

1 radiation protection purposes has brought in the
2 requirement to keep doses as low as reasonably achievable.

3 So in practice what that means is that all
4 licensees of the CNSC need to develop a radiation
5 protection program which the CNSC staff reviews and when
6 it's acceptable is approved and put in place.

7 ALARA requirements are essentially
8 requirements to identify all sources of exposure in a work
9 environment or to the environment and identify preventive,
10 controlled or mitigation measures to reduce those
11 emissions or sources of exposures to workers to as low as
12 they can be under working conditions.

13 And so this requirement means that all the
14 work that is conducted in a nuclear facility is reviewed.
15 Controls are put in place, workers are trained and proper
16 protective equipment is put in place. And, in practice,
17 the ALARA requirements have driven doses to workers to
18 very low levels.

19 There are no workers in Canada that come
20 near the dose limits, and certainly what we see around
21 nuclear facilities is that doses to the members of the
22 public are very low, much lower than dose limits.

23 And so the ALARA requirements have been
24 very effective in terms of designing facilities and
25 designing work practices that are protective of both

1 members of the public and workers.

2 **MEMBER HARVEY:** As it is written here, I
3 mean, the question is on the word "reasonably". I mean,
4 the -- following Mr. Kelly's text, "reasonably" would
5 have something to do with the economic opinion and
6 political opinion, et cetera, et cetera.

7 So can you just say some word about that?

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

10 The CNSC has a regulatory guide on ALARA,
11 and essentially what the guide says is that when designing
12 a plant, for example, or work practices, if the doses are
13 above 50 microsieverts per year, then the Proponent or the
14 Applicant needs to develop and look at measures that are
15 available economically to reduce doses when they are above
16 50 microsieverts. What the document also says is that
17 even when doses are below 50 microsieverts, that there is
18 a requirement, if there is technology that is readily
19 available, that it be implemented.

20 And so in practice, for example, around
21 large nuclear facilities, the ALARA guidance has resulted
22 in doses to members of the public that are around 10
23 microsieverts per year because the technology is available
24 and has been implemented, and as some of the figures that
25 Dr. Boreham provided this morning, apparently at

1 significant cost to the industry.

2 But the CNSC has not considered cost in
3 terms of requiring mitigation measures and control
4 measures.

5 **MEMBER HARVEY:** Merci.

6 **THE CHAIRMAN:** Okay. Thank you. Thank you
7 very much.

8 I was just given a fact here, for the
9 record, that the Canada-U.S. Nuclear Corporation Agreement
10 came into force on July 25th, 1955.

11 So as far as we understand, both parties
12 behave according to the intention of Act.

13 Let me leave it at that.

14 Our next presentation is from Ian McDonald
15 as outlined in CMD H16.83.

16 Mr. McDonald, the floor is yours.

17

18 **11-H16.83**

19 **Oral presentation by**

20 **Mr. Ian McDonald**

21

22 **MR. McDONALD:** Thank you, Mr. Chair.

23 My wife and I have been fairly close
24 neighbors of the Port Hope Conversion Facility for 30-odd
25 years. What happens there is of considerable interest to

1 us. Some of the issues that are on the table today are
2 things that are quite particular to us because of where we
3 live. Others are of more general concern, I would submit,
4 to the Municipality as a whole and to all who care about
5 our environment.

6 May I say at the outset how gratifying it
7 is to have the panel meeting here in Port Hope, as you
8 have done before. That goes a long way towards instilling
9 confidence in the activities of the panel.

10 I would like to say a couple of things that
11 I would say are matters of substance and then touch on one
12 that I'd say is more a matter of process.

13 The first has to do with toxic emissions
14 into the atmosphere. This has been and is still ongoing,
15 a matter of great concern to us.

16 In 2006, when the licence for the
17 conversion facility was renewed, there were a number of
18 follow-ups to be undertaken, 11, I believe. But only one
19 of those has not been carried out, and that is the one
20 identified, and I quote: "Determine specific goals for air
21 emissions from the facility".

22 Now, in the reading I've done of the
23 Application, it looks as though some progress is being
24 made on that front, but I am really quite baffled as to
25 why five years and more after this was identified,

1 remove references to the discharge process of waste water
2 to make sure that Cameco cannot discharge processed water
3 into the environment.

4 These two issues obviously are of concern,
5 not just to my wife and myself, but to the community as a
6 whole.

7 However, there are a couple of what I would
8 call good-neighbour points that would like to make. One
9 has to do with noise from the facility. This is an issue
10 that has been going on for many years. Especially in the
11 summertime, the ambient noise from the plant is really
12 sufficiently disturbing as to cause us to want to go
13 indoors.

14 I will say, in Cameco's favour, anytime we
15 have reported the concern of excessive noise. They have
16 acted very quickly and received our complaint quite
17 seriously, for which we are grateful, but it is something
18 of an irony that apparently some of the causes of this
19 excess noise, as we would describe it, have to do with the
20 installation of devices that are intended to reduce
21 pollution in another area.

22 So there seems to be a trade-off of noise
23 or something else.

24 The other thing is an issue that would have
25 been solved had the Vision 2010 process moved along more

1 quickly, and that is the very ugly and some might even say
2 threatening presence of the facility to anybody who
3 disembarks from a train in Port Hope.

4 On many occasions we've had visitors say
5 "What is that?" and they recoil in horror. Those,
6 however, are, relatively speaking, minor issues.

7 But then the issue that I would call one of
8 process, in the Application there is on page 13 a list of
9 so-called matters for consideration. There are all
10 together 13 of those and they are called Safety and
11 Control Areas.

12 In that same part of the Application there
13 is the setting out of new terminology for describing these
14 processes, and I will say that represents a great leap
15 forward from what was previously the case when it wasn't
16 really all that clear but what you had to do, so to speak,
17 to earn an "A" grade.

18 But what I want to underscore is that of
19 those 13 areas, there is not one which has been assessed
20 by what the new nomenclature calls fully satisfactory and
21 only in one area is there a trend upward.

22 When I spoke to this Commission in 2006, I
23 expressed my surprise that, at that time, when there were
24 eight safety and control areas, none of them rated an A
25 and here we find ourselves in basically the same position

1 again.

2 This is not only disappointing it's simply
3 not good enough. This community has high expectations of
4 Cameco and has high expectations of the CNSC.

5 The trade-off in having the facility
6 located historically where it is is that we expect the
7 company to be absolutely committed to achieving the very
8 highest standards and, apparently, we are not seeing that.

9 It is true that the ranking is satisfactory
10 but I think, given the location of the plant, the
11 proximity of two major rail lines, on one of which last
12 March there was a serious derailment resulting in a spill
13 that is still being cleaned up, and with the large number
14 of lethal chemicals used in the facility that we have to
15 have not "satisfactory" but completely "fully
16 satisfactory" as the grade that is assigned to there.

17 Yesterday, there was some discussion about
18 the impact on property values and the continuing stigma in
19 Port Hope around many nuclear issues and I submit that,
20 although the low-level waste clean-up will, doubtless, go
21 a long way toward removing that, as long as Cameco is
22 perceived -- if not actually, in fact -- doing such things
23 as discharging untreated stormwater into the lake and
24 failing to meet the highest standards of accountability,
25 then I think that stigma will remain with us.

1 Thank you, Mr. Chair.

2 **THE CHAIRMAN:** Thank you.

3 Mr. Tolgyesi?

4 **MEMBER TOLGYESI:** Probably to Cameco, could
5 you provide more information on ambient noise level and
6 what are the regulatory limits?

7 **MR. CLARK:** Dale Clark, for the record.

8 First of all, we are committed to -- having
9 supportive communities is an important measure of success
10 for us and we are committed to maintaining that.

11 And we recognize the challenges that the
12 noise from our facility presents. I have and some members
13 of the management team have met with neighbours to
14 understand concerns specifically and understand what we
15 can do.

16 And we have taken a number of steps during
17 the current licence period and, recently, to reduce the
18 overall noise levels from the facility.

19 I can give some examples of that which
20 include: we've made adjustments to the outdoor paging
21 system to ensure that it's at appropriate levels.

22 We reduced the volume of backup alarms on
23 fork trucks or large vehicles on site to still safe levels
24 but as low as we can to minimize the impact on neighbours.

25 And then, more recently, we have installed

1 a number of silencers on some different stack emission
2 points and acoustical louvres on building exhaust
3 ventilation points.

4 And then, finally, also we have replaced
5 some outdoor motors with more energy-efficient and quieter
6 motors in key places.

7 These are based on models that we have that
8 highlight where is the key sources of noise and where we
9 can have the most impact. We are conscious of that
10 concern. We have heard that and we're committed to
11 working with our neighbours to continue to make those
12 improvements.

13 This is managed by the Ministry of the
14 Environment and, given these recent changes, we are also
15 in the process of verifying the results of those many
16 changes that I've just described.

17 **MEMBER TOLGYESI:** You didn't mention, are
18 there regulatory limits of MOE for this noise?

19 **MR. CLARK:** Dale Clark, for the record.

20 There are different limits or values based
21 on time of day, different levels for daytime noise levels
22 versus evening and night time conditions. Those are
23 listed in our Certificate of Approval from the Ministry of
24 the Environment.

25 I don't have the exact numbers with me at

1 the moment but those are listed in the Certificate of
2 Approval from the MOE.

3 **MEMBER TOLGYESI:** So what you think, one,
4 you could render -- what Mr. McDonald was saying that when
5 he's advising that you are acting promptly, that's what
6 you were saying.

7 Could we expect that these improvements or
8 corrections will become permanent?

9 **MR. CLARK:** Dale Clark, for the record.

10 The changes that -- most of the changes
11 that I have mentioned have taken place really over the
12 past few -- several months. Those are permanent changes.
13 They're capital installations or projects that we've
14 completed.

15 And so we are confident and we do expect an
16 improvement in the overall noise levels, and we will
17 continue to work with our neighbours to make sure that we
18 do everything we can to address those concerns.

19 **MEMBER TOLGYESI:** So, Mr. McDonald, you
20 have a guarantee that it will be done.

21 **THE CHAIRMAN:** Other questions?

22 Dr. Barriault?

23 **MEMBER BARRIAULT:** Thank you, Mr. Chairman.

24 The intervenor has raised two interesting
25 points really and one of them is the movement forward on

1 stack emissions where we've gone from back in 2006 and
2 where we're headed into the future.

3 And perhaps you could describe what your
4 forward action plan is on your stack emissions from the
5 plant.

6 **MR. CLARK:** Dale Clark, for the record.

7 We have established and submitted to the
8 CNSC, and accepted by the CNSC, an emissions -- an overall
9 emissions management strategy. That document outlines how
10 we prioritize and where we focus our efforts on emissions
11 management and, you know, in a longer term focus and going
12 forward.

13 You know, we do acknowledge that was
14 identified, and as pointed out a number of years ago, and
15 the reality is that, given some other significant
16 challenges during that licence period, specifically the
17 subsurface contamination, that took a lot of focus during
18 a good portion of that licence period.

19 But, nonetheless, during that time we
20 maintained that commitment and we have made a number of
21 improvements that we can point to during that licence
22 period to reduce the overall emissions.

23 Examples include the installation of HEPA
24 filters, that we've spoken of many times, on the exhaust
25 points in the process areas; HF emission reductions that I

1 pointed to earlier this morning from the UF6 plant that
2 have reduced, and also some physical installation changes
3 to ensure compliance with the new POI requirements by the
4 MOE on fluoride emissions.

5 So during that time and while we've been
6 working to develop this emissions management strategy,
7 there are a number of examples that we can point to where
8 we have kept and maintained that commitment to improving,
9 you know, wherever we can and our commitment to the
10 protection of the environment.

11 That strategy moving forward will drive us
12 and focus on areas where we believe we can have the
13 greatest impact and, primarily, on stack emissions and
14 focus on uranium emissions.

15 We realize that's, you know, an area of
16 interest for everyone involved. Even though those are
17 well within safe established limits, that's where we will
18 primarily continue to focus our efforts to drive further
19 improvements.

20 **MEMBER BARRIAULT:** Thank you.

21 To CNSC staff, are you satisfied with the
22 progress being made on stack emissions and the plan
23 forward?

24 And I guess that begs the question: How do
25 you go from a "satisfactory" to a "fully satisfactory"

1 grade on this?

2 **MR. ELDER:** Peter Elder, for the record.

3 Are we satisfied, yes, that they have done
4 improvements? This is a continuous improvement one. This
5 is talking about fugitive emissions. It is actually
6 something that you have to keep chasing because they can
7 move.

8 So what we were looking for is then have a
9 strategy to continue to say: What do we expect to see if
10 you know you're getting more? What you do? You know, it
11 is implementation. You know, it's not something you do
12 once and fix, it's something you constantly work at.

13 On the ratings we mentioned a bit -- I
14 mentioned it yesterday to a question of Harvey. Our
15 definition of fully satisfactory is that it exceeds the
16 requirements. So when we set the requirements -- it's in
17 our requirements and our expectations. So in this case,
18 based on the evidence we had, we didn't see anything when
19 we said "Gee this is more than what we were expecting."

20 And we just -- you know that's what our
21 current assessment is in some of these areas about the
22 trending and things like that. They had some areas where
23 they had to work on.

24 At the beginning of the licence period,
25 they had the 2007 event which exposed some other

1 weaknesses that had to be corrected. So we are satisfied
2 with the numbers and where they are today.

3 And the programs are acceptable going
4 forward and we would obviously be encouraging Cameco to
5 try to keep ahead.

6 **MEMBER BARRIAULT:** Thank you.

7 Cameco would you care to comment how they
8 go from a pass grade to an A plus?

9 **MR. THORNE:** Andy Thorne, for the record.

10 I just reiterate what I said yesterday.
11 We're extremely focused on continuous improvement as a
12 management team and a leadership team and employees, we're
13 all holding ourselves accountable for much higher
14 standards than perhaps we saw in the past.

15 And I think that will most definitely
16 improve our performance moving forward. So I -- it's --
17 I'm not really in a position to comment on the rating
18 system. But I think it's important to note that we are
19 very proud of the improvements we've made over this
20 licensing period and they will continue as we move into
21 the next.

22 **MEMBER BARRIAULT:** Thank you.

23 Thank you, Mr. Chairman.

24 **THE CHAIRMAN:** Well I think maybe that's a
25 good time to talk a little bit about the process.

1 Staff you are now implemented a new licence
2 condition handbook. Can you talk a little bit about now
3 how we going to monitor performance because I understand
4 we're going to go into an annual review?

5 And while you're doing this, I also -- when
6 you agree on a commitment, the proponent mentioned there
7 were 11 commitments, 11 action items. Do you normally
8 agree on a date for achieving them when you agree for
9 that?

10 And are you going to report from now on on
11 performance and maybe we'll start seeing movement up or
12 down in the ratings?

13 **MR. ELDER:** To answer your question, yes,
14 we plan to put together an annual report that will look at
15 performances, facilities and we will look at you know how
16 we do that structure but we will going in and certainly
17 key commitments that come out are being tracked very
18 clearly through the -- through our program but also
19 documented in the licence condition handbook so there are
20 dates.

21 So it'll be much easier to report progress
22 and have key commitments reported back and progress on key
23 commitments reported back to the Commission on a routine
24 basis.

25 **THE CHAIRMAN:** So that will be a public

1 document?

2 **MR. ELDER:** It will be a public document.
3 The only thing I can't say right now is we're looking at
4 -- we cover a large number of facilities whether we rate
5 every -- each of the 14 areas each year or to look at the
6 key ones, the environmental ones, you know the ones that
7 are most concern to. We are going to start with the ones
8 that have been the most concern to the public which will
9 include obviously releases.

10 And keep it trending. And it'll also allow
11 comparison between facilities.

12 **LE PRÉSIDENT:** Monsieur Harvey?

13 **MEMBER HARVEY:** One small comment. I just
14 want to -- I agree with Mr. McDonald, the paragraph before
15 the last -- in the last page that rate of between the
16 facilities being historically located where it is and what
17 we expect of. It is that the company has to be held
18 absolutely to the highest standards.

19 So I think it's a good wording and it
20 encompass all the A or B or C but it has to be there
21 because it's a special case.

22 And I don't know if you agree with that. I
23 mean the -- both Cameco and the staff?

24 **MR. THORNE:** It's Andy Thorne for the
25 record.

1 Yeah, I think it goes without saying that
2 we would expect to be held to the highest standards. We
3 hold ourselves to the highest standards.

4 And I agree with you, I think it's -- we're
5 a nuclear facility in a very close proximity to a
6 community. We're very aware of that and high standards
7 are certainly something we should and do hold ourselves
8 accountable to and the staff do also hold us accountable
9 to.

10 **MR. ELDER:** Peter Elder, for the record.

11 I think maybe it makes it harder to get
12 fully satisfactory but in some areas we require them to be
13 higher than anywhere else.

14 For example in terms of the public dose,
15 their dose limit in their licence is .3 millisieverts.
16 Everywhere else, it's one. So I mean -- you know so we --
17 well -- so we are already imposing higher standards on
18 them because of the location.

19 So when we say it's satisfactory, it's
20 satisfactory taking into account the local environment.

21 **THE CHAIRMAN:** Mr. McDonald, you have the
22 last word. Anything you want to add?

23 **MR. McDONALD:** I've been quite encouraged
24 by a number of things that I have heard, not least having
25 to do with noise. We'll see what happens in the summer

1 time. I'm also glad you're taking seriously the need for
2 the corporation to be held to the very highest standard.
3 Thank you.

4 **THE CHAIRMAN:** Thank you.

5 Just bear with us for one minute. We're
6 trying to get the logistics right.

7 Okay. We are going to move on to a
8 presentation by the Port Hope Community Health Concern
9 Committee as outlined in CMD H16.84.

10 And Ms. More, the floor is yours.

11
12 **11-H16.84**

13 **Oral presentation by the**
14 **Port Hope Community Health**
15 **Concerns Committee**

16
17 **MS. MORE:** Good afternoon, Mr. Binder,
18 Members of the Commission. My name is Faye More. I'm the
19 Chair of the Port Hope Community Health Concerns
20 Committee.

21 I'd like to begin with a quote from the
22 Ontario Minister of the Environment Rationale Document for
23 the draft uranium and air standard:

24 "For a given uranium intake, the
25 inhalation pathway gives doses 200

1 times greater than ingestion."

2 If you could please bear that in mind as we
3 go through this.

4 I'm going to start with our bottom line
5 which are the recommendations that we make to you that a
6 two-year licence be issued to Cameco Corporation with the
7 condition that within this two-year time period Cameco
8 will prepare and submit a plan to the CNSC, the
9 municipality and the public to fully decommission all of
10 its sites within the boundaries of the community of Port
11 Hope; decommissioning of leaking, aging facilities
12 including removal of all wastes and full restoration of
13 all lands to be completed by 2017.

14 The Cameco's Vision 2010 project and the
15 proposed investment of millions of dollars into the
16 current sites be halted and a new environmental assessment
17 be ordered for the decommissioning and restoration process
18 when the plan is received. This is the time before more
19 roots are dug into our community.

20 So just a couple of bullet points as
21 background; the cumulative impact of doses is not factored
22 into the exposures of the people of Port Hope.

23 Day after day, year after year, the effect
24 on people's bodies of inhaling insoluble ceramicized
25 uranium particles is nowhere factored into the health of

1 the people of Port Hope. And despite all of the grant
2 money and the public relations activities of Cameco if you
3 take a close look at their May 2011 community survey
4 report by Fast Consulting, you will see that 35 percent of
5 the respondents have concerns about Cameco in Port Hope.

6 And Cameco is -- says in that document they
7 know they have to have a social licence to be here. They
8 recognize that.

9 In every other way we are virtually
10 powerless, but we do have to give them a social licence,
11 and we revoke their social licence.

12 The construction of a new designated
13 nuclear facility at the current Cameco locations in Port
14 Hope would simply not be permitted under current
15 environmental legislation and community standards.

16 The ongoing licensing of Cameco facilities
17 is an exercise in the Commission continuing to grandfather
18 and perpetuate what was a historical mistake and is,
19 today, unacceptable operating circumstances for this
20 industry.

21 It has become clear to us that many
22 unresolved concerns raised by ourselves over the past 16
23 years and other citizens will only be addressed by the
24 relocation of this industry away from our town with a
25 suitable buffer zone.

1 You deal in theories, you deal in
2 projections, your staff, the experts that come, the
3 company, you deal in modelling. We deal in reality. We
4 deal in the reality of floods, we deal in the reality of
5 illness, the reality of exposures. We have no buffer
6 zone. There is no proper security area, and it is a
7 flooding area. Our waterfront is the area of greatest
8 exposure to uranium particles. No, we should not have a
9 waterfront festival in Port Hope, and how sad is that? We
10 want one. The community is facing a multi-year, \$1.3
11 billion cleanup of historic and current radioactive wastes
12 from this industry. As you heard earlier, what sense does
13 this make when a company is going to continue on our
14 waterfront and continue to contaminate?

15 The power lies elsewhere. You regulate,
16 Saskatchewan decides, Ottawa decides, all the people have
17 is a social licence and it's time we have this dialogue
18 and use our social licence to say what has been virtually
19 un-sayable for years. It is not popular to say this in
20 this town.

21 There is no independent environmental
22 monitoring here. The Ministry of the Environment was
23 gutted in the mid-nineties and it did good work here since
24 the 1960s. It provided other benchmarks, it provided a
25 report card. They're nowhere here. The whole issue of

1 accumulation in the soil which for years we have been
2 raising and we were going to get final answers, there is
3 no independent evaluation of that by another government
4 department such as the Ontario MOE, and that should be
5 essential before we can accept Cameco saying they do not
6 continue to accumulate in the soils of Port Hope.

7 There's no neutron radiation monitoring and
8 reporting. The reports actually have stated that the
9 exposures to employees are detectable but they're so small
10 they're not worth monitoring. That is unbelievable that a
11 company, that an industry, and a regulator would accept
12 this position that detectable radiation exposure is not
13 worth monitoring.

14 Question: Does this company provide its
15 employees with dosimeters that will actually monitor
16 neutron radiation? Several years ago the company did not
17 have neutron detection equipment. It was us. It was
18 citizens who detected it with independent Geiger counters.

19 Health effects: The exposures here are
20 undeniable. To tell us we have exposures without risk is
21 ridiculous and do not believe your staff for a minute when
22 they tell you we have no risks here. Of course we do.
23 How many of you would go and have 15 chest x-rays in a
24 year? You don't do that for a very good reason.

25 The United States government, through its

1 Department of Justice, has paid over \$4 billion in
2 compensation through the *Radiation Exposure Compensation*
3 *Act* and the *Energy Employees Occupational Illness*
4 *Compensation Act* as of 2009. Why are they doing that?
5 People get sick from radiation exposure. Energy employees
6 get sick, they deserve compensation. Canada needs such an
7 acceptance and such a law.

8 And the other really important factor is
9 that the recognize 35 diseases through the U.S. Department
10 of Justice, which we have brought to your attention before
11 and we would ask, has your staff done anything to
12 investigate this legislation and why they stipulate in law
13 35 diseases as associated with radiation exposure?

14 Employees don't have to go through a lot of
15 hoops and we have a precedent in Ontario with the
16 firefighters' legislation where all you have to do is
17 prove that you had service and a few other benchmarks, and
18 if you have certain diseases known to be associated with
19 firefighting you receive compensation. Why do we not have
20 that in Canada both for communities, and the military, and
21 for energy employees?

22 Transportation of hazardous material: We
23 have cylinders that travel through our streets. There is
24 one street -- I'm sure most of you have been to the plant
25 -- one exit where the cylinders travel by children on

1 bicycles on their way to the beach. These cylinders emit
2 neutron and gamma radiation. They do that all through
3 town; they can park and run into Tim Horton's, they go on
4 to the 401 and they drive to Oshawa where those cylinders
5 travel from there over to Sweden (inaudible), they go down
6 through the Saint Lawrence Seaway, the travel to Montreal.
7 All the while they are emitting neutron and gamma
8 radiation.

9 Don't try to tell us that those doses are
10 factored into your dose calculations for Port Hope people
11 or our children. Children have sat behind school buses --
12 or in school buses behind those trucks travelling through
13 Port Hope streets, and those -- that radiation is not
14 attenuated from those trucks.

15 Inadequate emergency measures: Why isn't
16 Port Hope and this facility listed as part of the
17 provincial Nuclear Emergency Response Plan? We have been
18 asking that for at least 10 years.

19 This is a designated nuclear facility; why
20 does this community not get the same protection as
21 Pickering or a reactor site? And if you read the
22 provincial plan it's amazing how many resources are
23 brought to bear extremely quickly. Multiple ministries
24 are involved in coming in to help a community. Instead,
25 we continue to hear about our Port Hope emergency

1 services, Cameco emergency services, expected to deal with
2 criticalities and fires at a nuclear facility.

3 Unidentified industry materials: This
4 company says at its public meetings that it doesn't need
5 to test the isotopes of the material that it is dealing
6 with and we know that they have dealt with contaminated
7 material in the past. Material contaminated with trans-
8 uranics.

9 Port Hope health studies have shown
10 elevated rates of disease. That is just a fact. There
11 have been studies released by Health Canada, the Great
12 Lakes Health Effects Program, that showed significantly
13 higher in Port Hope genetic, neurological, multiple
14 sclerosis, Parkinson's disease, cardiovascular and
15 respiratory diseases, and 11 cancers.

16 In Health Canada's report they said
17 environmental contaminants were one of the possible
18 causes. How is it possible that this is just dismissed
19 out of hand? And who were these people? Where did they
20 live? In the cancer incidence study and the general
21 mortality study, which I've discussed with you in the
22 past, there were a number of elevated rates of disease for
23 Port Hope people. Again ---

24 **THE CHAIRMAN:** Can you please summarize?

25 **MS. MORE:** I'm at 10? You do not know what

1 the dose is and if you don't know what the dose is then
2 you can't say the dose wasn't high enough to cause the
3 elevated rates of disease that are showing. You need to
4 test your theory with reality and look for health outcomes
5 in people. Stopping short of that when we're facing a
6 clean-up and saying, "Oh, we've done it all." No, you
7 haven't.

8 People living in contaminated houses, their
9 health has never been asked. I know because I'm one of
10 them. Health has never been asked of individuals living
11 on contaminated property and there are no baselines here,
12 and we're facing a clean-up. No.

13 As a start we need this company to
14 relocate. We still need the health studies, we need an
15 amazing clean-up, and we need to get on with things here.

16 Thank you.

17 **THE CHAIRMAN:** Thank you.

18 Questions? Who wants to start? Monsieur Harvey?

19 **MEMBER HARVEY:** Page 2 of your written
20 submission under power, lies and so on. The last sentence
21 of that paragraph, it's about consultation and
22 participation of the public.

23 For example, public participation was not
24 invited by the CNSC at the Cameco mid-term review in 2009,
25 despite its commitment to do so when the five-year licence

1 was approved in 2006.

2 I just want -- like the staff to comment on
3 that. What was the nature of the commitment to have
4 public participation to the mid-term review or was there
5 one?

6 **MR. ELDER:** Peter Elder, for the record.

7 I think I'd have to go back and check the
8 transcripts of the last one. I believe that was a
9 commitment that came from the front table not from, you
10 know -- I mean the staff's process is we will do whatever
11 we are asked to do. And again what the format and how the
12 public meetings are held is up to the Commission.

13 We make recommendations but we do not set
14 that. And I don't know how, I can't comment it without
15 looking the exact words of how -- whether it was a firm
16 commitment or, you know, it's something that they would
17 consider.

18 **MEMBER HARVEY:** Normally when there is
19 commitment ---

20 **MR. ELDER:** Normally, normally when there
21 is a commitment, the staff -- it's tracked very closely by
22 staff, by the Secretariat staff.

23 **MEMBER HARVEY:** It's our fault. Well,
24 okay. I know where it is.

25 **THE CHAIRMAN:** Remind us again the mid-

1 term, how was the mid-term review in 2009 was conducted?

2 **MR. ELDER:** There was -- there was a public
3 hearing held in Ottawa in 2009 -- in November 2009. At a
4 public meeting, it was at a meeting of the Commission.

5 **THE CHAIRMAN:** It was a meeting?

6 **MR. ELDER:** A meeting, yes.

7 **THE CHAIRMAN:** So as opposed to inviting
8 the public to participate was people were able to write
9 in? Is that the way it went? Do you remember?

10 **MS. MORE:** May I refresh memories?

11 I found out -- our committee found out that
12 there was going to be a mid-term meeting in Ottawa, I
13 understand that our Mayor was invited and attended.

14 There was no opportunity for the public and
15 I wrote a letter on behalf of our committee objecting to
16 this, reminding of the obligation that was undertaken at
17 the time the licence was agree to. At that time
18 Commissioner Barnes had disagreed with a five-year licence
19 feeling it was too long and the public was then given an
20 opportunity at the mid-term to participate and comment.

21 So, I requested permission, I believe it
22 was Mr. Leblanc who took that and maybe discussed it with
23 you Mr. Binder but I was allowed to submit in writing and
24 we did do that, we submitted a letter. But it was not the
25 public process that we all understood at the time the

1 licence was granted before.

2 **THE CHAIRMAN:** Well, if my understanding is
3 correct, there's different ways of doing, you can have a
4 public hearing where people can come like this is a public
5 hearing but you can have a public meeting where the public
6 is invited to submit written material.

7 So, I don't remember what decide -- I don't
8 remember the decision process, we'll track it back to the
9 2006 commitment and see precisely what Dr. Barnes had in
10 mind presumably.

11 **MS. MORE:** And may I had that if you do
12 issue a longer term licence than the two years, please
13 continue because what we are seeing is with longer
14 licences at five years and 10 years, less public
15 participation, less opportunity for transparency and it is
16 critical that the public be able to come and participate.

17 **THE CHAIRMAN:** Questions?
18 Monsieur Harvey.

19 **MEMBER HARVEY:** Another question and just
20 the other paragraph "No independent environmental
21 monitoring". It comes quite often that we've got this
22 remark but to what extent the monitoring, which is done
23 either by Cameco, by other entities, by the staff, to what
24 extent we can call it independent? There is some
25 standards, some norms. And is it so easy to monitor and

1 to falsify the figures?

2 **MR. ELDER:** I think I'll start on the first
3 part in terms of we look very closely when we look at
4 environmental monitoring programs that the data they
5 submitted is credible. It is collected in a repeatable
6 fashion. In terms of what sort of independent monitoring
7 has been done, I'll ask Dr. Thompson.

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

10 As Mr. Elder said, we do review licensees'
11 programs and approve them if they're done with state of
12 the art methods and we are confident that what they
13 measure is the right thing and they measure at the right
14 frequency, in the right way.

15 The Ontario Ministry of the Environment, as
16 the intervenor mentioned, had for several years a program
17 where they would come in and monitor soils and vegetation.

18 And perhaps when they're here this
19 afternoon, you can ask them about the continuation or not
20 for that program.

21 Our understanding is that when the programs
22 were reviewed, the soil monitoring was abandoned
23 essentially because there were issues with the way the
24 monitoring program was designed and when Cameco developed
25 its monitoring program from a clean soil plot that this

1 was deemed to be acceptable.

2 The CNSC, although we do detail reviews of
3 licensees monitoring program and review the data and do
4 inspections of the programs, we will be starting to do an
5 independent monitoring program next fiscal year, so
6 starting in April, using the new CNSC lab capability.

7 **MS. MORE:** May I comment on that please?

8 There was a plot study that was done by
9 Dave McLaughlin of the Ministry of the Environment and
10 when it was reported in, it was detecting accumulation in
11 the soil of one or more slightly more parts per million
12 per year.

13 Cameco objected to the methodology of that
14 study and it did not necessarily negate the results. But
15 one of the other interesting things they found was that,
16 over time, that because of the migration of uranium in the
17 soil that what was in the top could move down lower and
18 what was lower could migrate near the top.

19 So I think that what we need is the
20 expertise and the skilled experience of the Ministry of
21 the Environment working very closely with Cameco around
22 interpreting the results, so that there isn't the sense
23 you can just sort of add up what's there and say "Oh,
24 well, there's nothing accumulating" because there is
25 movement going on.

1 So I think it's very important that they're
2 part of this picture and part of the reporting in. And
3 we've been saying that for 15 years that we really feel
4 that they need to be part of every hearing. They should
5 be here and reporting in.

6 **THE CHAIRMAN:** Well, the MOE, if I
7 understand correctly, MOE will be here this afternoon and
8 hopefully we'll have opportunity to deal with some of
9 those issues.

10 Did somebody come forward ---

11 **DR. THOMPSON:** Patsy Thompson, for the
12 record.

13 Just to clarify that the monitoring program
14 that Cameco has in place does not only measure uranium in
15 the surface soil, we do expect them to measure down to
16 several centimeters. The mechanism that Mrs. More is
17 talking about is well-known, our soil specialist has moved
18 to the microphone and I think there's additional
19 information that can be provided.

20 **THE CHAIRMAN:** Please go ahead.

21 **MR. ILIN:** I'm Michael Ilin, for the
22 record.

23 Port Hope conversion facility soil
24 monitoring program review was submitted to the CNSC on
25 December 9, 2011, very recently and reviewed by CNSC

1 staff. Cameco collects soil samples every year to monitor
2 uranium concentrations in upper layer of surface soil and
3 to demonstrate that there is no accumulation of soil
4 uranium in the vicinity of the facility.

5 I just would like to a little bit explain
6 what we understand like accumulation. Accumulation or
7 build-up of contaminant concentration in the soil appears
8 when the position of contaminants from the air is not
9 compensated by the process of removal or leaching from the
10 surface or horizon.

11 So actually, two processes are essential
12 here. One process is the position of contaminants
13 including uranium, and another process is leaching of
14 contaminants from the surface soil to the deeper layers.

15 So actually, Cameco collects soil samples
16 from the 27 mandatory locations in four zones that are on
17 the facility. And samples are taken at various depths
18 within the soil profile to demonstrate -- to determine
19 whether concentrations of uranium change compared to
20 previous results.

21 Results of the soil monitoring program in
22 the vicinity of facility demonstrate that uranium soil
23 concentrations do not increase in the top or any other
24 soil horizon at the waterworks parking lots remediated
25 with clean soil in 2005 to avoid interference from

1 historic soil contamination.

2 Also no statistically significant
3 accumulation of uranium in soil was observed in any other
4 sampling location during 2005-2010. Based on this result,
5 CNSC staff concludes that there is no measurable impact on
6 soil due to current uranium emissions from the Cameco's
7 conversion facility in Port Hope.

8 Despite we would have opportunity today to
9 hear the specialist from the Ontario Ministry of
10 Environment. I just would like to give you their -- the
11 results of the -- their review of Phyto-toxicology
12 toxicology investigation in Port Hope starting from 1974.

13 The report concludes that re-sampling of
14 soil in 2000 from undisturbed sites close to Cameco that
15 were originally sampled in 1986-87 showed that soil
16 uranium and arsenic concentrations in the community have
17 not increased since the mid 1980s.

18 In conjunction with the recent data
19 reported by Cameco from 2005-2010, it looks for me that
20 it's reasonable to conclude that from 1974, there is no
21 indication that uranium concentrations are increased in
22 Port Hope soil. So there is no measurable accumulation of
23 uranium in Port Hope soil.

24 Thank you.

25 **MS. MORE:** Thank you.

1 That is very, very different from previous
2 reports from the Ministry of the Environment when they
3 have been at previous hearings. And I'm not sure what
4 document that is, but I'd really like to review that and
5 follow-up.

6 **THE CHAIRMAN:** Okay, well let's -- let's
7 not go in circle while they are not here. We are talking
8 in their name. Let's wait until they come in. I was sure
9 that they will be here. I hope they will be here. And
10 then we can ask the questions directly to them.

11 **MS. MORE:** Thank you.

12 **THE CHAIRMAN:** Other question?

13 Dr. Barriault?

14 **MEMBER BARRIAULT:** Thank you, Mr. Chairman.

15 On pages 8 and 9 of the presentation, I'm
16 just trying to clarify in my own mind. My understanding
17 of those tables, the U.S. Veterans Administration for
18 Atomic Veterans is associated with atomic bomb
19 experimenting or testing, not the exposure that we have in
20 Port Hope.

21 One of them is a controlled environment,
22 the other one's a completely uncontrolled environment.
23 That was my understanding. Correct me if I'm wrong.
24 Maybe somebody would care to comment either from CNSC or
25 from yourself as to these two tables?

1 I know that they're both associated with
2 radiation. But the level of radiation is completely
3 different between these two types of studies.

4 Go ahead.

5 **MS. MORE:** What I had originally included
6 in here was a chart from the U.S. Veterans'
7 Administration, and they are focused on the atomic
8 veterans. And generally, they were involved in the
9 blasting and the testing ---

10 **MEMBER BARRIAULT:** That's correct.

11 **MS. MORE:** --- in the desert.

12 **MEMBER BARRIAULT:** Yes.

13 **MS. MORE:** And not just in the desert. But
14 the -- there are different pieces of legislation. And the
15 energy employees is applying to people who have long-term
16 exposure in the workplace at facilities similar to Port
17 Hope and at reactor sites processing facilities, so it is
18 both. And so it includes the military community down
19 winders, particularly those who were in the desert.

20 **MEMBER BARRIAULT:** Desert and also South
21 Pacific explosions. Go ahead.

22 **MS. MORE:** Yeah. But it does include
23 energy employees and their exposures in the workplace,
24 which are of a different nature than the bomb blasts.

25 **MEMBER BARRIAULT:** That's correct. Okay,

1 thank you.

2 Does CNSC care to comment?

3 **DR. THOMPSON:** Patsy Thompson, for the
4 record.

5 You're correct in terms of the -- the
6 program is geared towards people involved in the weapons
7 programs and some of the populations who were exposed to
8 -- as a result of weapons testing.

9 The comments that are made in terms of it
10 applies to also nuclear energy workers, I'd like to repeat
11 once more that the cohort epidemiological study that the
12 CNSC has -- staff have recently published and co-authored
13 includes 3,000 workers from the Port Hope Conversion
14 Facility and that study shows that there is no increased
15 risk of cancer. And the same findings are for the
16 majority of the Canadian nuclear power plant workers.

17 **MEMBER BARRIAULT:** Thank you Mr. Chairman.

18 **THE CHAIRMAN:** So just to finish, so what
19 is the other table on page 10 that -- by Dr. Eric Minsk?

20 **DR. THOMPSON:** Dr. Eric Minsk was hired as
21 a peer reviewer by the Atomic Energy Control Board. And
22 he did a peer review of the Cancer Incident Study that was
23 released in 2000. In 2002, the second report was issued,
24 which was the general mortality report.

25 And the AECEB did not contract with him

1 again, but we did, and we asked him to do a combination
2 analysis of what the data in the federal reports said. So
3 this is federal data that's here from the Health Canada
4 reports.

5 So this chart that shows the elevation of
6 cancer deaths in children, elevated childhood leukemia,
7 elevated lung cancers, brain cancers, Non-Hodgkin's
8 Lymphoma, nasal sinus cancer, oesophageal cancer, lip,
9 bone, colorectal and at this very surprised find which Dr.
10 Minsk noted of the elevated circulatory disease, that
11 there was a 15 percent excess of deaths, which is 300 more
12 deaths than expected ---

13 **THE CHAIRMAN:** Hey, look, we read it. We
14 know -- what I'm trying to understand ---

15 **DR. THOMPSON:** Okay.

16 **THE CHAIRMAN:** --- is where did it come
17 from and CNSC is quoted there as Health Canada CNSC. What
18 -- where does that come from? Because I -- I thought that
19 -- that most of those studies were built within your
20 survey studies. So please clarify?

21 **DR. THOMPSON:** Patsy Thompson, for the
22 record.

23 Yes, when the Health Canada conducted two
24 studies on behalf of the CNSC, and those studies were peer
25 reviewed by Dr. Minsk. And he has essentially developed

1 the analysis that is on the table on page 10.

2 The CNSC has taken into consideration those
3 findings and the synthesis report does take those findings
4 into consideration and we provide information in terms of
5 our assessment of -- of the findings.

6 I'd like to point out that the -- the
7 report that we call the Port Hope Synthesis Report has
8 recently been published in the peer review literature and
9 the article that has been published includes the two
10 Health Canada studies -- the data in the two Health Canada
11 studies. And ---

12 **THE CHAIRMAN:** But I -- I just want to
13 understand. You're not buying into this? Is that what
14 you're trying to say? I mean, let's hear clarity here.

15 **DR. THOMPSON:** Patsy ---

16 **THE CHAIRMAN:** You are not agreeing with
17 this analysis? Yes or no?

18 **DR. THOMPSON:** That's correct. The CNSC
19 staff disagreed with Dr. Minsk's analysis.

20 **THE CHAIRMAN:** Okay, so we again have two
21 experts disagreeing with each other, and it's not unusual
22 in this business, I hear.

23 **MS. MORE:** May I comment, please?

24 **THE CHAIRMAN:** Go ahead.

25 **MS. MORE:** This is -- this is statistics.

1 So this is really not analysis. This is the numbers in
2 the tables. You and I could look this up and see this.
3 This is not something they can disagree with.

4 Were they -- what he said is that the rare
5 cancers and the rates of the cancers and the variations
6 over the time periods could be indicative of an
7 environmental cause. That's the part they disagree with.

8 And the way they disagree with it, and in
9 the synthesis report is what we take great exception to.
10 Because they presume to know what dose causes what. And
11 they presume to know what dose people got that have these
12 diseases. And you don't know that. They don't know that.

13 What was needed and was always the
14 intention, we were at the table when these studies were
15 planned for a decided upon as part of a health study plan
16 for Port Hope. They -- We are talked about in the front
17 of these reports. The plan was there would be follow-up
18 investigations after; there would be cohort studies and
19 case control studies. Who were these children? Did they
20 all go to Dr. Power's school? Were they all in the
21 Kindergarten there? Who were the children that got the
22 brain tumours? Who were the children that got the
23 leukemia? That whole piece is missing. And there is
24 absolutely no basis to ever have rejected these elevated
25 disease statistics, and there still isn't.

1 **THE CHAIRMAN:** Okay. CNSC.

2 **DR. THOMPSON:** Patsy Thompson, for the
3 record.

4 The CNSC did not disagree with the numbers.
5 We essentially disagreed with the interpretation to say
6 that we have no information on exposures on members of the
7 public in Port Hope.

8 There has been extensive work done to do
9 dose reconstruction work and that work was done by
10 credible independent experts for the federal government.

11 There have been studies, various studies
12 done, and the weight of the evidence of all these studies
13 points to no increased risk as a result of radiation
14 exposures.

15 We have provided analysis and the rationale
16 for our analysis. It's been peer reviewed. It's
17 published in a credible journal.

18 And essentially some of the cancers that
19 are listed in page 10 are not known to be associated with
20 radiation exposure.

21 So we have done a lot of background work.
22 We have done through the scientific literature and reports
23 from credible committees to do this analysis. We did not
24 take this lightly.

25 **MS. MORE:** And I would say they obviously

1 have not talked to the U.S. Department of Justice to find
2 out why they accept 35 cancers and deceases as associated
3 with radiation exposure.

4 And what she has just said about knowing
5 the kinds of doses that our children have received who
6 went to St. Mary's School and Dr. Power school and played
7 on the beach and walked up the dump hill is completely
8 unfounded and ridiculous, and we reject it.

9 (Applause/applaudissements)

10 **THE CHAIRMAN:** Okay. Can we move on to
11 other questions please?

12 Dr. McDill?

13 **MEMBER MCDILL:** Thank you.

14 Could I have a comment from CNSC staff and
15 from Cameco on the blanketing on the UF₆ cylinders,
16 please, and the purpose of blanketing?

17 Looks like it's ready to go ahead.

18 **MR. CLARK:** Yes. Dale Clark, for the
19 record.

20 The UF₆ cylinders that are shipped and
21 transported from the facility and around the world, first
22 of all, do meet all the regulatory requirements, both
23 Transport Canada, CNSC, IAEA requirements, and these have
24 been safely transported around the world for many, many
25 years.

1 The thermal protection that's mentioned
2 here, there was a requirement that the cylinders be
3 capable of withstanding a high temperature fire. I
4 believe it's 800 degrees C, for 30 minutes. That's a
5 common requirement for these cylinders. There are
6 different interpretations of -- or models in either Europe
7 or North America and, consequently, in Europe. These
8 cylinder require this additional thermal blanketing or
9 thermal protection to ensure that they meet that
10 requirement.

11 Within North America, the testing and the
12 modeling has indicated that the cylinders themselves are
13 capable of withstanding that temperature for 30 minutes.

14 So it's different requirements between
15 North America and Europe.

16 **MS. FAYE:** So any cylinder that happens to
17 leave you and arrive in Rotterdam will be blanketed as it
18 enters Rotterdam?

19 **MR. CLARK:** Dale Clark, for the record.
20 That's correct.

21 Cylinders being received in Europe would
22 have that thermal blanketing protection on them.

23 **MEMBER McDILL:** Staff?

24 **MR. ELDER:** I am going to ask Sylvain
25 Faille in Ottawa to answer about the transportation.

1 **MR. FAILLE:** Thank you.

2 For the record, I am Sylvain Faille. I'm
3 the Director of Transport Licensing and Strategic Support
4 Division.

5 And that is correct, for transport
6 purposes, in Canada, we accept both the thermal protection
7 or the bare cylinders as per the comment from Cameco.
8 Both are accepted under the IAEA regulations and it's just
9 a matter of different countries and different views on how
10 to evaluate the thermal test and the results of those
11 thermal tests and analysis that were done a few years ago.

12 But in terms of the shipments, the ones
13 that are leaving Cameco for international shipments to
14 Europe have to have the blanket installed, where our
15 shipments within North America don't require those
16 blankets.

17 And both are approved under the IAEA
18 regulations and are found to be safe.

19 **MEMBER MCDILL:** So the destination of
20 Cameco's cylinders would be evident from the blanketing,
21 if I understand Sylvain Faille correctly?

22 **MR. CLARK:** Yes, Dale Clark.

23 That's correct in terms of continents, I
24 guess you could say. Between North America and Europe,
25 that is true. Although I would -- I guess I should point

1 out there are maybe different types of thermal blanketing,
2 but they are essentially for the same purpose, to ensure
3 that they meet that thermal protection requirement.

4 **MEMBER McDILL:** In terms of neutron
5 radiation fields around, you have UF6 cylinders. I know
6 we've done this before, but I'll ask again if staff would
7 go do it again, speak to that again?

8 **MR. ELDER:** Before we pass it out, in terms
9 of to the back, terms of the actual doses. So we did
10 actually look at the calculations and how much this would
11 add. And these are not high levels of neutron. They are
12 detectable, but you can detect very, very low levels of
13 neutrons. It's a question of saying, is this a
14 significant portion of your dose, given that there are --
15 so I will pass it back to Patsy, our radiation protection
16 -- about how we calculate this and what it would affect on
17 doses.

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

20 The work that the CNSC did in relation to
21 the neutron doses was as a follow-up to Commission
22 proceedings and Cameco undertook the study of those rates
23 around the cylinders.

24 The finding from that study is that --
25 that study was consistent with the data we had previously

1 for workers, the highest dose to neutrons for the workers
2 that would be maximally exposed is 0.16 millisieverts per
3 year and that's less than 10 percent of the annual average
4 effective dose to the critical worker groups.

5 In terms of the doses that -- potential
6 exposures to members of the public, our understanding is
7 that it would be about three microsieveverts, a small
8 fraction of the three microsieveverts per year.

9 **MEMBER McDILL:** Thank you.

10 In terms of ALARA, detectable but very low,
11 but can it be shielded, that last little bit?

12 **MR. CLARK:** Dale Clark, for the record.

13 I will ask my colleague, Ms. Peters, to
14 provide some more information on that.

15 **MS. PETERS:** Rebecca Peters, for the
16 record.

17 My understanding is the way that neutrons
18 travel, it is very difficult to shield. However, we agree
19 with the comments made by CNSC staff that the dose from
20 neutrons is insignificant and there is a good body of
21 information on how that dose is, both Cameco work and work
22 that was done by CNSC staff.

23 **MEMBER McDILL:** I will ask staff the same
24 question.

25 **MS. MORE:** I'm sorry, I couldn't hear her

1 answer. It was somehow muffled with the speakers.

2 **MS. PETERS:** Rebecca Peters, for the
3 record.

4 It is very difficult to shield the dose
5 from neutrons based on the way that the neutron particles
6 travel. That is documented, and I would emphasise, again
7 concurring with CNSC staff that both CNSC staff and Cameco
8 have studied the neutron dose both to the public and to
9 the workers, and deemed it to be a negligible amount of
10 dose, and this was discussed in detail at the midterm
11 review.

12 **MS. MORE:** May I comment there, please? I
13 really would like to be very clear, and have Cameco be
14 clear, if this is simply a cost decision; that workers
15 would not be protected and this would not be accumulated
16 on their dose record, which goes to them receiving
17 compensation potentially down the road, it's all based on
18 dose.

19 And the U.S. has acknowledged how many
20 doses are missed, especially of neutron radiation, and
21 they've gone back and they have whole big detailed
22 calculations on how to get to the neutron dose that those
23 dosimeters never captured.

24 So it sounds like we're still in that
25 situation where workers are not getting their full dose

1 captured and when they go to try and get compensation --
2 and dose is already an issue as we've read recently in
3 Ottawa -- that they're missing this piece. Like how is
4 this justifiable?

5 So is this a cost decision?

6 **THE CHAIRMAN:** First of all, let's get the
7 dose registration process clarified. CNSC?

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

10 The CNSC Radiation Protection Regulations
11 require doses that have been monitored or estimated
12 depending on the significance of the dose component.

13 You will recall that we presented dosimetry
14 methodology to the Commission and we have issued on our
15 website an information document on dosimetry practices.

16 The methods available for neutron dosimetry
17 -- there are a few methods available. The CNSC requires
18 dosimetry for neutron exposures under -- for certain types
19 of workers. And the Port Hope Conversion Facility workers
20 are not included in the workers that need to be monitored
21 physically.

22 That doesn't mean that we would not take
23 into consideration neutron doses in terms of worker
24 exposures. The requirement is to measure or estimate the
25 doses.

1 The work that Cameco has done and that we
2 have done and verified we have a good sense of what the
3 exposures are for different parts of the facility and we
4 can take these into consideration.

5 **MS. MORE:** May I add that uranium
6 hexafluoride cylinders are of a high source when they are
7 full of neutron radiation. And I think what we're hearing
8 here is a lack of expertise, and that's a really critical
9 area for both staff and Cameco to have the proper
10 equipment and to have the requirements that these workers
11 are properly monitored and properly protected. This is
12 really abysmal.

13 Now, the fact that they also go through the
14 streets of Port Hope is another factor. Neutronic gamma
15 radiation is emitted, our children are on bicycles, people
16 are in cars, you get the picture, out of one road exit
17 through our town.

18 And the fact that there is not a mitigating
19 cover over the cylinders to help muffle the radiation at
20 least -- and we've heard that there isn't -- what's the
21 reason for that? Again is the excuse that it's just too
22 small to worry about? This is unacceptable. It's
23 unacceptable thinking. It's not precautionary. It's not
24 taking radiation seriously. Really, it's frightening.

25 **THE CHAIRMAN:** Okay, Cameco, what is the

1 level of radiation near full UF6 cylinder?

2 **MR. THORNE:** Sir, Andy Thorne, for the
3 record.

4 I just -- we can -- I'll pass that over to
5 Rebecca Peters in a second.

6 Just before we go into the details, I just
7 would like to clarify for the record that the shipping of
8 UF6 is not specific to Cameco. This is a recognized
9 process globally. It's an internationally accepted
10 packaging that we use and many other companies use.

11 And so I just wanted to make sure that
12 everyone's aware that this is not specific to Cameco.
13 These cylinders are being shipped around the world in
14 various different transportation routes and transportation
15 means, and I just wanted to make sure that everybody was
16 aware of that.

17 **THE CHAIRMAN:** So the people who do
18 transport this stuff, do they wear dosimeter and measure
19 the neutron as they go on those long trips
20 internationally?

21 **MR. THORNE:** Andy Thorne, for the record.

22 No, they do not. Our workers -- our
23 facilities are wearing dosimetry badges but the people
24 involved in the transportation of that UF6 are not.

25 And I'll ask Rebecca Peters to explain that

1 in a little bit more detail.

2 **MS. PETERS:** Rebecca Peters, for the
3 record.

4 First, with respect to the dose to the
5 public, as Dr. Thompson indicated earlier, the neutron
6 dose rates from our UF6 cylinders would give an annual
7 dose to the public of 0.003 millisieverts or one percent
8 of Cameco's licence dose limit which is a third of the
9 public dose limit.

10 With respect to the monitoring that is done
11 of our employees, all of our employees wear OSLs or
12 optically stimulated luminescent dosimeters that measure
13 beta and gamma.

14 The work that we did and submitted to CNSC
15 staff we identified that the dose to an employee from
16 neutrons was approximately 0.2 millisieverts per year
17 which is less than 10 percent of the dose that the
18 employees otherwise measure.

19 CNSC staff concurred with our conclusions
20 that this estimate was acceptable and no further
21 monitoring of neutrons was required.

22 **THE CHAIRMAN:** Thank you.

23 Dr. McDill?

24 **MEMBER MCDILL:** I think I'd like to ask the
25 same question that I asked to Cameco of staff. Is there

1 any way of mitigating or shielding from that apparently
2 very low just detectable dose while the trucks are in
3 town, let's say?

4 **MR. JAMMAL:** Ramzi Jammal, for the record.

5 As the transport requirements is -- just
6 let me describe the packaging process. Before the package
7 is released from the facility itself, it must undergo
8 several testing. One of the testing is actually leak
9 testing to ensure that there is no contamination on the
10 outside of the packaging; and the packaging is put in
11 place in accordance with, as Mr. Faille has described, in
12 accordance with the TS-R-I IAEA requirements.

13 Once the package is filled, there is always
14 a measurement around the package with respect to
15 determining what is the dose; hence indicating what we
16 call a transport index, it's called a TI, and the
17 packaging is labelled accordingly.

18 So now we ask the question is neutron a
19 factor? The answer is no; because one, you are protecting
20 -- and I'm not going to give an RP 101 here, but the
21 protection with respect to the other type of radiations
22 does protect from neutrons.

23 But you must keep in mind here the neutrons
24 level we're talking about is of low energy neutrons, so
25 hence the travel of that neutron outside the barrel at 1 m

1 is very minimal, and the distance -- actually, as a matter
2 of fact, we can -- in millimetres you're going to detect
3 it.

4 **MEMBER McDILL:** So a child on a bicycle
5 behind a truck will receive?

6 **MR. JAMMAL:** Zero neutrons. No dose.

7 **MEMBER McDILL:** Thank you.

8 **MR. JAMMAL:** Collective no dose.

9 **MS. MORE:** May I comment that I would like
10 to see the science behind that opinion because it
11 conflicts with our understanding of neutron radiation and
12 the distance for attenuation, so.

13 **THE CHAIRMAN:** Okay. Anything else?
14 Sorry?

15 **MEMBER McDILL:** Can we have that commitment
16 to see the calculation science?

17 **MR. ELDER:** We will provide those
18 calculations in terms of this is, when he said, the energy
19 of the neutrons is very important, that's the
20 calculations.

21 **THE CHAIRMAN:** Okay.
22 Monsieur Tolgyesi?

23 **MEMBER TOLGYESI:** I have only one. In
24 addition to flood, which we -- what we discussed
25 previously, what type of natural disasters are considered

1 for the Port Hope facility and is the facility qualified
2 against these risks?

3 **MR. CLARK:** Dale Clark, for the record.

4 As we've stated earlier, we have recently
5 conducted a review, an assessment, and we retained third
6 party experts to assess beyond design basis events for the
7 facility, including extreme weather events type of
8 scenarios or other external hazards, the sites ability to
9 prevent and mitigate against these and the emergency
10 preparedness of the facility against these type of events,
11 and the overall conclusion that the facility does have the
12 capacity and an adequate defence in-depth strategy and
13 approach to mitigate against both these manmade and
14 natural significant hazards.

15 We have still, and as stated earlier, we
16 have committed to completing the modelling of those
17 beyond-design basis events and ensure that we incorporate
18 the results of that modelling into our site and community
19 emergency response plans. And we'll commit to doing so.

20 **MEMBER TOLGYESI:** My question was which
21 kind of evidence you were considering. It was a flood,
22 that's one. Other one I suppose is natural earth weight
23 or that type. What else?

24 **MR. CLARK:** Dale Clark, for the record.

25 Examples would include seismic events,

1 flooding, fire, extreme weather events, tornadoes, but
2 these are -- you know, there's primarily looking at the
3 consequence not the cause I would say. So those are
4 examples but it's primarily around the consequence of
5 whatever the cause may contribute to it.

6 **THE CHAIRMAN:** Anything else?

7 I've just been informed that the Ministry
8 of Environment is here. We're not going to hear from them
9 now but I invite them to come after lunch and we'll give
10 them the floor because a lot of things have been said
11 about them.

12 And we'd like to hear from them about the
13 operations. So we will break now for one hour. We'll
14 take one hour. Sorry we're running a bit late. And we'll
15 reconvene at 2:15.

16 **MS. MORE:** Mr. Binder, may I ask for
17 clarification though on my point about neutrons and
18 employees? I was not clear from the answer whether it's
19 going to continue to not be monitored because I think I
20 heard that it isn't at the Port Hope facility from Patsy
21 Thompson.

22 **THE CHAIRMAN:** Well, you'll have to read
23 the eventual decision and minutes that'll come out from
24 the Commission about what to do about neutron monitoring.
25 Okay.

1

2 --- Upon recessing at 1:14 p.m./

3 L'Audience est suspendue à 13h14

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

5 L'Audience est reprise à 14h14

6

7 **THE CHAIRMAN:** Okay. Can I ask the people
8 from MOE to come forward. Are they with us here? But not
9 in the room. No? There was a little feedback there.

10 **MR. ELDER:** There are three or four here.11 **THE CHAIRMAN:** Right.

12 **MR. ELDER:** We were talking to them. So
13 they are physically here. We saw them five minutes ago.
14 So someone went to look and there are a couple by
15 teleconference as well.

16 **THE CHAIRMAN:** Are they MOE people?17 **MR. ELDER:** Yes.

18 **THE CHAIRMAN:** We've long been waiting for
19 you guys. It's a grand entrance. Do we have some people
20 who are joining also via on the phone?

21 So let me say first of all welcome and
22 thank you for being here. And what we would like to do is
23 if you can introduce yourself and maybe a short kind of an
24 overview about your, you know, how you relate to the
25 operation of the Cameco facility and what kind of a you

1 know regulatory oversight you do.

2 **MR. MARTHERUS:** For the name, my name is
3 Jim Martherus. And I'm from the Peterborough District
4 Office. Our office, our Ministry also has a Kingston
5 Regional Office.

6 We have people here, Victor Castro who's
7 from our surface water group. And we have Greg Faaren.
8 He's from our groundwater unit. And we have Nancy Dyck
9 and she's from our -- she's our Air Compliance officer.

10 And I am from the Peterborough District
11 Office; I'm a Compliance Officer there. Our Ministry does
12 inspections at the Cameco facility and issues approvals
13 and authorizing documents through the Ministry to
14 accomplish our mandate.

15 On the telephone we have Murray Dixon, and
16 he's a scientist at our environmental monitoring and
17 reporting branch. And Murray's group looks at vegetation
18 and soil studies and conducts them on a regular basis.
19 And he's on the phone.

20 We also have Jim Gilmour; he's from our
21 standards development branch. And we also have Tom
22 Murphy; he's from our drinking water -- he's a drinking
23 water inspector.

24 **THE CHAIRMAN:** So -- thank you. So can you
25 give -- I don't know if you read some of the submission

1 and some of the performance of Cameco operation. We're
2 talking about contamination, uranium in water and air, in
3 fish, all of the above.

4 Can you give us a little kind of a short
5 synopsis about your assessment about whether they're
6 compliant with all the regulatory limits that you
7 establish, we establish, et cetera?

8 **MR. MARTHERUS:** Jim Martherus, for the
9 record.

10 The Ministry conducts compliance
11 inspections related to air emissions from the facility.
12 The most recent was done early this year or early last
13 year, and the results of that inspection were that they
14 were compliant with Ministry's standards. They're
15 required to meet Regulation 419. They provide written
16 documentation of their emission summary. I -- their ESDM,
17 Emission Summary Dispersion Modelling reports which
18 indicates to the Ministry what their discharges are into
19 air, and those are reviewed by Nancy Dyck.

20 **THE CHAIRMAN:** Okay.

21 Commissioners, anybody wants to pose
22 specific -- Dr. Barriault.

23 **MEMBER BARRIAULT:** Thank you.

24 On the issue of storm sewage, do you have a
25 program of monitoring storm sewage from Cameco?

1 **MR. MARTHERUS:** The storm water issue at
2 Cameco, they do not have a certificate of approval
3 currently for the storm water discharge from the facility.
4 Any upgrades or alterations or changes to the storm
5 management plan will require a certificate of approval.

6 My understanding is from Cameco is that
7 that's forthcoming this year.

8 **MEMBER BARRIAULT:** So does Cameco care to
9 comment on that? You have your effluent coming out or
10 your storm sewage going out. I guess what I'm hearing is
11 that it's not -- you don't have a permit for that.

12 **MS. PETERS:** Rebecca Peters, for the
13 record.

14 There's two components to storm water
15 regulations. One is under the MISA guidelines there's a
16 requirement for the facility to have a storm water control
17 study. That was done in the late nineties and we updated
18 that in 2009 and 2010 which we spoke about last night and
19 again this morning.

20 So that is the document that takes the
21 Ministry guidelines for conducting such an assessment and
22 determines what the loadings are to the receiving body
23 from our storm water. So that work has been completed and
24 we've completed some additional work to do some -- as a
25 follow up to that to kind of investigate a little further

1 the storm water network.

2 That information is -- we are preparing
3 that information to submit to the Ministry to look later
4 on this year. As Mr. Martherus indicated we have had some
5 early discussions with them on going for a Certificate of
6 approval for that stormwater discharge, in addition to the
7 MISA requirements to have the Stormwater Control Study.

8 **MEMBER BARRIAULT:** Thank you.

9 CNSC, your responsibility for stormwater
10 discharge finishes where?

11 **MR. THOMPSON:** Patsy Thompson for the
12 record.

13 Under the *CNSC Act* and Regulations, the
14 Commission is responsible for discharges to the
15 environment of radionuclides and hazardous substances from
16 nuclear facilities.

17 We work collaboratively with the MOE in
18 this case to ensure that there is no overlap or
19 contradictions in requirements, and so we are well aware
20 and we've used the MOE stormwater management design
21 requirements as well as we've -- as Mr. Rinker discussed
22 this morning.

23 We've done a detailed technical review of
24 the study that was just described and we will, moving
25 forward, ensure that there's alignment between the

1 requirements and that the proper controls and monitoring
2 are in place.

3 **MEMBER BARRIAULT:** Thank you.

4 With regards to stack emissions, is MOE
5 involved in control of this at all?

6 **MR. MARTHERUS:** Yes, the facility does have
7 a basic comprehensive certificate of approval.

8 Under such an approval, then, there are
9 requirements, reporting requirements, and standards that
10 they have to meet.

11 Nancy Dyck is our stack review engineer and
12 she's the one that reviews the emissions summary
13 dispersion reports.

14 Do you think you could provide a little bit
15 of insight into your review?

16 **MS. DYCK:** Sure.

17 Nancy Dyck for the record.

18 Yes, they're required to have an emissions
19 summary dispersion modelling report on their site. That
20 is a living document that has what their missions are and
21 we review it.

22 I'm currently reviewing their 2011 report.

23 **MEMBER BARRIAULT:** So I take it that your
24 department also works with CNSC as to interface of what is
25 permitted and what is not permitted.

1 Is that correct?

2 **MR. MARTHERUS:** For the record, it's Jim
3 Martherus.

4 Yes, that's correct.

5 **MEMBER BARRIAULT:** Thank you.

6 Thank you, Mr. Chairman, for now.

7 **THE CHAIRMAN:** But just to follow up on the
8 emissions, there was a discussion this morning here about
9 you used to, I'm told, do some analysis about the uranium
10 in soil.

11 The whole idea was whether the emission is
12 cumulative and continues, you know, to grow so to speak in
13 soil, and we were informed that you stopped doing it.

14 What are you doing about soil examination
15 and whether the emission level is such that it will be
16 cumulative?

17 **MR. MARTHERUS:** It's Jim Martherus for the
18 record.

19 On the phone, we do have Murray Dixon from
20 our monitoring branch. Maybe Murray can speak to some of
21 the sampling that he's been conducting over the last few
22 years.

23 **MR. DIXON:** Yes, Murray Dixon, Ministry of
24 the Environment.

25 As you may know, we started -- we've been

1 in the Port Hope area for years and we have a lot of soil
2 sampling experience.

3 In 1986, we set up 36 sites that, you know,
4 it's basically in Port Hope, from Toronto Road over to
5 Hamilton and the 401 and south to the lake. And, in 1986,
6 we re-sampled 20 of the sites, and then we went back in
7 2000.

8 The trouble with these sites is that, as
9 you can imagine, soil changes with time and people build
10 houses, they maybe put in decks or landscaping and so, of
11 the sites that we originally had, we only had about eight
12 that we were sure had not been contaminated or changed
13 since the original sampling.

14 So of those samples, we found that actually
15 there was approximately a 61 percent decrease in the
16 concentration of uranium in the soil.

17 And this may seem odd because Cameco is an
18 ongoing source but you can understand that there is a lot
19 of activity within the soil: soil organisms, earthworms;
20 there is churning of the soil, and there's also some
21 leeching that takes place. And so, over time, if the
22 emissions are not very high and the deposition is not
23 high, there'll actually be a decrease with time.

24 We looked at another approach in 1996 where
25 we went and set up spots in two areas. One was Marina

1 Park where we knew the deposition was very high, and the
2 other was the Port Hope Town Hall. And in that particular
3 experiment -- survey, we took 30 pots of soil, four-litre
4 pots of soil, and we buried them in the soil. We put
5 clean sod overtop of them and the idea was that, every
6 year for 10 years, we'd extract three of the pots and
7 analyze the pots and see if there was a change in the soil
8 concentration.

9 The concentration in the soil of these pots
10 was very low to start with, less than one part per
11 million, and we thought we could pick up small changes.

12 At the Port Hope Town Hall there was no
13 measureable change in uranium concentration over that
14 period of time.

15 In Marina Park on the other hand, we got
16 variable results. Some years, they were much higher
17 concentrations, some years they were lower.

18 And so after about six years, we realized
19 that there was a problem with cross-contamination. So we
20 actually stopped that experiment and removed the pots.

21 There was an indication of increasing
22 concentrations of uranium in the soil, but as I say, we
23 couldn't attribute it just to emissions from Cameco, and
24 it was probably some cross-contamination.

25 We had the soil at -- underneath the pots

1 was also had higher uranium concentration. We found that
2 there was a movement of the uranium up into the pots. So
3 it wasn't only down but up.

4 So in 2005, we started a new plot. It's
5 called -- a new long-term monitoring plot and we set out
6 some criteria to set up this plot.

7 What we wanted is an area that was -- had
8 very low uranium concentrations so that we could pick up
9 small differences or increases if they were occurring, and
10 the Port Hope -- the new Port Hope waterworks was an ideal
11 site. We could get -- we actually have the site on the
12 concrete reservoir on top of it. There's about half a
13 metre of soil on top of the reservoir.

14 We know that the waterworks is protected by
15 a clay layer underneath so there won't be water
16 percolating up into it. We sampled the soil on -- over
17 the reservoir and we knew it was at low uranium
18 concentrations. There's a fence around it that protects
19 it and the workers at the waterworks, including Rick
20 Trumpeter, have been very good in maintaining the --
21 making sure the plot isn't contaminated.

22 So we sampled a 10 by 10 metre area in
23 2005. We divided that up, actually, into two by two metre
24 subplots, and so we have -- and each one of those subplots
25 was sampled -- the soil was sampled in each one of those

1 of background on the PNERP, it's made of eight parts.

2 There is the overall master plan which
3 outlines the overall provincial response to a nuclear
4 emergency. And then there are a number of supporting
5 implementing plans. And these implementing plans deal
6 with specific reactors producing power, so we're dealing
7 with Pickering, Darlington, Bruce.

8 We have an implementing plan for Chalk
9 River. We have one for transborder emergencies. And
10 then we have one called, "Other radiological." And that
11 particular plan was -- has been updated and approved by
12 Cabinet in June of 2011.

13 That deals with all of the other potential
14 radiological events not covered by the other implementing
15 plans. So I'll speak -- is this the -- this is the master
16 plan? Okay, I'll need the other radiological as well.

17 The other radiological plan deals with such
18 eventualities as a transportation accident. It could
19 cover a satellite re-entry issue. It could respond to a
20 potential terrorist event with a dirty bomb, that kind of
21 thing. It also covers other facilities licensed by the
22 CNSC, and there are approximately, I think, about 40 of
23 those sites, of which Cameco is one.

24 Now, that's sort of a convoluted way to
25 answering the question which was what's the role of the

1 Ministry of Environment?

2 So, under the master plan, the Ministry of
3 Environment provides staff to the response in the
4 Provincial Emergency Operations Centre, including our
5 operations. They support the scientific section and a
6 group called the Assurance Monitoring Group.

7 And the Assurance Monitoring Group is the
8 folks that are going out and testing livestock and milk
9 and produce and pasture land, those kinds of things to
10 ensure that there is no radiation.

11 Under the response area, the Ministry of
12 the Environment under the direction of the Provincial
13 Emergency Operations Centre, provide meteorological and
14 hydrological support to the PEOC.

15 They identify drinking water supplies and
16 systems by subzones in any affected zone as required. And
17 they implement water control measures in consultation and
18 cooperation with the local medical officer of health and
19 drinking water system operators.

20 They carry out the sampling program and
21 other assigned activities under the Assurance Monitoring
22 Group, as I mentioned. There are a number of other
23 responsibilities related to preparation, training and
24 exercises, the development of a plan to support the
25 Provincial Nuclear Emergency Response Plan and study and

1 research.

2 In the other -- the other radiological
3 plan, those responsibilities are very similar. I was
4 referring in my comments to the master plan, but they are
5 in fact very similar if not identical to that in the other
6 radiological ---

7 **THE CHAIRMAN:** I think the real focus of
8 the interest was there was an accusation I think made that
9 Pickering and Darlington get more attention from EMO than
10 Port Hope in terms of emergency management. I assume
11 that's got something to do with risk analysis here
12 somewhere.

13 **MR. NODWELL:** Well ---

14 **THE CHAIRMAN:** Can you sort of ---

15 **MR. NODWELL:** Dave Nodwell, for the record.
16 The PNERP was prepared and took a
17 particular focus of those installations under the *Nuclear*
18 *Safety Control Act* and developed site specific plans for
19 those nuclear reactors, given the -- the power of those
20 reactors and that potential.

21 The way that emergency management is
22 structured in Ontario, it basically starts with the
23 municipality. That's what provides the key initial
24 response. And when a municipality is unable to deal with
25 that particular emergency requires additional support and

1 resources, they then turn to the province.

2 So in this particular case, the -- Port
3 Hope -- Municipality of Port Hope would have that very
4 strong relationship with Cameco in order to address
5 potential emergency situations. And I would refer to the
6 municipality to provide further information on that.

7 However, the point that I would like to
8 make is that depending on the nature of the emergency and
9 the situation, if there is a risk outside of the -- on --
10 the on site response, which is the facility in the CNSC.
11 But outside of that fence area, if there is a threat to
12 public health and safety, the province could step in with
13 all of those resources that are currently allocated to
14 deal with nuclear reactors.

15 That could be based on our assessment. It
16 could be based on the request of the Municipality of Port
17 Hope. So that if they felt the situation was beyond their
18 capabilities and capacity, the province would come to bear
19 with those resources. I hope that clarifies that
20 question.

21 **THE CHAIRMAN:** Yeah. Thank you. Thank you
22 for that.

23 Mr. Jammal, you wanted to add anything?

24 We need to move on. Short and sweet,
25 please.

1 **MR. JAMMAL:** Thirty (30) seconds or just --
2 just -- for the record, Ramzi Jammal.

3 It's -- we got the statement from our
4 colleagues in Ottawa, the Emergency Management Program
5 Division in Ottawa, that do evaluate the licensee's
6 response.

7 And their notice with EMO and specific to
8 Mr. Tolgyesi's question, page 3, "Intervention of CMD 11-
9 6.84," that is incorrectly referring to the exclusion or
10 not encompassing the emergency measure of that facility.

11 Where it's the -- page 3, bullet 8 says,
12 "Inadequate emergency measures ---

13 **THE CHAIRMAN:** Hold on a second. Let us --
14 what -- what CMD are we looking at here?

15 **MR. JAMMAL:** 11-16 -- sorry, 11-16.84.

16 **THE CHAIRMAN:** Page?

17 **MR. JAMMAL:** Three, bullet No. 8.

18 **THE CHAIRMAN:** No, no. It's the -- it's
19 the submission of the Port Hope -- this previous
20 submission ---

21 **MR. JAMMAL:** Correct.

22 **THE CHAIRMAN:** --- for Community Health
23 Concern Committee, page 3, right? Inadequate emergency
24 measures?

25 **MR. JAMMAL:** Correct?

1 Commissioners and the CNSC staff for allowing me to speak
2 today. I would like to say hi to friends and folks alike
3 in Port Hope.

4 Port Hope will never lose its nuclear
5 stigma until the waste is cleaned up and the nuclear
6 facilities are shutdown. If I was only allowed one
7 comment today that would be it, but I've got 10 minutes.

8 Port Hope will never lose its nuclear
9 stigma until the waste is cleaned up and the nuclear
10 facilities are shutdown. If Cameco stays, there will
11 always be divisions in the community and the national
12 media ready to exploit it. There will always be a stigma.
13 Know that with certainty. Know it before you contemplate
14 any further decisions on Cameco's fate.

15 You have to decide today whether you
16 honestly want to rid Port Hope of its stigma and then take
17 steps accordingly. They wouldn't have built this facility
18 on this location in 1942 if it wasn't for the presence of
19 the bankrupt radium processing facility on the waterfront.
20 It was expedient to take over the buildings but the
21 mistake was never corrected.

22 The 1978 document prepared by El Dorado
23 Nuclear titled "Environmental Impact Statement for a UF6
24 Refinery in Hope Townships" states:

25 "A major factor in selecting specific

1 refinery sites is the accepted
2 industrial practice of placing a
3 buffer zone around nuclear facilities
4 as required by the federal
5 government's regulatory agency the
6 Atomic Energy Control Board."

7 Our nuclear grossly contravene its rules
8 and mandates at the time by allowing the UF6 plant to be
9 built in the middle of Port Hope without any buffer zone.
10 Our supposed protector illegally compounded Port Hope's
11 problems.

12 Minister Oliver finally took an appropriate
13 step last week by topping up the Port Hope area initiative
14 fund to more than \$1.5 billion. It was a welcomed though
15 belated admission that the cost of cleaning up radioactive
16 waste in Port Hope was severely underestimated a decade
17 ago. The current project funding is six times higher than
18 the original cost estimate.

19 At about the same time, the same people
20 came up with a cost of \$80 million to decommission
21 Cameco's waterfront facility in Port Hope. Assuming they
22 erred by a similar factor of six, Cameco's decommissioning
23 should cost around \$480 million.

24 When John Morand raised this discrepancy on
25 the first day of the hearing, the CNSC explained that the

1 cost of Cameco's decommissioning would not increase
2 commensurate with the Port Hope area initiative because
3 most of Cameco's waste is made up of buildings and not
4 soil.

5 However, that statement hasn't been true
6 since the contamination was discovered under the UF⁶
7 building shortly after Cameco's last licence renewal.
8 Toxins were measured at depth but Cameco didn't even
9 remove the top two feet of material. They covered the
10 contamination with a new concrete floor and chemical
11 resistance coating. Cameco admitted that contaminants
12 were left under slab. Cameco's staunchest supporter the
13 Port Hope Evening Guide was livid at this completely
14 inappropriate solution and stated so:

15 "This answer is unacceptable. If
16 there is more contamination under the
17 building then tear it down and get it
18 all now, not 30 years from now when
19 the site is decommissioned.

20 Surely some of the millions Cameco is
21 expected to spend on its division 2010
22 client to clean up and enhance its
23 lakefront facility might be better
24 spent on ensuring all the
25 contamination under the UF⁶ plant is

1 removed. The CNSC is the federal
2 authority charged with protecting
3 Canadians and the environment from
4 many harm that could stem from nuclear
5 related activities. Do your job."

6 Editorial from 2008.

7 The sub soil toxins can easily migrate
8 towards the lake or down as far as 50 feet to the base of
9 the pylons holding up the buildings. As the whole thing
10 sits on granular material, i.e. beach sand. If all the
11 material down to bedrock has to be removed, it would
12 substantially increase the volume of Cameco's clean up and
13 send the cost soaring. The same as we've seen with the
14 Port Hope area initiative.

15 Excavation of contaminated soil under
16 buildings would be expensive as the lake itself may have
17 to be contaminated in places. A similar type of cleanup
18 of buildings and soil, though three times the volume at
19 Fernald, Ohio, cost 4.4 billion.

20 Extrapolating these figures onto Cameco's
21 situation would show a cost of just under \$1.5 billion.
22 Mr. Morand's \$.5 billion figure may turn out to be a low
23 ball estimate.

24 I was just made to find out yesterday that
25 Cameco's decommissioning plan is being kept away from the

1 public. It should be made available to us to see if the
2 cleanup they propose is adequate to meet the community's
3 needs. Further, the community needs this information to
4 determine if the security being held by the CNSC is
5 adequate to finance a decommissioning.

6 I'd like to ask the Commissioners to find
7 out the specific amount of security Cameco has on deposit
8 with the CNSC to remediate Port Hope. I would also ask
9 the Commissioners to compel Cameco to provide us with the
10 decommissioning plan they submitted to the CNSC to allow
11 us to subject it to civilian oversight.

12 Considering that Cameco has been unable to
13 plan and implement in 10-year division 2010 master plan,
14 we have little faith in their abilities and intentions
15 regarding a responsible decommissioning of their
16 facilities.

17 I just have to break for water.

18 It appears Vision 2010 was in a misnomer.
19 As the farmers would say, all the talk and promises and
20 still no lipstick on the pig after six years. The plans
21 to beautify the waterfront fit right along with the
22 nuclear renaissance in Canada. The renaissance was
23 collapsing when heavy water leaked at AECL and reactors
24 shutdown the production of isotopes again in May 2009.
25 AECL's \$13 billion per reactor price tag shocked Ontario

1 government and ended all discussions about them.

2 AECL went overtime and budget refurbishing
3 Point Lepreau. AECL went overtime and budget refurbishing
4 the South Korean reactors which cost Canadians taxpayers
5 \$200 million. Bruce Power refurbishment was late and
6 almost 100 percent over budget. Bruce Power contaminated
7 over 500 employees and contractors with alpha radiation.
8 The Canadian government had to pay SNC Lavalin \$75 million
9 to take AECL off its hands for 15 million.

10 And best of all, the farmers and the youth
11 and mama bear housewives in northern Alberta chase Bruce
12 Power out of the province; a sincere thank you to the
13 easterners who helped us out, notably Dr. Edwards.
14 Gordon's daily updates and a mountain of nuclear related
15 information on his website are invaluable tools to
16 communities coming to terms with the technology they know
17 nothing about.

18 If anyone still has visions of a nuclear
19 renaissance in Canada, they were put to rest when
20 Fukushima started spreading its toxic legacy around the
21 globe. There is no nuclear renaissance in Canada. Please
22 don't delude yourself any longer.

23 I have asked the Commissioners for the size
24 of Cameco's security deposit at the CNSC and the
25 decommissioning plan. It's important that we have this

1 information to protect ourselves and our community as
2 we've shown ourselves capable of doing in the past.

3 The investigations and research by
4 community members in preparation of the February 2005 mid-
5 term licence reviews reveal a shocking situation in Port
6 Hope. There was no evacuation and shelter plan in place.
7 There was no comprehensive warning system in case of an
8 accident at Cameco. We were unable to fight radiological
9 fires. Our emergency response staff had inadequate
10 chemical training. Our local hospital could not deal with
11 anything beyond a minor accident. There was minimal
12 security, and on it went.

13 In retrospect, Cameco is justifiably proud
14 of the improvements they've made to fire protection in
15 Port Hope since 2005. The community is much safer and
16 acknowledged as such by all sides of the debate. Cameco
17 should be commended for stepping up to the plate.

18 An equal measure of respect and gratitude
19 should be accorded to residents who expose the
20 shortcomings to Port Hope's firefighting capabilities and
21 foreseen improvements on the industry. The validity of
22 the concerns we've raised over the years have been proven
23 and acted upon. Listen to what the residents of Port Hope
24 have to say.

25 Port Hope will never lose its nuclear

1 stigma until the waste is cleaned up and the nuclear
2 facilities are shutdown. Where's the logic and
3 justification for spending \$1.5 billion to clean up Port
4 Hope and then allow the source of the current
5 contamination to continue operating?

6 I had a candid and pleasant hour-long
7 conversation with Cameco's Andy Thorne at the Fall Fair
8 last year. We spent zero time talking about the relative
9 merits of nuclear power. At his request I sent Mr. Thorne
10 a 10-page letter explaining the events that shaped our
11 position. I included the following anecdote to illustrate
12 the complex relationships that exist in Port Hope and that
13 some of the issues we raised were brought to us by
14 Cameco's employees.

15 One of Cameco's engineer's and I were
16 sitting on the patio of the Beamish house when we first
17 heard the news that Cameco pulled the plug on the SEU
18 project. After grudging but sincere congratulations he
19 said, "I was really hoping they would go through with this
20 because the company might have sent the money to change
21 the bag filters on the UO₂ building". He went on to
22 explain that UO₂ building was responsible for about 80
23 percent of the U emissions and for 20 percent of Port Hope
24 production, while 80 percent of the product made in the
25 UF₆ plant caused only 20 percent of the U emissions.

1 The UO₂ plant was discharging 16 times as
2 much uranium per unit of product as the UF₆ plant. In
3 other words if the bag filters on UO₂ were as efficient as
4 those on the UF₆, overall uranium emissions in Port Hope
5 would have decreased by 75 percent.

6 It was pretty hard to sell us on the merits
7 of regulating according to the ALARA principle after we
8 found this out.

9 I have a two-part question on this
10 morning's proceedings concerning Canada's role in the
11 weapons programs of other countries.

12 Mr. Binder -- I hope I have the
13 pronunciation correct -- closed off discussion when he
14 read a note he was given saying Canada had first signed
15 the agreement prohibiting weapons-related uses in 1955.

16 Most people were left believing that Canada
17 had nothing to do with any munitions related to materials
18 since then.

19 To clarify, when did Canada quit supplying
20 plutonium to the United-States and when did Cameco stop
21 manufacturing D-U components which it admitted to at the
22 review of the SEU proposal?

23 There is no need to debate the technical
24 details any longer. No one would support the facility
25 being built here today. The evidence against it is

1 overwhelming. The nuclear regulator had to break its own
2 regulations to allow the UF₆ Plant into Port Hope in the
3 1980s.

4 Given the recent funding commitment from
5 the Canadian government to clean up the waste, your
6 decision today is whether you will do your part to remove
7 the stigma from Port Hope.

8 I would like to close with an example of
9 how destructive even a small amount of radioactivity or
10 radioactive material can be.

11 While researching Eldorado, I came across
12 the radium production figures from 1932 until it went
13 bankrupt in 1940. Less than four and a half ounces of
14 radium were reclaimed from the thousands of tons of
15 radioactive ore. If it wasn't for that four and a half
16 ounces of radium, Canada's nuclear industry would never
17 have desecrated Port Hope the way that it did.

18 It's time to you undid this unfair damage.

19 Port Hope will never lose its nuclear
20 stigma until the waste is cleaned up and the nuclear
21 facilities are shut down.

22 Thank you very much.

23 **THE CHAIRMAN:** Thank you.

24 Questions? Who wants to start?

25 Dr. McDill.

1 **MEMBER MCDILL:** Thank you.

2 Can we have again a brief summary of why
3 the excavation couldn't go deeper under the UF6 building?

4 **MR. THORN:** Yes, Andy Thorne for the
5 record.

6 I am intimately knowledgeable in that
7 subject since at that time I was actually the General
8 Manager of Port Hope Conversion Facility in 2007.

9 The primary reason for us not being able to
10 basically excavate all of that contaminated material
11 relates really to the fact the construction of that
12 building is an eight-storey building and I think that
13 there is a misunderstanding that the piles that support
14 that building do not go down to bedrock. In fact it's
15 supported on footings and as a result of that, the expert
16 information that we received from our engineering support
17 suggested that it wasn't safe for us; that it would damage
18 the integrity of the building if we were to actually
19 excavate all of that soil underneath the building. So
20 that's the primary reason we were not able to actually
21 recover all of that soil.

22 I guess the important thing to note there
23 is we have done and we did do site-wide risk assessments
24 and specific risk assessments associated with that
25 contamination under building 50 of the UF₆ plant, which

1 concluded even though we had to leave that soil in place
2 there was no risk to the public, the workers, or the
3 community or the environment as a result of leaving that
4 contamination under that building.

5 In addition to that we've installed a
6 groundwater collection system around the UF₆ plant to
7 basically contain that contamination under that UF₆ plant
8 until the point in the future comes when we actually come
9 to decommission the facility.

10 So that contamination under the UF₆ plant,
11 does not have the ability to actually move and is
12 contained under that building.

13 **MEMBER MCDILL:** Thank you.

14 Does staff want to follow up on that?

15 **MR. RAVISHANKAR:** B.R. Ravishankar, for the
16 record.

17 This is just to confirm that the assessment
18 that was done both from a structural perspective as well
19 as environmental contamination investigation perspective
20 that Cameco did was accepted by CNSC. The site-wide
21 investigation that was conducted in order to understand
22 the contamination across the site was also in line with
23 our request, and subsequent to that Cameco also did the
24 site-wide risk assessment in order to take the
25 understanding of contamination across the site and see how

1 that impacted the surrounding environment. All of these
2 were done in -- according to the request of CNSC staff.

3 **MEMBER McDILL:** Mr. McNamara, does that
4 assist you in your assessment of that building?

5 **MR. McNAMARA:** No, because if it was a
6 problem, was any consideration given to taking down the
7 building to get rid of the contamination, because that was
8 the crux of the problem, is the contamination is still
9 there and the contaminants themselves can move and
10 migrate, everyone knows that. So by leaving them there
11 they risk exacerbating the problem by allowing the
12 contaminants to different areas.

13 **MR. THORN:** Andy Thorn, for the record.

14 That theory does not -- is not in line with
15 the information we were given by our own hydrogeology
16 expert and third-party experts that we engaged in this
17 matter. The pump-and-treat system that we have installed
18 subsequently to that event does contain the contamination
19 underneath that building, and it really was not practical
20 and not safe for us to excavate certain areas of that
21 building because of the issues in relation to disturbing
22 the integrity of that building.

23 We are confident the contamination is
24 contained; it's not spreading and it will be dealt with as
25 part of the decommissioning plan.

1 **MR. McNAMARA:** Those were almost exactly
2 the same words that you announced when the problem was
3 first discovered, that it would all be contained on site,
4 under the building and then as you did further monitoring
5 through the test wells you discovered that it was indeed
6 migrating to other areas and you assured us that it
7 couldn't get to the lake and, lo and behold, it make it to
8 the lake. So the reassurances are really not based on
9 anything other than your belief that they are.

10 Because in the past it hasn't worked out
11 when you've given us those assurances.

12 **MEMBER McDILL:** Did staff did a review of
13 the hydrogeology involved in this area under the building?

14 Maybe you could respond to that, please?

15 **MR. RINKER:** Mike Rinker, for the record.

16 I am going to pass the hydrogeology
17 question to Shizong Lei in a second.

18 What I wanted to do is back up where the
19 risks are first.

20 MOE has mentioned previously there were
21 some exceedances in the turning basin of the Provincial
22 Water Quality Objective for uranium but those exceedances
23 where on the order 1 or 2 micrograms per litre.

24 So before any remediation was conducted,
25 the water quality in the turning basin was below the

1 federal value for protection of aquatic life, it was below
2 the drinking water standard and that's considering that
3 the turning basin contains, in itself, low level waste
4 that will be cleaned up. And if you back that up into
5 groundwater that is now being intercepted and that the
6 majority of the contamination in the soil has been cleaned
7 up.

8 There is some residual contamination in
9 other buildings, but there isn't a risk that would
10 indicate that that would need to be cleaned up before
11 decommissioning when it would be cleaned up.

12 That's for your hydrogeology question.
13 I'll let Shizong Lei answer.

14 **MR. McNAMARA:** So it basically goes back to
15 mandate or regulating by the ALARA principle?

16 **MR. LEI:** Shizong Lei, for the record.

17 And since the staff were -- since the
18 discovery of the contamination has been paying lots of
19 attention monitoring the situation and, indeed, it took
20 quite some time for Cameco and their consultants to
21 characterize the hydrogeology, groundwater flow and the
22 contaminants under the building, the -- although,
23 currently, there are still some contaminants in the
24 groundwater moving to the turning basin, the pump and
25 treat monitoring wells were strategically located around

1 the building.

2 The primary purpose is to contain the
3 contaminants under the buildings so they wouldn't move
4 further.

5 The contaminants we observed that is moving
6 to the basin was already in the groundwater that has left
7 the building and Cameco is continuing adding more pumping
8 wells around the harbour to capture the plume.

9 So in a sense, if we look at the capture
10 zone map that Cameco submitted earlier, we can see that
11 the contaminants under the building are indeed contained
12 by those pumping wells.

13 **MR. McNAMARA:** So what is the source of the
14 plume then?

15 **MR. LEI:** The plume we are observing is
16 from -- because the contaminants in the groundwater has
17 been moving for quite some years so what is going into the
18 harbour already left the building.

19 What is underside of the building is
20 currently contained.

21 **THE CHAIRMAN:** Dr. McDill?

22 **MEMBER McDILL:** I wanted to check that
23 Cameco did not want to add anything to all of that.

24 **MR. THORNE:** Yes, Andy Thorne, for the
25 record.

1 I will ask Rebecca Peters, our colleague,
2 just to provide some more details but, before I do that, I
3 just -- I think it is important just to acknowledge that,
4 in 2006 and before 2007 when this event occurred, since
5 that time, we have done substantial amount of
6 characterization of the site.

7 We have added an additional 167 -- or we
8 now have 167 active monitoring wells. We have a much
9 better understanding of the groundwater and soil
10 characteristics of the whole facility and, as a result of
11 that, we are extremely confident that the environmental
12 management plan that we have in place now is adequate and
13 protective of the environment, the safety of our workers,
14 and the community.

15 So with that I will just -- I can ask
16 Rebecca just to provide you a little bit more detail in
17 relation to that.

18 **MS. PETERS:** Rebecca Peters, for the
19 record.

20 With respect to the contributions to the
21 plume that the intervenor is referring to, there is the
22 contribution from the UF6 plant that, as Mr. Lei
23 described, had travelled past where we installed those
24 pump and treat wells prior to the discovery of the
25 contamination.

1 In addition, in certain areas of the plant
2 -- or certain areas of the site, as was identified in the
3 site-wide environmental investigation, there are some
4 contributions from the operations of the east UF6 plant or
5 the former UF6 plant and the north UO2 plant, both of
6 which are no longer in operation for producing UF6 and
7 UO2.

8 So there are some -- there was some
9 contamination to the sub-surface as a result of those
10 operations in Eldorado's history.

11 With respect to the pump and treat system,
12 the pump and treat system was actually put in place in
13 three phases. The first phase was the network of
14 groundwater wells immediately adjacent to the UF6 plant.

15 The intent of those wells was to hold that
16 contamination in place recognizing that the sub-surface
17 soil was not accessible due to the concerns that Mr.
18 Thorne raised. We opted to maintain that contamination in
19 place by capturing the groundwater and maintaining that
20 zone of capture around the UF6 plant.

21 We then installed additional wells further
22 to the east to try and bring back some of that plume that
23 had already travelled further towards the harbour and the
24 south end of the facility and, as we have spoken about in
25 the last couple of days, we have recently in the last

1 quarter of last year commissioned four additional pump and
2 treat wells to further reduce the flow of groundwater to
3 the harbour.

4 **MR. McNAMARA:** Thank you.

5 Just one point of clarification: How was
6 this leak able to go on for so long before it was
7 discovered?

8 **MS. PETERS:** Rebecca Peters, for the
9 record.

10 As part of the construction activities for
11 the UF6 plants, Cameco and, I guess, Eldorado at the time
12 installed a network of groundwater monitoring wells known
13 as "the refinery well series". These were spaced around
14 the UF6 plant and the intent of those wells was to
15 identify whether there was any loss of containment from
16 that building after that building began operating.

17 When we began the construction work in 2007
18 that led to the discovery of the sub-surface contamination
19 beneath the UF6 plant and we branched our investigation
20 out further, we realized and one of the lessons that we
21 learned was that the spacing of those refinery well, that
22 network, was not adequate to identify the plume of
23 contamination based on the actual soil characteristics
24 beneath the site.

25 There are -- there is a lot of variability

1 in the different soil characteristics depending on where
2 you are on that site and that causes the groundwater to
3 travel in different ways.

4 So that was a lesson learned and, hence,
5 the network of 167 wells we currently have available for
6 monitoring of which we monitor a significant proportion
7 under a monitoring program accepted by CNSC and MOE staff.

8 **MR. McNAMARA:** Thank you.

9 **MEMBER McDILL:** Assuming everything is now
10 contained, how long will it take for the plume to complete
11 for everything that is not contained that is in process
12 now to make it out?

13 Maybe staff has got some idea and I will
14 pass it back to Cameco.

15 **MR. LEI:** Shizong Lei, for the record.

16 And CNSC staff are asking the same question
17 to Cameco and their consultant and the answer we got is
18 they still need more time to observe to know for sure that
19 how long the pump and treat will take and they -- the
20 impression we got is they will continue as long as it is
21 needed to contain the plume there.

22 **MEMBER McDILL:** I wasn't thinking so much
23 of what is being contained, but what is already in motion
24 from the previous ...

25 So we have a source and we have a sink, in

1 engineering parlance; how long is it going to take for the
2 -- for everything to -- what is the speed of the plume?
3 Maybe that is a better question.

4 **MS. PETERS:** Rebecca Peters, for the
5 record.

6 That's actually a rather difficult question
7 given that the source is in multiple locations across the
8 site as identified through our site 1 investigation

9 And the rate at which that groundwater is
10 travelling is variable across the site partly due to the
11 natural contours of the ground and the soil parameters
12 beneath the facility.

13 But also, in addition, the fact that we are
14 actually extracting groundwater is changing the way that
15 that groundwater is travelling through the site.

16 So all of those make it difficult to say,
17 you know, it is a direct linear relationship. However,
18 Cameco is committed to maintaining the existing pump and
19 treat system as long as is required.

20 We are also committed to continuing with
21 our existing monitoring program which is intended to
22 evaluate the effectiveness of that pump and treat system.
23 We are committed to providing a thorough and comprehensive
24 report on that system and on that monitoring program on an
25 annual basis to CNSC and MOE staff and we will work

1 closely with CNSC and MOE experts and our experts to
2 ensure that we continue to operate this system in a manner
3 that is protective of the environment.

4 How long that will be, I -- we are not in a
5 position to answer that question, but we are committed to
6 operate that for the foreseeable future.

7 **MEMBER MCDILL:** So final question: Your
8 very complex hydrogeological model is not yet sufficiently
9 developed to make that prediction; is that correct?

10 **MS. PETERS:** Rebecca Peters, for the
11 record.

12 I would say our model could certainly tell
13 us that, but to explain that in a very concise one or two
14 sentences is not an easy thing to do. I can certainly
15 agree with that. Maybe staff will be monitoring the
16 development of this model and the predictions it's making.

17 **MR. RINKER:** Mike Rinker, for the record.

18 I guess I want to put into some context
19 that it's -- there's the groundwater model, which gives
20 you a sense of groundwater flow rates, which it was
21 disturbed in the fall by the introduction of new wells.

22 So you can -- one can understand with some
23 monitoring the rates of groundwater flow. The contaminant
24 migration is a different thing. The speed of which any
25 particular metal or constituent would move with

1 groundwater and with attenuation is -- it's a little bit
2 more difficult.

3 And you'd have a good understanding of what
4 the exact precise inventory of uranium is in the soil to
5 know what is leachable and what isn't by groundwater.

6 So that's a bit more complex. And that
7 takes some time of monitoring and looking at trends as
8 uranium values are decreasing, as are fluoride and other
9 constituents are decreasing over time. But we need to
10 look at that over the course of months, years, to really
11 get a sense for when the source would be completely gone.

12 **MEMBER MCDILL:** Thank you, Mr. Chair.

13 **THE CHAIRMAN:** Okay. We're running -- it's
14 starting to run really late, so questions to the proponent
15 shortened and hopefully short reply.

16 **MEMBER HARVEY:** Questions are always short
17 but the answers are longer.

18 **THE CHAIRMAN:** Go ahead, Monsieur Harvey.
19 I'll tell you.

20 **MEMBER HARVEY:** Just a comment. I mean, 70
21 percent of the contamination is there. It's maintained
22 there. It's not moving. And the -- the percentage of
23 that contamination which is kept out and treated is, I
24 presume, very small compared to the amount of
25 contamination there.

1 And the contamination itself, which is not
2 moving, could be there for years and years and years. So
3 it's very difficult to -- to get it up and -- and treat
4 it. Anyway, that's the comment.

5 The only other -- the -- the short question
6 I have is about the boaters there. You mentioned, Mr.
7 Rinker, that the -- that the harbour contains low level
8 contamination. And the -- Mr. McNamara mentioned that
9 it's following the -- what is written here is 20 -- 25
10 times the contaminated as the tailing pile at uranium
11 mine.

12 My question is, is there any concern about
13 the boaters? The boats, are they all the seasons? And
14 when they stay there and at the end of the season when you
15 take the boat out of the water, is there any concern about
16 the boater when you're washing the boat and anything like
17 that?

18 **MR. RINKER:** Mike Rinker, for the record.

19 There's, I guess, a -- a boater there would
20 be exposed to a number of things. One of them is uranium
21 in air, and the other one is uranium that is in the
22 harbour itself.

23 Uranium in the -- in the water, in the
24 harbour, is below drinking water standards. So it's
25 potable water in terms of uranium concentration. Uranium

1 in -- in the sediments is not posing a risk to people nor
2 to aquatic species. Nevertheless, that harbour is
3 designated for cleanup under the Port Hope Area
4 Initiative.

5 And then finally uranium in the air, the
6 health consequences of breathing uranium in air was looked
7 at more recently during the development of uranium and air
8 standard. The provincial standard was looked at in terms
9 of uranium toxicity to the kidney, if it was soluble and
10 got into your bloodstream, uranium dose.

11 If it was insoluble and it stayed in your
12 lungs and posed a dose. And the facilities operating
13 under the Uranium and Air Standard and -- is very
14 protective of people who are within the vicinity or are
15 staying for a long period of time, even at the fence line
16 facility.

17 **MEMBER HARVEY:** Thank you.

18 Merci monsieur le président.

19 **THE CHAIRMAN:** Mr. Barriault?

20 **MEMBER BARRIAULT:** Just one brief question.
21 Lake Ontario Waterkeeper, it mentions presented evidence
22 at the 2005 hearing that there was some -- a lake trout in
23 -- I guess rainbow trout impingement that there was 15,000
24 count in 1986 and now 4 -- 4,000 fish.

25 Can Cameco give us a -- an estimate of what

1 -- where that's landed or what's happened? The last count
2 we have is, as I understand, 2005 at 4,000.

3 Now, where are these trout and how do you
4 account for them? I'm not sure.

5 **MR. THORNE:** Andy Thorne, for the record.

6 The environmental management plan that we
7 have in place is an associated risk assessment. It is
8 designed and looks at the risk associated to aquatic life
9 in that harbour.

10 We don't actually as a company monitor the
11 amount of fish or aquatic species that are in that
12 harbour, so it's -- I'm not really in a position to
13 comment on that, other than to say that our environmental
14 risk assessment for the site is confident in confirming
15 that we're not having a negative impact on that fish
16 population.

17 **MEMBER BARRIAULT:** Mr. McNamara, do you
18 want to comment on that?

19 **MR. MCNAMARA:** I'm just going by what was
20 written. I also know that in the UF6 screening document
21 from 1978 that the -- that Eldorado admitted that there
22 was going to be long-term effects on the fish population
23 in there because of the water temperature rising that
24 much.

25 **MEMBER BARRIAULT:** Thank you. So it's

1 because of the water temperature increase rather than
2 contamination?

3 **MR. MCNAMARA:** A combination of both, from
4 my understanding. But they referred specifically to the
5 rise in water temperature in the 1978 document.

6 **THE CHAIRMAN:** Dr. Thompson? You want to
7 say something about that?

8 **DR. THOMPSON:** Actually, I was going to ask
9 Mike Rinker to -- we have looked at the issue raised by
10 the intervenor and we actually have facts that don't quite
11 align with the statements.

12 **MEMBER BARRIAULT:** Thank you. Go ahead.

13 **MR. RINKER:** Mike Rinker, for the -- Mike
14 Rinker, for the record.

15 I guess there's two issues. First of all
16 are thermal effects causing any harm. And there has been
17 recent studies on the thermal releases from this facility.
18 And any changes in temperature are extremely localized.

19 In a fish study -- and this is to the
20 turning basin. A fish study in the turning basin does not
21 show any indication of any impacts on the fish.

22 But to get to the rainbow trout question,
23 the rainbow trout populations are monitored -- all the
24 populations of fish are monitored by the Ministry of
25 Natural Resources. We work quite closely with them for

1 all the facilities in the Great Lakes.

2 The populations of fish are not stable.
3 They never really are. The rainbow trout population, for
4 example, was fairly low in the early '70s. It grew --
5 reached a maximum in the mid-'80s. It decreased to the
6 end of -- late '90s, was fairly stable from the -- from
7 maybe 1998. The most recent value is around -- closer to
8 7,000 in 2010.

9 The MNR uses, again, Ganaraska River for
10 monitoring rainbow trout. So it's a very good -- a good
11 location for today to have some very good information.

12 There's a number of factors that MNR works
13 with or considers that would impact rainbow trout, and
14 they work with the U.S. on this because it's a shared lake
15 system, such as predatory lamprey, eel attacks and trout
16 stocking, climate, and -- and also exploitation through
17 sport fisheries.

18 And that's on the U.S. side, by controlling
19 sport fisheries, that has had some positive impacts on
20 rainbow trout. But MNR's analysis on the northern side of
21 the lake is that sport fisheries are at a sustainable rate
22 and that -- and that's not likely causing a change.

23 We're seeing improvements in the population
24 now because there is another species of fish that is on
25 the rise, goby. And the -- so that's an alternate for the

1 predatory fish to go after a goby instead of young,
2 juvenile rainbow trout. So we may be seeing an increase.
3 But all of these changes are not related to the chemical
4 facility.

5 **MEMBER BARRIAULT:** Thank you.

6 Thank you, Mr. Chairman.

7 **THE CHAIRMAN:** Anything else?

8 I have just one short question. The
9 intervenors want to know when Canada stopped exporting
10 plutonium to the U.S? I wasn't aware that Canada exported
11 plutonium to the U.S.

12 Cameco?

13 **MR. THORNE:** No, we're not aware of any
14 export of plutonium.

15 **THE CHAIRMAN:** Staff?

16 **MR. ELDER:** Peter Elder, for the record.

17 There likely -- again, there was some
18 exported from AECL in the '50s and '60s. I would say that
19 that would have stopped in -- it definitely stopped in
20 1972 when the NPT was ratified.

21 **THE CHAIRMAN:** Mr. McNamara? Final word?

22 **MR. MCNAMARA:** I agree with that. I'd like
23 the amount that Cameco has on deposit, as I requested
24 earlier, for their decommissioning and to know if we can
25 get a copy of Cameco's decommissioning plan. I only made

1 two specific requests in my paper.

2 **THE CHAIRMAN:** Okay. Go ahead.

3 Staff?

4 **MR. ELDER:** So -- sorry. Peter Elder, for
5 the record again.

6 We mentioned it yesterday. The amount they
7 have or proposed amount is 106 million. Again ---

8 **MR. MCNAMARA:** No, the proposed amount or
9 the amount that's on deposit now?

10 **MR. ELDER:** The -- it's not a deposit.
11 It's an irrevocable letter of credit. So it's a letter of
12 credit. It's good for the whole amount.

13 **MR. MCNAMARA:** So that's what's in place
14 today is 106 million?

15 **MR. ELDER:** Okay. Sorry, we are proposing
16 it goes from 96.5 to 101.7. But these again, these are
17 full amounts; this is not a building fund; this is a
18 irrevocable line of credit.

19 And there was some discussion yesterday
20 about the availability of the preliminary decommissioning
21 plan that's -- it's a Cameco's document, but we will look
22 into potential public availability of it. I can't release
23 it right now; Cameco could.

24 **THE CHAIRMAN:** Well the Commissioner will
25 have to, will make a determination of that issue.

1 **MR. McNAMARA:** It would be good. And the
2 last quick question was when did Cameco or Eldorado
3 discontinue making DU equipment components?

4 **THE CHAIRMAN:** Cameco?

5 **MR. CLARK:** Dale Clark, for the record.
6 Cameco and since its conception has not
7 produced depleted metal for weapons purposes; we proudly
8 produce and sell uranium for peaceful purposes.

9 Examples of the depleted metal in recent
10 past include -- and the purposes include counterbalances
11 that are used on airplanes or shielding tools that are
12 used for medical diagnostic equipment.

13 I can't speak to prior to Cameco
14 experiences but Cameco has produced and sold uranium for
15 peaceful purposes.

16 **MR. McNAMARA:** So is Cameco still producing
17 DU components of any kind or is that practice been
18 discontinued all together?

19 **MR. THORNE:** Andy Thorne, for the record.
20 We currently do not process -- we do not
21 manufacture depleted uranium metal at this time, no.

22 **THE CHAIRMAN:** Okay. Thank you.

23 We have to move on.

24 Thank you Mr. McNamara.

25 **MR. McNAMARA:** And thank you very much and

1 good luck Port Hope.

2 **THE CHAIRMAN:** Thank you.

3 The next submission is by the Canadian
4 Coalition for Nuclear Responsibility as outlined in CMD
5 H16.87. And I understand that Dr. Edwards is coming to us
6 via teleconference. Can you hear us?

7 **MR. EDWARDS:** Yes I can Dr. Binder, thank
8 you.

9 **THE CHAIRMAN:** Please proceed.

10

11 **11-H16.87**

12 **Oral presentation by the**
13 **Canadian Coalition for**
14 **Nuclear Responsibility**

15

16 **MR. EDWARDS:** Thank you very much for the
17 Commissioners for this opportunity.

18 These public hearings are very important
19 for people in Port Hope and elsewhere to get a chance to
20 comment and to learn more about the facilities that are
21 affecting their communities. And consequently, I believe
22 that it's important not to have long separations between
23 such hearings.

24 We are opposed to a five-year licence for
25 the conversion facility at Port Hope. We feel that with

1 so much going on with, just within the last couple of
2 weeks, the price of the cleanup has, of historic
3 radioactive waste has been increased by a factor of five
4 and that already was increased previously.

5 With all the planned demolition and new
6 construction for the site, we feel that a five-year
7 licence extension is inappropriate. Moreover, we feel
8 that anybody from looking at this situation from the
9 outside for the first time would wonder why on earth this
10 licence is being extended at all, given the
11 inappropriateness of the site.

12 The site is a major, there's only four as I
13 understand it, four facilities of this nature in the world
14 and here we have one right in the downtown area, right on
15 the harbour, on a contaminated site with over \$1.5 billion
16 designated for cleaning up not only this site but
17 surrounding areas of Port Hope.

18 One wonders why on earth the Government of
19 Canada would not indicate that it's time to clear this
20 site and to clean up all the waste. As long as there are
21 buildings and operations going on there, it's going to be
22 virtually impossible to do a thorough clean up.

23 Moreover, Cameco being a private company,
24 there is a kind of confusion between the -- those waste
25 which are the responsibility of the Government of Canada

1 due to the fact that Eldorado was a Crown Corporation and
2 the problems created by Cameco as a privately owned
3 company.

4 If they were to relocate, then the Canadian
5 taxpayers could limit its liability by saying "Okay this
6 is a once in a lifetime clean up and we will not revisit
7 this question in the future with regards to future waste,
8 if Cameco produces any waste they will be their
9 responsibility solely."

10 Now I understand that the Commissioners
11 probably do not feel that they have the authority to
12 advocate such a thing. But as I was told by Dr. Binder at
13 a previous hearing in St. John, the CNSC Commissioners do
14 not report to the Minister of Natural Resources but to the
15 Parliament of Canada.

16 And so I think it's within the mandate of
17 the CNSC to report to the Parliament of Canada that this
18 question should be looked at from a governmental
19 perspective and from a policy perspective.

20 Parliamentarians are the ones, after all
21 its public money that's being spent on this clean up of
22 historic waste and I think that the Parliament therefore
23 has a vested interest in determining that this money is
24 being well spent and that the clean up is going to be done
25 properly.

1 to the public concerning the
2 activities of the Commission and the
3 effects on the environment and on the
4 health and safety of persons of the
5 development production used referred
6 to in paragraph A.”

7 Now, my concern is I don't believe that the
8 Canadian Nuclear Safety Commission staff are living up to
9 this mandate. In fact, we've heard already in the
10 hearings today, a tendency to deny any danger to the
11 health of persons at low levels of radiation exposure.
12 Now, while this is a point of view often espoused by
13 licensees, by people who actually run facilities, I think
14 that this is not an objective scientific point of view to
15 be expressed from the regulatory agency.

16 For example, there are many very
17 responsible authoritative bodies who state quite
18 explicitly that there are health risks at low levels of
19 radiation. I refer for instance to the Ontario Drinking
20 Water Advisory Committee Tritium Report of May 21, 2009.
21 On page 28, they say and I quote:
22 “There is general agreement that the incremental lifetime
23 excess cancer risk for a lifetime of exposure, 70 years,
24 to 7000 becquerels per litre of tritium in drinking water
25 approximately equal to 0.1 millisievert ranges from, and

1 here are the three estimates, 340 in a million to 350 in a
2 million to 600 in a million. By the way the 350 in a
3 million comes from the World Health Organization and the
4 600 in a million comes from Health Canada.

5 Now this is I think important for CNSC to
6 be promulgating, to be disseminating this information,
7 that there are responsible bodies who in fact do say that
8 even when you have permissible -- so called permissible
9 levels of radiation exposure, that you will be expecting
10 also to see a certain number of fatal cancers.

11 This deals only with fatal cancers, by the
12 way. Non-fatal cancers would almost double those numbers.

13 Now, even Appendix 5 of that same document
14 that I'm referring to, which is the Ontario Drinking Water
15 Advisory Committee, Appendix 5 is from a nuclear advocacy
16 organization, the Canadian Nuclear Association. In this
17 supplementary submission, which is Appendix 5 of the
18 Tritium Report dated April 23rd, 2008, on page 3 they cite
19 the World Health Organization and they say:

20 "The World Health Organization
21 approach for radiological contaminants
22 in drinking water is similar to the
23 EPA approach [the Environmental
24 Protection Agency approach] whereby it
25 states that it's those criterion of

1 0.1 millisieverts per year corresponds
2 to a lifetime risk of about [well
3 again] 350 per million fatal cancers.”

4 Now, please note that that 0.1
5 millisieverts per year is three times lower than the
6 permissible dose or the target dose that Cameco is
7 promoting.

8 So if 0.1 millisieverts per year
9 corresponds to 350 excess fatal cancers per million
10 people, how can we say this is a safe dose? And is it not
11 a misleading -- is it not showing a lack of objectivity to
12 disseminate this point of view as if it is the only point
13 of view.

14 And from my perspective, when you talk
15 about objective scientific information it means you
16 present both sides and if there is controversy you say
17 well, on the one hand there are people who say this, on
18 the other hand there are responsible bodies who say this.

19 So I feel that the CNSC is not serving the
20 public and not fulfilling its legal mandate by not
21 communicating this information clearly to the public.

22 I think it's worse than that because I
23 think that for the CNSC staff or Commissioners to
24 annunciate such points of view actually exacerbates the
25 irrationality of the debate in Canada over nuclear

1 facilities, because it means that nuclear proponents will
2 look at nuclear critics as if they are lying when they
3 talk about health concerns, as if they're not telling the
4 truth or they're being deceptive or pernicious, and as a
5 result this contributes to the anger and animosity
6 surrounding the nuclear debate.

7 So I think the CNSC has a very great, high
8 responsibility not to contribute to that irrational anger
9 but to say, yes, there are legitimate points of view here;
10 that even though you may find that you can't significantly
11 prove in a statistical way that people are being killed,
12 nevertheless, many responsible bodies believe that people
13 are, in fact, contracting fatal cancers as a result of even
14 low levels of radiation.

15 And you can argue that this is not a matter
16 of concern, but for the people with the cancers I assure
17 you it is.

18 Now, I'd also like to point out that, in my
19 view, there is much too little educational efforts done by
20 the CNSC to communicate not only the harmful effects of
21 low level radiation -- the potential harmful effects --
22 but also the fact about cumulative doses, the fact about
23 population doses.

24 You know, one of the best ways to reduce
25 population dose is to remove the facility from the highly

1 populated area where it is, because according to the
2 linear non-threshold theory, it's not the individual dose
3 that gives you an insight as to how many cancers you're
4 going to see, it is the integrated population dose. If
5 you remove the facility away from the community you reduce
6 the population dose drastically and consequently protect
7 the population far greater -- protect people far more.

8 In particular -- excuse me? ---

9 In particular, I do believe that the CNSC
10 has a special responsibility to educate people about alpha
11 radiation and the difference between alpha radiation and
12 gamma versus beta radiation.

13 Alpha radiation is, of course, the primary
14 radiation from uranium, from radium, from radon, from
15 polonium, from many of the most dangerous materials
16 associated with uranium processing -- are all alpha
17 emitters, and these alpha emitters give off no --
18 virtually no penetrating radiation, but they are harmful
19 when they come in contact with living cells.

20 I find that going on the CNSC website or
21 reading the documents associated with these licensing
22 proceedings, there's very little useful information that
23 people can understand about the specific harmful effects
24 about internal irradiation by alpha emitters.

25 And I believe that this is a dereliction of

1 duty. I think that people are entitled to know this and
2 they're entitled to understand why, for example, the
3 airborne uranium may be particularly dangerous compared
4 with the -- for example, the soil uranium is far less of a
5 problem. The difficulty, however, is that uranium that is
6 in the soil, especially if it is submicron particles, can
7 easily be remobilized.

8 I listened with some concern to an earlier
9 statement that the uranium levels were going down in a
10 certain plot of soil. Well, I ---

11 **THE CHAIRMAN:** Can you please ---

12 **DR. EDWARDS:** You and I know that the
13 uranium levels cannot go down they can only migrate
14 elsewhere.

15 **THE CHAIRMAN:** Okay ---

16 **DR. EDWARDS:** So if they're going down where
17 are they going? Are they going into the lake? Are they
18 going into the air? Are they going into plants? Where
19 are they going?

20 **THE CHAIRMAN:** Okay, thank you.

21 **DR. EDWARDS:** So I think that this is a ---

22 **THE CHAIRMAN:** Thank you.

23 **DR. EDWARDS:** --- kind of a semi-scientific
24 but not truly what should really be concerned about where
25 that uranium is migrating to.

1 **THE CHAIRMAN:** Okay, thank you very much
2 for this intervention.

3 **DR. EDWARDS:** Thank you.

4 **THE CHAIRMAN:** Questions?
5 Go ahead, Dr. McDill.

6 **MEMBER MCDILL:** Thank you.

7 Dr. Edwards, for the sake of the community
8 that's here today, can you tell us how many people are in
9 the Canadian Coalition for Nuclear Responsibility, how
10 many people you are representing?

11 **DR. EDWARDS:** Well, we have more than 100
12 groups across Canada who have endorsed our activities and
13 who cooperate actively with us and use our materials.

14 We're basically a think tank organization
15 that interacts with groups' right across Canada and also
16 in other countries.

17 **MEMBER MCDILL:** Thank you for that.

18 **DR. EDWARDS:** Well, I don't have a number
19 in terms of how many people would be involved.

20 **MEMBER MCDILL:** I'm surprised, but okay.

21 In your intervention you commented on the
22 facility being located on the flood plain. Were you
23 listening yesterday when that was -- that point was
24 clarified?

25 **DR. EDWARDS:** Unfortunately no, I was not.

1 **MEMBER McDILL:** So I'll ask Cameco to
2 respond to that very briefly.

3 **MR. CLARK:** Dale Clark, for the record.

4 Yes, as described yesterday, first off, the
5 facility is not located within the regulatory flood plain.
6 That was concluded from an assessment with the Ganaraska
7 Region Conservation Authority, the GRCA, in 2006. That
8 flood plain study was completed, assessed for the
9 regulatory flood and developed a flood plain mapping
10 approved by the GRCA and concluded that the site is not
11 located in the flood plain.

12 **DR. EDWARDS:** Thank you.

13 **MEMBER McDILL:** Could staff comment on Dr.
14 Edwards' statement that staff documents are not objective.

15 **DR. THOMPSON:** Patsy Thompson, for the
16 record.

17 The CNSC staff has, over the last three or
18 four years, put a lot of new documents on our website.
19 There are what are called radiation information pages
20 where the types of radiation, alpha, beta and gamma, are
21 described. We describe the LNT and what it means. We
22 describe radiation protection, radiation effects, in great
23 detail.

24 We have also produced a number of
25 information documents that are available from our website

1 in terms of a summary and analysis of epidemiological
2 studies that have been done worldwide and how they are
3 being used to set radiation protection standards.

4 We have recently posted an information
5 document on measuring doses, the dosimetry, the methods
6 that are used to measure doses and their strengths and
7 weaknesses and what methods are used for what types of
8 exposures.

9 There is also, in the document, reference
10 to what has the CNSC done to keep abreast of information
11 on brain cancer. And I would like to suggest that the
12 impression that is left by the intervention is quite
13 erroneous. The CNSC has done extensive work itself and we
14 have reviewed the work done internationally by other
15 organizations. We are on scientific committees whose job
16 it is to review advances in science.

17 And with respect to brain cancer, the most
18 recent literature indicates that brain cancer is only
19 weakly associated with radiation exposures and this is
20 even with medical patients that are exposed to radiation
21 doses in the order of several Sieverts.

22 And so this is nowhere near exposures that
23 would be found in Port Hope.

24 We have also recently published, in a peer
25 review journal, a study of Canadian El Dorado workers and

1 that study includes 3,000 workers from the Port Hope
2 Conversion Facility and, in those workers, we see no
3 evidence of brain cancer.

4 **DR. EDWARDS:** May I ask a question?

5 **THE CHAIRMAN:** Go ahead.

6 **DR. EDWARDS:** Does the CNSC have any
7 discussion on its website of the findings of the BEIR 7
8 report, and the fact that BEIR 7 explicitly rejected the
9 view that there would be a safe level of radiation
10 exposure below which no effects would be seen?

11 **MS. THOMPSON:** The radiation pages do
12 include information on BEIR 7.

13 But we actually quote what BEIR 7 says and
14 the way it is interpreted, and not at all in the way that
15 the intervenor has just said.

16 **THE CHAIRMAN:** Dr. McDill?

17 **MEMBER MCDILL:** Just one more comment. Is
18 Professor Boreham still in the room or has he returned to
19 McMaster?

20 You weren't -- I guess you weren't able to
21 listen to that presentation either, Dr. Edwards, this
22 morning?

23 **DR. EDWARDS:** No, I wasn't.

24 **MEMBER MCDILL:** Interesting to have the two
25 of you together in the same place. Perhaps another time.

1 Thank you, Mr. Chair, I'll pass it on.

2 **THE CHAIRMAN:** Thank you.

3 Dr. Barriault?

4 **MEMBER BARRIAULT:** Just one brief question.

5 Dr. Edward mentions that he finds it
6 interesting that a "satisfactory" rating is given to
7 Cameco in view of the spills and the contamination.

8 It's in his second last paragraph in his
9 presentation. Would you care to comment on that?

10 **DR. EDWARDS:** Me? Or ---

11 **MR. ELDER:** I believe he wants staff to
12 comment on it. Yes ---

13 **MEMBER BARRIAULT:** I want the CNSC to
14 comment, I'm sorry.

15 **DR. EDWARDS:** Okay.

16 **MR. ELDER:** Yeah, so if you note, the
17 summary at the beginning is our rating of where they are
18 today, or when we produced this a few months ago.

19 If you actually look inside the document
20 and especially the one -- I'm trying to find the page --
21 or this is our original CMD. This is Day 1 from H11 --
22 11-H16 and I'm trying to find my -- the environmental
23 protection one.

24 Okay, so environmental protection, page 39,
25 you will note that we rate, in 2007, when they had this

1 set of events, there is "below expectations"; okay? And
2 there was a "C".

3 So what we said, that event they were
4 clearly "below expectations" and we're saying: Yes, there
5 is improving trends over to get that -- we forced them to
6 be acceptable before they restarted.

7 **MEMBER BARRIAULT:** Thank you.

8 Does that answer your question, Dr.
9 Edwards?

10 **DR. EDWARDS:** Well, to a degree it does.

11 I find it an ongoing source of astonishment
12 that nobody seems to be held accountable when things go
13 wrong. There just seems to be a sort of a pulling
14 together on the part of the regulatory agency and the
15 licensee to improve the Act.

16 But there's no real kind of -- for example,
17 no fines are levied, no individuals are held accountable,
18 to my knowledge. Maybe I'm mistaken in this.

19 But I think that a system that only
20 operates on the principle that nobody is responsible for
21 these mistakes and we simply try and improve as we go
22 along, that this is really not a proper way of policing,
23 if you like, a potentially very dangerous industry.

24 **MEMBER BARRIAULT:** So what you're saying is
25 that you get a pass or a fail, but you don't get kicked

1 out of school? Thank you.

2 **DR. EDWARDS:** I think that's -- I think
3 accountability should be there.

4 **THE CHAIRMAN:** Well, the ultimate
5 accountability is you'll revoke the licence. But ---

6 **DR. EDWARDS:** Do you?

7 **THE CHAIRMAN:** Well, there is, in some
8 operations, the CNSC does revoke some licences.

9 **DR. EDWARDS:** Very, very rarely, yeah.
10 Because that's not my experience.

11 **THE CHAIRMAN:** Or stop operations.

12 The Americans have another vehicle and that
13 is administrative fines.

14 So, hopefully, the threat of revocation is
15 enough to get some action.

16 Anybody else? Monsieur Harvey?

17 **MEMBER HARVEY:** I would like the staff
18 comment on the second paragraph of the written submission
19 of Dr. Edwards, about the micron and sub-micron particles,
20 saying that they're escaping from the filters and they are
21 available for the -- to be inhaled in the deepest part.

22 It's page 2 of the ---

23 **MS. THOMPSON:** Patsy Thompson for the
24 record.

25 I'll provide a level of response and, if

1 you need more information, I will ask our expert to
2 compliment.

3 The HEPA filters -- we essentially
4 requested that Cameco put in place HEPA filters to reduce
5 the fugitive emissions that had been an issue for a number
6 of years.

7 The HEPA filters don't create or -- the
8 type of aerosol particles or micro particles, sub-micron
9 particles that the paragraph seems to describe.

10 In fact, HEPA filters are tested for
11 efficiency with particles of 0.3 microns, so sub-micron
12 size, and the expected efficiency of those filters is
13 99.97 percent efficient for particle sizes of 0.3 microns.

14 **MEMBER HARVEY:** Merci.

15 **THE CHAIRMAN:** Monsieur Tolgyesi?

16 **MEMBER TOLGYESI:** Several intervenors were
17 mentioning that, around this facility, there is no buffer
18 or exclusion zone.

19 Could you comment on this?

20 Yeah, Cameco, and we will ask after, the
21 staff.

22 **MR. ELDER:** Do you want -- I wasn't sure if
23 you said Cameco first or us first?

24 **MEMBER TOLGYESI:** Yeah, I said Cameco and
25 you.

1 **MR. ELDER:** Okay.

2 **MR. CLARK:** Yes, Dale Clark for the record.
3 I can comment on that.

4 First of all, the Port Hope Conversion
5 Facility has operated safely in its current location for
6 many, many years and we do so primarily today and we
7 emphasize the defence in-depth approach which is a strong
8 component of our commitment to protecting the environment
9 and the community in which we live and work and ensuring
10 that it remains safe and protected.

11 And given our location, we're very
12 conscious and aware of that, of the proximity of our site
13 to the community, and it makes it all that much more
14 important that we have these multiple layers of defence.

15 Examples of this defence in-depth approach
16 that I would highlight include from the initial safe
17 design and code requirements of the process, the
18 construction controls, process controls that we have in
19 the operating plants and the automated controls of the
20 system, the alarms and the operator intervention
21 opportunities that take place to control and react
22 quickly.

23 Safety interlock systems are an important
24 part of that, that are designed with the many sources of
25 real-time data that we have that can automatically react

1 and automatically shut down the process if necessary.

2 Physical protective devices, rupture disks,
3 relief valves, different physical tools in the plant that
4 are designed for -- to failsafe in the event -- in some
5 events.

6 Containment systems is obviously an
7 important part, and especially in our facility. We're
8 very proud of the fact that we have one of, if not the
9 only, indoor unloading facility for hydrogen fluoride,
10 which is a key raw material in that process and we're very
11 proud of the containment system that's around there.

12 Obviously, that's a component that has --
13 we've invested significantly into during the current
14 licence period, into the infrastructure, the containment
15 systems, and the liquid management systems around those
16 plants given the lessons learned from the events during
17 this licence period.

18 And then, finally, on the outer layer and
19 the final layers of defence there, the site emergency
20 plans and the emergency response capabilities which we
21 have greatly enhanced during this licence period and are
22 very confident in our ability to effectively respond and
23 deal with any event onsite.

24 And then, beyond that, the community
25 emergency plans which we have close cooperation and a

1 formal agreement with the Municipality of Port Hope and
2 the emergency services, so that we have effective
3 coordination and cooperation there for community emergency
4 response plans.

5 So the comprehensive defence in-depth with
6 the municipality of Port Hope and the emergency services
7 so that we have effective coordination and cooperation
8 there for community emergency response plans.

9 So the comprehensive defence in-depth
10 approach gives us the confidence that we can continue to
11 meet those commitments and protect the environment in the
12 community in which we live and work as well and continue
13 to meet those commitments going forward in the location
14 where we are today.

15 **MR. ELDER:** Peter Elder for record.

16 CNCS if you look at our regulations there
17 is no requirement for actually any facility for a buffer
18 zone or exclusion zone.

19 There is a requirement to tell them, for
20 licensees and applicants, to explain how they are going to
21 protect the public and environment, and one way to do that
22 can be an exclusion zone.

23 If you look at the requirements, said if
24 you want an exclusion zone you must give us certain
25 information on it.

1 So I think Cameco has gone through some of
2 their engineering barriers that are in place around the
3 Cameco side. As we mentioned earlier about standards and
4 taking into account the proximity of the population is
5 that the public dose limit for this facility is .3
6 millisieverts per year as opposed to our general
7 regulatory limit of 1 millisievert per year.

8 **MEMBER TOLGYESI:** I suppose there is not a
9 unique operation or facility of this nature which are
10 within the community or very close to community. When I
11 am looking at North American context or our context are
12 there other ones and if this measures what Cameco is using
13 are similar to what is used elsewhere?

14 **THE CHAIRMAN:** Cameco, are you aware of --
15 I think that somebody mentioned that there was only four
16 facilities in the whole world that do similar things like
17 that, is that correct? Did I hear that right?

18 **MR. THORNE:** Andy Thorne, for the record.
19 There are four commercial UF₆ Plants in the
20 Western world, and us being one of those.

21 Just to build a little bit on what Mr.
22 Clark has shared with you, one of the chemicals that we
23 use is hydrofluoric acid and we are very proud of the
24 facility that we have. I personally visited a number of
25 hydrofluoric acid-producing facilities around the world,

1 France, Germany, the U.K., Mexico, the U.S. and I can tell
2 you that there are -- our technology for defence in-depth
3 in relation to hydrofluoric acid is world class.

4 We have indoor unloading facilities which
5 none of those other facilities that I've personally
6 visited actually have themselves. All of their HF
7 unloading in those facilities is done outside.

8 So we have state-of-the-art facilities to
9 deal with that and we are extremely conscious of the fact
10 that we are close to the community and as a result we hold
11 ourselves to a very high standards.

12 **THE CHAIRMAN:** Staff?

13 **MR. JAFERI:** Jafir Jaferi, for the record.

14 Yes, there are other industries who use
15 hydrofluoric acid anhydrous and they are close to
16 residential areas. Edmonton is one refinery, is very
17 close to residential areas. But the other thing which I
18 would like to mention is buffer zone is not the criteria
19 to judge. The UF₆ Plant in States, Honeywell Metropolis;
20 nobody lives there around them but they have the HF
21 storage, unloading, everything done just outside and they
22 have releases and one of the release, yes, was a major one
23 and they had to do some evacuation. Even if nobody lives
24 in one kilometre, still they had to do evacuation.

25 In Port Hope this is unique. Everything is

1 done inside the building, unloading of HF and if there's
2 any release they have primary, secondary, tertiary
3 containment. So nothing is going to get out without
4 getting treated.

5 **THE CHAIRMAN:** I think it's a good time for
6 us -- well first, thank you Dr. Edwards, we going to take
7 a break.

8 **DR. EDWARDS:** Can I just make one final
9 comment, please?

10 **THE CHAIRMAN:** Please proceed.

11 **DR. EDWARDS:** I just want to mention that
12 if we use the figures cited by the Canadian Nuclear
13 Association and their submission to the Ontario Drinking
14 Water Advisory Council, from the Health Canada, the .3
15 millisievert limit that Cameco is adopting, which they are
16 pointing out is less than the 1 millisievert limit,
17 nevertheless that .3 millisieverts would correspond to one
18 fatal cancer per thousand individuals who were exposed to
19 it over a lifetime.

20 Now, we don't expect that an
21 individual is going to be exposed to that over a lifetime
22 but I think this is important information for people to
23 know. I think it's part of the responsibility of the CNSC
24 in giving objective scientific information to communicate
25 that.

1 **THE CHAIRMAN:** Thank you for that.

2 And we will take a 10-minute break and
3 that will bring us to 4:20. Thank you.

4

5 --- Upon recessing at 4:08 p.m./

6 L'audience est suspendue à 16h08

7 --- Upon r3suming at 4:23 p.m./

8 L'audience est reprise à 16h23

9

10 **THE CHAIRMAN:** Are you all ready for us?

11 Well, I would like to move to the next
12 submission by East Toronto Youth Nuclear Group as outlined
13 in CMD H16.98. And let me start by saying how happy I am
14 to see some young people here.

15 So welcome, I don't know who is going to do
16 the talking? I hope not all at once. Okay. Well, who's
17 going to start?

18 Go ahead please.

19

20 **11-H16.98**

21 **Oral presentation by**

22 **East Toronto Youth Nuclear Group**

23

24 **MR. WAUGH:** My name is Thomas Waugh; I am a
25 student at the College Français in Toronto.

1 Our presence here is due to the fact that
2 we believe that the renewal of Cameco's operating licence
3 should be given careful thought.

4 The main points our presentation will
5 include are, our visit to Port Hope; afterwards, the
6 health risks of nuclear radiation; followed by emissions,
7 buffer zones and locations. Then the problems with
8 nuclear energy and finally a short conclusion.

9 So please note that it may not be in that
10 exact order.

11 A few days ago, our group went on a trip to
12 Port Hope. We first met with employees of Cameco and
13 learned some of Cameco's priorities which seem to be
14 relatively straightforward, simple goals.

15 Our second meeting was with the Chamber of
16 Commerce who informed us that there is no danger of the
17 nuclear plant's close proximity to the town. However,
18 when we spoke with some members of the Port Hope Community
19 Health Concerns Committee, they presented us with
20 completely contradicting opinions to those of Cameco and
21 the Chamber of Commerce.

22 We hope that by listening to our opinions
23 and ideas you will make a good choice on what to about
24 Cameco.

25 Thank you.

1 **MR. PAUSEY:** Bowen Pausey, for the record.

2 I am 16 and I am a student at Malvern
3 Collegiate Institute in Toronto.

4 And during our trip, our group learned a
5 lot about nuclear energy. When we met with Cameco and the
6 Chambers of Commerce they both told us that there is
7 extremely minimal health risks because of the low level
8 radiation in the Town of Port Hope, and that there's been
9 many health studies conducted. Also, they told us that
10 Port Hope is like any other town in Ontario.

11 In this booklet that we received from the
12 Chambers of Commerce, it contains a synthesis report that
13 was conducted in Port Hope which is supposed to be safe
14 and like every other town in Ontario but yet the study
15 finds that there are higher rates of cancer in Port Hope.

16 Also, we have seen firsthand the negative
17 side effects by meeting a former employee at the facility.
18 He had radiation burns and is also dealing with many
19 problems, such as lung problems.

20 We, the youth, are being told two
21 completely different stories. It's safe; it's not. Who
22 are we supposed to believe and how are you supposed to
23 believe it is completely safe when the facts prove it's
24 not?

25 Thank you.

1 believe. Therefore, we strongly believe that it is the
2 responsibility of the Federal Government to do more
3 extensive and honest health studies complying with the
4 concerns of the residents of Port Hope because a problem
5 clearly stated and understood is, after all, a problem
6 half solved.

7 For example, why has there not been any
8 direct testing on the residents of Port Hope looking for
9 specific isotopes of uranium that could only be from the
10 Cameco plants?

11 Regarding the location of the UF_6 and UO_2
12 plants, we don't see how civic leaders can allow their
13 downtown core filled with civilians to be the site of
14 uranium processing and fuel rod assembly. What happened
15 to buffer zones with safety being the highest priority?

16 After Fukushima, it is easy for nuclear
17 regulators to simply assure us that that could never
18 happen here; that our technology is superior, but the
19 Japanese said that as well. No other country was more
20 aware of the risks of nuclear plant operation in
21 earthquake zones or better prepared to handle emergencies
22 than Japan.

23 Even the World Nuclear Association has
24 praised Japan for having some of the highest standards in
25 the world. Yet now the world's third largest economy

1 fights to prevent wide-spread exposure of radiation to the
2 public, let alone the rest of the world.

3 Accidents are like knives that either serve
4 us or cut as we grasp them by the blade or the handle.
5 Unfortunately, I don't think a nuclear mishap will have a
6 handle. But there is still hope for Port Hope and we, the
7 youth, urge you to make the decision that will ultimately
8 keep the health and safety of civilians and their homes as
9 the number one priority just as Cameco promises us their
10 core value.

11 This nation was built by men and women who
12 took risks; pioneers who were not afraid of foreign land,
13 businessmen who were not afraid of failure and scientists
14 who were not afraid of the truth.

15 We think a big part of our progress from
16 now into the future involves taking bigger and bigger
17 risks. However, we must say that the nuclear industry is
18 taking a risk that may end up causing irreversible and
19 irremediable damage. So we must honestly ask ourselves if
20 something goes wrong -- and no one can say it won't -- are
21 we prepared to deal with the consequences?

22 Please make the best decision after doing
23 more sensitive -- more extensive assessments of health and
24 environment. And if you do choose to tie our future to
25 the nuclear industry and its potential dangers, please

1 consider a safer location of the plants with a larger
2 buffer zone and detailed evacuation plans.

3 Thank you.

4 **MR. POLANYI:** Hi, my name is Andrew
5 Polanyi. I come from a school named -- called Glen Ames.
6 I feel that it is wrong to extend the licence for Cameco
7 for 5 to 10 years. This will only continue Ontario's
8 reliance on nuclear power.

9 Nuclear power has many problems. Spent
10 fuel from CANDU reactors contain deadly radioactive
11 elements. Its radioactive waste must be insulated from
12 contact of any living thing in the environment for
13 thousands of years. In over 50 years of nuclear power
14 production, a permanent solution for nuclear waste
15 disposal has not been found. We shouldn't be making more
16 and more radioactive waste when there is no guaranteed
17 safety -- safe solution.

18 There are also many risks involved with
19 nuclear power such as terrorism; nuclear power plants are
20 attractive targets to the terrorists because of the severe
21 consequences of radioactive releases.

22 Also, the accidental risks from human error
23 or technical failure that could cause a meltdown in the
24 nuclear plants as it did in Chernobyl.

25 Unpredictive (sic) weather events could

1 also cause nuclear catastrophes as in Japan.

2 Also, Ontario's demand for power is not
3 growing; studies have demonstrated it is possible to meet
4 Ontario's electricity needs with energy efficiency,
5 renewable energy and efficient sources like cogeneration.

6 In the last five years both the Cameco
7 processing and manufacturing plants have been shutdown due
8 to spills. This show that the -- us that the plants are
9 not totally safe.

10 The government is spending over a billion
11 dollars to try to clean up the nuclear related waste in
12 Port Hope. Instead of giving Cameco the right to release
13 more radioactive waste, why doesn't the government provide
14 funds to help Cameco explore options for transitioning to
15 clean an emission-free power sources such as solar, wind,
16 and geothermal or to engage in the growing energy
17 efficiency sector?

18 Thank you.

19 **MR. ZHANG:** Hello, my name is Jason Zhang.
20 I am 16 as well and attend Danforth Collegiate. And our
21 group is -- well, we are unsure as to what to believe.

22 Last week, during our trip to Port Hope,
23 our group talked to various people who told us both sides
24 of the story. The spokesman from Cameco told us --
25 assured us that there is nothing to worry about and that

1 their plants have not proven to and will very unlikely be
2 harmful to the citizens of Port Hope.

3 Yet, we saw, firsthand, what has happened
4 to a previous worker at that manufacturing plant. We have
5 also heard various stories of other citizens who
6 experienced serious health issues related to the historic
7 radioactive emissions.

8 In conclusion, we believe that the Cameco
9 plant should not be relicensed for another 5 to 10 years,
10 but rather for a shorter period of time and that further
11 health studies should be conducted to obtain a better
12 understanding of the health risks potentially involved.

13 Finally, and most importantly, a relocation
14 of the plant should be explored to move it further from a
15 large downtown population and to allow for a complete and
16 full clean up of the current sites.

17 Thank you for your time.

18 **THE CHAIRMAN:** Thank you.

19 Dr. Barriault?

20 **MEMBER BARRIAULT:** Thank you, Mr. Chairman.

21 Merci d'être venu. Thank you for coming.

22 We appreciate your presence.

23 I guess we can start off by getting an
24 exposure to another group of people that you have not had
25 an exposure and the CNSC staff that are here.

1 One of the questions that I am noticing
2 from the handout say, "Why is Cameco allowed to pollute
3 more than other plants?" So perhaps CNSC could answer
4 that question.

5 **MR. ELDER:** Peter Elder, for the record.

6 I guess it is a loaded question because it
7 assumes the answer is already there. Actually, if you
8 look into the research in terms of -- there are provincial
9 standards for, let's say, release of uranium in air; there
10 is a new one. It applies to all industries and actually
11 be a harder, you know, be a harder role for a coal plant
12 to meet it than any of the facilities.

13 So we don't think they are allowed to
14 pollute any more. There is a very strictly regulated --
15 we actually -- there is a federal regulator and, as we
16 have seen today, we work in close cooperation with the
17 provincial regulator. That does not exist with most other
18 facilities.

19 **MEMBER BARRIAULT:** Does that answer your
20 question?

21 **UNIDENTIFIED SPEAKER:** Yes.

22 **MEMBER BARRIAULT:** I guess the next
23 question really is to Cameco and it is why are there so
24 many spills at the plant?

25 **MR. CLARK:** Yes, Dale Clark, for the

1 record.

2 And we did discuss this somewhat at a
3 meeting recently with the young adults who I would also
4 agree and commend for getting engaged in the process and
5 we had a good discussion in Port Hope here just recently.

6 I would say at Cameco, we are very proud of
7 our environmental performance today and, you know,
8 applying lessons learned from events large and small, in
9 the past, and getting to the point where we are today.

10 I think what may give the impression that
11 there are many spills in the plant is that we have, quite
12 frankly, a very low threshold or tight threshold for
13 reporting of events. And when you look at our corrective
14 action program, we strongly encourage a questioning
15 attitude in the reporting of all events no matter the
16 severity. And we see that as a very positive sign of a
17 strong safety culture and one that learns from events.

18 Even low-level minor events, if we take
19 them seriously and take action on them, they make us
20 better and they prevent -- help prevent the more
21 significant events from occurring.

22 And that is what we have done and that is
23 what we have seen in the -- certainly, within this current
24 licence period, a significant improvement in that area.

25 **MEMBER BARRIAULT:** Any other questions that

1 you wish to pursue?

2 **MR. ZHANG:** No, thanks.

3 **MEMBER BARRIAULT:** Just turn it over.

4 Thank you.

5 **LE PRÉSIDENT:** Monsieur Harvey?

6 **MEMBRE HARVEY:** Merci monsieur le
7 président.

8 Thank you for coming and we do appreciate
9 your presence. But there is one thing, it's difficult to
10 get all the information and probably that was a point that
11 you noticed in your research because it's a very complex
12 sector. And it's not easy for you but it's not easy for
13 the population and not even easy for us to get the overall
14 picture.

15 So we've got to take facts into
16 consideration, not only attitudes, or -- there is
17 different knowledge, different points of view, and it's
18 not an easy task to take all of those points and get to
19 the appropriate answer and take the good decision.

20 So the first thing is to -- I don't know if
21 you have had the opportunity to read -- I won't say all
22 the stuff we have here because there is a lot and many
23 pages, but ---

24 **THE CHAIRMAN:** It could be part of their
25 homework.

1 (LAUGHTER/RIRES)

2 MEMBER HARVEY: Anyway, I'm just saying
3 that to show the complexity and the task. Our
4 responsibility is to take all of that and take a decision.

5 So, you are at -- the first part is to come
6 here and say what you have to say and then you participate
7 to a process which is democratic, we hope, and that
8 permits to everybody to be part of it and to be part of
9 the decision, which is not always to the satisfaction of
10 each one, but a decision has to be taken.

11 So thank you for coming and -- well, I just
12 have a question for you. Is the -- how come you are here?
13 What is the motivation supporting your presence here?

14 MR. PAUSEY: Well -- Bowen Pausey, for the
15 record.

16 We just got interested in nuclear energy
17 and we decided to come here today just so we could have an
18 input on the decision, and also just to let everyone know
19 how, you know -- there is two different sides to the story
20 here.

21 You know, you don't know who to believe.
22 If someone's telling you it's safe and then we go meet a
23 former worker of the plant and it's not safe, like, we
24 don't know who to believe here, if it's safe or not. And
25 some of the studies look kind -- you know, like I

1 mentioned, some of the studies say there are high rates of
2 cancer here and then some of the studies don't. You know,
3 it just doesn't make sense at times.

4 **THE CHAIRMAN:** Welcome to our world.

5 **(LAUGHTER/RIRES)**

6 **THE CHAIRMAN:** What I want to know, though,
7 is how did you set yourself up as a youth group and why
8 did you choose nuclear, not, I don't know, wind, or space,
9 or biology?

10 I mean, nuclear doesn't -- you missed -- I
11 don't know if you missed, yesterday, we had a survey of
12 the population here and the result were the youth here in
13 Port Hope didn't show any -- much interest in nuclear. So
14 it was a bit surprising to hear that you all by yourself
15 decided to get interested in nuclear.

16 Does somebody got a family relationship or
17 --- So what's the mystery? How did you come about this?

18 **MR. BASKARN:** For the record, Ashwin
19 Baskarn.

20 In school, in science classes we learn a
21 lot about nuclear energy and the way for the future. We
22 also learn about nuclear reaction. And I guess that got
23 most of interested in learning more about it, especially
24 as it was a more upcoming area of exploration in the
25 world, not just Canada.

1 Many countries are looking into nuclear and
2 they're also looking into fusion reactors. These reactors
3 we have in Canada are fission at the moment. And fusion
4 reactors also -- we researched about them and they show
5 greater potential, although they may not be developed in
6 this decade, hopefully by our lifetime, but they seem much
7 more promising and safe.

8 So we're just exploring different energy
9 sources and trying to be active citizens in Toronto and
10 here at Port Hope to just give our input as well.

11 Thank you.

12 **MR. POLANYI:** Could I add something to
13 that?

14 **THE CHAIRMAN:** Please.

15 **MR. POLANYI:** I was just going to say -
16 like, you asked how we got involved. Well, I was just
17 going to say that it's pretty hard not to get involved
18 when you see all these things happening on T.V. I
19 personally saw a documentary back last summer about
20 Chernobyl and then we see the whole Japan catastrophe. I
21 mean, that's -- like, we see it all the time. We see it
22 in the newspapers. So, I mean that's how we -- that's how
23 it came about.

24 **THE CHAIRMAN:** Okay, go ahead, Dr. McDill.

25 **MEMBER McDILL:** You're not alone in being

1 exposed to both sides of the story, as Dr. Binder just
2 mentioned.

3 I think, since you are not alone in asking
4 the question how come 1.2 billion on clean-up, I thought
5 maybe I would ask staff to go back and just revisit the
6 two elements of history that have led to the clean-up --
7 the community request or the community pattern and then
8 the government commitment.

9 **MR. ELDER:** I believe there may be someone
10 from the Port Hope Area Initiative who can give a ---

11 **MEMBER McDILL:** I thought they had left.

12 **MR. ELDER:** Maybe not, but I'll start I
13 guess. Anyways, there was a ---

14 **MEMBER McDILL:** She's here. Wait a minute,
15 no, we have a hand. Thank you. I thought Port Hope Area
16 Initiative had left.

17 **MS. FAUGHT:** Sandra Faught, for the record.
18 I'm a licensing specialist with the Port
19 Hope Area Initiative and part of AECL.

20 So the low level radioactive waste here in
21 Port Hope dates back to the 1930s when Eldorado was
22 processing radium in the Town of Port Hope. It got spread
23 through different mechanisms around the town.

24 So the clean-up that we're doing now dates
25 back to Eldorado operations between 1930 and 1988 when

1 Cameco took over the operations here in Port Hope.

2 **MEMBER McDILL:** Thank you. But the
3 community request?

4 **MS. FAUGHT:** So in the 1970s and '80s we
5 realized the government took responsibility for the issue
6 here in Port Hope. Working with the community the
7 government sought a community based solution. They
8 searched for willing communities around Canada to host the
9 waste, and in the end we came up with an agreement between
10 the Municipality of Port Hope, Clarington and the
11 Government of Canada to have the waste safely stored here
12 in Port Hope in an above ground engineered mound.

13 So the project that's moving forward is a
14 community based solution. We've gone through an
15 environmental assessment, two licensing hearings. We now
16 have a licence to move forward with both projects. And as
17 was mentioned yesterday by our project director, we
18 received funding from the Ministry of Natural Resources
19 last week to proceed with the construction.

20 **MEMBER McDILL:** Thank you.

21 The students also ask how is Cameco
22 involving youth, and perhaps you'd like to reiterate.

23 **MR. CLARK:** Dale Clark, for the record.

24 As part of our public information program
25 we have -- we have a number of different tools that we use

1 as part of that program and that, overall, that we believe
2 is a very effective program, although we have acknowledged
3 and recognized that it's a significant challenge to
4 properly engage and effectively communicate with youth in
5 the area today.

6 Among the different tools that we use
7 include -- we've been an active sponsorship of a program
8 called Scientists in Schools that brings scientists to
9 schools to conduct experiments and talk about science.

10 We host an annual seminar and a
11 professional development day for teachers in the area, not
12 just Port Hope but the surrounding communities as well.
13 That's been a very popular, effective program, very well
14 received from the teachers that come, and we teach them
15 about what Cameco does and we provide tours of the
16 facility. So we arm and provide the information to the
17 teachers in the hopes that that gets passed along through
18 the schools.

19 We have done plant tours for certain school
20 or university groups in the past. Chemistry displays that
21 we've done and in particular our research centre
22 organization on site in Port Hope has been actively
23 engaged in going out to schools and, again, doing their
24 own experiments, talking about science in schools.

25 We've gotten involved in the programs --

1 very effective programs such as Junior Achievement, which
2 is one that we certainly believe is a good strong program
3 that we support, and then I would also point out community
4 forum events that we host and fall fair events in the area
5 and activities and displays at that fair that are aimed at
6 more than just providing information but aimed at some
7 interactive displays that encourage discussion for all
8 ages of people.

9 So there are a number of different tools
10 that we use and overall we believe that program is
11 effective and that's evidenced in the polling results that
12 we do locally and with the community of Port Hope. But we
13 do recognize and acknowledge that engaging with youth
14 effectively is a challenge and one that we will continue
15 to work on and make efforts to improve.

16 **THE CHAIRMAN:** Not to mention a bit more
17 practical, they have a co-op student. Hint, hint.

18 Dr. McDill? Dr. Tolgyesi?

19 **MEMBER TOLGYESI:** I should that I'm glad
20 and pleased to see you. It's not often, it's the first
21 time we have some young people here. I should say that
22 all your life you will be exposed to search of knowledge,
23 that means you will always be facing opinions, attitudes,
24 pros and cons; that's the life and that's the learning
25 process. You will have them forge your own opinion, your

1 knowledge or your picture and decide after what you will
2 do. Now, I will have probably one or two questions, it
3 was asked, your organization, because you are coming from
4 different schools, do you -- did you know each other
5 before or since you joined this organization specifically?
6 Did you know each other before?

7 **MR. POLANYI:** Yes we did, a few of us knew
8 each other. Thomas over here is my friend and Bowen is, I
9 think, my brother's friend and this is Bowen's friend, but
10 -- it's complicated but yeah. And Ashwin here -- do you
11 want to say something how you got here? Okay. We did not
12 know Ashwin before.

13 **THE CHAIRMAN:** You're still trying to
14 figure out your governance model?

15 **(LAUGHTER/RIRES)**

16 **MR. TOLGYESI:** So you know each other, you
17 decided that you will form the kind of, you call it East
18 Toronto Youth Nuclear Group. And you said also you
19 learned about a nuclear energy and other types of energy
20 in your science courses. Okay. And you prefer -- you
21 were looking at nuclear because, as you said, you heard
22 about what happened in Japan and other places.

23 That's about, what's happened in Japan it
24 was a kind of nuclear reactors, there was a serious
25 earthquake et cetera. You know that there is a nuclear

1 reactor between here and Toronto, east of Toronto, that
2 closer to you where you are living.

3 Is it your interest also, look what's
4 happened there?

5 **MR. BASKARN:** Ashwin Baskarn, for the
6 record.

7 Are you referring to the Darlington one?

8 **MR. TOLGYESI:** Darlington, Pickering, yeah.

9 **MR. BASKARN:** We also spoke at a hearing
10 there prior to today.

11 **THE CHAIRMAN:** They made a one-hour
12 presentation to the JRP in Darlington.

13 **MR. POLANYI:** About the Darlington hearing,
14 we went with 20 other people on a school bus and, yeah,
15 went with the banners, yeah. So we spoke there too, so
16 just wanted to add that.

17 Thank you.

18 **THE CHAIRMAN:** Last one, please.

19 **MEMBER TOLGYESI:** Did you have a chance to
20 meet -- you were saying that you met some employees,
21 former employees I think. Did you have a chance to meet
22 employees at the site or outside of the site? Those who
23 are working, youngers and olders, to discuss about what's
24 the work and what's risk or exposure.

25 **MR. BASKARN:** Ashwin Baskarn, for the

1 record.

2 We were here for the afternoon on one day
3 so we planned out our meetings with Cameco, the Chamber of
4 Commerce, the Port Hope Concerned Committee and just one
5 or two people who are residents, so we didn't really get a
6 complete picture in one day but we tried to look into
7 health studies and reports and look at more objective
8 facts as well. Because we can't really believe everything
9 that people say, it's completely opinions so ---

10 **THE CHAIRMAN:** Okay, I think we've got to
11 move on, so thank you for this presentation. In a few
12 years you will be qualified to apply for our jobs here,
13 don't be shy.

14 Thank you.

15 **MR. BASKARN:** Merci beaucoup.

16 **THE CHAIRMAN:** The next presentation is
17 from a Ms. Janet McNeill as outlined in CMD H16.6.96 and
18 16.96A.

19 Ms. McNeill, the floor is yours.

20

21 **11-H16.6.96 / 11-H16.6.96A**

22 **Oral Presentation by**

23 **Ms. Janet McNeill**

24

25 **MS. MCNEILL:** Thanks.

1 I am genuinely grateful to have the
2 opportunity to take part in this public hearing. I want
3 to speak slow enough -- I know at the beginning yesterday
4 we were asked to speak slowly enough that we be recorded.
5 I did time these remarks so that they I could get it in
6 under 10 minutes, but I want to speak slowly enough to be
7 understood. Also, I've made a whole lot of really scrawly
8 notes in red pen on the notes I had, when I left home
9 because I keep hearing things here that I want to react
10 to. So please be patient with me; I really was so
11 coherent and I may not be as coherent now as I was as I
12 left home.

13 Some of the members of the tribunal have
14 heard from me before. I'd just like to say for the record
15 that my involvement in nuclear issues began when I was
16 living up in Deep River several years ago and I became
17 aware of the existence of tritium pollution from SRB the
18 tritium light manufacturer in Pembroke.

19 I became involved basically because I felt
20 morally compelled to do so. My friends were being exposed
21 to carcinogens being emitted by SRB on a daily basis. The
22 emissions are still taking place actually on a daily basis
23 although at a considerably lower rate and this is thanks
24 to my friends' activism and their incredible energy and
25 efforts over the past 20 or so years.

1 But in any case, I felt I had to become
2 involved and one my little red notes here says,
3 "similarity, no buffer zone," that's one of the
4 similarities between the Pembroke situation and this one;
5 no buffer zone that one would expect to have existed.

6 I now live in Durham region, home of the
7 Pickering and Darlington nuclear generating stations and
8 also home to the Port Granby nuclear dump that has been
9 leaching nuclear waste into Lake Ontario, I gather, for a
10 scarily long time.

11 I hope this helps you understand why I feel
12 I have a legitimate stake in these proceedings. I once
13 again feel basically morally compelled to be involved
14 because I believe that the people of Port Hope need
15 involvement from as many outside people as possible. I
16 believe they need our support and our help.

17 One of the things I've been noticing
18 actually here today is the proceedings have been
19 illustrating really clearly how essential the moral and
20 ethical component of your responsibility, or CNSC's
21 responsibility, is. Scientific facts are usually
22 disputable; science is useful, science is essential, but
23 without an ethical framework it can be so much noise. We
24 keep hearing he said she said kind of stuff here today.
25 So the ethical component is obviously very important.

1 I visited Port Hope on several occasions
2 now. On one of them I was taken on a tour of the town and
3 most specifically quite a number of the, shall we say, hot
4 spots. My own reaction to the tour and to learning
5 history of nuclear operations in Port Hope is, was and is,
6 no one would believe all this. You couldn't make up a
7 story like this if you tried. Though I hesitate to imply
8 that what I've learned about the Port Hope seem makes what
9 goes on in Pembroke look like a kindergarten's story, it's
10 true that what goes on there does almost pale beside the
11 goings on in Port Hope ever since the 1930s.

12 As I read the book, Port Hope, Canada's
13 Nuclear Waste Land, my eyebrows were almost permanently
14 raised and my jaw kept simultaneously dropping. Truth, no
15 word of a lie, I had to read it in short burst because it
16 made me so disturbed, it made me -- basically made me feel
17 sick.

18 To help myself and possibly help others
19 that I know who don't know very much about the Port Hope
20 story, I created two documents as backgrounders, one is a
21 timeline that takes -- that runs to three pages and the
22 other is a two-page list of things that I found shocking
23 and almost literally unbelievable. I'd be happy to share
24 these documents with you, or actually, with anybody else.

25 To name only a few of the shocking things,

1 Canada's federal government has been fully complicit in
2 the nuclear rape of Port Hope right from the start,
3 provincial government agencies also, successive municipal
4 governments also. And just as an aside, a lot of
5 Canadian's seem to believe we're a really honourable and
6 peace loving nation. I'm not so sure that that's really
7 true.

8 To continue with the partial list,
9 radioactive wastes have been dumped all over the community
10 ever since the 1930's. Schools were built on them
11 knowingly. Our government and various agencies were
12 warned about the dangers of radiation and radioactive
13 waste going all the way back to the very beginning of the
14 town's nuclear history, all to no avail.

15 The consequences of all of this nuclear
16 pollution have been understood for decades, yet the
17 Canadian government goes on -- has gone right on allowing
18 so called historic or legacy waste to make Port Hoppers
19 sick, and has even made excuses for such outrages as
20 pumping nuclear waste dump residues containing arsenic and
21 beryllium and uranium straight into Lake Ontario.

22 In locating the UF6 plant in Port Hope
23 without a proper buffer zone the federal government
24 contravened its own regulations. In the absence of a
25 proper physical buffer zone the people of Port Hope have

1 basically been used as a human buffer zone.

2 People in Port Hope suffer serious health
3 effects. This is indisputable unless you've gone down a
4 rabbit hole. Yet Canada's Federal Health Agency and
5 apparently the local one refuse to initiate proper health
6 studies.

7 Now the waste has accumulated to the point
8 that there are -- and this is also in dispute, I've heard
9 this disputed since I got here -- 3.5 million cubic metres
10 of it. That's what I'd heard and I can show where I got
11 this information. It would take five football fields
12 piled 460 feet high to accommodate all of this waste.

13 Millions, or is it billions of government
14 money, taxpayers money, are being promised to clean it up,
15 yet I think most of us in this room do know perfectly well
16 that A) the planned facilities cannot handle all of the
17 waste that there is, and B) that there really is no safe
18 proven way to carry out a clean-up of this kind on this
19 scale.

20 The nuclear industry insists on referring
21 to the waste as low level, yet the uranium refined in this
22 town killed 140,000 people in Hiroshima. Clearly the
23 wastes, whether you call them low level or scary as heck,
24 are a serious problem or our government would not be
25 throwing \$1.2 billion at this proposed clean-up.

1 Finally, cleaning it up may actually cause
2 more health and environment problems than it solves. I
3 could go on, and on, and on, and I know I've missed some
4 really important things, but I need to move on.

5 I do recommend that you consider reading
6 that book by Pat McNamara, actually. It's got a tonne of
7 fascinating information in it.

8 There are some words that come to mind for
9 me when I review the history of Port Hope and the agencies
10 responsible for all of this, denial, dishonesty, hubris,
11 insanity, lies; and some phrases that keep coming up, Port
12 Hope's dirty little secret, ground zero, shooting the
13 messenger, psychic numbing, junk ethics.

14 Bumper stickers relevant to the Port Hope
15 scene, where is your moral compass; what's a little
16 depleted uranium between friends; low level does not mean
17 low risk; nuclear waste, do you want to store it in your
18 basement; brain cancer, a small price to pay for progress;
19 Lake Ontario equals nuclear waste dump, finally, if you're
20 not outraged you're not paying attention.

21 I watched this short National Film Board
22 documentary "Uranium" for the first time just the other
23 day. You can watch it online yourself. The night before,
24 I'd seen the film "Poison Dust" about three American
25 soldiers and their exposure to depleted uranium when they

1 were over in Iraq in 2003. And I'd read a newspaper
2 article not long before about the shocking exploitation of
3 Aboriginal Canadians used as cannon fodder in Canada's
4 north in the uranium mines and the cancer epidemic that
5 later overtook them.

6 In "Poison Dust" I saw a deformed baby born
7 to a couple who are convinced it was the father's exposure
8 to DU that caused their daughter's deformity.

9 I have a friend who taught three students
10 born after the Chernobyl accident who have no left hand.
11 Apparently, their children will not have a left hand
12 either.

13 You'll forgive me, I hope, for having come
14 to believe that the nuclear industry is -- well, it seems
15 evil to me, to speak strongly.

16 Let me conclude by saying that I don't find
17 it easy to say these words or attend these hearings. I
18 think of it as speaking truth to power and I find it very
19 hard, and I also do it in the full awareness that I --
20 that power is not usually really listening.

21 One of the phrases parents use with young
22 children who are misbehaving, maybe in the case of hitting
23 another child, is "use your words". So I'm using my
24 words, knowing all the while that this little 10-minute
25 gig cannot begin to convey the scale of this incredibly

1 serious situation or even my own shocked reaction to it.

2 One of my scrawled notes in red here, as
3 I'm making notes as I go along, I found what Tom Lawson
4 said this morning about words very interesting. I too,
5 notice the unscientific language used by people who claim
6 to be very scientific. And there's a lot I could say
7 about that, I could probably speak for 10 minutes just
8 about that but I can't do that.

9 One of the things that I do, I think and
10 philosophize a lot, I'm a writer, I walk and I write and I
11 think a lot and I often play around with the imagery of
12 the family, and I think of the government as being like
13 the parents of, you know, the people of Canada, in that
14 imagery of the family and, you know, we trust them and we
15 want them to look after us and so on.

16 The phrase "dysfunctional family"
17 inevitably comes up a lot because most of us are from
18 dysfunctional families and that's unfortunate. But things
19 happen in dysfunctional families, abuse happens, sometimes
20 someone speaks up, sometimes somebody doesn't speak up.
21 You have people speaking up here. If we use -- if we want
22 to use the analogy of a dysfunctional family, we have
23 people speaking up here.

24 And I think of the fact that if you asked a
25 six-year-old child to look at this whole situation and to

1 look at the complexity of everything, and referring back
2 to what Tom Lawson said, a simple question gets asked and
3 a terribly, terribly complicated answer comes out and the
4 proponent says this, and the staff says that. A six-year-
5 old would probably say you know what, I think there are
6 too many experts involved here, this is just too complex,
7 maybe we should stop doing this.

8 Okay ---

9 **THE CHAIRMAN:** Could you please summarize?

10 **MS. MCNEILL:** Yes, I'm just about done.

11 I spent four years working as a federal
12 parole officer in my youth and that experience taught me
13 that some problems are so deeply ingrained, whether
14 they're in the systems we rely on to work on our behalf,
15 or in the seriously damaged individual people, that we'd
16 only be fooling ourselves to think we're going to find any
17 quick fixes or easy solutions.

18 Those of us who think something needs to be
19 changed here, it takes courage to do these kinds of
20 things. Vincent van Gough asked what would life be if we
21 had no courage to attempt anything?

22 I appeal today to the people in positions
23 of power and responsibility over these matters to respect
24 the precautionary principle and the polluter pay
25 principle, and above all the needs and wishes of the

1 people of this community who've suffered so much and for
2 so many decades for their unasked for role as participants
3 in this experiment.

4 I'm asking that you turn down Cameco
5 Corporation's request for a licence to continue its
6 operations here and to order the company to take
7 responsibility for proper decommissioning and cleaning of
8 its facilities and this community. I believe that would
9 honour the precautionary principle and the polluter pays
10 principle and it would be ethically wise and morally
11 righteous.

12 **THE CHAIRMAN:** Okay. Thank you.

13 **MS. McNEILL:** No matter how far you've gone
14 down a wrong road, turn back. That's one of my favourite
15 new quotations. No matter how far you've gone down a
16 wrong road, turn back. I'm asking you to turn back.

17 **THE CHAIRMAN:** Questions? Who wants to
18 start? Monsieur Harvey?

19 **MEMBER HARVEY:** Maybe I would like to have
20 the comments from the Mayor about certain assertions in
21 the written submission like, I've heard it said that this
22 is a town divided and clearly the stress of living with a
23 unique stigma and the constant awareness of grave health
24 issues clearly also effects Port Hope's economic
25 situation, businesses fail and leave the area, etcetera,

1 etcetera. So is it possible for the Mayor to comment on
2 those points?

3 **MS. THOMPSON:** Linda Thompson, for the
4 record.

5 Those comments have been provided
6 previously. The reality is there has been a great deal of
7 surveys, both by Cameco Corporation and the Port Hope Area
8 Initiative, that identify there are a small number of
9 people who disagree with many of the issues that are
10 brought forward and I think it's evident by the number of
11 people that are here today.

12 I have always stated and I think we've
13 always encouraged people to ask questions and it was part
14 of our peer review process also, that it's important to
15 ask questions and it has changed the way Cameco has done
16 business; it's changed many things in this community and
17 brought many things to light.

18 However, I think as a previous presenter
19 commented, it's not popular to say these things, that's
20 because a population of 16,500, the majority of people are
21 extremely supportive of the nuclear industry. That
22 doesn't mean they don't ask questions, but they are
23 supportive.

24 **MEMBER HARVEY:** How would you qualify the
25 economy of Port Hope?

1 **MS. THOMPSON:** Given the downturn in the
2 economy of the previous years we, like many, have been
3 hit. However, we have been very fortunate that our
4 businesses on our main street are manufacturing, our
5 overall assessment for commercial and businesses has been
6 maintained. Our businesses on the main street and small
7 retail businesses do work very hard and have suffered
8 during economic time but overall our economy is consistent
9 with other communities.

10 **MEMBER HARVEY:** Thank you.

11 **THE CHAIRMAN:** Is your population growing?
12 I mean I -- is the population of Port Hope been growing?

13 **MS. THOMPSON:** Our growth has averaged
14 about 1 percent. The urban area is 12,500. All of the
15 municipality is 16,500.

16 **THE CHAIRMAN:** Thank you.

17 Anybody else?

18 Mr. Tolgyesi?

19 **MEMBER TOLGYESI:** On page 2 of the
20 presentation, health impacts of Cameco operations, the
21 third paragraph; "A biological study with results released
22 by Uranium Medical Research Centre in 2007 revealed that
23 contamination with either depleted uranium 236 in nine --
24 on four of nine test subjects", which means 45 percent.

25 Do you have any comments, staff, on this?

1 **DR. THOMPSON:** Patsy Thompson, for the
2 record.

3 When the data was presented to the CNSC we
4 reviewed it and as well Health Canada reviewed the
5 information, and both assessments have been presented to
6 the Commission in the past.

7 Essentially the findings of the
8 measurements in the urine samples from residents of Port
9 Hope were -- if you look at total uranium concentrations,
10 the concentrations were similar to measures that have been
11 done in the U.S., for example, in background areas.

12 So uranium is present naturally, so we all
13 have uranium in our urine. The levels were similar to
14 background values.

15 What the -- when we looked at the ratios of
16 the various radium -- uranium isotopes the measurements
17 were very, very close to the detection limit and so our
18 conclusions were that the reliability of the measurements
19 we couldn't verify, because we had no information on the
20 quality control and quality assurance of the lab in which
21 they were measured and they were very close to detection
22 limits.

23 Having said that, we also presented
24 information that the -- regardless of the isotopes of
25 uranium, when CNSC staff assesses exposures the doses that

1 someone would get from the urine values were very low and
2 -- both in terms of radiological -- radiation dose but
3 also in terms of levels that would cause effects on
4 kidneys for example, the concentrations were much, much
5 lower.

6 **MEMBER TOLGYESI:** Merci, monsieur le
7 président.

8 **THE CHAIRMAN:** Anybody else?

9 Okay, thank you. Thank you very much.

10 I'm just informed that Ms. Bischoff will
11 become a written submission so we will deal with this
12 submission later on.

13 I'd like to move on to -- I think the final
14 oral -- is it the final oral -- the final oral
15 presentation is by the International Institute of
16 Concerned Public Health as outlined in CMD H16.53 and
17 16.53A.

18 I understand that Ms. Tilman will make the
19 presentation.

20

21 **11-H16.53 / 11-H16.53A**

22 **Oral presentation by the**

23 **International Institute of**

24 **Concern for Public Health (IICPH)**

25

1 **MS. TILMAN:** Thank you very much, and I
2 hope being the last oral presenter that there'll be some
3 messages to take home from this further.

4 So I'm going to move quite through to my
5 introductory remarks and through these introductory
6 remarks you can see the layout that's presented here. I'm
7 going from the past to the present and the future.

8 As you will know, Port Hope has been the
9 nexus of radium and uranium mining since the early
10 thirties and the legacy of these operations lie in its
11 homes, its school yards, its buildings, its harbours and
12 in its residents, both from the past, present and future.

13 Generations of residents of Port Hope and
14 workers at the refinery initially were not informed about
15 the radiological hazards to which they were exposed.

16 Regulatory oversight has been absent and
17 I'm afraid even today when I look at the current standards
18 and regulations they're lax, and it's arguable if they are
19 able to protect human health, especially the most
20 vulnerable and the environment.

21 As we move now into the dealing with the
22 legacy contamination. This material, radioactively
23 contaminated soil and other materials are to excavated,
24 transported by truckloads from homes, harbours, the
25 school, other areas to two designated -- one designated

1 landfill site, at least from Port Hope.

2 This is a massive operation, it carries
3 inherent risks, a future exposure -- of further exposing
4 residents to this material.

5 It's doubtful whether all this waste can be
6 removed or that the removal will go smoothly without
7 incidents. Will the funding be provided that's provided
8 by the federal government be adequate to carry out this
9 operation? It is the largest clean-up of its kind in
10 Canada.

11 So as long as the refinery keeps operating
12 emissions of uranium and other dangerous toxins will
13 continue to contaminate the air, the water, and the soil.

14 Despite increased safety measures, as
15 proposed by Cameco and in light of Fukushima, accidents
16 can and do happen. It is illogical and impossible to
17 eliminate the risks of any of this.

18 Therefore, at the very beginning we're
19 asking the Commission to do what we feel is the right
20 thing and look to sunset the facility.

21 I'd like to go to the area of the -- sorry,
22 I went too far back.

23 Operational issues; that has been discussed
24 here. One of the things -- there's been a number of
25 accident, incidents and leaks and this I get from

1 information going through the submissions by Cameco and by
2 CNSC staff.

3 And when I encounter as a public person 493
4 events, whatever, and these are minor events, I don't know
5 what minor events mean and that would be important to
6 know.

7 We've had major events that were also noted
8 and the people have talked about the uranium contamination
9 under the UF₆ Building and that went on for quite a while
10 and still goes on.

11 There's also been other incidences. I
12 noticed in one of the submissions of Cameco that increased
13 number of incidents in 2009 which resulted in minor losses
14 of primary containment. What does that mean to the
15 public, what are we talking about here?

16 There's also been -- regarding UF₆, there's
17 been operator exposed to molten electrolyte from a
18 fluoride cell, got first-degree burns. We know how
19 hydrogen -- HF is.

20 You've also heard discussion about the lack
21 of a buffer zone, separating facility from residents. So
22 if there's accidents, incidents and so on, the residents
23 do become the buffer, as has been mentioned.

24 I'm not sure how much cubic metres of waste
25 there is. I don't know if anybody really knows, but it

1 could be much larger than what is estimated. It took
2 several years -- we've heard in these hearings that yes,
3 there were meetings. These meetings dragged on for years,
4 for decades, before a solution could be found, which is
5 actually, if you like, two new waste sites where there
6 were the -- near where there were the old waste sites.

7 But the clean-up is not necessarily the
8 smoothest operation to go on. We don't know what that is
9 going to entail. You're digging up contaminated --
10 radioactively contaminated soil that also has heavy metals
11 and other toxic substances. As you dig up these
12 substances it's likely they could come airborne. They
13 could spread much further than the Port Hope area. They
14 could be re-deposited on soil and enter into groundwater.

15 One estimate I came across was 50,000
16 truckloads will be required to move just half a million
17 cubic metres of waste through residential, industrial and
18 rural areas.

19 These projects will take years to complete.
20 They'll have to be monitored for at least 500 years.

21 When we have issues of this enormity we
22 will encounter problems that we may never have been
23 considered, delays and cost overruns. We've heard
24 recently about the announcement of a \$1.28 billion that
25 was a big change from the 260 million that was first

1 there. Will this ever be enough? Will that suffice?

2 Another issue, I don't know if it's come up
3 here, is Cameco's Vision 2010 to clean-up its own legacy
4 waste. That is not yet completed an EA.

5 Now, the CNSC staff seem to indicate that
6 it is not of interest to this particular licensing hearing
7 and we disagree. The activities that will occur under
8 Vision 2010, if it goes ahead, is concurrent with what is
9 going on with the waste in Port Hope. This is a massive
10 clean-up and a clean-up of the harbour. So the town will
11 be exposed to various levels of clean-up. All that is
12 important. The cumulative emissions are important to all
13 of this.

14 I will go back one. I just want to say
15 that one of the issues that's come across that was rather
16 disturbing is the free release of radioactive material
17 that has met clearance levels and some of this is going
18 into scrap metals, into consumer goods, and this is a
19 very, very important concern. This is a public concern.
20 Recently there's been some information about that.

21 In terms of uranium toxicity, it is both
22 radiologically and chemically toxic and somehow the
23 radiological part tends to get ignored. Any ionizing
24 radiation can alter genes. Exposures at low level may
25 affect the ability of cells to repair themselves before

1 being hit by another dose of radiation. Each time a dose
2 of radiation is received the ability to repair is further
3 damaged.

4 The radioactive decay of a single uranium
5 atom can cause a fatal cancer. We know this. We know the
6 effects of radiation may take several years. But why is
7 it that government agencies refuse to acknowledge this?
8 This is the case like radon gas. It took years before
9 those levels were lowered. It's like tobacco smoke, to be
10 recognized and accepted as dangerous that it is. Let's
11 not repeat that same mistake.

12 Comments have been made about other
13 chemicals stored on site and I just want to highlight
14 these chemicals are of concern.

15 Mention has been made about the Port Hope
16 health studies that there have been major flaws that have
17 been noted. Even Health Canada, and I say "even", has
18 acknowledged shortcomings, but they still think everything
19 is fine in Port Hope. After 70 years, how do you know
20 there's no problem?

21 In terms of my comment about regulatory
22 oversight, I just want to bring to your attention the
23 slide. When you have limits, licence limits of this
24 order, and you're emissions are about one tenth or so of
25 that, there's no surprise there's no exceedances. That

1 doesn't mean things are fine. It just means the limits
2 are not good.

3 Uranium air standards are reasonably coming
4 into place in Ontario. I doubt if they're going to do
5 very much. They're not going to be effective for another
6 five years. They're based on models and we know the
7 intrinsic problems with models.

8 In conclusion, given the legacy of the
9 toxic pollution that has accumulated over the long history
10 of the refinery, why are we anticipating a renewal of
11 another five years, only to worsen what is already there?

12 Three generations or more have passed since
13 the Port Hope refinery was built. More than enough damage
14 is done, and therefore we recommend that the Commission
15 reject Cameco's application for renewal. We believe it is
16 the best interest to move into phasing out its operations
17 and decommissioning it as quickly as one possibly can.

18 Thank you very much.

19 **THE CHAIRMAN:** Thank you.

20 Questions?

21 Monsieur Harvey?

22 **MEMBER HARVEY:** Right at the beginning,
23 operational issues, you mention there were 493 events
24 reported in 2007 and 1933 in 2010. I would like Cameco to
25 explain that, please.

1 **MR. CLARK:** Yes, Dale Clark, for the
2 record.

3 I can comment on that, and I do understand
4 the confusion that may occur over that turn of events.

5 Our corrective action program is something
6 that we are extremely proud of the improvements that we've
7 made over this current licensing period, in fact, it's one
8 of our strong successes in terms of building a stronger
9 safety culture on site, and an example of that is that
10 corrective action program.

11 Part of that corrective action program:
12 we've implemented a Cameco Incident Reporting System, we
13 call it CIRS, that is -- allows all employees access to
14 information, open, transparent access to the information
15 and we encourage the reporting of information through that
16 system.

17 We encourage the questioning attitude to
18 report all events, recommendations, concerns, low level
19 events, significant events. We see that questioning
20 attitude as a strong indication of a good safety culture,
21 and that is what we're after and we've seen strong
22 improvement in that area over this licence period.

23 We follow a matrix that's been established
24 across Cameco for ranking of events as part of that
25 program, and that's where we use the terminology lower

1 level events or more significant events and have different
2 level reviews and investigations based on the severity
3 that's identified for those events.

4 Examples of low level events that we
5 encourage the reporting of and use that system for and
6 that make up the bulk of that large number of events that
7 are reported include -- they may include minor first aid
8 incidents that happen in the plant in any area. They may
9 include housekeeping concerns that are raised or brought
10 up. They may include some loss of primary containment
11 events of water or non-hazardous materials on site. Those
12 we would consider typical lower level events at that lower
13 level of the system.

14 The other example raised and brought up and
15 at the other end of the spectrum -- the subsurface
16 contamination that was raised -- was at the highest level
17 of that matrix, and that triggers a much more thorough
18 investigation, a root cause analysis or investigation
19 that's conducted and the follow-up associated with that.

20 So overall we see that as a very strong
21 sign and we do encourage that questioning attitude and we
22 encourage the reporting of those events and we're quite
23 frankly pleased to see that number. It drives the actions
24 to deal with those lower level events before we allow them
25 to become more significant.

1 **MS. TILMAN:** Sorry. Sorry.

2 I find that, from a public perspective when
3 I'm reading your submission, very confusing in terms of
4 classifying an event as significant. Do you have a
5 definition for significant event? Is it a certain amount
6 of dollar value? A certain amount of physical damage?

7 I mean -- and when I see an accumulation of
8 493 in '07 versus 1,933 in 2010 -- I don't know if they're
9 about the same but it's the accumulation of these small
10 events, are they preventative, were they preventative
11 measures, were they of the same ilk, I mean what's your
12 category? And I think I would appreciate knowing from a
13 public point of view how you categorize, I noticed you've
14 had their reporting system but reading it from outside
15 your company, how you categorize these events. What are
16 the cumulative impacts; are there several little leaks
17 going on? And these are only two years that I could find
18 in your report. So what's happening in '08, '09, and
19 other years?

20 Also, I only found three significant
21 events, one was the worker getting exposed to HF and the
22 other was loss of primary containment, that's the only
23 description. I don't know how much of primary containment
24 was lost. I mean, it's too vague for me to even comment
25 on other than saying this is what I'm reading. And

1 there's where there's a lack of confidence from outside as
2 to what is going on. Are all events being reported? I
3 found a report ---

4 **THE CHAIRMAN:** Please let him answer. Let
5 him answer. Okay.

6 **MS. TILMAN:** Sorry.

7 **THE CHAIRMAN:** Please go ahead. And,
8 staff, in the meantime, I know that you have a way of
9 classifying what's a major event, a reportable events, so
10 you may want to come in on that one.

11 **MR. CLARK:** Dale Clark, for the record.

12 Okay, so a little more information on that
13 program, that corrective action program and how we rank
14 events and what that means. I mentioned that we have a
15 matrix that we use and it's been established, we rank
16 events from a level 1 to a 5. Level 1 events being the
17 minor -- Level 1 or 2 events being that the minor low
18 significant events and up to a more significant event of a
19 Level 5 event.

20 The matrix and the program looks at a
21 number of different factors that could influence how we
22 rank and rank the severity of an event based on
23 traditional health and safety, based on radiation
24 exposure, based on environmental impact, based on
25 stakeholder analysis, and based on financial impact. So

1 all of those can influence and drive the way that an event
2 is ranked in that process.

3 We have a number of committees of employees
4 from all around the facility that participate in the
5 process and the different review stages, not only to
6 determine the initial ranking and the severity of the
7 events but also to drive the follow-up and determine the
8 corrective actions and the implementation of the
9 corrective actions as they come.

10 I think another important point on this
11 program and to the timing this program was introduced I
12 believe in 2007 or approximately 2007 and that is why you
13 see as the program has matured, you see a significant
14 increase in the number of events reported through that
15 program which we see as encouraging. In developing that
16 program Cameco, as a corporation, conducted extensive
17 benchmarking within the nuclear industry and outside to
18 determine the most effective tools and methods and process
19 for an effective corrective action program. And the level
20 of reporting that we see and that we target is based on
21 those benchmarks of nuclear power plant facilities
22 primarily as a strong benchmark for us in our facility and
23 that's why -- that largely gives us the confidence that
24 our program is effective and is on the right path. We --
25 compared to the benchmarks and the matrix that we use from

1 those visits from other facilities and from the power
2 facilities we're encouraged by the results that we see so
3 far and the level of reporting, the types of events that
4 we see. It's driving the right behaviours and it's
5 driving the right safety culture and that's what's
6 important to us.

7 **THE CHAIRMAN:** Okay, staff, quickly please.

8 **MR. ELDER:** Yeah, in terms of our
9 significance, these are ones that we bring to the
10 Commission during public meetings, they would be things
11 like a serious personal injury, so an example would be
12 when the worker was splashed with HF, we actually brought
13 that and discussed you with it, because it required
14 medical attention, significant medical attention.

15 The other one was unplanned releases to the
16 environment so obviously the subsoil is one thing but we
17 also do it as significant unplanned releases. Again, this
18 would have effect on environment so there's a large spill
19 of water, even if it's slightly contaminated water, if
20 it's unplanned and large quantity we report it.

21 The other thing we do we look for some
22 trending, and we'll come back in and saying what this loss
23 of primary containment. In these systems for, let's use
24 the hydrofluoric acid, there is multiple layers of
25 containment. You want it before it gets out to the

1 environment three or four things have to go wrong, we want
2 them to know, if the first thing keeps on breaking,
3 there's a trend there that is of concern to us and we
4 actually brought that trend to the Commission as well
5 during the midterm. So, it's not only the individual
6 events, yes, we have to look at those big numbers and we
7 have access to Cameco's reporting systems and we look for
8 trends. And that is one of the things you do when you
9 have a big enough volume, you can look for trends in the
10 reporting.

11 **THE CHAIRMAN:** I think the question is
12 really quite simple. From a public perspective, how does
13 one know what's a major and what's a minor, for somebody
14 outside, not privy to the internal thing? I know that you
15 come to the Commission on something which we call early
16 notification, anything you post to the Commission is that
17 a minor, kind of a reasonable ---

18 **MR. ELDER:** Well, that was using our my
19 list of what was our reasonable and what we thought were
20 significant enough to bring to the Commission's attention
21 and everything else, you know we again categorize them but
22 as I said, they are essentially the minor the ones that we
23 don't bring to you. Unless there's a trend and then we
24 will bring you the trend. So you can have significant --
25 a number of minors can equal a major and we do look for

1 that and we did do that on Cameco in terms of these small
2 releases.

3 **THE CHAIRMAN:** Cameco, quick reply.

4 **MR. CLARK:** Dale Clark, for the record.

5 I would just add that we do also notify the
6 municipality and post on the website anytime that we have
7 an event that requires reporting to the Spills Actions
8 Centre, for example. Anything that may be cause for
9 immediate concern to the community, we would trigger that
10 communication with the municipality immediately as well.

11 **THE CHAIRMAN:** Monsieur Harvey, fini?

12 Dr. Barriault.

13 **MEMBER BARRIAULT:** Thank you, Mr. Chairman.

14 I guess, just a few brief questions. I
15 feel that your group wants a shut down of the conversion
16 facility. You don't want -- okay, that's settled.

17 But I'm not clear if you're for the Port
18 Hope area initiative to clean up the area. From your
19 presentation I couldn't see if you were or were not.

20 **MS. TILMAN:** It's not that we are not for
21 cleaning up the waste but we know this is likely to cause
22 problems that may not have been considered and we're
23 concerned if the range of problems -- when you excavate
24 and dig up stuff and dredge a harbour, you're releasing
25 stuff into the atmosphere that'll only get deposited. You

1 are also contaminating the equipment.

2 **MEMBER BARRIAULT:** No, I understand all
3 that. Are you for or against?

4 **MS. TILMAN:** I'm for cleaning up; of course
5 I would like it cleaned up. I think I'm worried about the
6 residents and people living there while these operations
7 are going on and the fact is we don't know what the cost
8 is to the Canadian taxpayers to this issue and we don't
9 know what the true costs are going to be.

10 **MEMBER BARRIAULT:** No, I understand that,
11 I've read your submission.

12 **MS. TILMAN:** So please clean it up.

13 **MEMBER BARRIAULT:** Thank you.

14 **THE CHAIRMAN:** Question? Dr. McDill.

15 **MEMBER McDILL:** On page 15, bottom of 14
16 and top of 15 of the intervention, there's a comment with
17 respect to levels of fatalities that are acceptable in
18 various industries. I wonder if I could ask that to have
19 a quick comment on that please.

20 No, sorry; staff. I'll ask you to reply.

21 **THE CHAIRMAN:** Sorry, what are we looking
22 at again? That's on page ---

23 **MEMBER McDILL:** Bottom of page 14, top of
24 page 15.

25 **THE CHAIRMAN:** Okay, got it.

1 **DR. THOMPSON:** Patsy Thompson for the
2 record.

3 In terms of the relative hazards or risks
4 associated with employment in the nuclear industry. CNSC
5 has presented as well as licensees on a number of
6 occasions. Comparisons of lost-time accidents, for
7 example, between different licensees, have compared
8 themselves to other mining activities or other industrial
9 activities and my recollection is that generally the
10 nuclear industry is safer in terms of lost-time accident
11 and other measurements of industrial hazards.

12 The numbers that are quoted in terms of
13 acceptable risk on page 14 for radiation exposure comes
14 from the use of the linear, no threshold relationship. So
15 assuming that workers are exposed to the worker dose limit
16 for the whole career, what that number -- how that would
17 generate -- translate into a number of cancers.

18 We have repeated on a number of occasions
19 that the use of the LNT for estimating the number of
20 cancers is not appropriate and when we look at the actual
21 epidemiological studies that have been done of nuclear
22 workers, we don't see this level of risk at all.
23 Essentially, the workers at Port Hope that were in the
24 cohort that was analyzed showed no increased risk of
25 cancer.

1 **MS. TILMAN:** I think there's a very limited
2 view about what the risks that are imposed and the levels
3 that are safe. And I just want to make one comment that I
4 keep hearing here, and that was mentioned to the sievert.
5 You have to recall; a sievert is a risk-space unit. You
6 all know that. So if you increase the sieverts, even if
7 it's below this so-called safe level of public exposure by
8 0.2 millisieverts per year, you are still increasing the
9 risk. It's not that you're levelling it.

10 We're talking about risk. We may not be
11 able to identify the bodies as such. We need to look at
12 this over time and other efforts. And we're only talking
13 about cancer in this case. There are other health-related
14 issues developing from radiation.

15 **MR. ALBRIGHT:** But even if we look just at
16 cancer, the enormous disparity between 3.2 excess cases --
17 and we can argue about plus or minus a little bit all we
18 like -- and per 100 workers and one in 10,000, and one in
19 a million, this is an enormous disparity. How can this be
20 acceptable?

21 **MEMBER McDILL:** Does Cameco have statistics
22 because it has the roles in a variety of industries,
23 including first of all mining. What is the standard used
24 for mining, for example, in the Cameco sector?

25 **UNIDENTIFIED SPEAKER:** To clarify, can you

1 explain the number that you're asking for again?

2 **MEMBER McDILL:** The intervenor is stating
3 one in 10,000 to one in a million fatalities are
4 considered acceptable in other industries. So I was
5 trying to make a step over to mining, as opposed to
6 nuclear, realizing that Cameco mines in uranium but
7 nevertheless mining would be a good comparator.

8 **MR. THORNE:** Andy Thorne for the record.

9 I'm not aware of any metric that we use
10 within Cameco that relates to fatalities. We use a suite
11 of metrics in relation to traditional health and safety,
12 typically a mixture of leading and lagging indicators.
13 We're most certainly looking at things like medical aids,
14 medical treatment aids, and lost-time injuries. But I'm
15 not aware of any statistical data that we've analyzed in
16 relation to how we compare to the average industry
17 fatality rates. I can't answer that question.

18 **THE CHAIRMAN:** Even I remember seeing
19 there's all kinds of those numbers on fatalities, for
20 example, in coal. Coal is notorious for high fatality
21 rate. Practically every other mining activity is higher
22 than uranium mining activity. For example, I know there's
23 stuff like this all over and we can dig it up. That one I
24 know.

25 But I'm not sure that's what we are talking

1 about here. I don't think it's pure fatalities. I think
2 this is radiological exposure, I think, that they're
3 talking about.

4 And I -- the 3.2 excess case for 100 is
5 again back to fundamentals. There's a whole bunch who
6 don't believe those numbers. No matter how much you're
7 going to -- them, et cetera, they don't believe in those
8 numbers. There's a whole that do believe in those numbers
9 and we've got to take somebody's kind of standard on this
10 and move on, on this.

11 **MR. THORNE:** But are those numbers out by a
12 factor of 100 or a factor of 10,000?

13 **MEMBER MCDILL:** The numbers are referencing
14 Item 35, which is the 1990 document. So maybe -- can
15 staff -- there's been some discussion over there. Could
16 staff make another stab at answering it?

17 **DR. THOMPSON:** Patsy Thompson, for the
18 record.

19 We can go back and check the actual wording
20 of the ICRP 1990 Publication 60 for the exact quotation.

21 I don't know where the one in 10,000 and
22 one in one million fatalities comes from. I do know that
23 for the -- if you look at the worker dose limits and you
24 assume that a worker is exposed or 100 workers are exposed
25 for 40 years to the worker dose limit, the estimated

1 excess cancer risk would be 3.2. That's correct, but the
2 issue is there are no workers exposed at the dose limit.
3 That's why we have ALARA requirements. The radiation
4 protection programs have been very effective at keeping
5 worker doses very much below the standards.

6 So in practice, we don't see those -- we
7 would not see those levels of effects of risks even if we
8 used the LNT and when we actually look at large studies of
9 many tens of thousands of workers, we don't see any
10 increased risk.

11 **MEMBER McDILL:** How many workers have we
12 had in nuclear in the last 50 years in Canada roughly? I
13 guess we could go international, it may be easier.

14 **DR. THOMPSON:** I could provide the exact
15 answer tomorrow, but I'm trying to -- I've just finalized
16 the paper we've submitted recently for publication. My
17 recollection is of the nuclear energy workers that we've
18 used in the cohort study, it's between 30 and 40 thousand,
19 but I would need to check the numbers.

20 Internationally, there are several hundred
21 thousands.

22 **MEMBER McDILL:** And in that 30 to 40
23 thousand, the research showed no deaths beyond the average
24 population, is that correct?

25 **DR. THOMPSON:** I would go further than

1 that. What we looked at is mortality and incidents of
2 cancer -- both mortality from cancer and incidents of
3 cancer -- but also other diseases, and there is no
4 increased risk. If we compare the workers to the general
5 Canadian population, there's no increased risk. And if we
6 do an internal analysis comparing workers exposed to the
7 lower doses with those exposed to higher doses, the
8 comparison within the cohort, we don't see an increased
9 risk as well.

10 **DR. McDILL:** The intervenor wanted to
11 respond.

12 **MS. TILMAN:** I was pressing the wrong
13 button.

14 One of the things, I think, that is
15 missing, this is in comparison to other hazards, other
16 toxicological hazards, not radiological. So when it's
17 comparing two different things, we compare an acceptable
18 level of fatalities to radiological exposure versus
19 chemical -- non-radiological hazardous chemicals. There's
20 a higher bar for that. That's the point that was trying
21 to be made.

22 And it's not a matter can we find these
23 dead bodies or these fatalities; very hard to find and
24 hopefully very difficult to find in either case. But
25 there's a discrepancy between what chemicals that are not

1 radiological are far more stringent in terms of what is
2 considered safe levels. That's the point that's trying to
3 make.

4 **DR. THOMPSON:** I don't want to lengthen the
5 discussion but we have looked at, for example, if we look
6 at drinking water -- Canadian drinking water guidelines
7 for radionuclides, for metals and for organics, we see
8 very different risk levels associated with the guidelines
9 and essentially, because of different factors that are
10 taken into consideration, so saying that in all cases the
11 risk levels associated with a standard for non-
12 radionuclides is lower, is not always true.

13 For example the drinking water standard for
14 arsenic is the level of risk associated with it is quite a
15 bit higher than for non-radionuclides or organics,
16 essentially because arsenic is naturally occurring and the
17 cost of treating large water supplies throughout Canada
18 would outweigh the benefit.

19 So there is a lot of issues and a lot of
20 considerations when setting standards. And for chemicals,
21 the tradition has been to start with an acceptable risk
22 level of one in a million, for example, and then through
23 other considerations, the standards are usually set at a
24 higher level of risk than that.

25 **MR. ALBRIGHT:** The comparison we are trying

1 to make is simply between three and a hundred and one in
2 ten thousand and one in a million. The radiological level
3 of acceptable fatalities versus the chemical level
4 acceptable fatalities, that's all.

5 It's irrelevant how much arsenic it takes
6 to produce one in ten thousand or one in a million
7 fatalities.

8 **THE CHAIRMAN:** Dr. McDill?

9 Monsieur Tolgyesi?

10 **MEMBER TOLGYESI:** Just one.

11 On page 3, second paragraph, or second
12 paragraph, the intervenor is saying that regulations allow
13 the industry to operate with impunity, fail to protect
14 human health, especially to most vulnerable in the
15 environment.

16 Do you have any comments of that, staff?

17 Second paragraph, page 3, last two lines.

18 **DR. THOMPSON:** My understanding is that
19 this paragraph is a summary of points that are made
20 elsewhere in the document. And elsewhere in the document
21 there are references to the lack of consideration of
22 uranium bio-magnification and multiple pathways of
23 exposures and other topics like this.

24 I would suggest that the standards that
25 have been set by international organizations have been set

1 using the best science and the Radiation Protection
2 Requirements and the Environmental Protection Requirements
3 that the CNSC has in place are based on those standards.
4 And generally the programs that are in place have resulted
5 in a high level of protection of both workers, members of
6 the public and the environment.

7 **THE CHAIRMAN:** Anybody else?

8 Just one quick question. I hear this all
9 the time and again. Were you here when Professor from
10 McMaster University spoke?

11 Too bad, because I'd like -- on page 10,
12 after the two bullets, in the paragraph, we keep hearing
13 this all along, as there is no safe dose of ionizing
14 radiation. How do you explain background?

15 That's what Professor Boreham tried to
16 explain to us that we are all living with background
17 radiation much of it is 2 millisieverts in this area, for
18 example.

19 Go ahead.

20 **MR. ALBRIGHT:** Yeah, and it kills people.

21 It's as simple as that.

22 **THE CHAIRMAN:** Then how come we are not all
23 dead globally?

24 **MR. ALBRIGHT:** Because -- no, because you
25 can't identify or count the victims. But certainly --

1 it's very simple; one radionuclide ingested into the human
2 body can be fatal. And, so, of course when there are
3 radionuclides around to be ingested, they make people
4 sick; they give people cancer; they kill people.

5 Exactly how many? It's hard to know.
6 Exactly who they are is even harder to know. But there
7 can be no doubt that as long as people are ingesting
8 radionuclides that it's going to harm them.

9 **THE CHAIRMAN:** Yeah, but there is a
10 background radiation, right?

11 **MR. ALBRIGHT:** Yes, that's right.

12 And they're ingesting from that too ---

13 **THE CHAIRMAN:** And if you look at some of
14 the ---

15 **MR. ALBRIGHT:** --- and they're also getting
16 harmed by that.

17 **THE CHAIRMAN:** No, but, but then you know,
18 the longevity of Canadian -- let me use Canada; forget
19 about the rest of the world.

20 **MR. ALBRIGHT:** Yeah, sure.

21 **THE CHAIRMAN:** Aging, everybody, the
22 population is aging; longevity is increasing, in spite of
23 this background radiation, so what's going on?

24 **MR. ALBRIGHT:** Well, suppose we had,
25 suppose someone ingested enough to have doubled what the

1 background radiation gives, then it doubles their risk and
2 so twice as many people die, whatever that is.

3 And, whatever happens on top of background
4 is on top of background. And it causes additional illness
5 and additional fatalities.

6 So, yes, we have this background, we've got
7 cosmic rays too; we've got all kinds of hazards to our
8 health in the natural environment. You can eat a poison
9 mushroom and die. But there is no reason to add to these
10 hazards unnecessarily.

11 **MS. TILMAN:** I think too we are talking in
12 many cases a man-made or human-made chemicals that we are
13 adding to it. I mean we do know there's mercury, natural
14 mercury, natural arsenic, you just referred to it, and
15 uranium but there's other compounds that are artificially
16 made that are causing problems. And why add to it?

17 And there are different sensitivities.
18 There are different vulnerabilities in the population.

19 We are moving into an area where
20 regulations have to be more stringent. And I wanted to
21 comment that the comment that was read from that paragraph
22 as a synopsis was meant to look at the licence limits that
23 are currently being allowed for Cameco.

24 And look at what they are releasing. Now
25 does it now make sense to have more stringent licence

1 limits since they're less than one tenth of the actual
2 licence limits so it's quite possible to have a more rigid
3 licence limit, and at least be more precautionary by
4 letting it be that much more liberal?

5 They have, they're granted a licence to
6 release much more than they are actually doing. They may
7 not be doing right now but why keep those limits at that
8 high level, why not try to ratchet them down?

9 It's what I'm asking of CNSC.

10 **THE CHAIRMAN:** Again, CNSC, I thought I
11 heard them arguing that they using the ALARA principle
12 whenever possible. And in fact, if memory serves, in one
13 of the -- they are now setting up a lawyer action level.

14 Do you want to comment on that?

15 **MR. ELDER:** We've discussed this a bit
16 before, but we set the limit where this is what we
17 consider as being protective. I go over this one, on the
18 imposition where you you'd be seriously considering
19 prosecuting. And what we've done and said, but we don't
20 you to get there, you, the licensee, to get anywhere near
21 that so we are going to have action levels.

22 The exceedances of action levels, we take
23 very seriously. We discuss them with the Commission and
24 we expect there to be prompt action to refuse it.

25 So, I can see then said that there is a gap

1 if you get two -- we like an early warning system, the
2 lower that limit gets, the less useful your early warning
3 system is.

4 There is option. You are always explaining
5 to the public why exceedance of a limit is not a hazard.

6 We would like you to say, "you go over that
7 limit, there is a hazard, I'm going take very strong
8 action".

9 **THE CHAIRMAN:** Okay, the last word please.

10 **MS. TILMAN:** The last word, well, it's an
11 action word then. The action, my understanding of action
12 levels is that they are not enforceable limits. They are
13 just meant to say, take action.

14 Again, from a public perspective and that's
15 how I'll always argue, that's not good enough, especially,
16 you know, what action? So, what protection do we have?
17 Why allow that to happen? Why not create more restrictive
18 limits to begin with instead of waiting for something to
19 exceed?

20 **THE CHAIRMAN:** I guess you get the last
21 word.

22 **(LAUGHTER/RIRES)**

23 **MR. CLARK:** So I'll go back in, in saying
24 actually we -- action in terms of "they don't take
25 appropriate action, we do". And in this case where there

1 was a plant shutdown because there were multiple
2 exceedances. Two days in a row, you exceed the action
3 levels, you shutdown and you stop all emissions regardless
4 of where you are against a legal limit.

5 I think the proof would be, is as if they
6 had been affective in keeping the total emissions low.

7 There are other regulatory models. This is
8 the one that we use -- we can look at the facts of what
9 the releases are and the effects of the power on the
10 environment and health and safety and say these are low.

11 **THE CHAIRMAN:** Okay, thank you. Thank you
12 very much. I think this concludes Dale. Believe it or
13 not, we're not that -- well, I don't know -- maybe a
14 couple of hours off the agenda. And we are going to start
15 immediately continuing on our written submissions.

16 **MR. LEBLANC:** Yes, we started the written
17 submissions last evening. We continued a bit this morning
18 with the Lake Ontario Waterkeeper. We're going to resume
19 in the order that they were received in and the order in
20 the agenda. So we're now at CMD 11-H16.5.

21 Before we start, obviously, we will not be
22 starting the chemical fuel manufacturing facility hearing
23 at 6 p.m. as planned. We will start it this evening a bit
24 later.

25 So now the plan is to go through the

1 written submissions. We then break for dinner. We
2 probably will shorten the dinner to about 30 minutes, and
3 then we'll proceed with just the start of the chemical
4 fuel manufacturing facility, that is the presentations by
5 Cameco and by staff. And we already have scheduled four
6 interventions, one of whom has asked us to deal with it as
7 a written, so there will be three interventions orally to
8 deal with this evening and then we resume tomorrow.

9 We'll readjust and as the day goes, as the
10 evening goes, as needed. So I hope everybody's okay with
11 this.

12 **THE CHAIRMAN:** I think we need a 10-minute
13 biological break. Thank you.

14
15 --- Upon recessing at 5:59 p.m./

16 L'audience est suspendue à 17h59

17 --- Upon resuming at 6:08 p.m./

18 L'audience est reprise à 18h08

19
20 **MR. LEBLANC:** Please take your seat. I am
21 going to lead the Commission Members through the written
22 interventions. So the next written submission ---

23 **THE CHAIRMAN:** Just, sorry Marc, just to
24 remind everybody, we're going to go through this
25 relatively quickly. We all read each and every submission

1 so everybody knows that. And many of them raise a lot of
2 issues we've already dealt with.

3 So we're going through them relatively
4 quickly and only try to deal with those issues that we
5 think have not be heard or we think require some further
6 attention.

7 Go ahead, Marc.

8 **MR. LEBLANC:** So the submission is from Mr.
9 Myron Szalawiga, as outlined in CMD 11-H16.5. Questions?

10

11 **11-H16.5**

12 **Written submission from**

13 **Myron Szalawiga**

14

15 **THE CHAIRMAN:** Just one question here.
16 Does anybody remember when was the formal independent
17 public survey of Port Hope population? Was there such a
18 thing, talks about living in Port Hope, census of some
19 sort? Was there any poll? No? Okay.

20 **MR. LEBLANC:** The next submission is from
21 Mr. Gerald Crawford, as outlined in CMD 11-H16.6. Any
22 questions?

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24 **11-H16.6**

25 **Written submission from**

1 **Gerald Crawford**

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MR. LEBLANC: The next submission is from the Junior Achievement Peterborough, Lakeland, Muskoka, as outlined in CMD 11-H16.7. Questions?

11-H16.7

**Written submission from
Junior Achievement Peterborough,
Lakeland, Muskoka**

MR. LEBLANC: Okay. The next written submission is from Mr. Jean-Pierre Pascoli, as outlined in CMD 11-H16.8. Questions?

11-H16.8

**Written submission from
Jean-Pierre Pascoli**

THE CHAIRMAN: No.

MR. LEBLANC: The next submission is from Mr. Bill Edwards as outlined in CMD 11-H16.9.

11-H16.9

Written submission from

1 **Bill Edwards**

2

3 **MR. LEBLANC:** We have Dr. Barriault.

4 **THE CHAIRMAN:** Go ahead, sorry, Dr.

5 Barriault.

6 **MEMBER BARRIAULT:** Just one brief question.

7 He raises the issue of having a CNSC, I guess, presence in
8 Port Hope. Is that being entertained at all? I know we
9 spoke about this yesterday.

10 **MR. ELDER:** Peter Elder, for the record.

11 Just to confirm, yes, we are entertaining
12 this as a potential option. We recognize that we're going
13 to have significant oversight presence here if -- when
14 Vision 2010 and Port Hope Area Initiative go forward. So
15 there are other options, assigning additional staff at our
16 Darlington office as well.

17 **THE CHAIRMAN:** On page 1, I believe, of
18 this intervention, there's a number here talked about in
19 cultural contributions to the tune of 600,000 in 2009.
20 Where does that number -- I remember that somebody asked
21 whether you were publishing your monetary charitable
22 contributions. So was that done 2009? And if it's done
23 in 2009, is it done in every other year?

24 **MR. THORNE:** Andy Thorne, for the record.

25 I think in past years we have disclosed the

1 full amount, in the past. What we don't do is actually
2 provide specifics -- specific numbers to individual
3 contributions ---

4 **THE CHAIRMAN:** But you do give the total?

5 **MR. THONE:** Yes, typically we would share
6 that number, yes.

7 **THE CHAIRMAN:** So it would be on the
8 website?

9 **MR. THORNE:** I'd need to check that. I can
10 come back to you on that.

11 **THE CHAIRMAN:** Okay. Thank you.

12 **MR. LEBLANC:** The next submission is from
13 the Cobourg Highland Games Society, as outlined in CMD 11-
14 H16.10. Questions?

15

16 **11-H16.10**

17 **Written submission from**

18 **Cobourg Highland Games Society**

19

20 **MR. LEBLANC:** The next submission is from
21 Mrs. Marilyn Routly, as outlined in CMD 11-H16.11. Any
22 questions?

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24 **11-H16.11**

25 **Written submission from**

1 **Marilyn Routly**

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THE CHAIRMAN: I think a question came in about -- there's a statement here that just caught my eye -- that just about everything that goes in the plastic process is carcinogenic. I'm trying to see if there is any area where we did some industry by industry comparison?

9

10

DR. THOMPSON: Patsy Thompson, for the record.

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There's been lots of work done in terms of various chemicals in the plastic industry. We're talking about organics. So there's lots of information on the relative toxicity of various chemicals. There have been studies comparing various industries.

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We tend to look more at the work that's done to compare, for example, radionuclide emissions from various ways of producing electricity or, as we mentioned yesterday, levels of uranium in fertilizers.

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21

But certainly that work has been done and data exists.

22

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24

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THE CHAIRMAN: So which sector -- which industry, I mean, I don't like to point fingers, but which industry is the most dangerous for a cancerous impact? Anybody know? I mean, I don't know if that kind of ---

1 **DR. THOMPSON:** It's stretching my memory,
2 but I would say the events that have led to investigations
3 and banning of substances, for example, has been the use
4 of, for example, chemicals in the dry cleaning industry,
5 where women who were exposed to those chemicals -- you
6 know, there was lots of epidemiological studies showing
7 cancer.

8 So there's been some industries where
9 chemicals have been banned because of health effects, but
10 I wouldn't know the names. It's been a while since I've
11 looked at it.

12 **THE CHAIRMAN:** Thank you.

13 **MR. LEBLANC:** The next submission is from
14 Ms. Jackie Brimblecombe, as outlined in CMD 11-H16.12.
15 Questions?

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17 **11-H16.12**

18 **Written submission from**

19 **Jackie Brimblecombe**

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21 **MR. LEBLANC:** The next submission is from
22 Ms. Rachelle Torrieri, as outlined in CMD 11-H16.13.
23 Questions?

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25 **11-H16.13**

1 **Written submission from**
2 **Rachelle Torrieri**

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4 **THE CHAIRMAN:** This particular individual
5 was describing the treatment she got when she became
6 pregnant.

7 What I want to know is what is the Cameco
8 policy for women that become pregnant?

9 **MS. PETERS:** Rebecca Peters, for the
10 record.

11 I can kind of speak from personal
12 experience here.

13 **THE CHAIRMAN:** That's good.

14 **MS. PETERS:** Cameco's policy on employees
15 who become pregnant, the first thing that is done is there
16 is a meeting between the supervisor, the employee and our
17 -- one of our site nurses, and the discussion is held then
18 on what the typical duties of that employee is in their
19 current position. Sorry, the radiation safety officer is
20 also involved in that discussion. And there's an
21 assessment done whether the employee can continue to carry
22 on with the duties that they have at that present time,
23 given that they are pregnant, because Cameco's policy is
24 to ensure that there is no additional dose to that
25 employee during their pregnancy.

1 For most employees, in the case of the one
2 who is written in here, the jobs that they are involved in
3 typically would have them in an area where they may be
4 exposed to uranium, so they're actually taken out of those
5 work environments and given other tasks, meaningful work
6 in other departments for the balance of their pregnancy.

7 They're also given a direct-read dosimeter
8 so they're able to monitor on a daily basis what their
9 dose is. Their urine submission frequency may be
10 increased, as well as the OSL dosimeter may be changed
11 from a quarterly frequency to a monthly frequency,
12 depending on their area of work. So there's a lot of work
13 involved to make sure that pregnant employees and their
14 unborn babies are protected.

15 **THE CHAIRMAN:** Thank you.

16 **MR. LEBLANC:** The next submission is from
17 Mr. Ron Smith, as outlined in CMD 11-H16.15. Questions?

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19 **11-H16.15**

20 **Written submission from**

21 **Ron Smith**

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23 **MR. LEBLANC:** The next submission is from
24 the Port Hope and District Chamber of Commerce, as
25 outlined in CMD 11-H16.17. Questions?

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11-H16.17

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Written submission from

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Port Hope and District

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Chamber of Commerce

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MR. LEBLANC: The next written submission

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is from the Friends of Music, as outlined in CMD 11-

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H16.18.

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11-H16.18

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Written submission from the

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Friends of Music

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MR. LEBLANC: The next submission is from

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Ms. Diane Flesch, as outlined in CMD 11-H16.19.

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11-H16.19

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Written submission from

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Ms. Diane Flesch

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MR. LEBLANC: The next submission is from

23

Mr. Gerhard Heinrich, as outlined in CMD 11-H16.20.

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11-H16.20

1 **Written submission from**
2 **Gerhard Heinrich**

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4 **MR. LEBLANC:** The next submission is from
5 Mr. Bruce Cooper, as outlined in CMD 11-H16.21.

6

7 **11-H16.21**

8 **Written submission from**
9 **Bruce Cooper**

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11 **MR. LEBLANC:** The next submission is from
12 E.S. Fox Ltd., as outlined in CMD 11-H16.23.

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14 **11-H16.23**

15 **Written submission from**
16 **E.S. Fox Ltd.**

17

18 **THE CHAIRMAN:** Dr. Barriault, go ahead.

19 **MEMBER BARRIAULT:** I'm sorry, just one
20 brief question. I wasn't clear what's the Facility Access
21 Security Clearance, FASC. Perhaps somebody could explain
22 that to me?

23 **MR. CLARK:** Dale Clark, for the record.

24 The FASC, the Facility Access Security
25 Clearance, that's one of the security measures or

1 protective measures that we take before anyone enters the
2 facility to conduct any work. So that applies for
3 employees or for visitors or for contractors that are
4 coming on the site, which includes a background check of
5 the individuals.

6 And we work closely with the municipal
7 police services to conduct that type of review before
8 anyone comes on to do work on site.

9 **MEMBER BARRIAULT:** And you also have pre-
10 employment substance abuse testing; is that correct?

11 **MR. CLARK:** That is correct.

12 **MEMBER BARRIAULT:** Okay. Thank you.

13 That's all, Mr. Chairman.

14 **THE CHAIRMAN:** Can you give us maybe one --
15 well, a 10-second kind of overview of the drug and alcohol
16 -- is everybody going through this, every employee? How
17 often? Is it for cause or is it random testing? How does
18 it work?

19 **MR. CLARK:** Yes. Dale Clark, for the
20 record.

21 We've recently introduced the Substance
22 Abuse Program and Policy across Cameco. It is -- it
23 applies to all employees and it is testing that is based
24 on cause. So if there is a cause or reason for concern,
25 concern for someone's health or well being or a unique,

1 strange behaviour, that there is a program in place to
2 make sure that that is validated. There is some
3 additional oversight to ensure that it doesn't get abused,
4 but that could trigger substance abuse testing in that
5 case.

6 In addition to that, we have, as you
7 mentioned, implemented that for pre-employment testing as
8 well.

9 **THE CHAIRMAN:** Sorry, I missed it. Did you
10 say you do random checks or is it only for cause?

11 **MR. CLARK:** Only for cause.

12 One other point that I would add is that it
13 does apply for contractors working on site as well.

14 **THE CHAIRMAN:** Did you have to negotiate
15 this with the Union or is it just the company policy?

16 **MR. CLARK:** It is a company policy, and
17 given our facility, we have a policy -- a Joint Policy
18 Committee between management and worker representatives.
19 Any new policy goes through those practices and protocols
20 before implementing, and this does as well. But that is a
21 Cameco policy.

22 **THE CHAIRMAN:** Dr. Barriault?

23 **MEMBER BARRIAULT:** Just briefly.

24 On a pre-employment testing, what is your
25 failure rate or detection rate? I'm sorry, on your pre-

1 employment, what is your detection rate or failure rate of
2 substance abuse testing?

3 **MR. CLARK:** Dale Clark, for the record.

4 I don't have that information. We can
5 collect that and come back to you, if you like. It is a
6 fairly recent program that's been introduced in Cameco, so
7 we have probably limited data, but we can collect that.

8 And to clarify, this is also -- maybe to
9 correct my statement, this is in fact an HR policy that's
10 been implemented maybe as opposed to strictly a safety
11 policy. This is an HR practice across Cameco.

12 **MEMBER BARRIAULT:** Thank you.

13 Thank you, Mr. Chairman.

14 **MEMBER TOLGYESI:** What happens when you
15 have somebody under drug and alcohol influence? What's
16 the consequence?

17 **MR. CLARK:** Dale Clark, for the record.

18 It is -- there is consideration given to
19 the case, so I can't say specifically -- a specific
20 consequence. We do recognize there are challenges that
21 individuals face, and we're -- we do work with
22 individuals, but we obviously take this very seriously and
23 assess it on a case-by-case basis.

24 **THE CHAIRMAN:** Okay.

25 **MR. LEBLANC:** The next submission is from

1 the Northumberland Players, as outlined in CMD 11-H16.24.
2 Questions?

3

4 **11-H16.24**

5 **Written submission from**

6 **Northumberland Players**

7

8 **MR. LEBLANC:** So the next submission is
9 from T.J. or Tim Haynes Professional Corporation as
10 outlined in CMD 11-H16-25.

11

12 **11-H16.25**

13 **Written submission from**

14 **T.J. (Tim) Haynes**

15 **Professional Corporation**

16

17 **MR. LEBLANC:** Questions?

18 **THE CHAIRMAN:** The Proponent -- the
19 Proponent, I keep calling them Proponents but this
20 intervenor has suggested that Port Hope should strive to
21 become the centre of excellence for the nuclear industry
22 and nuclear research.

23 So, what do you think?

24 **MR. THORNE:** Andy Thorne, for the record.

25 What I would say to that comment is as part

1 of our Vision 2010 project we do intend to build a new
2 research facility at part of that project. So that's
3 really a very important part of that project for us and
4 we're quite excited about that and it will certainly
5 enhance the research capabilities in relation to our
6 company.

7 And we do a lot of work with universities
8 right across Canada and the world and it will allow us to
9 do even more of that. So I think to some extent you could
10 say we do have plans to increase our research capabilities
11 in Port Hope.

12 **MR. LEBLANC:** The next submission is from
13 Ms. Suzanne Frankcom-Wright, as outlined in CMD 11-H16.26.

14
15 **11-H16.26**

16 **Written submission from**
17 **Suzanne Frankcom-Wright**

18
19 **MR. LEBLANC:** Questions?

20 The next submission is from the Cobourg
21 Dragon Boat and Canoe Club, as outlined in CMD 11-H16.27.

22
23 **11-H16.27**

24 **Written submission from**
25 **Cobourg Dragon Boat and**

1 **Canoe Club**

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3 **MR. LEBLANC:** Questions?

4 The next submission is from Mr. Ed Lam, as
5 outlined in CMD 11-H16.28.

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7 **11-H16.28**

8 **Written submission from**

9 **Ed Lam**

10

11 **MR. LEBLANC:** The next submission is from
12 the All-Canadian Jazz Festival Port Hope, as outlined in
13 CMD 11-H16.29.

14

15 **11-H16.29**

16 **Written submission from**

17 **All-Canadian Jazz**

18 **Festival Port Hope**

19

20 **MR. LEBLANC:** The next submission is from
21 Mr. Ron Davis as outlined in CMD 11-H16.30.

22

23 **11-H16.30**

24 **Written submission from**

25 **Ron Davis**

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MR. LEBLANC: The next submission is from

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the Northumberland Sunrise Rotary, as outlined in CMD 11-

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H16.31.

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11-H16.31

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Written submission from

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Northumberland Sunrise

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Rotary

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MR. LEBLANC: The next submission is from

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the Community Care Northumberland, as outlined in CMD 11-

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H16.32.

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11-H16.32

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Written submission from

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Community Care

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Northumberland

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MR. LEBLANC: The next submission is from

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HMC Consulting, as outlined in CMD 11-H16.33.

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11-H16.33

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Written submission from

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HMC Consulting

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MR. LEBLANC: The next submission is from the Northumberland United Way, as outlined in CMD 11-H16.36.

11-H16.36
Written submission from
Northumberland
United Way

MR. LEBLANC: The next submission is from Mr. Dan Rudka, as outlined in CMD 11-H16.40. I wish to note that Mr. Rudka will be presenting an oral submission during the Cameco fuel manufacturing hearing later this evening.

11-H16.40
Written submission from
Dan Rudka

MR. LEBLANC: Any questions from the Members?

Monsieur Harvey?

MEMBER HARVEY: Just one question about the -- to the length of the licence is there any advantages

1 for the public to have a longer licence period?

2 Please give consider the advantages of a
3 two-year licence period but...

4 **MR. ELDER:** Peter Elder.

5 We in the past have done shorter licenses,
6 that's going back in -- I think the advantage if -- you
7 know, some people say, yes, I would like to come talk more
8 often going back in. I think the advantage is that it
9 allows us as staff to actually do a more comprehensive
10 review.

11 The documents we produce, you know, are
12 more useful because we have multiple years of data, you
13 can trend items. I think you get a more comprehensive
14 view of what's going on and a better accurate prediction
15 of what's going to happen in the future with the longer
16 licence.

17 **MEMBER HARVEY:** Because for the public, I
18 mean if you got five year and continue with five years but
19 if you go to 10 years then you have the impression to lose
20 something.

21 Well, on the public point of view there is
22 no advantage.

23 **THE CHAIRMAN:** If I could jump in on this
24 one. This -- also intervenor is also suggesting, in
25 relation "I would like -- I would also argue it would be

1 beneficial to all CNSC -- to all if CNSC would once a year
2 hold a public meeting with Cameco to give an extensive
3 report".

4 So the real question is how effective you
5 think the annual report that you are planning to do, to
6 give kind of an access to the angst of the community?

7 **MR. ELDER:** Peter Elder, for the record.

8 That will be difficult to predict because
9 we want to look at the whole industry, so that we look at
10 it so all the uranium mining to give you a good idea of
11 what Cameco is doing overall but we're also going to
12 include a lot of facilities that aren't in Port Hope, are
13 in Saskatchewan, in other parts of Ontario.

14 So I'm not sure that -- you know, we
15 hopefully it will provide routine information on all their
16 facilities and how we think they're going. It won't --
17 may or may not address the needs of a particular
18 community.

19 **THE CHAIRMAN:** I guess that Mr. Jammal is
20 really excited here.

21 **MR. JAMMAL:** For the record, Jammal as your
22 CRO.

23 Mr. President, annual reports will be
24 developed for the facilities, other than the nuclear power
25 plants because we've had our experience last year. We've

1 introduced the written intervention in the public
2 proceedings for -- on the annual reports.

3 So what we wanted to do is render the
4 annual report to be more compliance in nature and provide
5 the opportunity for interventions accordingly.

6 Until then; the directorate of Mr. Elder is
7 working very hard in order to put this thing in place and
8 with the establishment of the licence compliance handbook
9 Licence Condition Handbook (LCH), there would be annual
10 revision to the Commission in that perspective.

11 **THE CHAIRMAN:** Monsieur Harvey?

12 **MEMBER HARVEY:** The complaint for the
13 public is mostly for the participation. I mean, okay you
14 can give the public all the data, all the results but at
15 the level of the participation this is a loss for the
16 public.

17 **MR. JAMMAL:** For the record, Ramzi Jammal.

18 Of course we'll follow the rule of
19 procedure of the Commission but the intent is to provide,
20 at minimum, the intervention to the public in writing with
21 respect to the proceedings on the annual report and the
22 discussions.

23 **MEMBER HARVEY:** On the annual report?

24 **MR. JAMMAL:** Yes.

25 **MEMBER HARVEY:** Okay.

1 **MR. LEBLANC:** The next submission is from
2 Ms. Christa Ingalls, as outlined in CMD 11-H16.41.

3

4 **11-H16-41**

5 **Written submission from**

6 **Christa Ingalls**

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8 **MR. LEBLANC:** The next submission is from
9 Mr. David Henderson, as outlined in CMD 11-H16.42.

10

11 **11-H16.42**

12 **Written submission from**

13 **David Henderson**

14

15 **MR. LEBLANC:** The next submission is from
16 the Port Hope Figure Skating Club as outlined in CMD 11-
17 H16.43.

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19 **11-H16.43**

20 **Written submission from**

21 **Port Hope Figure**

22 **Skating Club**

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24 **MR. LEBLANC:** The next submission is from
25 Mr. Michael Murchie, as outlined in CMD 11-H16.44.

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11-H16.44

**Written submission from
Michael Murchie**

MR. LEBLANC: The next submission is from Mr. Victor Allan Glover, as outlined in CMD 11-H16.45. I'd also like to note that Mr. Glover is one of our oral intervenors later this evening on the conversion fuel facility -- the Cameco fuel manufacturing facility.

11-H16.45

**Written submission from
Victor Allan Glover**

MR. LEBLANC: Yes?

THE CHAIRMAN: This individual is -- Let me read this sentence here:

"I firmly believe that the mistruth conveyed by many of the uninformed people in the area would easily be corrected if these people could see the measure to ensure safety and strict adherence to guidelines."

You mentioned that you are doing tours --

1 public tours. Can anybody ask to be guided through a tour
2 of the facility, and how many do you do a year?

3 **MR. THORNE:** Andy Thorne, for the record.

4 Yes, we do -- I don't have the exact
5 number, but we do many, many tours of the facility ranging
6 in a number for -- a number of different focus areas,
7 benchmarking trips from other nuclear operators. Dale has
8 talked about the teachers coming to see what we do. And
9 so a whole host of different interested parties.

10 We have in the past, you know, for example,
11 as part of the Vision 2010 EA process, there is a
12 requirement to involve the community and stakeholders in
13 that environmental process and we have examples of, you
14 know, opening our doors to, you know, some of the groups
15 that are criticizing our operations. So I think it is
16 fair to say that we are open to and if -- when we do have
17 requests, we consider them on an individual basis and we
18 are open to -- certainly open to requests for people to
19 come and tour our facility.

20 **THE CHAIRMAN:** So to be absolutely clear,
21 many of the anti-Cameco operation; do they take you up on
22 this offer?

23 **MR. THORNE:** Yes, Andy Thorne, for the
24 record.

25 I would say that there are a number of

1 people that have -- intervenors that you have seen the
2 anti-interventions that the people that you have seen -- a
3 number of the people that you have seen in front of you in
4 the last two days have certainly been through our
5 facilities. I have personally been with those people as
6 we have toured our facility so yes, we have, in the past,
7 opened our doors to all sorts of different people with
8 different interests in what we do.

9 **MEMBER TOLGYESI:** You do not have one, I do
10 not know, every first Tuesday in the month the open house
11 that anybody who could stop and visit, the public?

12 **MR. THORNE:** Andy Thorne, for the record.

13 No, we do not. You know, there is another
14 consideration that we have to give the -- you know, we are
15 running an operation. It is a Cameco facility that, you
16 know, it is -- we have to make sure that when we do tour
17 people around our facility, it is done in a controlled
18 manner so we try to -- we try not to do that too often and
19 we try and control that and, you know, we would not want
20 to do that in every -- an open house every week or every
21 month would cause quite a lot of distraction for us so we
22 have not done that. We have had some discussions
23 internally on whether we should entertain a slightly more
24 open approach to inviting people into the facility. We
25 are still having those discussions and still weighing out

1 the pros and cons of that.

2 The other thing to note is, you know, it is
3 a nuclear facility as well and so security is a
4 consideration as well.

5 **MR. LEBLANC:** The next submission is from
6 the Northumberland Manufacturers' Association as outlined
7 in CMD 11-H16.47.

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9 **11-H16.47**

10 **Written submission from**
11 **Northumberland Manufacturers'**
12 **Association**

13

14 **MR. LEBLANC:** The next submission is from
15 Mr. Stephen Alexander as outlined in CMD 11-H16.49

16

17 **11-H16.49**

18 **Written submission from**
19 **Mr. Stephen Alexander**

20

21 **MR. LEBLANC:** The next submission -- oh, am
22 I going too fast? No? Okay.

23

24 The next submission is from Mr. Lou
25 Rinaldi, former MPP for Northumberland-Quinte West as
outlined in CMD 11-H16.50. Any questions?

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11-H16.50

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Written submission from

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Mr. Lou Rinaldi, Former MPP,

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Northumberland-Quinte West

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MR. LEBLANC: The next submission is from

8

Mr. Lorne VanderDussen as outlined in CMD 11-H16.54.

9

Questions?

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11-H16.54

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Written submission from

13

Mr. Lorne VanderDussen

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MR. LEBLANC: The next submission is from

16

Robert Jean or Robert Jean as outlined in CMD 11-H16.56.

17

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11-H16.56

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Written submission from

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Mr. Robert Jean

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MR. LEBLANC: The next submission is from

23

Mr. Tom Fraser as outlined in CMD 11-H16.57.

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11-H16.57

1 **Written submission from**
2 **Mr. Tom Fraser**

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4 **MR. LEBLANC:** The next submission is from
5 the Northumberland Services for Women as outlined in CMD
6 11-H16.58

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8 **11-H16.58**
9 **Written submission from**
10 **Northumberland Services**
11 **for Women**

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13 **MR. LEBLANC:** The next submission is from
14 Mr. Gary McCracken as outlined in CMD 11-H16.61

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16 **11-H16.61**
17 **Written submission from**
18 **Mr. Gary McCracken**

19

20 **MR. LEBLANC:** The next submission is from
21 Mr. Shane Watson as outlined in CMD 11-H16.62.

22

23 **11-H16.62**
24 **Written submission from**
25 **Mr. Shane Watson**

1 **MR. LEBLANC:** The next submission is from
2 the United Brotherhood of Carpenters, Local 397, as
3 outlined in CMD 11-H16.63.

4

5 **11-H16.63**

6 **Written submission from**
7 **United Brotherhood of Carpenters**
8 **(Carpenters Union Local 397)**

9

10 **MR. LEBLANC:** The next submission is from
11 the Commissioners of the Port Hope Harbour as outlined in
12 CMD 11-H16.64. Any questions?

13

14 **11-H16.64**

15 **Written submission from the**
16 **Commissioners from the**
17 **Port Hope Harbour**

18

19 **MR. LEBLANC:** The next written submission
20 is from Mr. Larry Johnston as outlined in CMD 11-H16.65,
21 and I understand that Mr. Johnston is in the room should
22 there be any questions. Thank you.

23

24 **11-H16.65**

25 **Written submission from**

1 **Mr. Larry Johnston**

2

3 **MR. LEBLANC:** Any questions?

4 **THE CHAIRMAN:** Oh, yes. There was some
5 pretty succinct, very short, eight questions; I think we
6 should like some people dealing with them. So why don't
7 we go through them really quickly; short and succinctly.

8 He is making some recommendation. You
9 know, these are issues that he believes have not been done
10 or properly dealt with so why don't we start.

11 One, net -- well, why don't I let -- I want
12 to get some recommendation if he wants to ask questions.

13 Oh, you want to go through the rest of the
14 list?

15 Do you want to say something as an
16 introduction to this or you just want to wait for the
17 answers?

18 **MR. JOHNSTON:** Sure, I will introduce
19 myself. Larry Johnston, for the record.

20 I am a metallurgical engineer. I have 18
21 years experience at the Port Hope Conversion Facility.
22 Most recently I have been terminated from the facility
23 without cause; that was a year ago. Therefore my
24 knowledge of the facility is quite extensive and I am
25 prepared to answer whatever questions you have.

1 **THE CHAIRMAN:** Why don't you go -- why
2 don't we go quickly through this. He is just arguing
3 there was a lack of continual improvement at the facility.

4 So the first one is net fluoride emissions
5 from the plant failed to be reduced.

6 **MR. CLARK:** Yes, excuse me, Dale Clark, for
7 the record.

8 And, first of all, I would like to respond
9 to the comment about the technical expertise and the
10 management capability of the site because that is an area
11 that I am, you know, very proud of the capability and the
12 team and the leadership team that we have on site.

13 We have, similar to the presentation that
14 Mr. Thorne began with for the division, when we look at
15 the senior management team for the facility, we have over
16 135 years of collective experience in industrial settings,
17 four different countries around the world. We have many
18 different certifications, engineering degrees, and
19 multiple professional engineers on the site. Six Sigma
20 the black belt certifications, asset management
21 certifications; I could go on, but I do want to start off
22 by saying that we are very proud of the technical
23 competence and the technical capabilities and the
24 leadership and management capabilities on site.

25 On the first point on fluoride emissions,

1 the statement is not correct. And actually, earlier today
2 or yesterday, I think, or both, I have spoken to some of
3 the emissions that we have seen recently -- emissions
4 reductions that we have seen recently in fluoride
5 emissions from the UF₆ plant from an average of a typical
6 value of approximately 60 grams per hour to less than 30
7 grams per hour based on changes that were made to the
8 emission scrubbing system within the UF₆ plant, and again,
9 to keep that number in context, that's compared to a safe
10 regulatory limit of 650 grams per hour.

11 So in addition to those changes that were
12 made within the plant, we did modify the building
13 ventilation exhaust systems and the elevation at which
14 those ventilations exhaust at, and that was a capital
15 change that was implemented to ensure that we meet the POI
16 requirements from the Ministry of the Environment. That
17 was a successful change implemented during the licence
18 period, but overall the fluoride emissions have clearly
19 improved and I believe it's an example of continual
20 improvement.

21 **THE CHAIRMAN:** Okay. If we're going to go
22 through those eight, you'll have to do it a lot faster
23 than that.

24 **MR. CLARK:** Okay.

25 **THE CHAIRMAN:** So why don't you take a run

1 at all of them, sort of quickly ---

2 **MR. CLARK:** Okay.

3 **THE CHAIRMAN:** --- and then we'll get a
4 counterpoint, I'm sure.

5 **MR. CLARK:** Okay.

6 So to continue, I believe the second point
7 is on the Freon leaks. I would say that we have
8 identified an alternative approach to addressing a
9 concern. There's a predictive technique that's been
10 implemented which we believe is a better alternative.

11 That alternative technique is -- we're
12 using eddy current technology to regularly inspect the
13 heat exchanger tubes and identify potential failures
14 before they occur, so we're confident that we've addressed
15 that, albeit in a different method than what was
16 suggested.

17 The third point, I believe, is on the
18 calciner concerns. In this case, the recommendations were
19 not implemented as we find that, that particular solution
20 not particularly feasible due to the -- primarily due to
21 the size of the calciners and I can't, you know, get into
22 the specific sizes or dimensions of key equipment.

23 But we do routine inspections on these --
24 on this key piece of equipment. We've seen no evidence of
25 stress cracking and, therefore, no worker exposures as a

1 result of that in this particular case. Also, we have
2 talked previously about our operational reliability
3 program that's been implemented recently and continues to
4 be implemented and driving new processes and new ways to
5 drive improved reliability of key parts of the process.

6 **MEMBER MCDILL:** How frequent are the
7 inspections?

8 **MR. CLARK:** The inspections on the
9 calciner?

10 So we believe they're conducted at least
11 every two years. Maybe we can confirm that and come back.

12 The fourth point on the fluid beds, we have
13 -- first of all, we have made modifications to these -- to
14 this part of the process over the operating experience of
15 this equipment that has improved the design of the
16 equipment. Again, we do regular inspections of this
17 equipment at least every two years and we've observed no
18 cracks in the reactor, in the vessels themselves.

19 And in addition in this point, I would
20 highlight that there are multiple layers of defence.
21 Hydrogen leak detection, that is throughout that area of
22 the process, and those controls are automated, interlocked
23 to ensure compliance and early action in case there is a
24 vent that can shut down the process in the event anything
25 is observed outside, and that is demonstrated by many

1 years of safe operation of that equipment.

2 Okay. So I believe number five is on the
3 slurry piping. In this case, we have, in fact, made
4 changes and enhanced the predictive maintenance program on
5 this system and primarily since this -- Mr. Johnson has
6 left Cameco, this program does cover both the piping and
7 the valves. And it is an effective tool to allow us to
8 predict the corrosion rates and the failure before they
9 occur on both piping in that area and the valves.

10 Number six comment is on the cylinder
11 recertification. In this case, we are -- we're confident
12 that -- our process for recertifying cylinders, we have
13 trained operators that go through the training process and
14 qualification. They are certified by our SAT or
15 Systematic Approach to Training program, part of our
16 quality management system program.

17 These programs are approved by our
18 inspection authority, the CNSC in this case, that oversees
19 that SAT program and our QMS program, and therefore that
20 covers the operators in this case for recertifying
21 cylinders.

22 The CNSC does issue the transport licence
23 and, therefore, the -- part of the -- as an authority in
24 the area of transport of these cylinders. So we meet
25 those requirements.

1 **MEMBER MCDILL:** Can I ask staff to confirm
2 that they are satisfied that the cylinders are being
3 properly inspected?

4 **MR. ELDER:** I'll ask Sylvain Faille in
5 Ottawa to respond to that one in terms of inspections of
6 the UF₆ cylinders.

7 **MR. FAILLE:** Thank you. For the record,
8 I'm Sylvain Faille, the Director of the Transport
9 Licensing and Strategic Support Division.

10 The requirements of the ANSI standards are
11 also to mark that the cylinders are marked with the date
12 of the last inspections, and that's part of our
13 verification when we do compliance inspections. We verify
14 that the cylinders are within their five-year limit for
15 inspections when they're in transport, and we would do the
16 verification of the testing upon -- not at the -- of the
17 program at the facility.

18 **MEMBER MCDILL:** So you believe there are
19 personnel who are qualified to perform the inspections.

20 **MR. FAILLE:** Yes, we believe that they are
21 qualified.

22 **THE CHAIRMAN:** Can you finish seven and
23 eight and then have CNSC just do a quick overall review
24 before we give Mr. Johnson another crack at it?

25 **MR. CLARK:** Okay. So the point number

1 seven -- to continue, Dale Clark for the record -- was on
2 welding controls. In this case, this was recognized as a
3 potential issue and the welder qualification procedure has
4 been enhanced and changed approximately a year ago.

5 Today there is greater oversight by the NDE
6 technicians, or the Non-Destructive Examination
7 technicians, that administer this process and inspect the
8 qualification test welds and that the program is tailored
9 to their availability. So we're confident that this
10 particular concern has been addressed since that time.

11 And then I believe the final point on the
12 CIRS actions, quite simply, we absolutely do not sweep
13 issues under the rug. In fact, I've spoken numerous times
14 today and yesterday about the importance of the corrective
15 action program, the questioning attitude that we've
16 developed and the open and transparent aspect of the
17 service program and the corrective action program.

18 All investigations and actions developed
19 are attached -- electronically attached to the record as
20 part of that database. That information is accessible to
21 all employees. It's accessible to the CNSC staff, who
22 regularly review and inspect that during visits.

23 So overall, we're very pleased with that
24 program and the improvements that that's brought about and
25 the improvements in the questioning attitudes that that

1 program has brought about.

2 So I believe that covers all of the main
3 points, briefly.

4 **THE CHAIRMAN:** Okay. Staff, a quick
5 overview of this.

6 **MR. ELDER:** So because there -- I've sort
7 of got three points I want to make. One is about the
8 emissions.

9 We've talked a lot in the last days, but
10 certainly in the last licence period, of looking at how
11 they're managing emissions and especially looking at
12 fugitive emissions. So we do look at it and we don't
13 agree that they have just -- these reductions in emissions
14 are just pushing it from one place to another because
15 we've been very closely monitoring how they are dealing
16 with the fugitive emissions.

17 The second one is in terms of the
18 maintenance of the systems. We focus in inspections on
19 the safety-related systems, so we don't necessarily look
20 at all systems, but maintenance in this has been the issue
21 that we focus on inspections.

22 Third one is in terms of the corrective
23 actions. Every single inspection we go into the reporting
24 system and look at the events and look that key events
25 that are important to us have actually been addressed. So

1 we do independent monitoring of their corrective actions
2 and is a very important part of our inspections.

3 **THE CHAIRMAN:** Okay, Mr. Johnston?

4 **MR. JOHNSTON:** Larry Johnston, for the
5 record.

6 I'll just back up a little bit to comment
7 on the expertise on site. I do agree they have a fairly
8 extensive staff, but the one ingredient that they do not
9 have is a physical metallurgist, which I am. And the
10 history of the facility from the early '70s has always
11 been to keep on staff a physical metallurgist with
12 expertise in failure analysis and corrosion.

13 That has continued on until last year and
14 with each successive candidate in that role has gone
15 through a mentor period with the successor. And I did
16 that as well with -- I mentored for approximately 10 years
17 under my supervisor before he retired and I was sort of
18 expecting the same, because as of now, the expertise at
19 the facility has gone from a collective forty-year plus
20 expertise in the failure analysis and corrosion field to
21 nothing. They've lost all that expertise in one simple
22 process and instead of doing their planning or succession
23 planning or whatever, lack thereof.

24 So they're missing that physical
25 metallurgist onsite, and so that's my concern is now that

1 the entire site needs that much more oversight in that
2 subject matter just because they've chopped the head off
3 of that position. So that's my biggest concern.

4 Then to move on down --let's just go
5 through. My problem with the point number one was mainly
6 with the engineering problem-solving approach to their
7 problem. They had a problem with expelling whatever from
8 one side of the facility, so their solution or their
9 engineering expertise was to redirect it somewhere else,
10 instead of going -- any problem has a root cause and they
11 just didn't address the root cause of this problem, they
12 just put a Band-Aid over it. So that just demonstrates a
13 lack of engineering expertise in my opinion.

14 Number two,--

15 **THE CHAIRMAN:** Please don't go through this
16 one by one again. We're going through a never-ending loop
17 here.

18 You say -- I mean, we obviously got the
19 idea that there is a difference of opinions among even
20 engineers and scientists.

21 **MR. JOHNSTON:** I agree. Okay.

22 **THE CHAIRMAN:** So just on your point of
23 that you don't have this particular specialist, anything
24 from Cameco?

25 **MR. CLARK:** Dale Clark, for the record.

1 We do have and maintain a senior
2 metallurgical engineer on staff. We do have that person
3 that leads our non-destructive examination group, that is
4 also -- and as we have individual failures that may occur,
5 that is something that we're able and have been able to
6 bring in expertise to help with investigations if
7 necessary.

8 **THE CHAIRMAN:** Okay, Commissioners, do you
9 want to get into this discussion or do we -- okay, you
10 have a last comment.

11 **MR. JOHNSTON:** Okay, I'll make this quick.
12 The next ones I have personal experience
13 with because I'm the one who did the failure analysis.
14 They claim they do eddy current as a predictive measure.
15 That is true. These failures occurred even though the
16 eddy current testing program was in place at the time.

17 My recommendation in the report was to do a
18 simple bleed-off procedure on a monthly basis. Apparently
19 that's never been implemented. So again, this is where
20 oversight needs to happen, where any recommendations are
21 ensured that they have occurred. Obviously this one has
22 not.

23 The next one, on calciners, those are not
24 inspected for cracks on a regular basis, just because it
25 simply is too onerous of a task. They're only inspected

1 when something fails. So they run them to failure, then
2 they inspect them. So they're inspected on an as-required
3 basis, not on a two-year basis as they said.

4 And again, the same is true for the fluid
5 beds, these cracks have been detected during regular
6 inspections and been repaired and put back in but nothing
7 has been done to address the cause of the crack. So these
8 cracks may or may not happen -- they're in structural
9 components, so they may or may not happen
10 catastrophically. There's no way leak detection would
11 prevent that from happening. So we're just talking about
12 potential catastrophic failures.

13 Number five, the slurry piping system,
14 that's again my personal experience, and my recommendation
15 was to implement a system where valves and components of
16 the system were taken out on a regular basis to evaluate
17 them for their wear rates.

18 It's my understanding that that system has
19 been implemented, where they actually take the valves out
20 on a regular basis but no evaluation is done on them.
21 They are just being accumulated.

22 **THE CHAIRMAN:** Look, you keep repeating. I
23 mean, we have read this in detail, that's why we actually
24 invited you to actually talk to that.

25 **MR. JOHNSTON:** I guess I'm just refuting

1 their comments that they said they were being inspected --

2 **THE CHAIRMAN:** I gather that there is a
3 disagreement and we ---

4 **MR. JOHNSTON:** I guess.

5 **THE CHAIRMAN:** --- just take this kind of a
6 point of view. We're looking at -- the bottom line is
7 safety issues. Failure can be one thing, but what we're
8 concerned with is there any safety repercussion from that.
9 And I assume that CNSC -- whatever inspection you will do
10 is to -- that's the bottom line.

11 **MR. ELDER:** That's correct. And we also
12 look at making sure that -- frankly, we plan for these
13 things to fail. I mean, do they have alarm systems in
14 case they fail? Do they have containment systems in case
15 they fail? Obviously you would like to see some
16 inspections to make sure they can't -- they don't fail,
17 but if it's some -- it's very hard to do some inspections
18 so you plan like they are going to fail and make sure
19 there is not releases to the environment because of such
20 failure.

21 **THE CHAIRMAN:** Okay, thank you.

22 **MR. JOHNSTON:** Just quickly, I just want to
23 make sure -- all these are in recommendations in my
24 report, so I would just request that somebody verify that
25 each recommendation has been made.

1 And the one very important last point is
2 that the inspection personnel for the shipping cylinders
3 are not qualified. I co-authored the ANSI standard, so
4 I'm quite familiar with the specifics, and an inspector is
5 required to be National Board certified and there's no
6 such inspector on site at Port Hope for that.

7 **THE CHAIRMAN:** Okay. Anybody wants to--

8 **MEMBER MCDILL:** Maybe we can ask staff to
9 verify that? Both ways, right, is there an inspector and
10 is the inspector certified as required by the standard?

11 **MR. ELDER:** Yeah, I'll see if Sylvain
12 Faille can answer that now or whether we'll have to get
13 back to you.

14 **MR. FAILLE:** Sylvain Faille, for the
15 record.

16 We'll verify with Cameco and make sure that
17 they're qualified.

18 **THE CHAIRMAN:** Okay, thank you. Thank you
19 very much.

20 **MR. LEBLANC:** The next submission is from
21 the FishAbility Sports Club as outlined in CMD 11-H16.66.

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23 **11-H-16.66**

24 **Written submission from the**

25 **FishAbility Sports Club**

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MR. LEBLANC: The next submission is from
Ms. Joanne Rockey-Smith as outlined in CMD 11-H16.67.

11-H16.67
Written submission from
Joanne Rockey-Smith

MR. LEBLANC: The next submission is from
Mr. Chad Kavanaugh as outlined in CMD 11-H16.68.

11-H16.68
Written submission from
Chad Kavanaugh

MR. LEBLANC: The next submission is from
Ms. Nicole Emanuel as outlined in CMD 11-H16.69.

11-H16.69
Written submission from
Nicole Emanuel

THE REGSISTRAR: The next submission is
from Mr. Marc Boucher as outlined in CMD 11-H16.71.

1 **11-H16.71**

2 **Written submission from**

3 **Marc Boucher**

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5 **MR. LEBLANC:** The next submission is from
6 Ms. Lori Gray as outlined in CMD 11-H16.72.

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8 **11-H16.72**

9 **Written submission from**

10 **Lori Gray**

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12 **MR. LEBLANC:** The next submission is from
13 the Friends of Wesleyville Village as outlined in CMD 11-
14 H16.73.

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16 **11-H16.73**

17 **Written submission from**

18 **The Friends of Wesleyville Village**

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20 **MR. LEBLANC:** The next submission is from
21 Mr. Thom Mambe as outlined in CMD 11-H16.74.

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23 **11-H16.74**

24 **Written submission from**

25 **Thom Mambe**

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MR. LEBLANC: The next submission CMD 11H16.74.

The next submission is from Mr. Jack De Klerk as outlined in CMD 11H16.75.

The next submission is from Habitat for Humanity Northumberland as outlined in CMD 11H16.76.

The next submission is from Mr. Graeme Lawson as outlined in CMD 11H16.78.

The next submission is from Mr. Sanford Haskill and Mrs. Helen Anne Haskill as outlined in CMD 11H16.79.

THE CHAIRMAN: Okay, let's go when somebody says that -- let me see, I want to find out where I am here -- about some incident about security employees that were terminated in 2011.

They would like a clarification of the facts. They were told that the security people were asleep at their job.

What can you publicly disclose about this situation?

MR. DALE CLARK: Yup, Dale Clark, for the record.

As you acknowledged, the security information for Cameco is prescribed information and

1 employee information is confidential.

2 But I can say that Cameco is in full
3 compliance with appropriate security regulations and the
4 *Nuclear Safety and Control Act*. We are committed to
5 continual improvement in our security programs. We are
6 proud of the improvements that we've made there and we
7 stay in close contact with CNSC staff on the security
8 division side as well and will continue to work closely
9 with them.

10 **THE CHAIRMAN:** Okay, I guess, normally, we
11 have *in camera* discussions on security and I'm told from
12 our security people that they confirm that you are in full
13 compliance.

14 The second point from this intervenor is
15 there was this issue with a water crisis and, again, I'm
16 trying to understand what happened here.

17 Are you aware of this particular situation?
18 Maybe you can shed some light on that?

19 **MR. DALE CLARK:** Dale Clark, for the
20 record.

21 We are aware. The Municipality operates --
22 and we work closely with the Municipality for -- as they
23 operate a rapid-notify system and, as part of a water
24 emergency that occurred in Port Hope late last year, the
25 Municipality used that rapid-notify system to provide

1 information to the town, to residents of the town.

2 That system was communicated and, as
3 reported by the Director of fire and emergency services,
4 that was reported as a success and an effective tool to
5 communicate to residents key information.

6 Certainly, there may be opportunities and
7 we're aware of that and we'll work with the town to make
8 sure opportunities are learned and incorporated in the
9 future.

10 But, overall, that -- the use of that
11 rapid-notify system was considered a success in that town
12 emergency system.

13 **THE CHAIRMAN:** Well, then, I'm puzzled why
14 is the intervenor says that this is not a functioning
15 system?

16 **MR. DALE CLARK:** My understanding is that
17 that individual did not receive a phone call from the
18 rapid-notify system.

19 **THE CHAIRMAN:** Ah!

20 **MR. DALE CLARK:** So there may be cases such
21 as that and we understand that there is an opportunity and
22 additional tools in -- to be communicated this year to
23 ensure that everyone has an opportunity to self-register
24 other alternate phone numbers or make sure that phone
25 numbers are accurate and part of that system is a

1 comprehensive tool.

2 **THE CHAIRMAN:** Mayor Thompson, did you
3 indicate that you want to say something about that?

4 **MS. THOMPSON:** If I might. Linda Thompson,
5 and this question was raised during our intervention also.

6 From our perspective, in the debriefing and
7 in our comments from EMO, the system worked very well
8 during our emergency crisis.

9 As was identified, those with phone systems
10 like Cogeco, Internet, cell phones are not covered in the
11 system and, since, we have made continuous improvement and
12 worked with the supplier to update the web-based system so
13 people could -- can self-register their numbers.

14 Again, we are one of 11 communities in
15 Canada that have this system. It worked very well through
16 the water crisis and our declared emergency.

17 And I would note, this individual lives in
18 Ward 2 or the rural area of the community and did not
19 receive a call as we did not issue calls to that area that
20 are not serviced by the urban municipal water supply.

21 **THE CHAIRMAN:** Okay, thank you. Thank you
22 for that.

23 **MS. THOMPSON:** You are welcome.

24 **THE CHAIRMAN:** Go ahead, Marc.

25 **MR. MARC LEBLANC:** The next submission is

1 from Mr. Darryl Godfrey as outlined in CMD 11H16.80.

2 The next submission is from Mr. John Wilcox
3 as outlined in CMD 11H16.86.

4 The next submission is from Mr. Steve
5 Douglas as outlined in CMD 11H16.88.

6 The next submission is from the Cobourg
7 Community Centre as outlined in CMD 11H16.89.

8 The next submission is from Mr. Ron Moreau
9 as outlined in CMD 11H16.90.

10 The next submission is from the Capital
11 Theatre Heritage Foundation as outlined in CMD 11H16.91.

12 The next submission is from Mr. Tyler Rouse
13 as outlined in CMD 11H16.92.

14 The next submission is from Mr. Angelo
15 Torrieri as outlined in CMD 11H16.93.

16 The next submission is from Mr. Jason
17 Whitelaw as outlined in CMD 11H16.94.

18 The next submission is from Ms. Helen
19 Caldicott as outlined in CMD 11H16.95.

20 **THE CHAIRMAN:** Monsieur Tolgyesi.

21 **MEMBER TOLGYESI:** Yes. To the staff, of
22 the most dangerous elements at the last pages, one is
23 radon.

24 It is present only at Port Hope or it's --
25 it's something which is a phenomenon, which is across a

1 larger area or from where it could be produced?

2 Or where it's present?

3 **DR. THOMPSON:** Patsy Thompson, for the
4 record.

5 Radon is naturally occurring and it is
6 found in most buildings and homes.

7 Health Canada has done cross-Canada surveys
8 and the CNSC staff has put an information document on our
9 website.

10 There were elevated levels of radon in some
11 buildings and homes -- public buildings, schools and homes
12 in Port Hope because of the presence of low-level
13 radioactive waste.

14 There has been a case control study done in
15 Port Hope comparing the number of cases of lung cancer in
16 homes with elevated levels of radon compared to homes with
17 sort of background levels of radon and that case control
18 study showed no increase related to lung cancer in Port
19 Hope.

20 But radon is recognized for being a cause
21 of lung cancer and the World Health Organization, Health
22 Canada and most countries have set standards for radon in
23 homes and public buildings for that reason.

24 **THE CHAIRMAN:** I don't even know where
25 to start. Okay, last page, I really want somebody to

1 clarify, maybe once and for all, in the -- let me see,
2 this is after radon and radium, the next paragraph, in the
3 middle:

4 "In the 1950 the World Health
5 Organization recognized the potential
6 risk but remarkably was prevented from
7 conducting research into the human
8 health effect of radiation by 1959
9 agreement with International Atomic
10 Energy Agency."

11 I've heard about this conspiracy theory now
12 for so long. Can somebody tell me if there's anything
13 behind this?

14 **DR. THOMPSON:** Patsy Thompson, for the
15 record.

16 We've also heard about this conspiracy
17 theory and some people have sort of shown documents that,
18 to me, aren't very clear.

19 But what I can say with certainty is that
20 the IAEA has recently issued safety standards called the
21 "Basic Safety Standards on Radiation Protection" and this
22 standard has been endorsed by WHO, ILO, and there's a
23 number of international organizations that are signatories
24 to the basic safety standards recently published by the
25 IAEA including the World Health Organization. They were

1 present at every single committee meetings for the
2 development of that standard.

3 **THE CHAIRMAN:** So let me understand, what
4 is this standard and again repeat who actually ratified
5 it?

6 **DR. THOMPSON:** The basic safety standard is
7 the IAEA requirements for radiation protection programs
8 for nuclear facilities to protect workers and members of
9 the public. It describes various requirements for member
10 states, for regulatory agencies, for licensees, operators
11 under normal operations, accidents and malfunctions and
12 for clean-up, for example, after an event or an accident.

13 This document has been endorsed by several
14 international organizations, including, the World Health
15 Organization, ILO, the International Labour Organization,
16 The United Nations Environment Unit -- Environment
17 Program, and I can't remember the other one.

18 So it has been endorsed by the major
19 international organizations responsible for health and
20 environmental protection.

21 **THE CHAIRMAN:** Is that report available? Is
22 it ---

23 **DR. THOMPSON:** It's on the IAEA, the
24 International Atomic Energy Agency Website, it is
25 available.

1 **THE CHAIRMAN:** Is it uplink from our --
2 from the CNSC website?

3 **DR. THOMPSON:** I'm not sure, we would have
4 to check. I don't believe it is. It's been recently
5 updated and the last -- very last version's been published
6 recently.

7 **THE CHAIRMAN:** Well, maybe you should
8 uplink it.

9 **MR. ELDER:** Peter Elder, for the record.
10 Just one more thing to add is that there is
11 a United Nations body that looks at the -- looking at the
12 science around radiation which is called UNSCEAR. It is
13 not associated with the IAEA it's actually funded through
14 the United Nations Environmental Program. So it is not
15 part of the IAEA and this is the main scientific body that
16 looks at the effects of ionizing radiation.

17 **THE CHAIRMAN:** There's another statement on
18 the first page then again, can CNSC -- I'd like to hear
19 your reaction on the paragraph that starts "The
20 information that Port Hope citizens receive on the health
21 effect of radiation..."

22 So somewhere in the -- if you read this
23 paragraph, none of these institution is staffed by MD's or
24 practicing medical scientists with expertise, blah, blah,
25 blah, and at the end is "in a conflict of interest". I'd

1 like to hear some comments.

2 **DR. THOMPSON:** Patsy Thompson, for the
3 record.

4 If you look at the Port Hope synthesis
5 report and look at the list of references, the work that
6 the CNSC staff and Health Canada and others did synthesize
7 for the Port Hope synthesis report have come from various
8 organizations. Many of the work that we've done in Port
9 Hope has been compared to what's been done internationally
10 in similar communities or with similar contaminants and
11 with similar findings.

12 I would suggest that the work is credible.
13 It was peer reviewed. The CNSC staff requested peer
14 review of our documents by international experts. Some of
15 them were MD PhD's. And the report was, essentially, the
16 basis for an article, a paper that was submitted for a
17 peer review journal and then again it was subject to peer
18 review.

19 None of the participants from Health Canada
20 or the CNSC or the peer reviewers that the CNSC got have
21 any biases towards or against the industry. What we've
22 done is to try to objectively review all the scientific
23 literature that's available on the subject.

24 **THE CHAIRMAN:** Okay, that's CNSC.

25 How many MD's are there working in Health

1 Canada?

2 **MR. ELDER:** I'm going -- was going to
3 comment on that. I don't have the exact number but I
4 think Health Canada would be very surprised to find out
5 that all their MD's aren't apparently MD's.

6 There are practicing doctors in Health
7 Canada. There is very -- you know, we rely -- you know,
8 we have used them. I've met many of them. So I think
9 it's obviously incorrect to say there are no MD's.

10 I would like to point that there is an MD
11 on the Commission as well.

12 So I'm a little surprised -- it's a
13 statement, there's not a lot of fact behind that
14 statement, and I think a lot of the -- you can ask the
15 Ministry of Environment, if they're still here, how they
16 feel about being told they're not qualified.

17 **THE CHAIRMAN:** No, they're ---

18 **MR. ELDER:** We take a very offence of this,
19 as notice, we do have people who have PhD's in
20 environment, in radiation biology. So I would just say we
21 strongly disagree with the statement.

22 **THE CHAIRMAN:** Okay, thank you.

23 Anybody else?

24 **MR. LEBLANC:** The last written submission
25 is the submission from Ms. Angela Bischoff. You'll recall

1 that she had asked that her written -- her oral
2 presentation be changed to a written submission. So
3 that's CMD H16.97 and 97A.

4
5 **11-H16.97/11-H16.97A**

6 **Written submission from**
7 **Ontario Clean Air Alliance**

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9 **THE REGISTRAR:** Any questions?

10 **MEMBER TOLGYESI:** On the last page,
11 emission testing, is saying that over 90 percent of all
12 substances released from Cameco are modelled on a
13 computer. There is virtually no real time measurement and
14 therefore it doesn't tell them what is being released.
15 Could you comment on that, Cameco, and after, the staff?

16 It's on the last page, emission testing,
17 first paragraph.

18 **MS. PETERS:** Rebecca Peters, for the
19 record.

20 I don't believe that statement to be
21 correct. Cameco does ongoing monitoring of its two main
22 process stacks, the UF6 main stack and the UO2 main stack.
23 All other emission points on the site are documented in
24 the Emission Summary Dispersion Model Report that we
25 provide to the Ministry of the Environment.

1 The information that's detailed in that
2 report is based on actual testing done by compliance
3 samplers, so this is a third party who will come in and
4 actually test the emissions from these sources.

5 That information is used -- these are the
6 more constant sources like the HVAC emissions. That
7 information is used to calculate based on production
8 criteria as well as other factors based on the days of
9 operation, that sort of thing, what the total emissions
10 are from the site. That information is documented in our
11 quarterly reports, it's documented in our annual reports
12 and it's submitted to CNSC staff and MOE staff for their
13 review and comments.

14 So I believe that Cameco is accurately
15 documenting its emissions.

16 **MR. RAVISHANKAR:** B.R. Ravishankar for the
17 record.

18 I agree with what Cameco just mentioned
19 that there is existing onsite monitoring systems. In
20 fact, in our presentation yesterday, that we -- one of the
21 slides contains the information from monitoring of ambient
22 air from high volume samplers around the facility.

23 Probably the intervener is likely
24 mentioning the modelling. That modelling is after the
25 emission gets out of the stack, how does it travel around

1 and goes to the surrounding environment? And that
2 modelling is an internationally used standard modelling
3 that is used not only for the nuclear industry, but any
4 industry, which is discharging emissions.

5 So it is a well-accepted model and that is
6 what was used in Cameco's case.

7 **THE CHAIRMAN:** Dr. McDill?

8 **MEMBER McDILL:** I wonder if I could ask
9 staff to comment on the intervenor's section on
10 remediating mines and the comment there have been 30
11 breaches of earthen-dams at Elliot Lake since they were
12 first put in place.

13 There's no reference, which always makes it
14 challenging.

15 **MR. ELDER:** Yes, I've seen. So there are
16 two points saying the taxpayers will have to pay to
17 remediate mines. I just remind them all the current
18 operating mines in Canada have financial guarantees and
19 actually we have financial guarantees for most of the ones
20 that are decommissioned or in long-term monitoring.

21 I'll ask if Don Howard in Ottawa can give
22 you some details about the statement about breaches of
23 dams at Elliot Lake.

24 **MR. HOWARD:** Don Howard, Director of the
25 Waste and Decommissioning Division.

1 Elliot Lake, we do compliance inspections
2 at Elliot Lake sites, the remediated mines. We do geo-
3 science inspections on a certain frequency to ensure that
4 the dams and the dikes are maintained in a proper state.

5 I don't have any numbers as to whether
6 there's been any breaches. Recent history, I don't recall
7 any recent events of that nature for the last several
8 years. Before that, I'd have to verify that, but I think
9 the point here is that we do regular compliance
10 inspections, CNSC staff does.

11 And also the operators of these remediated
12 sites have third-party contractors that do come in and do
13 geotechnical inspections of the dams and the dikes.

14 Thank you.

15 **MEMBER McDILL:** Thank you.

16 **THE CHAIRMAN:** Anything else?

17 I have just one quick question and again
18 the Minister of Environment -- of MOE -- is not here, but
19 I think CNSC knows the answer.

20 There's a statement here on page 5 under
21 "Other Issues": "There is no uranium in air standard in
22 Ontario."

23 **DR. THOMPSON:** Patsy Thompson, for the
24 record.

25 The Ontario Ministry of Environment

1 recently published -- I believe it's in June or July 2011
2 -- the new Ontario ambient air quality standard for the
3 uranium, that's .03 micrograms per cubic metre.

4 So there is one and the standard will be
5 enforced in 2016. And the data the CNSC has shown on this
6 slide in the CMD and the presentation show that currently
7 the emissions from the Port Hope conversion facility
8 result in air quality that is well below the new standard.

9 **THE CHAIRMAN:** Okay.

10 Go ahead.

11 **MR. ELDER:** Sorry, just before you finish;
12 I do owe you a one update on this one from yesterday about
13 the contaminated lands. And someone has mentioned in 1994
14 re-survey, it was an aerial survey, a gamma survey and it
15 identified some hot spots, they were called.

16 The status of those hot spots, the ones
17 that were small in nature were cleaned up, so the one by
18 the waterworks was -- have all been cleaned up by the low-
19 level office. The larger ones became CNSC licence sites.
20 So there were four licence sites within the City of Port
21 Hope. So they're all fenced, they've got limited access
22 and the measures at the fence line are very low, fractions
23 of a microsievert.

24 There is one area that's on CN land by the
25 viaducts that has not been cleaned up but it is regularly

1 monitored by the low-level office and it's been questioned
2 about how you could -- if it's possible to clean it up
3 with the proximity to the actual, the viaducts. So
4 there's only one left and it's very closely monitored and
5 it's not very accessible.

6 **THE CHAIRMAN:** Okay. I think this
7 concludes the written submissions.

8 And we now finally have the opportunity for
9 second round of questioning for Commissioners and here's a
10 chance to ask all the questions that have not been asked
11 yet.

12 One more time, so I'm going to go through
13 in order here. Mr. Tolgyesi, you can go right at the
14 original.

15 **MEMBER TOLGYESI:** I have only last
16 presentation.

17 **THE CHAIRMAN:** I knew you were going to
18 have something.

19 **MEMBER TOLGYESI:** The intervenor is saying
20 that Cameco has four million in liability insurance. Is
21 it an amount sufficient to cover the worst-case scenario
22 and what's the worst-case scenario?

23 **MR. CLARK:** Dale Clark, for the record.

24 That amount referenced is specifically
25 nuclear liability insurance that Cameco maintains for the

1 facility.

2 We do have sufficient other insurance to
3 cover other events and sufficient protection for other
4 non-nuclear events on the facility.

5 **MR. ELDER:** Peter Elder, for the record.

6 Just to add, the nuclear liability
7 insurance, is under the *Nuclear Liability Act*, is only for
8 damages that are from radiation that's produced as a cause
9 after a fission event.

10 So in Cameco's case this would be after a
11 criticality event. So for any other event they are
12 required to have normal liability insurance. The nuclear
13 liability would only cover a criticality event.

14 **THE CHAIRMAN:** So we're now going last
15 round; Dr. McDill?

16 You're sure?

17 Monsieur Harvey?

18 Dr. Barriault?

19 Okay, I think that you have exhausted us,
20 let's put it this way. And this brings to a close the --
21 your job now, go ahead, Marc.

22 **MR. LEBLANC:** This brings to a close
23 the public portion of this hearing.

24 With respect to this matter, we
25 propose that the Commission confer with regards to

1 information that it has considered today and yesterday and
2 then determine if further information is needed or if the
3 Commission is ready to proceed with a decision and we will
4 advise accordingly.

5 **THE CHAIRMAN:** So this actually -- formally
6 closes this hearing.

7 And, Marc, when are we going to reconvene?

8 **MR. LEBLANC:** Well, we were going to take a
9 30-minute break, so we'll reconvene at five past eight or
10 10 past.

11 Sorry, I don't have the mic.

12 So we're going to reconvene in 30 minutes,
13 so five after eight. Is that okay with staff and Cameco?

14 Thirty (30) minutes will do; okay.

15 Thank you.

16 **THE CHAIRMAN:** Thank you.

17 --- Upon recessing at 7:34 p.m./L'audience est suspendue à
18 19h34

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21