

this information.

THE PRESIDENT: I hope you will either be here or stay tuned, I think for tomorrow where we are going to ask the Office of the Fire Marshall to answer some of those questions about where can you find easy to understand, easy to find information about what to do.

Any other?

So any final thought you want to share with us?

MS DAHL: Kirsten Dahl, for the record.

Yes, I wanted to just briefly respond to a couple of the comments that were made today.

I highlighted the issue of the workers being pulled off the jobs in I think it was Pickering and Darlington, or just one; I'm not sure. I highlighted that because it's just an example of what could go wrong and that accidents do happen and that mistakes can happen.

I applaud you pulling the workers off the job. Of course, that is expected actually.

So I was just highlighting that; that something could go wrong and we don't know what that could be maybe ten, 20 years down the road.

So OPG's assurances that they will be able to manage this waste and continue to operate without incident, I just don't take that as a given.

Mr. Frappier, I just wanted to touch briefly on your point about what would happen if there was a spill in Lake Ontario.

Your response was that it would be a short-term problem and that it wouldn't contaminate the whole lake.

That's not good enough.

So thank you very much for inviting me to comment again and for taking my thoughts into consideration.

THE PRESIDENT: Thank you.

The next presentation is by Teachers of Toronto District School Board and the Toronto District Catholic School Board, as outlined in CMDs 18-H6.101 and 6.101A.

I understand that Mr. Montemurro and Ms McCarry will make this presentation.

Over to you.

CMD 18-H6.101/18-H6.101A

Oral presentation by

Toronto District School Board and the

Toronto District Catholic School Board

MR. MONTEMURRO: Good evening. My name is Anthony Montemurro and I am a teacher with the Toronto Catholic District School Board.

I am joined with Cynthia McCarry from the ETT.

Firstly I would like to thank everyone for giving us the opportunity to speak here today.

I work at Monsignor Fraser College in Scarborough. I am not here as a representative of the Toronto Catholic District School Board; I am here on behalf of my students.

I am no expert on issues relating to nuclear energy. My expertise, however, is the wellbeing of the youth I serve.

As an educator I have several roles and priorities. Besides providing an education and preparing my students for post-secondary institutions and the workforce, another extremely important priority I carry is the health and safety of my students.

I am here to continue this commitment of the health and safety of our children. I hope that we all share this commitment and that we value their health and safety.

In schools we prepare our students in the event of fire. We prepare them for lock-down drills. Tonight we are seeking to prepare and protect our children in the event of a nuclear emergency.

Therefore, we see it necessary to stockpile potassium iodine pills in schools within 50 kilometres of the Pickering and Darlington Nuclear Stations.

My school, Monsignor Fraser College, is located 17 kilometres from the Pickering Nuclear station. The problem we have are unequal levels of student safety. Since 2016 KI tablets have been pre-stocked in all schools within 50 kilometres of the Bruce Nuclear Station. Parents have also been provided information on the potential need to administer KI in the event of an accident.

So this is the problem. We don't have equal protection for Toronto students. There are over 580 schools within the Toronto District School Board, totalling 250,000 students. Within the Toronto Catholic Board we have 196 schools with over 85,000

students. We have 11 Conseil scolaire catholique MonAvenir Toronto-area schools, and seven Conseil scolaire Viamonde Toronto-area schools.

MS McCARRY: Cynthia McCarry, for the record. So TDSB request for KI stockpiling. Therefore, be it resolved that the Board communicate with the CNSC with the request that OPG stockpile potassium iodine pills in TDSB schools located within 50 km of the Pickering and Darlington nuclear stations.

I'm happy to announce that TDSB approved a motion to stockpile KI pills in our schools last Wednesday. I have a photocopy of it here.

The Teachers' union, ETT, also requests for KI stockpiling of the pills. Now, be it resolved that the ETT requests the TDSB, the CNSC, and the Government of Ontario collaborate and ensure the stockpiling of KI in schools within 50 km of the Pickering and Darlington nuclear stations.

ETT had also approved a motion to stockpile these pills in our schools two weeks ago. Again, I have the letter in my hand.

The City -- Toronto's support for protecting vulnerable communities, and expanded KI distribution as well. The City has requested this,

that motion has also passed. The City also supports transparency, public consultation, funding, strengthening emergency preparedness wherever feasible, protection of vulnerable communities and world class public safety.

So it looks like TDSB, ETT, the union, and the City has approved these motions. The fact that this has happened indicates that this is a very important step in ensuring the safety of our students, and that's what we are here to request.

THE PRESIDENT: Thank you. Questions?
Ms Velshi.

MEMBER VELSHI: So thank you for coming. Is the driver for this recommendation or these motions because Bruce Power has pre-distributed KI pills in the 50-km zone or do you believe there is a risk, that your students need to be protected against? Because, if you have looked at the Provincial Nuclear Emergency Response Plan, they don't see any scenario where that would be really necessary. You can always ask for those pills if you need it.

But I just wanted to understand, what's the motivation? Is it because you want equality of treatment of students, and Bruce has done

so, and that's why you think you need it?

MS McCARRY: Cynthia McCarry, for the record. We believe that everybody, all our students, our own children, yes, have -- it's about fairness, right? I be that everybody, all the students, should have it. It's not because Bruce has it, right? I don't think 10 km is good enough. As Anthony said, his school's very close, mine's a little bit further, but anything can happen. Accidents happen, right? We just want the safety of our students.

MEMBER VELSHI: So, in that case, why stop at 50?

MR. MONTEMURRO: Anthony Montemurro, for the record. That's a good point.

MEMBER VELSHI: So maybe I can ask Staff to comment on where the 50 km comes from. We've had many interventions talk about 50 km and how it's almost a best practice. What brought Bruce to do that?

MR. FRAPPIER: Gerry Frappier, for the record. I'd ask Mr. Richard Tennant to discuss about the other jurisdictions and where they are with 50 km.

MR. TENNANT: Richard Tennant, for the record. The Provincial Nuclear Emergency Plan currently defines the IPD to 50 km, the ingestion

planning zone. REGDOC-2.10.1 currently is the requirement for pre-distribution and stockpiling of KI. It identifies pre-distribution out to 10 km and stockpiling out to 50 km, with KI to be available within that 50-km zone to vulnerable members of the public.

Bruce Power has taken it upon themselves to exceed that requirement. So those are the current requirements, and OPG is meeting them.

THE PRESIDENT: But I thought there was another requirement that people are pointing to in CNSC REGDOC about dealing with schools. So stockpiling -- I can see stockpiling in rural communities, like Bruce, would be different than Toronto. But I thought there was a requirement for stockpiling in schools, which was over and above just make it available.

Tell me if that's not a requirement. Because many of the intervenors are actually making that statement. If you look at the second page here:

"In line with the need to protect children of greater distance, the CNSC post-Fukushima care distribution requirement includes a provision requiring," (As read)

et cetera,

"to make available to the
sensitive population..."

(As read)

So it's a slightly different language
here.

MR. FRAPPIER: Gerry Frappier, for the record. So I believe the requirement is that there has to be a plan with respect to how it's going to be made available. We don't dictate how that plan's going to be.

In the case of Bruce, they've decided that it's better to put it right at the schools, that it's pre-distributed to the schools. OPG could decide to do that, or the Province, whoever is responsible for that station. But from our perspective we're saying that for the 50-km zone there must be enough stockpile, must be a plan for how it's going to be distributed.

THE PRESIDENT: OPG, why wouldn't you, at least to the school board, I don't know if have the schools, but to the school board, would you not go the extra mile, so to speak?

MR. LOCKWOOD: Randy Lockwood, for the record. I'm going to ask Scott Burns to speak to this

topic. There was a number of questions, and maybe he can draw some of it together. Scott?

MR. BURNS: Scott Burns, for the record. So a lot of points in discussion here, so I'll try and bring OPG's perspective.

First of all, safety is a number one priority for OPG, and the safety of people in our regions and surrounding communities are also our priority, including vulnerable persons and children.

As mentioned, the strategy is a provincial jurisdiction for delivering KI. As stated earlier, before I get into some of the meat of this, I do want to say that beyond the 10-km zone, since 2015 we've had the Prepare to be Safe website where, as Mr. Gregoris mentioned earlier, anybody can go on and order those pills.

But I think what we're talking about is a strategy and changing the overall strategy which is dictated by the Province, and they may want to speak to this as well.

Obviously, OPG and the municipalities are key stakeholders in this, and the Chief Medical Officers of Health for the Province and local Chief Medical Officers would have a say. So OPG would not generally make a unilateral decision on the strategy

without consultation with those partners.

Just a little note about my limited knowledge about the Bruce strategy. If you've driven the Bruce community you'll know that they experience a lot of road closures with inclement weather in the wintertime. The potential for closing roads is more significant in their area due to weather than ours, and I think my understanding is that's part of their rationale, but they would have to speak to that.

However, generally with an evacuation scenario, which is highly unlikely, families would want to reunite with their children fairly quickly. If there wasn't road closures, they would probably reunite with their children very early on in a scenario like that which, again, is highly unlikely.

I will state that, as mentioned, the Provincial Nuclear Emergency Response Plan sets out the requirements for the distribution of KI, specifically to residents and businesses in the detailed planning zone, which we have done.

We also have a New Neighbours program in partnership with Canada Post. So anybody coming new into those zones, three times a year we deliver pills to people that are new into that zone to make sure that everyone in that zone is receiving them.

Going back to the PNERP planning process. So it was just revised in 2017, as you know, the master plan. It is in line, as mentioned, with international standards. The detailed planning zone is the current zone. Again, the Province will want to speak to this, but they are, as mentioned in Part 1 of the hearings -- they have undertaken to do a further technical study that will address some of these issues around zone sizes and protective actions.

As OPG has supported the new updates to the PNERP and intend to implement all of those, we're closely watching the results of that technical study as well. If there's any changes or recommendations coming out of that study, it would be our position to implement those recommendations.

THE PRESIDENT: So I think to have an intelligent conversation we need the Province here, and I think that's not going to happen until tomorrow. So I hope you can actually tune in or come back. Those issues have been raised by many intervenors, and we will address them when they're here and we can have some good conversation.

Do you want to add anything to that?

MR. BURNS: Yes. Scott Burns, for the record. I should state that our strategy in and

around the Pickering plant does include the assessment of the vulnerable persons, particularly pregnant, breastfeeding women, and children. So we have 6 million pills stockpiled between the 10-kilometre and 50-kilometre zone to ensure that people in the ingestion planning zone are protected in the unlikely event of an emergency. So it's not like we -- there's not a plan for that, the province has taken that seriously, as has the City of Toronto, the Region of Durham and OPG. The real question is, are we safe and are we prepared, and we certainly are.

THE PRESIDENT: Dr. Demeter...?

MEMBER DEMETER: Thank you. A quick question for the interveners. Thank you for your presentation. You are speaking as groups of teachers. Do you have buy-in by your boards, because there's going to be a lot of logistics for stockpiling, making sure it is renewed on a basis, keeping sufficient numbers, dealing with parents and consent, kids with iodine allergies, all these kinds of things, from that point of view? Like this is driven by the teachers, but unless you get buy-in by your administrators and managers at the school board, I'm just curious how would you pull this off?

MS McCARRY: Cynthia McCarry, for the

record.

The fact that TDSB has approved a motion, that is our board, therefore they -- that's the school board, yes, TDSB.

MEMBER DEMETER: Okay. I wanted to -- I didn't understand all the acronyms. And for OPG, obviously we are going to talk to PNERP, but obviously PNERP has directed you on how to deal with stockpiling beyond 10 kilometres. So from your understanding, from where you sit, how would you get KI pills from where you are stockpiling it to a school? I want to see if you actually understand where the stuff is being stockpiled and how it would get to vulnerable populations. Even though it is a PNERP responsibility, they have probably directed you where to stockpile and how much to stockpile.

MR. BURNS: Yes. Scott Burns, for the record.

So really what you are talking about is the actual execution of the plan in the event that it's required?

MEMBER DEMETER: Yes. So physically, where are these stockpiles?

MR. BURNS: So they are stockpiled in pharmacies throughout the area. Ministry of Health

has a significant quantity as well. Many of the health organizations are part of the planning process in terms of the execution of the plan and the distribution in the unlikely event that that's required. So it's all integrated into the health planning process and all of those plans are in place and would have been addressed as part of the exercise that we had in 2017 from a health perspective.

MEMBER DEMETER: Okay. And just a final comment because I think it's apropos to the interveners and comments have been made repeatedly that we pre-distribute in 10 kilometres, but that anyone that wants it after 10 -- beyond 50 can just ask for it. Well, I see this intervener asking for it. And I know there's all kinds of policy issues and how it integrates with the bigger plan and it's a much bigger ask, but there's those optics, right, anyone who wants it beyond 10 can just ask for it. This is an intervention that's asking for it and so it will have to be taken seriously.

MR. BURNS: Scott Burns, for the record.

So I receive your comments and I appreciate the comments. Again, safety is the number one priority. We are hearing -- we have heard this

sentiment throughout the hearings. In our evaluation of some of the intervener reports, we have heard that. We do respect the fact that it is a provincial jurisdiction and we can't unilaterally just make that decision, it has to be part of the provincial and municipal plans and regional plan. Again, we want this to be an evidence-based decision as well if we are changing the strategy. So my earlier comment about waiting for the results of the technical assessment I think is prudent for the organizations involved.

THE PRESIDENT: I think we will pursue this further when they are here. So unless there is a specific, different question? Is it a different question? Okay. So we will wait until -- because I don't even know what asking for it means. Who delivers it? Do you go in and purchase it? There are too many questions here that we will not be able to deal with until the Office of the Fire Marshal is here and some provincial authority. So I really think we should defer it for tomorrow.

MR. LOCKWOOD: Randy Lockwood, for the record.

I very much agree, President Binder, that we do need the province here and other parties to

properly address this. But I did want to -- I do want to stress that, as we said in our open presentation, we care about the community, so we want to see that we do the right thing here. And I echo what Mr. Scott Burns just said, is let's have all parties here, let's see what the technical study says, the evidence, and how best to execute, and not just go here and there.

THE PRESIDENT: Okay. Thank you. Anything final you want to say to us? So I hope you stick around for tomorrow.

So let's move on. I think that the next intervener is part of your partnership here, because I see a name on the signatories of schools, so I assume you're a teacher I'm guessing.

MS BRUCE: Yes.

THE PRESIDENT: So the next presentation is by Ms Bruce, as outlined in CMD 18-H6.33.

Ms Bruce, the floor is yours.

CMD 18-H6.33

Oral presentation by Dominique Bruce

MS BRUCE: Hello. My name is Dominique Bruce and yes, I am a teacher.

--- Public announcement / Annonce publique

MS BRUCE: Something about the change room.

MR. BURNS: They want -- there is an emergency in the fitness room.

THE PRESIDENT: Is there a doctor in the house, Dr. Demeter?

--- Laughter / Rires

THE PRESIDENT: Do we need to do anything? That's what I want to know.

MR. BURNS: There's a number of police officers here that are first-aid trained and security personnel that could probably assist Pickering staff.

THE PRESIDENT: So we don't need to do anything? I just want to make sure. No? Everything good? Okay. Thank you. So, Ms Bruce, the floor is still yours.

MS BRUCE: Thank you. My name is Dominique Bruce, I am indeed a teacher.

For the record, I am here today to ask the Commission to revoke the licence renewal of the old Pickering nuclear station as it is undeniably an unreasonable safety risk for the people living in Pickering, Toronto and the surrounding regions.

I am a deeply concerned citizen of

Toronto, a mother of two wonderful daughters and an elementary school teacher of over 30 years. I live and teach within 28 kilometres of the old Pickering station.

If we have learned anything from the nuclear accident at Fukushima seven years ago, it is that nuclear power is clearly an unreasonable risk that could cause catastrophic damage to the people of the GTA as well as poison the waters of the Great Lakes for the millions who depend on it daily. I believe this alone is sufficient reason to deny OPG's request to continue operating the Pickering nuclear station.

Your Commission, OPG and the province are responsible for the safety of everyone in the GTA in the event of a nuclear accident. We know without a doubt from the Fukushima accident that people at great distances may suffer or be deprived of their property in the event of an accident. Communities 50 kilometres from the Fukushima nuclear accident were evacuated. I live and teach less than 28 kilometres from Pickering and think that OPG and the province have been treating Pickering as only a risk to people next to the station. I think it should be treated by this Commission, OPG and the province as a threat to

all the GTA.

Everyone who lives in the GTA should have information about how to prepare for a nuclear accident at Pickering. Yet, there has been no information distributed. How would we all be evacuated? What is the plan? What should we do to keep our families safe, to keep our children safe whether they are in school or at daycare or even in our homes? My family and my school have been provided no such information.

The Pickering nuclear station operates in the middle of the GTA near millions of people. Toronto is known to have some of the worst traffic congestion in North America. In the event of an accident, I doubt that the province or OPG could reasonably implement emergency plans without people getting hurt. Here's an example.

Recently at the major intersections where I live at Victoria Park and Danforth Avenue there is construction and it usually takes about 20 minutes to get through that one light on a regular day to get to the 401. The other major routes near my area also have construction. Can you imagine what the roads would look like if under construction we had a nuclear accident?

As a schoolteacher I have seen the stress on parents and children when we have an early dismissal due to severe weather warnings. Parents are trying frantically to leave work from downtown to pick up their children at school before the storm arrives. Yet, they are stuck in traffic in the city centre. Can you imagine what would happen in the case of a nuclear accident as parents try to reach their children at school?

Families and schools are given guidelines on how to practise fire drills whether at home or school. Where are the plans for us to practise and keep our children safe in the case of a nuclear accident? To my knowledge, schools in Toronto have been given no instructions about how to care for the children in the case of a nuclear accident.

Schools near Pickering have potassium iodide pills, but my school does not. Toronto schools do not have KI pills stockpiled to administer it to our children and it may take their parents several hours to reach the school if the traffic is bad. Children are the most vulnerable to radiation and the sooner they receive their pills, the better chance they have.

Why have the province, OPG and CNSC

not met these most basic levels of citizen safety for a city the size of Toronto when these same safety measures have been put in place around the Bruce nuclear station? Why have I not received an information pamphlet like this one from my friend in South Bruce that is sent out annually from Bruce Power?

Pickering is closer to a large city than any other nuclear station in North America and therefore it represents too great a safety risk. When it was built 45 years ago, the surrounding population was much lower. I seriously doubt that the CNSC and province would allow new reactors to be built so close to Toronto today. It's reasonable to say that we would not build reactors here, so it is time for us to shut Pickering down.

I do not have confidence in the province to take these risks seriously. Instead of shutting Pickering down, they continue to encourage housing growth near Pickering, which just makes things worse in the event of an accident. I thus think it is up to the Commission to ensure our safety and not renew OPG's licence.

Though millions may be spent on upgrading the aging reactors, nothing will change the

fact that Pickering is the oldest nuclear reactor so close to a major city in North America. OPG is asking you to continue extending the station beyond its design life again and increase the risks further.

In contrast, New York State is closing the Indian Point nuclear station because of the station's age and proximity to New York City. The risk of operating a nuclear station so close to New York is no longer reasonable. I think the same logic applies to Pickering.

The people of Ontario do not use the majority of power generated from Pickering nuclear station, it is exported. No matter what you think of nuclear power, I think it is reasonable to say running Pickering to produce unneeded power is a totally unacceptable and unnecessary risk for the GTA. Our electricity bills are some of the highest rates in the country because of the costs of our aging nuclear reactors that are past their planned lifespan. Renewing the Pickering licence will continue to cause Ontario citizens exorbitant amounts of money for electricity, while living with the threat of a nuclear accident for power we export at a loss. This makes no sense. It also represents unreasonable risk both financially and to the health of Ontario citizens.

If in the future our provincial power needs should increase, we have a much cheaper and safer alternative source of hydropower available from Quebec. As things stand now we don't need Pickering's power, therefore the licence should not be renewed.

I do not work at Pickering, but I can understand being worried about my job. The station must be shut down given its age. The workers at the Pickering nuclear station have the most experience working there and they have families they need to support. If CNSC did not renew the licence, the money spent on nuclear energy could immediately be spent decommissioning the Pickering site using those same workers, rebuilding the Pickering waterfront after an environmental assessment and, finally, invest in training the former employees for renewable energy jobs.

In conclusion, based on the already overextended age of Pickering, its proximity to the large population in the GTA, its financial and safety burden to the citizens of Ontario, and the total lack of emergency preparations for our children and citizens in the GTA, I am asking the Commission to close Pickering for good and reemploy the workers in the immediate decommissioning of the station.

If you make the decision to renew Pickering's licence, I would like information for my family, my school and neighbours in the GTA on how to prepare for a nuclear accident. Thank you.

THE PRESIDENT: Thank you.

Questions?

MEMBER PENNEY: Thank you for that.

So I think many of your points we are going to hold to talk to the provincial OFMEM with respect to PNERP, and I don't know if you are able to come back to hear that conversation, but around your traffic congestion, emergency response plan, that sort of thing. But the question I would ask you is what kind of communications would you like to get from OPG? And then I'm going to ask OPG about their communications plan and how far out in terms of concentric circles it goes.

MS BRUCE: Well, I think certainly something like this pamphlet that Bruce Nuclear sends out annually, because it talks about the types of things you would do in your household. Even just basic things like turning off the air conditioner and things, people have no idea. And it also talks about how to administer the pills and so on. It's a regular reminder because people need that refresher. That's

the same reason why we practise at least six times a year the fire drill with the children, those kinds of things. There would probably also need to be training for the teachers, for daycare workers, because when there is a storm warning it takes parents a while. They are all trying to leave the downtown core at the same time and, as I think everyone in the room knows, that is not easy to do in rush hour.

MEMBER PENNEY: Thank you. OPG...?

MR. LOCKWOOD: Randy Lockwood, for the record. I would like to ask Scott Burns to speak to your question, but first I just want to say something.

I very much respect the intervener for coming here today. I read in the interventions she was both a mother and an elementary teacher, schoolteacher, two positions I very much respect so I don't want this to come across as we're the big giant corporation here with a very well-refined team, which we are. We do listen to each and every person and I would like that to be noted on the record, that I very much appreciate this intervener coming forward.

MR. BURNS: Scott Burns, for the record.

So just to confirm, the question is just generally around communication?

MEMBER PENNEY: Yes, your communication plan. Your communication plan. We will hear from OFMEM tomorrow or the next day.

MR. BURNS: Okay. So, yes, I can speak to OPG's communication plan, but I do need to state that it is done in partnership. It is actually written right into the Emergency Response Plan, so yes, the other partners have an important voice in this conversation. And the Nuclear Emergency Management Coordinating Committee, which all of the other reactor facilities sit on, as does the province, has subcommittees that specifically deal with communication.

The focus -- which I believe is sort of the foundation that the detailed planning zone is in line with industry standards. So the primary focus of the communication does go to the detailed planning zone, but there are efforts to extend beyond that. I know the Region of Durham is going to be here and they will speak to that as well. So in terms of their communication, which we do together, we support and financially we have invested millions of dollars in the last five years supporting our partners with these communications and being part of those communications. But they will speak -- they reach out beyond the

10-kilometre zone and out to the entire Region of Durham.

There seems to be a gap that we are hearing about in the City of Toronto beyond the 10K, it probably needs to be part of that further discussion and the City of Toronto could speak to that.

But what I will say is, as I mentioned earlier on this conversation, is there's a number of vehicles that OPG does use to reach our community. We have our Public Information Centre, we have our Community Councils, we send out our newsletters and we will continue to do that. We are very much interested in hearing about how we can improve reaching out to the community. I think what we are hearing is we may not be reaching everybody and that is important, as Mr. Lockwood has stressed time and time again around our commitment to safety, we need to continue to invest in that and assure the community is receiving those messages.

So, as I also mentioned earlier, in an effort to understand how effective our communications are, we do do polling and I recognize based on variables within polling we will hear about other results of polling throughout the week, but we do do

that to try to get a sense of how effective our communication programs are. But we look at the strategy annually and our emergency preparedness group works closely with our public affairs group and discuss the strategy, lessons learned from previous years, from polls, from all of these venues where our teams go out and talk to the community. We seize on those opportunities to inform next year's plan and the year after that.

So as Mr. Lockwood stated earlier, we are committed to continuing our communication strategies to ensure that members of the public understand what to do in an emergency, which again is an unlikely event, we acknowledge that, but it is important that they have that understanding that we are reaching as many people in the community as we can.

THE PRESIDENT: So just to be clear, tomorrow when the province is going to be here I would be interested in the plan for the 10 kilometres, the 20 kilometres and the 50 kilometres. I know that you are distributing within the 10, I remember you shared with us the pamphlet and all the stuff. I don't know what you do for the 20 and I don't know what you are doing for the 50. And together with the province I

want to understand what is a particular person within the 50, what kind of information they get and what kind of a website will deal -- because everybody keeps talking that they cannot find the information. Please don't answer now because I really think this should be delayed with the province here because I understand it's a joint venture here. So the local municipalities, you and the province together should have some way to reach all those zones and I would like to understand the difference.

So does anybody want to raise something else on this? No, this subject tomorrow. Any other subject that was raised? Go ahead.

MEMBER LACROIX: Yes, I do have a question. This is for OPG and also for staff. Is it possible to shut down a nuclear power plant, skip the shutdown period and dismantle the reactor right away? Is it feasible? Is it safe? Is it possible? Is it pragmatic?

MR. MANLEY: Robin Manley, for the record. Just to make sure I understand your question, you're asking is it feasible to shut down the reactor and immediately start to dismantle the actual reactor?

Okay, so I will try and briefly summarize

what would be involved in the process, and I'm looking for my team here to help me out if I get it a little bit wrong.

So we have experience with shutting down a reactor safely, units 2 and 3, and then going through a process of safe-stating those reactors whereby what we do is we defuel the reactor, which means we use the fueling machines to remove all the radiated fuel bundles from the channels, we put them in our irradiated fuel bays. That takes some number of -- let's call it months for lack of a more exact figure.

Then you go through a process of removing all of the heavy water from the heat transport and moderator systems.

And then what we did with those units is we went through a process of safe-stating the system. So certain electrical systems or other systems were taken out of service in a permanent way so that the reactors -- those two reactors cannot be restarted.

You have to maintain some other systems in service to sort of monitor the overall state. You can't turn off all the lights and all of everything; right?

So you could do that, but you would have to go through that process for all of the units; right. You'd have to defuel them all. You'd have to take all the heavy water out of all of them; put them all in various

kind of tanks. And then you would also have to begin the process of transferring the fuel from the irradiated fuel bays into dry storage containers. Because until the irradiated fuel bays have been completely emptied of fuel, because those irradiated fuel bays are in the plant, you could not actually dismantle everything until you'd finished that process, which would take, as has been mentioned earlier today, something on the order of 10-plus years to complete that before you could enter into a dismantling.

MR. LOCKWOOD: Randy Lockwood, for the record.

I would just like to add that we -- to answer the Commissioner -- we have considered could we do this better if we went at it right after we shut down. And as Robin outlined, there's some practicalities here that we have to deal with the fuel. And that's a finite amount of time, approximately 10 years that we just have to deal with.

As well, we need to consider other aspects that -- what our current plan -- based on our current understanding. And it will result in increased worker dose because we have not allowed the fields to decay. As well, that will also have impact on the public and the environment, because again, we start to dismantle this

before we've allowed it to decay. As well as we've looked at it will likely result in additional radioactive waste, which again has impact on the environment. So what we've concluded is the best thing to do, based on our current understanding, and that's what our preliminary decommissioning plan says, is to defer.

And I'll take you back, then, to what are we asking for: Commercial operations to 2024, a period to safely shut down and defuel the reactors, place them in safe storage, remove the heavy water. Then a period of allowing the components to decay plus letting the fuel, you know, decay heat, decay away in the fuel bays, place them in safe storage and then, at that time, approximately at that time, the DGR becomes available to dispose the fuel waste. And then move towards dismantle. Right?

So you add all those things together. It also has a big impact on cost. Right. Okay.

THE PRESIDENT: Okay. Any other questions?

Okay. Last word to you.

MS BRUCE: Thank you. And I feel that if the Province, OPG, and CNSC are really being responsible for the health of the people of Ontario, both safety and financially, as we are not using this power but exporting it at a loss, considering our children beyond a reasonable

risk, then Pickering licence cannot be renewed.

Thank you.

THE PRESIDENT: Thank you.

So I think this concludes the oral presentation for today. And I we got a little bit of time left, so we'll do some more written submissions.

MR. LEBLANC: This is correct. So we will resume where we left off before dinner. And the next submission ...

--- Off record discussion / Discussion officieuse

CMD 18-H6.46

Written submission from E. S. Fox Limited

MR. LEBLANC: So the next written submission is from E. S. Fox Limited, CMD 18-H6.46.

Any questions?

CMD 18-H6.47

Written submission from Charles Chiarelli

MR. LEBLANC: The next submission is a written submission from Charles Chiarelli, CMD 18-H6.47.

THE PRESIDENT: Are you okay? Okay, go.

CMD 18-H6.48

Written submission from Karen Walters

MR. LEBLANC: Next submission is from Karen Walters, CMD 18-H6.48.

CMD 18-H6.49

Written submission from Aecon Group Inc.

MR. LEBLANC: The next submission is from Aecon Group Inc., CMD 18-H6.49.

CMD 18-H6.50

Written submission from Inès Marchese

MR. LEBLANC: The next submission is from Inès Marchese, CMD 18-H6.50.

CMD 18-H6.51

Written submission from Stephanie Beausoleil

MR. LEBLANC: The next submission is from Stephanie Beausoleil, CMD 18-H6.51.

CMD 18-H6.52

Written submission from Melis Kilic

MR. LEBLANC: The next submission is from Melis Kilic, CMD 18-H6.52.

MEMBER VELSHI: I have a question, but I'd like Dr. Adams to be here from NRCAN to answer it. This is around seismic activity in the Pickering area. Is he going to be available on call sometime?

MR. LEBLANC: Yes, he'll be available later this week. Do we want to park this one?

MEMBER VELSHI: Okay, until then, please.

MR. LEBLANC: Thank you.

CMD 18-H6.53

Written submission from Jill Lennox

MR. LEBLANC: The next submission is from Jill Lennox, CMD 18-H6.53.

CMD 18-H6.54

Written submission from Jayanthini Jegatheswaran

MR. LEBLANC: The next submission is from Jayanthini Jegatheswaran, CMD 18-H6.54.

CMD 18-H6.61

Written submission from Linda Gasser

MR. LEBLANC: The next submission is -- oh, I don't know if the Members will be able to find it, if it's not in numerical order. It's from Linda Gasser, who was a written -- an oral intervention, and she's informed us she wanted her submission to be treated verbally -- I mean, in writing. And it's CMD 18-H6.61.

THE PRESIDENT: And, again, many of the topics are associated with the Office of the Fire Marshal. So we'll discuss it tomorrow.

MR. LEBLANC: Do any of the Members have questions on this one? No? Okay.

CMD 18-H6.80

Written submission from the City of Pickering

MR. LEBLANC: The next submission is from the City of Pickering, CMD 18-H6.80.

CMD 18-H6.81

Written submission from Lucy Seidler

MR. LEBLANC: The next submission is from Lucy Seidler, CMD 18-H6.81.

Dr. Demeter.

MEMBER DEMETER: I think -- I'm not sure if it will be coming up later with any intervention. If it is, I can park it as well. But this issue of raising issues of liability to homeowners. I think that's in this invention. This is 81?

I think it's probably reasonable for CNSC to clarify our scope relative to liability to third parties such as homeowners and who sort of has jurisdiction on that issue.

MR. FRAPPIER: Gerry Frappier, for the record.

There's new legislations that's been brought in a little while back with respect to increasing the Liability Act with respect to the amount of liability that's on licensees.

There's also policies with respect to how the liability is going to be used if you like, sort of thing, but it's not a CNSC responsibility, it's an NRCAN responsibility, so with respect to liability and how that's

going to be dispositioned, that would be NRCAN that would have that responsibility, not ourselves, but I can ask somebody in Ottawa for a bit more, if you want, on that.

MEMBER DEMETER: That's good. I just wanted to clarify who had the lead on that.

Thank you.

MR. LEBLANC: If it's important to the members to have a fulsome response from NRCAN, they're on standby and could answer probably tomorrow, so if you want to park this question, I will make a contact with them and make sure that Mr. Jacques Hénault from NRCAN is available.

CMD 18-H6.82

**Written Submission from the
Toronto Environmental Alliance**

MR. LEBLANC: The next submission is from the Toronto Environmental Alliance, CMD 18-H6.82.

THE PRESIDENT: I think I'm going to ask this question anyhow.

I know we're going to discuss tritium, but this intervention says, and I'm quoting here, I think it's the second page, the third paragraph:

"...continued concern over the excess levels of tritium and other

radionuclides found in Toronto's waterways and Lake Ontario..."

Is that true?

MR. FRAPPIER: Gerry Frappier, for the record.

I'd ask Mike Rinker to respond to that.

MR. RINKER: Mike Rinker, for the record.

There is information available for someone to get an understanding of what are the tritium levels in water supply plants across the province. Labour Ontario, for example, publishes reports on their surveillance programs on their website.

As well, we do our own independent environmental monitoring program. Ontario Power Generation, in their annual compliance reports, which are published online, show the data for tritium in water supply plants. In general, the values range in the area of Pickering between four to eight becquerels per litre, so they're quite low. Even in the event of upset conditions, we haven't seen tritium at water supply plants rise more than 15 to 20 becquerels per litre.

In general, the state of the Great Lakes has shown peak tritium concentrations in the mid-1960s as a result of in-air nuclear bomb testing. Tritium values were monitored in the Great Lakes Basin, in all of the Great

Lakes, including Lake Superior, by the Canada Centre for Inland Waters, a division of Environment Canada, and they stopped monitoring in the nineties, because over the course of the sixties, seventies, eighties, and nineties the concentrations have been decreasing, despite the fact that the nuclear powerplants were constructed and operated during that time, so we do see tritium values lake and watershed-wide decreasing over time despite the operation.

THE PRESIDENT: Thank you.

CMD 18-H6.83

Written Submission from Borden Rhodes

MR. LEBLANC: The next submission is from Borden Rhodes, CMD 18-H6.83.

THE PRESIDENT: Mr. Berube.

MEMBER BERUBE: This intervener brings up an interesting point. He talks to the instability of currencies and basically economies. Of course, that impacts the potential for decommissioning and actually the security deposits that we have against that, and of course hyperinflation would really impact that. Could you quickly discuss how you protect yourself against a situation where we have a short period of hyperinflation, and what does that really do to this particular security?

MR. MANLEY: Robin Manley, for the record.

I'm presuming that you're talking with respect to the financial guarantee and the decommissioning and waste funds. OPG, along with the Province of Ontario, made a presentation to the Commission last fall with respect to our decommissioning funds and the financial guarantee. Those funds are currently in a position where we have an excess, there's extra money in the fund versus the projected requirement.

I do understand your point that currencies can fluctuate and funds can go into a shortfall versus an overage. If that were to happen, we have an agreement with the Province of Ontario that they would make up a guarantee for that difference. Such a process has been exercised in the past, and since then the funds have recovered and they're in an excess position, as I say, right now. That was presented to the Commission last year and was accepted by the Commission, and the three parties have all signed off on it.

Right now, I would say that our experience is that those funds are very well-managed, and the evidence that we presented last year was quite strong in that regard.

MEMBER BERUBE: Obviously, I wasn't here last year, but thank you for bringing me up to speed on

that.

MR. FRAPPIER: Gerry Frappier, for the record.

I'll ask Karine Glenn if she wants to add anything to those financial guarantee discussions.

I think Mr. Jammal wants to add something.

THE PRESIDENT: We see you, Ms Glenn, but we can't hear you.

MS GLENN: Karine Glenn, for the record. Can you hear me now?

THE PRESIDENT: Yes, we can. Go ahead.

MS GLENN: The only thing I would add is that the financial guarantee is required to be revised every five years, and to come back before the Commission on a five-year basis.

In addition, OPG is required to report to CNSC staff on the value of their fund on an annual basis, and we verify that the value of their fund exceeds the amount of costs that are associated with the decommissioning on an annual basis.

As Mr. Manley pointed out, the fund value is currently at \$21.2 billion, and the decommissioning liability is, for 2018, \$16.5 billion, so they do have a sizeable excess at this point in time. Nonetheless, we verify that on an annual basis and should that value fall

below what their decommissioning liabilities are, we would require the licensee to make up that shortfall.

We report annually on the validity of OPG's financial guarantee through the regulatory oversight report.

THE PRESIDENT: Thank you.

Go ahead.

CMD 18-H6.84

Written Submission from Lori Moncada

MR. LEBLANC: The next submission is from Lori Moncada, CMD 18-H6.84.

THE PRESIDENT: Ms Velshi.

MEMBER VELSHI: A question for CNSC staff. The intervener, at the end of page 1, talks about an increased, or anecdotally anyway, incidence of thyroid cancer within the 10-kilometre zone, and the reference to the RADICON study, which looks at 25 kilometres. Can you comment on the 10 kilometres? Is there additional information available about that, and is this real?

MR. FRAPPIER: Gerry Frappier, for the record.

I would ask Mr. Mike Rinker to comment on

that.

Also, we do have with us an international specialist on the subject. Perhaps she could be introduced and say a few words as well.

MR. RINKER: Mike Rinker, for the record.

This particular question, Dr. Rachel Lane will provide the answer.

But I do want to acknowledge that we have -- throughout the hearings, questions on health will come up. We have Dr. Lydia Zablotska, who is with us. She is a medical doctor with a PhD in epidemiology, a professor in the Department of Epidemiology and Biostatistics in the School of Medicine at the University of California. She has supported us on many such studies, and her own speciality is thyroid cancer in children around Chernobyl, and leukemia and other cancers in the cleanup workers at Chernobyl. She has helped us as a peer reviewer for what's called the SARP study, the Study of Consequences of Hypothetical Severe Nuclear Accidents, and a reanalysis of Canadian nuclear energy workers with a focus on tritium exposures, in particular.

For now, I'll ask Dr. Rachel Lane to answer the question.

DR. LANE: Dr. Rachel Lane, for the record. I'm the CNSC's epidemiologist.

First of all, with respect to thyroid cancer in the Pickering area, that is correct, thyroid cancer has increased around the Pickering area, and also around the GTA area. Now, in Ontario, the greatest increases in instance rates from 1983 to 2013 occurred in thyroid cancer. The rapid increase in incidents of thyroid cancer is occurring worldwide, and seems to be due to improved detection technology, not because of radiation. I spoke to the epidemiologist from Durham Region and she confirmed this trend within Pickering and the GTA, which is consistent with worldwide, and likely due to improved detection of thyroid cancers.

With respect to the RADICON study, you are correct. We looked at the 25-kilometre radius of three nuclear facilities at Bruce Pickering and Darlington and cancer incidents around those communities. The most important finding was that, for children 0-4 and 0-14, there was no increase in leukemia.

When we looked at the rates, we chose the 25-kilometre radius for several reasons. One, because previous studies around the nuclear facilities in Ontario were also 25 kilometres, but also because we were including Bruce within that and the population density just wasn't there to look at a smaller radius, so we chose 25 kilometres.

But for children and childhood leukemia, obviously that's the most important outcome that we'd be concerned with.

We were able to look for at the 10-kilometre radius and we found no increased risk of childhood leukemia at the 10 kilometre. We weren't able to look at the five-kilometre radius just because there wasn't the population density to be able to find sufficient number of -- there were too few cases to be able to look at this. And this was, you have to remember, over an extended period of time from 1990 to 2008. So, we had many years to look at cancer incidence among those children.

MEMBER VELSHI: And did you look at the incidence of thyroid cancer within 10 kilometres?

DR. LANE: I'd have to go back and look at the tables. I can't confirm that right now.

THE PRESIDENT: But just the bottom line. Is there any evidence or any study that shows that it is dangerous to live beside a nuclear power plant?

DR. LANE: Rachel Lane, for the record. Yes, there is lots of evidence to indicate that there are no adverse effects associated with living near a nuclear power plant as a result of

normal operations.

This has been looked at by the United Nations Scientific Committee on the Effects of Atomic Radiation and various other large committees that have looked at the health effects of people living in the vicinity of nuclear facilities.

This is because environmental exposures from nuclear facilities during routine operations are exceedingly low, well below the public dose limit of 1 mSv per annum.

THE PRESIDENT: Do you want to add anything to this?

MS ZABLITSKA: Lydia Zablitska, for the record. Dr. Lane, I completely support what she said. The literature, the published studies, the epidemiological studies that were done around the world do not support any increased risk of leukemia in children.

There was only one study that has been referenced by some intervenors, the KiKK Study, but we looked -- myself and other people looked into the data for this study and it appears to be one cluster within the 1970s-80s that drove this increased risk and it was explained that it's not due to radiation. So, that is the only study ever that showed some increased

risk and it's a cluster effect.

In terms of thyroid cancer that Dr. Lane was talking about, it's -- I want to explain that the increased rates of thyroid cancer incidence in the world are due to man-made effect where people are asking for more screening and they find small cancers which many people live and they never come up and they are never identified, they never pose any risk.

And this was, in fact, in Chernobyl, particularly in Belarus where these campaigns have been done where every child was screened and a lot of cancers were found and a lot of surgeries were done which were unnecessary, and this was reported in many international reports, in particular, in UNSCEAR which showed that these screening campaigns, this is what's driving this increased thyroid cancer incidence.

I was just recently in Korea where they had this very increasing rate of thyroid cancer and then the government intervened and stopped the screening campaigns and we see that in the last five years the rates in Korea, in South Korea went down of thyroid cancer because of the stop of screening and there was -- it's not related in any way to radiation exposures.

THE PRESIDENT: We're going to discuss

this further throughout those days coming forth, but maybe you should think about, so what's a conclusion on Fukushima now which they have also enormous screening for thyroid.

MS ZABLOTSKA: Yes.

THE PRESIDENT: Or is it the same pattern?

MS ZABLOTSKA: It's the same pattern and the recent UNSCEAR Report particularly references the point that you're mentioning, is that this unnecessary annual screening is picking up cancers that are smaller than five millimetres that have no clinical significance.

THE PRESIDENT: Okay. Thank you.

Dr. Demeter?

MEMBER DEMETER: Thank you. I'll just ask one more question on the thyroid cancer, and I truly understand and believe in the over diagnosis; if you look too hard you'll find things that might not mean anything, but then you pick them up.

But in the Radicon Study it looked at, holding all things equal as I understand it, thyroid cancer rates within 25 kilometres of three different nuclear power plants: Bruce, Pickering and Darlington, and it found different results for different power

plants. So, those are the same measurements during the same time period with probably the same screening patterns.

So, I guess one of the questions would be, how do you reconcile that it was elevated with a 95 per cent confidence involved for Pickering but not for Bruce and Darlington given that it was holding all things as equal as possible? That's the reconciliation that would be an interesting hypothesis how Pickering became different than Bruce and Darlington with regards to thyroid cancer.

Maybe CNSC staff.

DR. LANE: Rachel Lane, for the record. First of all, I'll have to go back and look specifically at the three different regions.

I'd like to clarify one thing, is that the levels of iodine emissions from the plants were minimal throughout the time period that we looked at. Also, we did not look -- sorry, also, the thyroid cancer was in adults not in -- in Chernobyl the concern was thyroid cancer among children who were exposed as children to iodine, radioactive iodine who developed thyroid cancer later on in life.

This is not the situation here. We've got exceedingly low doses of radioactive -- we don't -- we have

no doses of radioactive -- we have minimal levels of radioactive doses of iodine in the Canadian nuclear power plants.

THE PRESIDENT: Okay. I think we should defer this. I think tomorrow we have -- I think it's tomorrow.

MR. LEBLANC: First intervention.

THE PRESIDENT: First intervention tomorrow will re-visit the subject. Maybe look at your data again.

Any other questions here on that? Go ahead.

CMD 18-H6.85

Written submission from William Douglas

MR. LEBLANC: The next submission is from William Douglas, CMD 18-H6.85.

CMD 18-H6.86

Written submission from Maryam Astaneh

MR. LEBLANC: The next submission is from Maryam Astaneh, CMD 18-H6.86.

CMD 18-H6.87

Written submission from Christopher Small

MR. LEBLANC: The next submission is from Christopher Small, CMD 18-H6.87.

CMD 18-H6.88

**Written submission from the
Canadian Council for Aboriginal Business**

MR. LEBLANC: The next submission is from the Canadian Council for Aboriginal Business, CMD 18-H6.88.

CMD 18-H6.89

Written submission from ATS Automation

MR. LEBLANC: The next submission is from ATS Automation, CMD 18-H6.89.

CMD 18-H6.90

Written submission from Sylvia Schmidt

MR. LEBLANC: The next submission is from Sylvia Schmidt, CMD 18-H6.90.

CMD 18-H6.91

Written submission from Scientists in School

MR. LEBLANC: The next submission is from Scientists in School, CMD 18-H6.91.

CMD 18-H6.92

Written submission from the City of Toronto

MR. LEBLANC: The next submission is from the City of Toronto, CMD 18-H6.92.

Ms Velshi?

MEMBER VELSHI: So, I know we're going to save discussion until the province is here tomorrow, but a question for staff and OPG.

Were you at the City of Toronto's meeting or wherever they made this resolution? Were either of you invited to make a submission?

MR. FRAPPIER: Gerry Frappier. From CNSC's perspective, no, we were not there and we were not invited to be there.

MR. BURNS: And Scott Burns, for the record. We were not invited either.

CMD 18-H6.93

Written submission from Maria-Theresia Roemmelt

MR. LEBLANC: The next submission is from Maria-Theresia Roemmelt, CMD 18-H6.93.

CMD 18-H6.94

Written submission from Ralf Wieser

MR. LEBLANC: The next submission is from Ralf Wieser, CMD 18-H6.94.

CMD 18-H6.95

Written submission from Jeff Brackett

MR. LEBLANC: The next submission is from Jeff Brackett, CMD 18-H6.95.

CMD 18-H6.96

**Written submission from
Rolls-Royce Silver Nuclear Canada**

MR. LEBLANC: The next submission is from Rolls-Royce Silver Nuclear Canada, CMD 18-H6.96.

CMD 18-H6.97

Written submission from Lois M. Banks

MR. LEBLANC: The next submission is from Lois M. Banks, CMD 18-H6.97.

CMD 18-H6.98

**Written submission from
Bruce Peninsula Environment Group**

MR. LEBLANC: The next submission is from the Bruce Peninsula Environment Group, CMD 18-H6.98.

Dr. Demeter...?

MEMBER DEMETER: Just to make sure I've got my numbering right, I'll pull up the document.

It talks of the difference between the Pickering design and other subsequent designs relative to emergency shutdown procedures, and I'll make sure I've got the right -- having one shutdown system versus two. And I didn't really understand what that meant.

I think it was this intervenor. Yeah, it is.

So help me understand design sequence

and whether or not there is a significant difference in the defence in-depth with regard to a number of shutdown systems in redundancy between Pickering and other CANDU reactors.

MR. GREGORIS: Steve Gregoris, for the record.

Units 1 and 4 on the Pickering site have two different ways to quickly shutdown their reactor. One is with shut off rods dropping into the core and the other with the moderator dump system. These are two different ways that the reactor can be shutdown.

During the time when return to service was happening on Pickering 1 to 4 side which was in the early nineties, the requirement for independent shutdown systems was reviewed during the return to service, and that included CNSC staff and the Commission. The review was specifically done against codes and standards, understanding there were differences between the five to eight units with a liquid injection system, a different way to shut down. The intent was to see if there was any improvements that could be made.

Alternative approach called "shutdown system enhancement" or SDSE, was the adopted approach

at the Pickering 1 to 4 units. That involved devising, designing, and installing an independent set of trip parameters, independent of the shutdown system alpha and shut off rods and moderator dump system that monitored conditions. It also included adding additional shut off rods to the existing shut off rods so that, in the end with that enhancement, the SDS regulations, though previously met, were enhanced or the requirements were enhanced -- shutdown system requirements were enhanced.

Really, in the end, two different diverse means are available on the 1 to 4 units to shut down the reactor. It's not credible that any event would preclude, you know, not shutting down a reactor with a shutdown system.

MEMBER DEMETER: Maybe staff can help me out here. Relative to the fleet of CANDU reactors and shutdown systems, is there anything peculiar about Pickering as the intervenor suggests, relative to safety?

MR. FRAPPIER: Gerry Frappier, for the record.

The short answer would be yes, Pickering A as opposed to Pickering B. The other CANDU reactors, as was just mentioned, was designed

from the beginning with the two diverse independent shutdown systems. Pickering A did have a little bit of a different design that has been enhanced since that time, as was just mentioned by OPG. So it has some different mechanisms by which it can be shutdown including moderator dump, and an enhancement to the shutdown system associated with shut off rods.

But for more detail I would ask Mr. Vali Tavasoli, who is back in Ottawa, if he could give us a few more details.

MR. TAVASOLI: For most CANDU reactors design at the Pickering A, two fast-acting, independent and effective shutdown systems were required by AECSB at the time because of the feature in the design of the CANDU reactors which is called positive void reactivity. By having two fast acting independent systems, it would render a possibility of having a runaway power transient extremely unlikely.

In the case of Pickering A, as the gentleman from OPG mentioned, there are two means for shutting down the reactor, the SDSE, which was an enhancement to the original shutdown system, was enhancements. It increases effectiveness and reliability of the original shutdown system.

The moderator dump system, which is

one other fast means to reduce reactor power by basically opening valves and rapidly reducing the liquid level in the moderator, in the calandria, is good for more probable, slower transients -- accidents like lots of low small LOCA.

For faster transients it is too slow, but its ineffectiveness is taken into account in the PSA studies, and I will ask my colleagues in PSA -- I don't know if Smain Yalaoui is there. He can take that into account.

MR. JAMMAL: It's Ramzi Jammal, for the record.

I think we got into too deep into technology. The question is it safe and is it equivalent to an existing CANDU. Historically, they were not allowed to do restart under the AECB, Atomic Energy Control Board, until the staff assessed the establishment of the requirement which puts us today in the same equivalency as any other CANDU with respect to the shutdown and maintaining the shutdown of the reactor.

So what you heard from the colleagues is the technical assessment that was put in place, but the key point from a safety perspective and from a Commission decision, our recommendation to you is the

equivalency exists today at Pickering as it does for the new CANDUs that were put in place.

The key point here: Is it going to shutdown safely? The answer is yes. Is it going to be controlled in a safe shutdown state? The answer is yes.

In addition to the shutdown system itself, again I've got to go back to the fact that post-Fukushima, all the enhancements that was taken in play -- that was put and the measures taken guarantees the safety of the reactors. So in conclusion, is it the equivalent to the existing CANDUs after the Pickering? The answer is yes.

MEMBER DEMETER: Okay, thank you very much.

THE PRESIDENT: Go ahead.

MEMBER PENNEY: I have a question on the same page, and it's for the CNSC staff, quoting the Commissioner for the Environment and Sustainable Development, Julie Gelfand's scathing report with respect to CNSC. I think it says it doesn't follow its own inspection procedures. Perhaps you can give us some detail on that, and if there has been any follow up.

MR. FRAPPIER: Gerry Frappier. for the

record.

Yes, I know it well. So the Auditor General or the Office of the Auditor General, the actual Commissioner of Sustainability, did undertake an audit of the CNSC and, in particular, the inspection program or compliance program that we have for nuclear power plants.

One of the key findings of that audit was that the CNSC inspection teams were often doing inspections using draft inspection guides as opposed to the requirement that we had which said that we had to use approved inspection guides. So that's what has been referred to as being in non-compliance to our own procedures.

We did do quite a bit of investigation both into that and it was a systematic bias that we had, in the sense that we also have a requirement for learning at the end of each inspection, and so the idea being that every time you do an inspection you're learning something and therefore you should improve the procedure.

And so what that had with time evolved into was, in fact, the inspection guides never really got approved. They just kept getting improved -- never got approved. They just kept improving, if you

like. So that's still not acceptable.

And so we took a very strong stance and changed the ruling so there would always be an approved inspection guide that was being used. We still have the learning process but it's in a much more controlled way, so that at any given time an inspection is done with an inspection guide that has been approved by the appropriate people.

THE PRESIDENT: Question? Ms Velshi...?

MEMBER VELSHI: I'll start off with OPG. At the end of page 2, there is some question around security measures along the lakefront and that American nuclear reactors on the Great Lakes have security zones enforced along the lakefront and Pickering doesn't.

Can you comment on that, and then maybe staff can follow?

MR. BURNS: Scott Burns, for the record.

In terms of security of the Pickering site, we have a comprehensive physical protection system including fence and the associated detection systems on that fence on the water side. That fence is equipped with certain detection systems. We have

all of our delay systems in place to adequately protect OPG assets at Pickering.

MEMBER VELSHI: So the statement here that kind of implies that there is a higher level of security control in the American plants; is that correct?

MR. BURNS: Scott Burns, for the record.

I may -- CNSC may wish to speak to this question as well but, from my perspective, we continually speak to U.S. facilities and benchmark at their sites and, based on my knowledge of security systems in the U.S., as compared to Canada, our systems are as good as the U.S. plants, as secure.

MR. FRAPPIER: Gerry Frappier, for the record.

Certainly, we have a lot of exchanges with the U.S. NRC on security. We have quite a program of us going down there, visiting them with respect to their security, both armed response, waterborne, and within the site. We've had them up here many, many times. While there might be some differences, I don't think anybody would suggest that the Americans are better than us or that we're better than the Americans. We do have a significant security

perimeter facing the water and so do the Americans.

I think Kathleen Heppel-Maysys is here as well and she may want to add a little bit to that.

MS HEPPEL-MAYSYS: So recently in 2015, the CNSC hosted a peer review in the physical protection and so from the IAEA -- a mission that we hosted from the IAEA and they looked at the entire system of physical protection, and we were one of the countries that received the most -- I'm forgetting the term -- good practices, thank you -- and only a few suggestions to address. So certainly in terms of benchmarking, we are doing quite well.

And as well, the licensees are subject to regular force-on-force exercises as well to test their capability and they do a self-assessment on that and our staff monitors their performance as well. So we're confident in the physical protection practices executed at the licensees.

MR. FRAPPIER: Gerry Frappier, for the record.

I now understand that Mike Beaudette or one of his officers is available in Ottawa. The question was specifically, I think, around water security and whether the U.S. does it much better than us or different, I guess.

MR. POIRIER: This is Yves Poirier, team leader for high security nuclear facilities at the nuclear security division.

The barriers are in place to prevent access to the facility from the water and security measures are in place to deal with such a scenario. However, that information is protected.

With regards to international benchmarking, CNSC staff do take part in many, many updates and reviews of international documents, in particular the nuclear security series that is published by the IAEA.

MR. LOCKWOOD: Randy Lockwood, for the record.

President Binder, this may be a good time to introduce an additional piece of information around cyber security. You recall prior to our dinner, we were talking about cyber security. We have since discussed that and we would like to add a slight correction to our response, for the record.

I'll ask Mike Benjamin to speak to this, if you would permit.

THE PRESIDENT: Go ahead, please.

MR. BENJAMIN: Mike Benjamin, Senior Manager, Cyber Security, for the record,

So OPG manages its cyber assets in a secure, vigilant and resilient manner. Since 2010, we have had robust controls in place protecting and minimizing risk to those critical cyber assets that support nuclear safety functions.

This was confirmed earlier this year when we had a Type 2 inspection from the CNSC at the Pickering site. We have been working through the CANDU Owners Group with the other utilities, including Bruce Power and New Brunswick Power, on how to meet the new CSA N290.7 standard. That is going to -- we have a project in place at OPG to put that into effect at Pickering by the end of next year.

So the CSA N290.7 new security standard will be in place at Pickering at the end of 2019.

MEMBER PENNEY: I had a security question. The intervenor refers to a no-fly zone. Is there a need for a no-fly zone? Do you have a no-fly zone?

MR. FRAPPIER: Gerry Frappier, for the record.

Again, I'd go to Ottawa and ask Yves if he wants to provide comments on that.

MR. POIRIER: This is Yves Poirier

from the nuclear security division, for the record.

Pilots are reminded that overflights of nuclear power plants shall be carried out in accordance with the provisions of the Canadian Traffic Control Regulations. They are not controlled by the CNSC. They are regulations but no such thing as a no fly for this particular power plant.

THE PRESIDENT: We are getting very close to prescribed information here, so that's as far as we'll take it.

Any other questions?

Okay, Marc, one more?

CMD 18-H6.99

Written submission from Nicole Bafaro

MR. LEBLANC: One last intervention for tonight. It is a written submission from Nicole Bafaro, CMD 18-H6.99.

So this concludes today's proceeding. We will continue tomorrow morning at 8:30. If you have borrowed any interpretation devices, please return them so you can get back your I.D. cards. Thank you.

Tomorrow, we will do some more oral interventions, and written submissions, time allowing.

Thank you very much. Good night.

--- Whereupon the hearing adjourned at 8:42 p.m., to resume
on Tuesday, June 26, 2018 at 8:30 a.m. /

L'audience est ajournée à 20 h 42 pour reprendre
le mercredi 26 juin 2018 à 8 h 30