threatened under our Act, have had sightings

1 recorded in Coot's Pond and offsite to the east.

2 The extent of the use of this site  
3 by this species is very limited, and we believe no  
4 impact is expected.

5 The chimney swift, which is also  
6 threatened, there was a pair observed. However,  
7 the proposed expansion area is presently Greenfield  
8 where there are no existing structures and chimneys  
9 that will be impacted. There may be some loss of  
10 foraging habitat, but only marginal in our opinion.

11 The bobolink, which is threatened  
12 as well. There were five pairs observed on the  
13 site, and the habitat may be impacted. The exact  
14 extent of possible impacts will not be known until  
15 final site configuration and disturbance is known.  
16 Mitigation should also include no site alteration  
17 within bobolink habitat during the breeding season,  
18 and compensation should include creation of  
19 grassland habitat elsewhere on site.

20 The next part of the presentation,  
21 I will pass it over to Andy Todd.

22 --- PRESENTATION BY MR. TODD:

23 MR. TODD: For the record, Andy  
24 Todd. The Ministry of Natural Resources is  
25 responsible for managing fish and fish populations

1 and DFO is responsible for habitat as was described  
2 earlier, and this relationship requires us to work  
3 very closely on matters such as this.

4 DFO asked the Ministry of Natural  
5 Resources, the Lake Ontario Management Unit, for an  
6 opinion on the impact of the bounding scenario last  
7 spring, and we provided a letter to DFO which is  
8 dated April 10<sup>th</sup>, and then following an assessment  
9 of the impact, the EIS, and some historical  
10 information we had. And, again, we were provided a  
11 letter jointly with the district office on January  
12 28<sup>th</sup>.

13 So round whitefish, we've heard a  
14 little bit about round -- a lot about round  
15 whitefish. They're a cold water native species to  
16 Lake Ontario and were historically abundant and  
17 found predominantly on the north shore of Lake  
18 Ontario. Current data suggests, however, that  
19 there's lower abundance and populations are  
20 consisting of older individuals, which is  
21 suggesting -- it's an indicator of poor  
22 recruitment.

23 Adult catch data suggests that  
24 spawning concretions are associated with headlands  
25 or bluffs, and including the Raby Head area, which

1 is within the study area and subject to proposed  
2 lake in-filling.

3                                 Those round whitefish spawning at  
4 Raby Head may be important to the lake wide  
5 population of round whitefish. The Ministry of  
6 Natural Resources, Lake Ontario Unit provided an  
7 opinion that was -- that this project as outlined  
8 in the bounding scenario could, through cumulative  
9 effects, result in significant impacts to round  
10 whitefish populations.

11                                 The opinion was based on the  
12 potential importance of this location to lake wide  
13 populations of native species -- of this native  
14 species currently undergoing population stress.

15                                 MS. PELLA-KEEN: Deb Pella-Keen  
16 for the record. So in conclusion, MNR will  
17 continue to work with OPG and other agencies to  
18 input and review in the detailed designs,  
19 mitigation, and compensation measures, including  
20 the lake in-filling. We will continue to assess  
21 the impact of the lake in-filling proposal on fish,  
22 coastal processes, shoreline features, and  
23 functions.

24                                 In addition, with the significant  
25 wildlife habitat, MNR will continue to provide

1 input and review of the mitigation and compensation  
2 measures for the loss of the bank swallow habitat  
3 when the extent of the habitat removal and  
4 alteration is better defined.

5                   For the threatened species, MNR  
6 will provide input and review for the mitigation  
7 and compensation measures regarding the potential  
8 loss of bobolink -- bobolink habitat, again, when  
9 the extent of their habitat removal is understood.

10                   And for the fisheries, MNR  
11 supports DFO recommendations for mitigation and  
12 compensation including the preparation of the round  
13 whitefish action plan.

14                   CHAIRPERSON GRAHAM: Thank you  
15 very much. As I said at the outset, we're going to  
16 take a short break, so we'll take -- we'll go --  
17 we'll be back at 20 minutes to 4 and there'll be  
18 questions first from the panel to either OPG, DFO,  
19 or MNR, and then we'll go to others and then to the  
20 intervenors. Thank you very much, and 12 minutes.  
21 --- Upon recessing at 3:30 p.m.

22 --- Upon reconvening at 3:42 p.m.

23                   CHAIRPERSON GRAHAM: Everyone  
24 please take their seats and we'll resume this  
25 afternoon's session.

1 (SHORT PAUSE)

2 CHAIRPERSON GRAHAM: We're going  
3 to follow the same routine process of questions  
4 from panel members and questions from either CNSC  
5 or OPG to the department. OPG [sic] made the  
6 presentation, so there may be some questions to OPG  
7 and then government departments that may have a  
8 question and then public intervenors. So we'll  
9 start off with Madame Beaudet.

10 --- QUESTIONS BY THE PANEL:

11 MEMBER BEAUDET: I'd like first to  
12 look with the DFO, the risk assessment worksheet.

13 MS. PELLA-KEEN: Sorry, if I can  
14 just confirm --

15 MEMBER BEAUDET: And they -- and  
16 they -- in your PMD, which, for the record, I  
17 should say it's 11-P1.7. In the appendix 1, you  
18 have the risk management framework worksheet, and  
19 then you have in colour evaluation of -- if it's --  
20 it's of a scale, none, low, moderate, and high.

21 Now, what we have for sensitivity  
22 of fish and fish habitat, highly sensitive and it's  
23 a significant negative effect, and I believe this  
24 is the basis for your decision to negotiate with  
25 OPG if it would be possible to limit the contour --

1 the depth of the contour line for the lake in-fill.  
2 Am I correct?

3 MR. HOGGARTH: That is correct.  
4 Tom Hoggarth for the record.

5 MEMBER BEAUDET: Now, what we just  
6 heard from you is that if it's not once-through,  
7 you would be willing to look at -- let's say if  
8 it's cooling towers and you have a more precise  
9 project, you would be willing to look at increasing  
10 the 19 hectare, it could be bigger to accommodate,  
11 let's say, cooling tower in bracket. I'm just  
12 making a suggestion here. However, if you're going  
13 to destroy habitat, whether it's a two-metre  
14 contour line -- a two-metre depth contour line or  
15 ten-metre contour line, you're still destroying the  
16 habitat. So how -- how are you going to resolve  
17 that? Is it because -- with the further studies on  
18 the round whitefish?

19 MR. HOGGARTH: Yeah, it's -- we  
20 would be looking at -- further studies to the round  
21 whitefish through the Round Whitefish Action Plan  
22 will provide us with better clarity on what would  
23 be considered the critical habitat in this -- in  
24 this zone that we're working on. But the other --  
25 when -- when I'm making the -- when we've made the



1 on -- on your worksheet here, and is it possible to  
2 do it or you don't do it?

3 MR. HOGGARTH: Okay, it's -- if  
4 you look at the -- for the round whitefish, we did  
5 take into account that there was going to be loss  
6 around whitefish through impingement entrainment.  
7 With the 40 hectare -- with the 40 hectare review,  
8 it also included the impacts the impingement  
9 entrainment was having as well as the  
10 authorizations that we'd have to provide for the  
11 footprint of the intake and diffuser structure.

12 We -- again, like I'd mentioned,  
13 we don't have the ability to authorize impacts from  
14 thermal discharge. So the thermal discharge would  
15 be considered a delectary [sic] -- if -- again,  
16 sorry. If the thermal discharge is deemed as  
17 deleterious, then that is a violation of the  
18 *Fisheries Act*. And so we are not -- our review  
19 would not include that as a potential impact as we  
20 don't have the ability to approve that.

21 MEMBER BEAUDET: And that's  
22 Environment Canada?

23 MR. HOGGARTH: Environment Canada  
24 reviews it, but they don't have the ability to  
25 approve it either.

1                               MEMBER BEAUDET: It's more clear  
2 than a few days ago, but it doesn't solve the  
3 problem, as I said. My other point was about the  
4 no net loss principle. You seem to suggest that  
5 possibly at the moment it's the principle that OPG  
6 will not meet on its site. If we -- if staff could  
7 give us the figure two of the Beacon Environmental  
8 document. It's an update we received from OPG in  
9 January -- January, 2011, if we could have that on  
10 -- on the screen, please.

11                              There's been some negotiation for  
12 compensation in the -- how do you pronounce it,  
13 it's McLaughlin Bay and also with the fish pass and  
14 I would like to know how far you are in your  
15 negotiations because you -- you say in your  
16 submission that you are negotiating, but we would  
17 like to know how realistic it is and, you know, how  
18 far we can go because we have to consider that they  
19 would be important mitigation measures.

20                              MR. HOGGARTH: No, I understand.  
21 Tom Hoggarth for the record. We're -- we're moving  
22 down fairly far along our approach to this. What  
23 we're doing at this stage of the game, is  
24 McLaughlin Bay -- we are running different  
25 scenarios of -- of how to improve McLaughlin Bay to

1 get the best increase in productive capacity of our  
2 fish and that would be things like digging it  
3 deeper or putting in new, different aquatic  
4 vegetation. And based on the difference scenarios,  
5 we -- we make an assessment on how close it's  
6 getting to meeting our needs for no net loss.

7                   So I'm confident that we do have  
8 the ability within McLaughlin Bay, that we will be  
9 able to achieve it. I would just -- it -- it would  
10 be nicer and it think what's happened is we've all  
11 caught -- got caught up in making sure we're having  
12 our main submissions for the panel and we'll need  
13 to get sitting back down at the table and doing  
14 final, you know, crossing the Ts and dotting the Is  
15 to make sure that McLaughlin Bay will be enough.  
16 But I'm confident we can get there.

17                   The other thing, we -- we've had a  
18 couple of other smaller projects as well that if --  
19 we can always go to if -- if McLaughlin Bay doesn't  
20 turn out completely to meet our needs.

21                   MEMBER BEAUDET: I'd like to see  
22 that document figure three because there's also a  
23 proposal we discussed the other day with Mr. Peters  
24 of OPG, there's a small -- it's not a wetland, it's  
25 after the blue there. There's a yellow area where

1 there would be aquatic vegetation added and I would  
2 like to know if this was your proposal or OPG and  
3 what you intend to do there?

4 MR. HOGGARTH: We -- we have been  
5 talking to OPG about potential compensation  
6 directly on site with the development. We were  
7 assessing whether that would be appropriate as this  
8 is an area that there are Round Whitefish in, and  
9 we're not too sure if we would like aquatic  
10 vegetation to be growing in that area.

11 It's also a -- a fairly windswept  
12 area and what would be the success of it. But, no,  
13 we are -- if -- if something like that, through  
14 again, the Round Whitefish Action Plan that we find  
15 that the fish aren't right in there and we think  
16 there's some success to it, it would definitely be  
17 an option as well.

18 MEMBER BEAUDET: Thank you. You  
19 said also in your submission and you mentioned it  
20 also in your presentation that you believe that  
21 there's still a risk, and I'm -- I'm quoting you  
22 here:

23 "Associated with habitat loss  
24 as well as the concern for  
25 increased mortality of Round

1                   Whitefish from impingement  
2                   and entrainment during the  
3                   installation and operation of  
4                   the intake."

5                   And that would be in spite of the  
6 two metre contour line I presume or you can correct  
7 me, and exactly what you have in mind here. You --  
8 you -- if you say that, you expect that something  
9 more would be done and in response to -- in -- in  
10 the responsible PG to your proposal, if you have in  
11 mind retrofits, they say that it would be only at  
12 -- at the pipe, at the discharge pipe. I mean, we  
13 should not expect that because it doesn't work or  
14 there's serious adverse effect here that it would  
15 change the system from once through to cooling  
16 towers. So I'd like to hear more about this one  
17 from you.

18                   MR. HOGGARTH: Yeah. I think part  
19 of it was -- might have been some lack of clarity  
20 in -- in OPG's understanding of our recommendation  
21 there, but I'll -- I'll explain that. So -- Tom  
22 Hoggarth for the record. We -- your question when  
23 you first start off, you were talking about do we  
24 consider there's still some risk to the Round  
25 Whitefish because -- with once through cooling.

1 And with the bounding scenario and the location  
2 where they put the -- the intake structure, it's  
3 still within known depths that Round Whitefish  
4 spawn.

5                               We've got on record, Ontario Power  
6 Generation has indicated that they're -- they're  
7 willing to work with DFO, EC, CNSC and MNR to find  
8 the best location for the intake structure. So one  
9 of the mitigation measures that we're looking at is  
10 let's move the intake structure to deeper water and  
11 then that in itself will start reducing and -- and  
12 potentially reduce completely the concern that we  
13 have to Round Whitefish impingement.

14                              The -- the issue around retrofits  
15 I -- I can understand OPG's concern that they would  
16 build a structure and the day after tomorrow we  
17 would then say, oh, we want to change now. And so  
18 I understand their concern with that and that's not  
19 necessarily what we meant. And what I -- what our  
20 involvement would be is when we sit down and look  
21 at -- and this is if once your cooling is selected,  
22 we would sit down with the team and provide  
23 information on our needs to the design team that's  
24 designing it. And a good example would be is right  
25 now under the federal *Species at Risk Act*, Sturgeon

1 are not listed. There's not a lot of Sturgeon  
2 known in this area, but let's say our recovery  
3 strategies in ten years from now, start to work and  
4 we start to see Sturgeon showing up.

5                   So we would -- when we're coming  
6 to the table and we're speaking to, okay, design of  
7 that structure today, we might bring up, okay,  
8 let's say Sturgeon do show up in 15 years from now.  
9 What can you do with your design today? You may  
10 not have to implement it all, but what can you do  
11 with your design today such that in 15 years from  
12 now, if we've got an issue with an aquatic species,  
13 they can say, okay, we'll not implement this plan.  
14 And so it -- it's along that line. We're, you  
15 know, DFO, we're not experts on nuclear; we're not  
16 engineers. We provide the information to the -- to  
17 the nuclear people and the engineers on what our  
18 needs may be for their protection and then we allow  
19 them to -- to develop the design criteria that can  
20 work.

21                   Other mitigation measures that we  
22 would be working with them and we would be working  
23 with our colleagues at CNSC, would specially speak  
24 to, you know, would acoustic deterrents also be  
25 needed here or could they be used? Do we need fish

1 bypass systems here?

2                               The Sturgeon one might be one of  
3 those issues where -- well, right now, there's  
4 nothing we can actually do with the -- the actual  
5 design of the intake, but we could put in fish  
6 bypass systems or have it engineered such that if  
7 fish bypass systems are required, we can then  
8 install them. And -- so that might be a method,  
9 but again, we'd be leaving it to the nuclear  
10 experts to sort of appraise or tell us how they can  
11 do it.

12                              And part of the reason why we  
13 brought that recommendation forward is we have got  
14 ourselves in situations where we've approved a  
15 structure and then because of maybe changing the  
16 environment or something that wasn't anticipated,  
17 we start finding impact. And we've gone back to  
18 industry and said, oh, we would like to see a  
19 change, and the answer we always get back, oh, but  
20 you should have told us that before. The way it's  
21 designed, we can't make those changes.

22                              So it's just -- we want to be  
23 sitting down with OPG upfront, listing -- and --  
24 and part of the multi-stakeholder workshop that  
25 we're talking about would do that kind of stuff;

1 would list all the concerns that -- that are  
2 realistic, not just way, way out there ones, but  
3 realistic concerns such that.

4                   When they do come up with a final  
5 design, it has the ability to be flexible for those  
6 kinds of changes.

7                   MEMBER BEAUDET: Thank you. I  
8 would like to go to CNSC. I have here a  
9 responsible authority, who can issue an  
10 authorization permitting, with compensation,  
11 measure destruction of the habitat. I have a  
12 thermal plume that may or may not eventually  
13 destroy biota, and I believe, DFO, your  
14 authorization does not cover biota, it covers  
15 habitat. And with the Ministry -- with Environment  
16 Canada, it would have to be proven that the thermal  
17 discharge is deleterious and therefore there is no  
18 compliance to the law and then they can be sued.

19                   Now, in-between, there is a gap  
20 here, and I would like to know, CNSC has also the  
21 responsible authority of this project, if you  
22 somewhere can fill the gap?

23                   MS. THOMPSON: Patsy Thompson for  
24 the record. I will describe the regulatory  
25 process, and if I leave some of your issues

1    unanswered, then, I would ask that you come back  
2    with a request for more details.

3                    The CNSC, for existing projects,  
4    most of them were licensed before the *Nuclear*  
5    *Safety and Control Act* came into force before the  
6    CNSC had a mandate to protect the environment. And  
7    so for existing facilities, the regulatory regime  
8    between the CNSC and other regulators, I think was  
9    rather unclear for us as a federal team, but also  
10   for licensees.

11                   For new projects, given the fact  
12   that the *Nuclear Safety and Control Act* is in  
13   place, I think, brings clarity. The Act clearly  
14   identifies the requirement for the commission to  
15   ensure that the environment will be protected with  
16   the operation of facilities that would be licensed  
17   from the CNSC.

18                   The environment as defined in CNSC  
19   legislation is the same definition that we find in  
20   other legislation, so it covers the physical and  
21   biological aspects of the environment including  
22   biota. In addition, the CNSC is a responsibility -  
23   - a responsible authority, as you pointed out,  
24   under the *Canadian Environment Assessment Act*, and  
25   because of our licensing regime, there -- there is

1 a mechanism to ensure that mitigation measures and  
2 follow-up are included through the licence, either  
3 by licence conditions or the licence condition  
4 handbook.

5                               In terms of determining the level  
6 of mitigation and the level of the limits that need  
7 to be put on the facility that, for example, if  
8 OPG's Darlington new build is authorized, we  
9 essentially work with our legislation and other  
10 federal or provincial legislation to make sure that  
11 when we recommend licences -- licence limits and  
12 conditions to the commission, that we do not put a  
13 situation were by complying with our licences,  
14 other legislation would be not complied with.

15                               And so in that case it's very  
16 important to work with our federal and provincial  
17 partners to make sure that the limits and  
18 conditions put on nuclear facility will ensure that  
19 the environment is protected to the satisfaction of  
20 the jurisdictions that have, for example, water or  
21 air quality jurisdiction and, in the case of fish,  
22 either DFO or Environment Canada. So that's the  
23 process that would be put in place to ensure that  
24 the limits and provisions in other legislation are  
25 complied with through our licensing regime.

1                   MEMBER BEAUDET: But here the -- I  
2 understand that DFO authorization comes before the  
3 licence to prepare the site is done or just after  
4 -- before -- before the licence to the construct,  
5 but when is it, before or after the licence to  
6 prepare the site?

7                   MS. THOMPSON: If I could, Madame  
8 Beaudet, I would ask Barclay Howden to explain how  
9 a site preparation licence, the licence to prepare  
10 a site and the other authorizations from and MNR or  
11 DFO would work.

12                   MEMBER BEAUDET: Please.

13                   MR. HOWDEN: Thank you, Barkley  
14 Howden speaking. From a licensing standpoint, the  
15 licence to prepare a site would likely be one of  
16 the first ones to be issued, recognizing that if  
17 there was going to be any in waterworks, i.e.: in-  
18 filling, there would be a requirement for OPG to  
19 obtain the authorization from DFO for the  
20 destruction of fish habitat, and eventually from  
21 Ministry of Natural Resources, a land use permit to  
22 be able to do the in-filling. So I think in terms  
23 of order, the CNSC licence to prepare a site and  
24 the DFO authorization are really not contingent on  
25 one occurring before the other.

1                                   I think where the timing part  
2 comes in is for Ministry of Natural Resources in  
3 Ontario. I think they need those two  
4 authorizations to be in place for them to then  
5 consider the infilling part at that point because  
6 that is actually placing materials into the water  
7 and OPG would have to get the land use permit, and  
8 there is some other ones. So I think those two,  
9 the CNSC and DFO ones, can come really at any time,  
10 but they both have to be in place almost as a  
11 prerequisite for MNR to be able to provide their  
12 authorization.

13                                   MEMBER BEAUDET: Thank you. I'd  
14 like to go now with Ontario Ministry of Natural  
15 Resources. And the three items I'd like to cover  
16 with you, first, species at risk. Yesterday, it  
17 was interesting that, for instance, the snapping  
18 turtle in Coot's Pond and, although Coot's pond  
19 will not disappear, it may be, as OPG has said in  
20 one of their responses to one IR from us, that it  
21 could be -- I mean, species there could be  
22 indirectly effected. And what we heard from  
23 Environment Canada, it was that, for instance, a  
24 snapping turtle can resist, you know, turbidity in  
25 water, so even if -- because they are doing work,

1 there's some impact, they would probably survive  
2 those impacts. Now, I'd like to hear more about  
3 you -- about the three species at risk, like,  
4 bobolink and chimney swift and least bittern. It  
5 is not just that whether they're onsite or not  
6 onsite, it is just how much you feel that they can  
7 resist if there is an impact. I mean how resilient  
8 are they, and before we try to look at remediation  
9 measures or conservation strategy, do they have a  
10 chance to resist the activities, like, for instance  
11 some species can -- don't mind if there's a lot a  
12 noise around, et cetera, and I'd like to hear from  
13 you about these three species at risk.

14 MS. PELLA-KEEN: Deb Pella-Keen,  
15 for the record. With permission, may I ask Emma  
16 Followes, who is our ecologist, to speak to your  
17 question.

18 MEMBER BEAUDET: Yes, please.

19 MS. PELLA KEEN: Thank you.

20 MS. FOLLOVES: Emma Followes, for  
21 the record. So for the three species that you  
22 asked about, bobolink, chimney swift, and least  
23 bittern, bobolink is a migratory bird, and I think  
24 it has already been discussed by Environment  
25 Canada. They do have breeding site fidelity, so

1 they do return to the same site each year to breed.  
2 In terms of their tolerance for disturbance, I  
3 can't actually speak to the specifics of their  
4 tolerance to disturbance, so I will not be able to  
5 answer that one for you, but I certainly look into  
6 it if you would like more information.

7 MEMBER BEAUDET: Please.

8 MS. FOLLOWES: As for Chimney  
9 Swift on the site, this species, it is -- they used  
10 to nest in -- in old growth trees, and they now --  
11 that were broken down, and they now nest in  
12 chimneys, and it is not known if they are actually  
13 nesting on the site. If they are currently are  
14 nesting on one of the existing structures that's  
15 not going to be removed, then likely there is not  
16 going to be an impact on that particular species.

17 And as for least bittern, in that  
18 situation there was one least bittern that was  
19 observed in Coot's Pond. It's not known to be  
20 breeding on the site. There was also one observed  
21 adjacent in the Raby Head Wetland.

22 They are known to exist in areas  
23 where there is urban surrounding around their  
24 wetlands. This particular species is on the site  
25 because it's not known to be breeding on the site

1 unlikely at this point that we know that there  
2 would be an impact or if it turns out to be  
3 breeding, then we can certainly look into that  
4 further.

5 MEMBER BEAUDET: Could you look in  
6 the two points that you mentioned that you would  
7 look into for the least bittern and the bobolink,  
8 please?

9 MS. FOLLOWS: Certainly, yes.

10 CHAIRPERSON GRAHAM: We'll assign  
11 that an undertaking, Undertaking number 26 from the  
12 Minister of Natural Resources of Ontario to provide  
13 the panel with this information.

14 CHAIRPERSON GRAHAM: And how long  
15 do you expect it would take to get that?

16 MS. FOLLOWS: I would imagine we  
17 just need a couple of weeks to confer with other  
18 experts on that and look into it for you.

19 CHAIRPERSON GRAHAM: Okay. So can  
20 we say Monday the 1<sup>st</sup> I think it is -- Monday, April  
21 4<sup>th</sup>. Is that okay?

22 MS. FOLLOWS: That's fine.

23 MEMBER BEAUDET: My second point  
24 is just a clarification in your submission on page  
25 3, the last paragraph.

1                   You say you're still of the  
2 opinion that this project as outlined could,  
3 through cumulative effects, have a significant  
4 impact to the round whitefish population and I'd  
5 like you to clarify your definition of cumulative  
6 effects here.

7                   Is it with Darlington, with the  
8 other projects on the north shore of Lake Ontario,  
9 or is it additive effects of this project, lake  
10 infill, term of discharge, et cetera, combined with  
11 the existing Darlington and the new one?

12                   MR. TODD: Andy Todd, for the  
13 record.

14                   In this context, "cumulative  
15 effects" is in the context of combined development  
16 along the north shore in a broader context where  
17 Darlington -- the proposed project at Darlington is  
18 just another project within that context.

19                   MEMBER BEAUDET: Thank you.

20                   Also on page 5, you say that  
21 you're still reviewing the latest submission from  
22 OPG related to costs of the process.

23                   Do you mean the Baird report?

24                   MS. PELLA KEEN: What we mean is  
25 -- Deb Pella Keen, for the record.

1                                   What we mean is the DFO  
2   commissioned peer review report that we received on  
3   January 28<sup>th</sup>.

4                                   MEMBER BEAUDET:   Okay.  I don't  
5   believe we have that document.  So when do you  
6   think you're going to finish that -- is it from  
7   OPG?  Is it the document ---

8                                   MS. PELLA KEEN:  No, it was -- may  
9   I defer to DFO to clarify the peer review?

10                                  MEMBER BEAUDET:  Yes, please.

11                                  MS. PELLA KEEN:  Thank you.

12                                  CHAIRPERSON GRAHAM:  Sure, go  
13   ahead.

14                                  MR. HOGGARTH:  Yeah, Tom Hoggarth,  
15   for the record.

16                                  When we did the initial review of  
17   coastal processes, we had actually hired a coastal  
18   engineer from Shoreplan and I'm pretty sure we have  
19   submitted those documents so you have them.

20                                  So all that documentation of the  
21   back and forth between Baird & Associates that OPG  
22   hired and the input that the coastal engineer that  
23   we had hired has been given to the Ministry of  
24   Natural Resources for their review as well.

25                                  MEMBER BEAUDET:  Okay.  We have

1 all these documents but we don't have your input.

2 MS. PELLA KEEN: Deb Pella Keen,  
3 for the record.

4 That's correct. We received the  
5 document on January 28<sup>th</sup>. So we have not yet  
6 completed our review.

7 MEMBER BEAUDET: And is it  
8 possible to have your comments? Is it in the near  
9 future even to be completed? Because for you it's  
10 also important that we know how you feel about the  
11 result of these studies because you are -- well  
12 being Crown land first of all and also looking at  
13 coastal processes, I think we would like to have  
14 also your comments.

15 MS. PELLA KEEN: Deb Pella Keen,  
16 for the record.

17 As I noted on one of my slides,  
18 there are a number of approvals that would be  
19 required before we would issue our approval for use  
20 of Crown land lakebed here and one of them is a  
21 satisfactory coastal process report.

22 So we have an engineer that's  
23 currently reviewing it. What he has seen to date  
24 has been satisfactory but however, I'm  
25 uncomfortable about making a commitment to his time

1 given he's in a different work unit but would 30  
2 days be acceptable?

3 MEMBER BEAUDET: Well, I think  
4 when it's ready, if you could send us, we would  
5 appreciate it.

6 MS. PELLA KEEN: Absolutely.

7 CHAIRPERSON GRAHAM: Well, then  
8 we'll give it an undertaking, Undertaking number  
9 27.

10 Did you say a specific date? No,  
11 because the review is not finished. So put it the  
12 last day of the hearings here and then we'll see  
13 about extending, or how do you do that?

14 Yes, we'll say within 30 days or  
15 as soon as possible, but we can't close the record  
16 until we have it. I believe that would be -- so we  
17 may have to communicate back and forth and note  
18 that. So we'll say within 30 days for now.

19 Is that satisfactory, Madame  
20 Beaudet?

21 MEMBER BEAUDET: Yes.

22 My last point was about the round  
23 whitefish being of a different genome. I believe  
24 this was raised the first time by the Ministry of  
25 Natural Resources and I'd like to hear also DFO on

1 that.

2 I don't know if it has progressed,  
3 the research on that or your reflection, your  
4 thoughts because there was a question that what is  
5 here at the Darlington site could be different from  
6 the lake population.

7 MR. TODD: Andy Todd, for the  
8 record.

9 Could I call upon Marc Desjardins  
10 to speak to that point?

11 MEMBER BEAUDET: Yes, please.

12 MR. TODD: Thank you.

13 CHAIRPERSON GRAHAM: Yes, please.

14 Mr. Desjardins?

15 MR. DESJARDINS: Marc Desjardins,  
16 for the record.

17 Just to put some context into the  
18 question, the bulk of the information that I  
19 reviewed along with the impact statement was  
20 historic hydro reports.

21 Going back to the data collected  
22 from the '80s and the '70s, it was noted that there  
23 were differences in population parameters between  
24 Darlington and Pickering, those being specifically  
25 that there seemed to be different size classes at

1 each of the sites and there seemed to be different  
2 recruitment patterns, that being when there were  
3 good year classes at one site, there wasn't always  
4 good year classes at the other.

5                   Through ongoing monitoring  
6 workshops, it was raised that those indicators  
7 could lead to one making the conclusion that they  
8 could be distinct populations and there were  
9 requests or there was conceptually requests for  
10 genetic analyses but those were never done.

11                   So as a precautionary principle,  
12 with all this information hanging in the balance,  
13 that led to our conclusion regarding the potential  
14 significance of Darlington on the north shore if it  
15 is in fact a unique population.

16                   But there has been no evidence to  
17 support genetics as to whether they're unique.

18                   MEMBER BEAUDET: Will this aspect  
19 be part of the round whitefish action plan?

20                   MR. TODD: Andy Todd, for the  
21 record.

22                   It could be. It's something we're  
23 looking at but it's a placeholder at this point.

24                   MEMBER BEAUDET: I'd like to hear  
25 from a CNSC expert on that, please.

1 DR. THOMPSON: If I could point  
2 you to CNSC staff's Recommendation number 12 where  
3 we recommend that this work on to better understand  
4 the population structure and geographic  
5 distribution be part of a research element in the  
6 round whitefish action plan.

7 And if you'd like, I could ask Don  
8 Wismer to explain this better.

9 MEMBER BEAUDET: Yes, please.

10 MR. WISMER: It's Don Wismer.

11 There's been ongoing lake  
12 whitefish and round whitefish research elsewhere in  
13 the Great Lakes and Lake Huron associated with the  
14 Bruce site since about 1979. It's still ongoing  
15 and they're just starting to get to this question  
16 now because it's so difficult to define on a large  
17 lake.

18 And their preliminary results  
19 there for lake whitefish seem to indicate that  
20 populations are 40 kilometres apart. The one at  
21 the Bruce site versus 40 kilometres north at the  
22 fishing islands could be distinct. That's for lake  
23 whitefish.

24 Now, this is a different species  
25 and it's a different lake, so all that tells us is

1 it's within the realm of possibility that within  
2 that distance you might have different populations,  
3 but we don't know.

4                   So that's a Recommendation 12,  
5 part of an RPMD, part of it was to do studies to  
6 define the population structure and geographic  
7 distribution.

8                   Genetic analysis may be  
9 appropriate or it may not, that's just one way to  
10 do it. There's a bunch of different ways to do it,  
11 but it would be up to the working group in the  
12 round whitefish action plan to have a workshop and  
13 decide what the issues are and the best ways to  
14 pursue them scientifically.

15                   MEMBER BEAUDET: You realize we  
16 have to approve or not your recommendation?

17                   That's why I was trying -- I mean,  
18 there are lots of questions I still have for CNSC.  
19 We may do them, you know, as we go along and this  
20 was one of them because genetic analysis cannot be  
21 done just within a year. You know, it's  
22 inconclusive results.

23                   My last question is ---

24                   CHAIRPERSON GRAHAM: Pardon me,  
25 Madame Beaudet.

1 Dr. Thompson, you want to add  
2 something because I think we're still kind of up in  
3 the air?

4 DR. THOMPSON: That was my  
5 feeling. If you would allow me just a second to  
6 confer with Mr. Wismer.

7 Patsy Thompson, for the record.

8 I think the issue is also related  
9 to earlier questions by Madame Beaudet in terms of  
10 the additive effects of the habitat impingement and  
11 thermal on the round whitefish. And, in addition,  
12 the cumulative effects assessment could not provide  
13 definitive answers on whether or not there would be  
14 likely significant environmental effects.

15 And the uncertainty rests with  
16 whether or not it's a local population or it's a  
17 broader distribution population, and that is the  
18 reason we made the recommendation. There's  
19 uncertainty in our ability to be able to be  
20 conclude on the impacts of the project on round  
21 whitefish.

22 MEMBER BEAUDET: The implication  
23 if it is of a different genome is far more reaching  
24 than if it is not.

25 I'd like to hear OPG on that,

1 please?

2 MR. PETERS: Madame Beaudet, could  
3 you repeat just exactly what you'd like me to focus  
4 on and I'd be happy to do that?

5 MEMBER BEAUDET: There is a  
6 question that the round whitefish existing around  
7 the existing and the to-be-built Darlington site  
8 could be of a different genome than the rest of the  
9 lake. And in the round whitefish action plan we  
10 have to decide, under the recommendation of CNSC,  
11 if it would be appropriate to make the analysis to  
12 determine that?

13 MR. PETERS: Thank you very much.  
14 John Peters, for the record.

15 I think it's very important to  
16 understand, as Don Wismer has indicated to you,  
17 there are studies of a similar nature being done in  
18 Lake Huron at the moment and we know that those  
19 studies have progressed through a number of  
20 different means and they haven't necessarily led to  
21 perhaps the most specific thing you're thinking of,  
22 of genomic testing.

23 The work that we relied upon when  
24 we heard about this issue and responded in the IRs  
25 that you're referring to, was to point out that the



1                   MR. HOGARTH: I'm not too sure  
2 what you mean by -- Tom Hogarth, for the record,  
3 sorry -- I'm not too sure what you mean by species  
4 at risk outside of legislation. So if you're  
5 talking about a non-aquatic species at risk, I  
6 don't think Fisheries and Oceans will want to move  
7 down that route.

8                   If we're talking about a  
9 provincial species at risk that's listed under  
10 provincial legislation but not yet listed under the  
11 federal legislation, yes, we would work with the  
12 province on making sure that any kind of an  
13 authorization we do do would harmonize and/or  
14 support the concerns that the province would have.

15                   MEMBER BEAUDET: I'll be more  
16 clear on what I mean here.

17                   In taking a course of action after  
18 considering the review panel report of responsible  
19 authority shall design a follow-up program for the  
20 project and ensure that's its implementation is  
21 done according to Article 38.(2).

22                   Now, the responsible authority is  
23 not limited by the Act of Parliament that confers  
24 the power it exercises or the duties or functions  
25 it performs in fulfilling this responsibility. You

1 can link them to other instruments, but you could  
2 have a broader responsibility, especially in terms  
3 of follow-up programs.

4 That's what I was getting at.

5 MR. HOGARTH: Again, I have been  
6 involved in follow-up monitoring programs as a  
7 responsible authority where we are involved in  
8 broader issues than just the *Fisheries Act* or the  
9 habitat stuff that we're doing.

10 What we've done in the past is  
11 we've worked with other agencies to make sure that  
12 there is protection. We've worked with the  
13 province to make sure that their licensing or their  
14 permitting process would meet our needs for the  
15 protection of the species.

16 So I know we have -- in the past,  
17 we've been very reluctant to put issues outside of  
18 -- I'm going to say section 35 of the *Fisheries Act*  
19 within our authorization because we may or may not  
20 have any real authority if they don't follow up  
21 within our authorization.

22 If you would like though I would  
23 take this as an undertaking and I would go back to  
24 our legal counsel with that specific question and  
25 see how we can -- see what we can do with it.

1 MEMBER BEAUDET: Yes, please.

2 I'd like also to have CNSC comment  
3 on that as a responsible authority?

4 DR. THOMPSON: Patsy Thompson, for  
5 the record.

6 In other environmental assessments  
7 what has been done as environmental assessments for  
8 projects like this where the CNSC is the lead  
9 responsible authority, is we would take the  
10 responsibility to make sure that the follow-up  
11 program that is, for example, recommended by the  
12 panel, that have elements related to protection of  
13 health, safety and the environment be included in  
14 the follow-up program that the CNSC would take  
15 responsibility for.

16 We have not, for example, taken  
17 responsibility for elements of follow-up programs  
18 that are outside of the CNSC's mandate such as  
19 socio-economic or things that aren't clearly  
20 related to health, safety and protection of the  
21 environment, but this clearly is and it's certainly  
22 something that could become part of the follow-up  
23 program under a CNSC licence.

24 MS. BEAUDET: Thank you.

25 CHAIRPERSON GRAHAM: For follow-

1 up, Undertaking number 28, to Fisheries and Oceans.  
2 So a date when you can get that perhaps?

3 MR. HOGGARTH: Yes, Tom Hoggarth,  
4 for the record.

5 We'll be back here -- back on  
6 Monday, and I'll try and get an answer on Monday  
7 for you of when we'll expect a response back from  
8 our legal department on how we can handle this.

9 CHAIRPERSON GRAHAM: Fine, we'll  
10 put it on the agenda for Monday just for a specific  
11 date of follow-up.

12 MR. HOGGARTH: Yeah.

13 CHAIRPERSON GRAHAM: Thank you  
14 very much, Madame Beaudet.

15 MEMBER BEAUDET: Thank you, I'm  
16 finished, Mr. Graham.

17 CHAIRPERSON GRAHAM: Mr.  
18 Pereira.

19 MEMBER PEREIRA: Thank you, Mr.  
20 Chairman. I'll start off with a question to DFO.  
21 In Section 3.2 of PMD-11 P1.7, reference is made to  
22 the Lake Ontario near-shore habitat. Could DFO  
23 elaborate on the significance of the near -- near-  
24 shore as a fish habitat, and indicate the typical  
25 extent of this habitat in the vicinity of the

1 Darlington site?

2 MR. HOGGARTH: Generally near-  
3 shore habitats are considered, and especially in  
4 lake environments, to be the most productive  
5 habitat within a lake. And that is where the --  
6 the great majority of the life processes for fish  
7 occur. In -- in the near-shore area in front of  
8 Darlington, I think there's a bit of mix of  
9 important critical habitat for spawning, but  
10 there's also -- if you -- I don't think we have any  
11 definitions for it of near -- near-shore, but once  
12 you start getting shallower in depth, you start to  
13 get in a very high-energy zone, and it's in these  
14 high-energy zones that fish just would not have the  
15 ability for spawning. Because if they -- they lay  
16 their eggs one day, the very next day they'd be  
17 swept up onto the beach through storm and wave  
18 action.

19 So the immediate shoreline within  
20 the -- in that area, I wouldn't be considering as,  
21 you know, critical habitat for survival of fish.  
22 They definitely would use it in calmer periods, but  
23 it would be offshore of that. And again, that --  
24 that goes to sort of our two-metre line contour  
25 that we're looking at as well that once you get in

1 close you start to get into a high-energy zone, and  
2 it's offshore for that to probably about the  
3 thermocline depth --

4 MEMBER PEREIRA: Which is?

5 MR. HOGGARTH: -- which is  
6 anywhere from 15 to 20-metre depth.

7 MEMBER PEREIRA: 15 to 20 --

8 MR. HOGGARTH: And that would be  
9 the near -- near-shore area.

10 MEMBER PEREIRA: Thank you. On  
11 page 11 of the same PMD-11 Pl.7, DFO identifies a  
12 number of fish species at risk that may be found in  
13 the near-shore at the Darlington site. And the  
14 specific ones listed are deep water skulpin, lake  
15 sturgeon, Atlantic salmon and American eel. DFO  
16 goes on to state, however, that:

17 "In this near-shore habitat  
18 adjacent to the Darlington  
19 site, there does not appear  
20 to be critical habitat for  
21 these at risk fish species."

22 Where do the critical habitat for  
23 these species occur relative to the Darlington  
24 site?

25 MR. HOGGARTH: Yeah, the -- it

1 would be different for -- for all of them, and  
2 Atlantic salmon, they use streams to migrate up to  
3 spawn. Sturgeon, much the same, there would be  
4 shoal spawners or -- and/or in streams. And there  
5 hasn't been, and I don't think identified any  
6 critical habitat and recovery strategies for these  
7 species in this area.

8 MEMBER PEREIRA: Okay.

9 MR. TODD: Andy Todd, for the  
10 record. These species would be transient through  
11 the area.

12 MEMBER PEREIRA: Okay.

13 MR. TODD: But, you know, they may  
14 pass through, but it wouldn't be part of their --  
15 what we'd say their home.

16 MR. PEREIRA: Okay. Thank you.  
17 Again, for DFO. I think it was the end of page 10  
18 and the early part of page 11 in PMD-11 P1.7. You  
19 make comments about the -- the relative abundance  
20 of whitefish in the vicinity of Darlington seems to  
21 go up and down. And you close off by saying, yes,  
22 whitefish continue to be present there. Now, in  
23 that discussion, are you concluding that the  
24 whitefish is not in decline -- population is not in  
25 decline in the vicinity of Darlington?

1                   MR. HOGGARTH: This information is  
2 -- is information that has been provided through  
3 the studies that OPG has been doing, and it's based  
4 on a very short period of time. So it would be  
5 hard to make any very big conclusions around it.  
6 It's just general conclusions there right now that  
7 the population does, based on the sampling they've  
8 just done over the last two years, indicates that  
9 they're catching about the same amount each year.  
10 But I wouldn't go beyond an inference much past  
11 that.

12                   MEMBER PEREIRA: So you cannot  
13 conclude whether they're in decline or whether  
14 they're --

15                   MR. HOGGARTH: No, not just with  
16 the limited amount of studying that's been done at  
17 this time.

18                   MEMBER PEREIRA: Thank you. Then  
19 on page 17 of your PMD -- PMD 11 P1.7 you have your  
20 recommendations, and DFO recommends consideration  
21 of moving the intake for the once-through cooling  
22 system into deeper water to reduce impacts on fish.

23                                 What depth range would DFO  
24 consider to be appropriate for reducing the impacts  
25 to levels of relatively low significance? And you

1 made a comment on that in your presentation as  
2 well, that you could possibly have relatively  
3 little impact if you went deep enough.

4 MR. HOGGARTH: Yeah, Tom Hoggarth,  
5 for the record.

6 Again, this discussion has come up  
7 a couple times through the panel hearings, and  
8 today if we had to make a decision without  
9 additional information, we'd know that round  
10 whitefish generally spawn four to 12-metre depth,  
11 so it would be beyond the 12-metre depth that we  
12 would want.

13 The deeper it goes, if we can get  
14 it into the thermocline again, the better it would  
15 be. So if I had to make a decision today, it would  
16 be out 15 to 20 metres, but the hope is, is that  
17 the Round Whitefish Action Plan will be providing  
18 more specific information that'll give us a better  
19 idea of putting a finite number or a specific  
20 number on that.

21 MEMBER PEREIRA: The US federal  
22 government department have shared experience with  
23 your US counterpart, so might be advising on the  
24 construction of a nuclear generating station on the  
25 other side of the same lake. Do you share

1 information on what your recommendations are and so  
2 on?

3 MR. HOGGARTH: Tom Hoggarth, for  
4 the record. I know our science people do work with  
5 their American counterparts on issues around fish  
6 and the fish habitat within the lake. We, the  
7 habitat management program, my group, have not  
8 specifically sat down with the nuclear industry or  
9 discussed with nuclear industry in the States.

10 We -- again, as I say, we're not  
11 -- we would not be experts on the nuclear industry,  
12 and we would be relying specifically on CNSC to be  
13 providing us information on what is, sort of, best  
14 practices that the nuclear industry has -- is doing  
15 throughout, you know, Ontario, US and -- and  
16 potentially the world.

17 MEMBER PEREIRA: I was just going  
18 to ask whether you're aware of what the US is doing  
19 with respect to once-through cooling systems and  
20 what they might require for a new nuclear  
21 generating station on the US side of Lake Ontario?

22 MR. HOGGARTH: Tom Hoggarth, for  
23 the record. No, I don't have that other than just  
24 what we heard from PNNL earlier that it appears  
25 that the Americans are going away from allowing

1 once-through cooling.

2 MEMBER PEREIRA: Perhaps I could  
3 ask CNSC staff to give us some sort of a fairly  
4 high level overview of what the US practices for  
5 once-through cooling systems and restrictions of  
6 once-through cooling systems for a new nuclear  
7 generating station in the United States?

8 MR. WISMER: Don Wismer. For a  
9 new nuclear generating station they require cooling  
10 towers or the equivalent performance of a cooling  
11 tower by combination of other technology. On the  
12 other side of the lake the New York Department of  
13 Environmental Conservation is the one that is  
14 setting the rules right now, and they're preference  
15 seems to be towards cooling towers, but they're  
16 under a different regulatory environment than we  
17 are. They have a Clean Water Act that's more  
18 prescriptive and technology-based, whereas here  
19 we're more risk-based. So it's hard to compare  
20 because the regulatory regimes are quite different.

21 MEMBER PEREIRA: Thank you.

22 CHAIRPERSON GRAHAM: Thank you.

23 Madame Beaudet, you have further questions?

24 MEMBER BEAUDET: I have one  
25 question with the -- the Round Whitefish Action

1 Plan. You're supposed to develop an implementation  
2 plan and propose some research and it would be done  
3 over how many years?

4 MR. HOGGARTH: Tom Hoggarth for  
5 the record.

6 In the discussions that we've had,  
7 the round whitefish action plan would actually be  
8 done over the time, the lifespan of the Darlington  
9 Plant itself. We would be reassessing it -- I  
10 don't think we've set a date time scale on  
11 reassessing whether we need to continue it, but the  
12 thought is right now, we would start off as for the  
13 long term of the lifespan.

14 And the other issue around the  
15 whitefish action plan that we've also discussed and  
16 we may not have brought it up here yet is, although  
17 at this stage of the game it is whitefish centric  
18 or round whitefish centric, there may be need to  
19 adapt it to include another species in the future  
20 as well.

21 So it will be -- although the main  
22 focus is round whitefish right now, some of the  
23 information that we get there will help on other  
24 fish species as well.

25 MEMBER BEAUDET: Because the

1 reaction of OPG to your recommendation is they  
2 accepted on the condition that it is aligned to the  
3 project implementation. And so we heard, for  
4 instance, that for the licence to prepare site,  
5 several permits would be required, and I believe  
6 that would take some time. So we have a few years  
7 before they start actually building on the site.

8                   So I was wondering if CNSC can  
9 tell us, if we go back to my question earlier -- to  
10 try to find out if the population is specific to  
11 Darlington or is the same as the rest of the lake;  
12 would that be possible to determine that?

13                   MR. WISMER: Don Wismer.

14                   My experience with genetic testing  
15 has been on other species at the Bruce site, and it  
16 was wildlife because they suddenly showed up after  
17 20 years of not being there, and we wanted to know  
18 are these local or are they from elsewhere. And  
19 because a lot of genetic work had been done  
20 elsewhere in the Great Lakes, we were able to get a  
21 quick answer within about two years.

22                   But that's the problem with this  
23 species. It hasn't been the focus of a lot of that  
24 type of research, although John Peters said there's  
25 been 30 years of work. It's been largely catching

1 the fish and catching the larvae but not going to  
2 the next level of genetic.

3                   We have a number of  
4 recommendations on baseline fish work and several  
5 of them are timed such that they need to happen  
6 prior to site preparation. And OPG has already  
7 taken action on a number of those, and some of them  
8 deal with whitefish, like fall sampling for  
9 spawners. They've done that now in two years,  
10 which was one of the recommendations. This spring,  
11 they are going to do another larval study for round  
12 whitefish.

13                   So we are starting to get the  
14 information we need, but then there's other studies  
15 that would need to be done before operations. And  
16 so what needs to be decided is the timing of this  
17 population structure result relative to the timing  
18 of the plant.

19                   And if you -- probably want an  
20 answer right now from me, so it's just my opinion  
21 without having talked to my colleagues here that it  
22 would -- we'd want to have an answer before we got  
23 to the operational stage. This is assuming we get  
24 an infill that doesn't impact the habitat, so it's  
25 not greater than two metres. That's my view. You

1 may want to ask other people here.

2 DR. THOMPSON: If I could, madame  
3 Beaudet, just to add to what Mr. Wismer said; the  
4 recommendations that the CNSC staff and other  
5 agencies have made are aligned with various phases  
6 of the project. And our understanding of the  
7 timelines for the project is that the licence to  
8 prepare a site that is being requested by OPG is, I  
9 think, a 10-year licence. And so the time between  
10 the issuance of a licence and the end of  
11 construction is quite long, and the follow-up  
12 program is phased so that the information from the  
13 various follow-up programs, including the fish  
14 program, would provide the information as it is  
15 needed to make licensing or regulatory decisions.

16 MEMBER BEAUDET: Thank you.

17 CHAIRPERSON GRAHAM: Thank you.  
18 Mr. Pereira, anything else?

19 I have just one question and  
20 that's with regard to DFO's recommendations of the  
21 two workshops. Will those workshop findings, will  
22 they be used in the follow-up programs; is that  
23 what you would expect?

24 MR. HOGGARTH: Tom Hoggarth for  
25 the record.

1                                   That is correct.

2                                   CHAIRPERSON GRAHAM:   And would  
3 they be binding?  I mean will there be a general  
4 agreement that they be the path to follow?

5                                   MR. HOGGARTH:  Yes, Tom Hoggarth  
6 for the record.  And this goes back to some of  
7 Madame Beaudet's questions around how do we make  
8 sure the -- let's say the whitefish action plan is  
9 actually implemented.

10                                  We've talked at the federal team  
11 level and there would be certain aspects of it that  
12 would definitely have a place within our  
13 authorization and require, within our  
14 authorizations and there could be sections of the  
15 whitefish action plan that would be required as  
16 part of the licences that CNSC is issuing.

17                                  So that's how we would make sure  
18 that it's sort of legally binding, as it would be,  
19 both in our authorization as well as in licences  
20 issued by CNSC.

21                                  CHAIRPERSON GRAHAM:  Thank you.

22                                  I guess the procedure we follow is  
23 questions from OPG and then CNSC.  OPG is certainly  
24 not going to ask questions to their own  
25 presentation, but do you have any questions to

1 either DFO or the Ministry of Natural Resources?

2 MR. SWEETNAM: No questions at  
3 this time.

4 CHAIRPERSON GRAHAM: CNSC, do you  
5 have any questions? Dr. Thompson.

6 DR. THOMPSON: If we could, Mr.  
7 Graham, we would have, I believe, one question for  
8 OPG and two questions for DFO.

9 CHAIRPERSON GRAHAM: Please  
10 proceed.

11 DR. THOMPSON: The first question  
12 to the Department of Fisheries and Oceans would be,  
13 there's been discussions of the jurisdictions under  
14 the *Fisheries Act* between Environment Canada and  
15 DFO, and we would like to have some clarity in  
16 terms of the potential physical impacts of the  
17 diffuser operation on the fish larval drift that  
18 was discussed earlier. Does it fall under the  
19 jurisdiction of DFO, because it is physical impact  
20 or Environment Canada? We would just like some  
21 clarity on this. That would be my first question.

22 The second question is that ---

23 CHAIRPERSON GRAHAM: Perhaps, Dr.  
24 Thompson, we'll get an answer for that and then go  
25 on. DFO?

1                   MR. HOGGARTH: Yes, based on the  
2 question, there is the -- one of the concerns we  
3 would have if there is larval drift moving along  
4 the shoreline and the upwellings from the diffuser  
5 and let's for this moment say that the upwellings  
6 are not a deleterious substance but there is  
7 upwellings and current, and the young fish are  
8 pushed off into deeper water. That would most  
9 likely result in mortality of fish, and it would be  
10 under Section 32 Authorization that we may be  
11 looking at that as an issue.

12                   CHAIRPERSON GRAHAM: Dr. Thompson.

13                   DR. THOMPSON: Thank you.

14                   The second question relates to the  
15 presentation by DFO and many of their  
16 recommendations that appear to focus essentially on  
17 once-through cooling and optimisation. And our  
18 question was whether in DFO's opinion the  
19 recommendation that CNSC staff made to the panel,  
20 which is Recommendation No. 1 for cost-benefit  
21 analysis using sort of a weighting and scoring  
22 method for all condenser cooling water types, would  
23 be an analysis that would be useful for DFO's  
24 authorization process.

25                   MR. HOGGARTH: Tom Hoggarth from

1 Fisheries and Oceans.

2 Yes, if you'll notice through a  
3 lot of our requests as well, DFO was trying to get  
4 at this issue of an alternative analysis and a more  
5 clear, definite alternative analysis. And that  
6 goes back to what I was earlier talking about that  
7 with the bounding scenario, we are looking at the  
8 worst of the worst and, therefore, we are making  
9 certain recommendations based on the worst of the  
10 worst.

11 We might actually have the ability  
12 to make better or different -- whether they're  
13 better, but different decisions if we had what we  
14 would consider a more robust alternative analysis,  
15 which is along the lines of a cost-benefit  
16 analysis.

17 Here's where the trade-offs are;  
18 here's what you're winning and losing. It might  
19 allow us to provide a more fullsome review of it.

20 So definitely, DFO would also  
21 concur that something like that would be as useful.

22 CHAIRPERSON GRAHAM: Dr. Thompson,  
23 either a follow-up or -- you had also said you had  
24 one for OPG? Maybe a follow-up yet to DFO.

25 DR. THOMPSON: I have no follow-up

1 to DFO, but perhaps one to OPG, if we could.

2 MR. McALLISTER: Andrew McAllister  
3 for the record. OPG mentioned cooling towers would  
4 still require close to a 40-hectare infill. We  
5 would like to know if OPG is able to provide  
6 revised site layouts for the various condenser  
7 cooling options with the two-metre depth contour  
8 overlay along with the area of infill beyond that  
9 two-metre depth contour that may be required for  
10 each of the cooling tower options?

11 CHAIRPERSON GRAHAM: OPG?

12 MR. PETERS: John Peters for the  
13 record. We're just going to check. I be -- we  
14 think we might have already achieved this so I'm --  
15 I'm just -- I just want to check and make sure.

16 CHAIRPERSON GRAHAM: Certainly,  
17 we'll just stand by for a moment.

18 (SHORT PAUSE/COURTE PAUSE)

19 MS. SWAMI: Laurie Swami for the  
20 record. I'm -- I'm sorry, we thought we had filed  
21 it, but we have not, but we could do so.

22 CHAIRPERSON GRAHAM: So, fine,  
23 that's excellent, undertaking number 29.

24 And a timeline, Ms. Swami?

25 MR. PETERS: We would put this in

1 a form that could be shared by the middle of next  
2 week, Wednesday morning.

3 CHAIRPERSON GRAHAM: Yes, that  
4 would be fine. So we'll put it as undertaking  
5 number --

6 MR. PETERS: Thank you.

7 CHAIRPERSON GRAHAM: -- for March  
8 30<sup>th</sup>. Okay. CNSC, any other questions?

9 DR. THOMPSON: No, thank you, sir.

10 CHAIRPERSON GRAHAM: Mr. Pereira?  
11 Madam Beaudet? If not, then we go to government  
12 agencies and Mr. Leonardelli, I believe you and  
13 your team have a question or questions.

14 MR. LEONARDELLI: Thank you, Mr.  
15 Chairman. Sandro Leonardelli for the record. I  
16 wanted to clarify that Environment Canada is on  
17 record regarding thermal effects, both in our  
18 written submission of January 31<sup>st</sup> and in what we've  
19 said at the hearings on Wednesday and Thursday.

20 During the OPG presentation, it  
21 was stated that thermal effects were limited to a  
22 few days based on OPG's studies with Environment  
23 Canada. I wanted to point out, with all due  
24 respect to OPG, that the inclusion of Environment  
25 Canada in that statement is out of context and

1 inconsistent with Environment Canada's submissions.

2                   The conclusion presented today by  
3 OPG is their conclusion only, and that anyone  
4 interested in Environment Canada's perspective on  
5 thermal effects is encouraged to read our written  
6 submission of January 31<sup>st</sup>. Thank you.

7                   CHAIRPERSON GRAHAM: Thank you,  
8 Mr. Leonardelli. Someone else from EC or  
9 Environment Canada has a statement or a question  
10 or --

11                   MR. KIM: Yes, Duck Kim for the  
12 record. I wanted to also make a statement on -- on  
13 our position on one of the statements that was made  
14 at the -- OPG's presentation. A lot has been said  
15 about the Round Whitefish Action Plan and we -- we  
16 are, at Environment Canada, are also hopeful that  
17 the studies that will be conducted under the Round  
18 Whitefish Action Plan will be successful and we'll  
19 -- we will be able to identify, you know, key  
20 habitat for spawning and population  
21 characterizations.

22                   However, as noted in Mr. John  
23 Peters presentation, there's been 30 years of  
24 studies already on Round Whitefish in Lake Ontario,  
25 and we still don't know where some of these habitat

1 are. So there is a possibility that we might not  
2 be able to find definitively where these habitat  
3 might exist, therefore, it is -- we maintain the  
4 position that -- that based on the precautionary  
5 approach that we've taken, that Round Whitefish  
6 does -- we -- we assume that Round Whitefish  
7 spawning habitat does exist at -- at -- in the  
8 vicinity of Darlington Station and the new project  
9 area and that until proven otherwise, and therefore  
10 we also assume that at -- under the current  
11 situation and the current scenario of the preferred  
12 location of the diffuser and such, that potential  
13 adverse effects are possible there for Round  
14 Whitefish. Thank you.

15 CHAIRPERSON GRAHAM: Thank you.  
16 If not, is -- that's all your -- that's your only  
17 two. Are there any questions to Environment  
18 Canada, either from CNSC and OPG?

19 MR. PETERS: Thank you, Mr.  
20 Chairman. I just wanted to make it clear that I  
21 had no intention -- if I -- I was just -- I reread  
22 the speaking notes I had for -- we'll let the  
23 record show what it shows, but I was focusing on  
24 OPG's work and research we have filed before this  
25 -- this panel in my comments with regard to the

1 effects -- thermal effects in the winter. And I  
2 fully accept my colleague's views may be different.  
3 I was trying to indicate that we had been working  
4 together to try and resolve this problem for a  
5 number of months and the record shows that. Thank  
6 you.

7 CHAIRPERSON GRAHAM: Thank you  
8 very much. With that I -- I will go to intervenors  
9 and believe it or not we have one intervenor with  
10 six questions and I'll allow the six questions  
11 providing not too long a preamble.

12 --- QUESTIONS BY THE INTERVENORS:

13 MS. BULL: Of course, thank you,  
14 Mr. Chair. And thank you for the excellent  
15 presentation by DFO. I feel like it's answered a  
16 lot of questions. First, one clarification which  
17 may help the record. We heard from the CNSC that  
18 although the U.S. is not building once through  
19 cooling plants anymore because of the fish impacts.  
20 Canada's laws are more risk-based than the  
21 American's *Clean Water Act*. To correct this, the  
22 *Fisheries Act* is actually a quasi-criminal statute  
23 and it's not based on risk and -- and I think if  
24 you consult the record for what's happening in the  
25 U.S., you'll find that those changes away from once

1 through are happening because of the impacts on  
2 fish. Thank you.

3 My first question, we've heard  
4 about protection for unique fish and fish habitat  
5 and -- as opposed to all fish or fish habitat. I'm  
6 not aware of the Section of the *Fisheries Act* that  
7 provides for protecting certain fish over others.  
8 So if I could be pointed to that Section, I'd  
9 appreciate it.

10 CHAIRPERSON GRAHAM: Just before  
11 you -- you get a response, I failed to introduce  
12 you so for the transcripts, Joanna Bull from Lake  
13 Ontario Waterkeeper and I apologize. DFO, would  
14 you like to respond?

15 MR. HOGGARTH: Tom Hoggarth for  
16 the record. You're correct that the *Fisheries Act*  
17 does not apply to any individual species. As I --  
18 as I indicated in my preamble, we're using  
19 Whitefish as a surrogate for making decisions as --  
20 if we're able to protect the Round Whitefish, we --  
21 we will be able to protect the other fish species  
22 in -- in here. So when you look at -- we will have  
23 to be providing separate authorizations. Once such  
24 authorization, if needed, will be for an infill and  
25 the authorization that we'll be doing for the

1 infill will be for multiple -- multiple species not  
2 just one species. It is looking at improving the  
3 productive capacity of a coastal wetland. So, no,  
4 we are not just picking to use the *Fisheries Act*  
5 for a single species, but we use a single species  
6 as a -- a fish to review as it's -- it's the most  
7 sensitive species we've got there.

8 MS. BULL: Thank you, just to  
9 clarify, my question wasn't related to the Round  
10 Whitefish, it was in relation to whether it is  
11 valid to say that because the fish exist other  
12 places in the lake or this habitat exists other --  
13 in other areas of Lake Ontario, there's no need to  
14 protect this habitat.

15 CHAIRPERSON GRAHAM: Your second  
16 question, please?

17 MS. BULL: My second question. We  
18 understand the premise of the no net-loss policy  
19 and the *Fisheries Act* authorizations. Just to  
20 confirm from DFO, your first preference is for the  
21 protection of fish habitat, and these other options  
22 come in only where it's absolutely necessary to  
23 destroy that habitat?

24 MR. HOGGARTH: That's in our  
25 policies, and our policies do speak to that. Their

1 preference is, as I indicated, will work to the --  
2 with the proponent to -- through re-design,  
3 relocation to limit the impact on fish habitat as  
4 much as possible. Only when we're confident or  
5 when we understand that that can't be done, we  
6 would then be looking at authorizations only if  
7 considered acceptable.

8 MS. BULL: Thank you.

9 CHAIRPERSON GRAHAM: Your third  
10 question, please.

11 MS. BULL: Thank you. DFO notes  
12 that if once-through cooling is built adaptive  
13 measures should be included to reduce fish kills,  
14 including acoustic deterrents.

15 We know that at Pickering where  
16 OPG was ordered by the CNSC to reduce fish kills, a  
17 net was installed. That net is removed during the  
18 winter months and OPG has told us that acoustic  
19 deterrents are not viable. Can you explain why  
20 that would be different at Darlington?

21 MR. HOGGARTH: I'm -- we may need  
22 an answer from OPG. I'm not sure of the context of  
23 why they're saying they're not -- they would not be  
24 workable at Pickering.

25 CHAIRPERSON GRAHAM: OPG?

1                   MR. PETERS: I would -- I would be  
2 happy to answer -- John Peters, for the record.  
3 With regards to the new nuclear project and -- and  
4 Darlington generally it's a very different intake  
5 and discharge design. There is very little  
6 relationship to the type of design that is  
7 available at Pickering, and so it's bad -- bad  
8 practice, I think to generalize about the nature of  
9 effects and the opportunities to improve the  
10 performance.

11                   We did consider these deterrents  
12 as a possible thing that we might look at as a --  
13 once we get the detailed design we'd see if it was  
14 effective or not in Darlington's case.

15                   CHAIRPERSON GRAHAM: I want you  
16 only to address Darlington, and you are.

17                   MS. BULL: So the site at  
18 Darlington would -- would be able to accommodate  
19 acoustic measures?

20                   MR. PETERS: For the record, John  
21 Peters. I'm sorry, Chairman, that's not what I  
22 said. I said we would take a look at it as we've  
23 identified it as an option. I can't confirm that  
24 it would be appropriate in the particular situation  
25 at Darlington as it is an offsite deep water

1 diffuser.

2 CHAIRPERSON GRAHAM: Thank you.  
3 Your question number four.

4 MS. BULL: Thank you, that's  
5 helpful. This is actually my last question, so  
6 I'll be short today.

7 With respect to the confusion  
8 about the thermal discharges in DFO's jurisdiction  
9 versus Environment Canada, if it's helpful our fish  
10 habitat expert will be available on Monday to  
11 answer questions on this, and his findings were  
12 that while Environment Canada has the jurisdiction  
13 under 36(3) where thermal impacts are found to be  
14 deleterious substance, thermal impacts can also  
15 cause a harmful alteration and disruption of fish  
16 habitat, which is Section 35, and that would be  
17 under DFO's jurisdiction.

18 So given that context I'm  
19 wondering if DFO has quantified the loss in terms  
20 of the area including thermal discharge that would  
21 be -- would be had.

22 CHAIRPERSON GRAHAM: DFO?

23 MR. HOGGARTH: Tom Hoggarth, for  
24 the record. And again, if the thermal -- if the  
25 discharge is considered deleterious we would not be

1 looking at authorizing under the *Fisheries Act* or  
2 discussing -- or -- well, we could discuss it, but  
3 we would not be using Section 35(2) of the  
4 *Fisheries Act* for making decisions around it.

5 Deleterious substance, as we've  
6 already indicated, are prohibited. It's an  
7 outright prohibition unless there's a regulation.  
8 And to me -- and again, there's no confusion.  
9 Section 36 is looked after by Environment Canada,  
10 Section 35 is looked after by Habitat Management  
11 DFO.

12 CHAIRPERSON GRAHAM: Thank you. I  
13 have indication here that David Zeit would like to  
14 have a question from Transport Canada. Mr. Zeit.

15 MR. ZEIT: Thank you, Mr.  
16 Chairman. David Zeit, for the record, from  
17 Transport Canada.

18 There's been a fair bit of  
19 discussion today, especially in DFO's presentation  
20 regarding the idea of extending the intake pipe  
21 further into the lake to reduce impacts to fish,  
22 possibly as far as the 15 to 20-metre depth line.  
23 Obviously that results in the pipe extending --  
24 projecting much further into the lake.

25 I'd like to know if OPG would be

1 seeking a vessel operation restriction zone for the  
2 entirety of that increased length if the design, in  
3 fact, does -- does go that -- does favour that  
4 increased length, or if they feel it might be  
5 sufficient protection for their infrastructure to  
6 have an approach in which we provide a restrictive  
7 zone for the near-shore portion and then perhaps  
8 simply hydro-graphic markings on charts for the  
9 further portion.

10                                 So, for example, just to use  
11 arbitrary numbers for the sake of discussion, maybe  
12 a restrictive zone out to the five-metre depth  
13 line. And then from the five-metre line out to 20  
14 metres hydro-graphic markings. Does OPG feel that  
15 would be sufficient protection or, as I said  
16 before, would they be seeking a protective zone for  
17 the entirety of the length?

18                                 CHAIRPERSON GRAHAM: OPG, would  
19 you like to address that, whether it's a buried  
20 line or whether it's on -- and what the displace  
21 is, plus how you'll be applying.

22                                 MR. SWEETNAM: Albert Sweetnam,  
23 for the record. Until we actually do a detailed  
24 design, we will be unable to answer that question  
25 because it would all depend on the -- the chances

1 of our diffuser being damaged by traffic, what sort  
2 of traffic would be in that area. So we would have  
3 to do a full study in the risks associated with  
4 damage to the diffuser.

5 In terms of the way that the  
6 diffuser's constructed, it's actually a tunnel in  
7 the bedrock that goes into the -- in the lake, and  
8 then the diffusers come up from -- from the tunnel,  
9 so our concern would be in terms of the sort of  
10 traffic, marine traffic that would be in that area  
11 that could potentially impact upon those. So we  
12 would have to do a full study. So it would be --  
13 we won't be able to -- to answer now whether we  
14 would require a full restrictive zone or not.

15 CHAIRPERSON GRAHAM: Mr. Zeit,  
16 does that suffice your -- your question?

17 MR. ZEIT: It -- it does for now.  
18 So it sounds like we'll defer that discussion until  
19 later in the design stage. But my question ties  
20 back to a question I believe Madame Beaudet asked  
21 yesterday about what sort of mitigation measures  
22 could we consider through our office of boating  
23 safety to reduce impacts to recreational boaters  
24 and fishers. And I'd like to suggest, this would  
25 be an example of that sort of mitigation when the

1 appropriate time in design and study comes, we  
2 would sit down with OPG and discuss the possibility  
3 of having a combined hydro-graphic chart marking  
4 and restrictive zone approach rather than just a  
5 restrictive zone for the entirety of the length.  
6 Thank you.

7 CHAIRPERSON GRAHAM: Thank you.  
8 Questions from my colleagues? Any other questions?  
9 Madame Beaudet? Mr. Pereira?

10 Well, I want to thank Mr. Hoggarth  
11 with the DFO and his team for coming today and  
12 answering questions, which garner a lot of interest  
13 and a need for answers. And also to the Ministry  
14 of Natural Resources, Deb Pella Keen for your team  
15 for coming and giving us your presentation and your  
16 answers to our questions. So with that I go to the  
17 co-manager for an announcement. Kelly McGee.

18 MS. MCGEE: Thank you. I just  
19 have one administrative matter to mention. The  
20 panel had previously announced that the audio files  
21 could be accessed on the Canadian Environmental  
22 Assessment Agency website. In fact we've run into  
23 some technical difficulties, they aren't available  
24 on the CEAA registry, but you can access both the  
25 audio files and the archived webcasts on the

1 Canadian Nuclear Safety Commission website. Thank  
2 you.

3 CHAIRPERSON GRAHAM: And with  
4 that, I'm almost astonished, it's five o'clock, I  
5 won't know what to do.

6 I want to thank everyone today and  
7 we will adjourn this hearing until tomorrow morning  
8 at nine o'clock. Thank you very much and have a  
9 good evening.

10 --- Upon adjourning at 05:08 p.m./

11 L'audience est ajournée à 17h08

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C E R T I F I C A T I O N

I, Alain H. Bureau a certified court reporter in the Province of Ontario, hereby certify the foregoing pages to be an accurate transcription of my notes/records to the best of my skill and ability, and I so swear.

Je, Alain H. Bureau, un sténographe officiel dans la province de l'Ontario, certifie que les pages ci-hauts sont une transcription conforme de mes notes/enregistrements au meilleur de mes capacités, et je le jure.



Alain H. Bureau