Atomic Energy of
Canada Limited:
Environmental Assessment
Guidelines regarding the
Proposed Construction and
Operation of the Bulk Materials
Landfill by Atomic Energy of
Canada Limited at the Chalk
River Laboratories

MS. McGEE: This is a one day hearing. The Notice of Hearing 2007-H-116 was published on August 9th, 2007. In a decision made following a public meeting of the Commission in March 2005 on the conduct of hearings pertaining to EA Guidelines, this hearing is conducted by way of written submissions from CNSC staff and AECL.

CNSC staff and AECL are present to answer questions and provide additional information should the Commission require any.

The public had an opportunity to comment earlier on the draft EA Guidelines and has been invited to observe the proceedings.

October 25th was the deadline for filing supplementary information. Supplementary submissions were filed by AECL and CNSC staff.

07-H147.1/07.H147.1A
Written submission from
Atomic Energy of Canada
Limited

THE CHAIRPERSON: The Commission Members have read the submissions filed by the CNSC staff and by AECL. The submissions from AECL are noted in Commission Member Documents 07-H147.1, 07-H147.1A.

07-H147/07-H147.A
Written submission from
CNSC staff

THE CHAIRPERSON: The submission from CNSC staff is noted -- are noted in CMDs 07-H147, 07-H147.A.

I'm going to now ask the proponent, AECL, if they have any comments or opening remarks that they'd like to make that further their written submission.

Mr. McGee, welcome and do you have any comments, sir?

MR. MCGEE: Good afternoon, Madame Chair, and Members of the Commission. My name, for the record, is Brian McGee. I am the Vice President and Chief Nuclear Officer for AECL.

With me today are Wayne Inch, General

Manager of Nuclear Operations and Dave Cox, Senior Director of Nuclear Laboratories Business Unit Project Office. As well, we're joined by other members of AECL staff involved with this area of the business.

Wayne Inch will now give you a brief summary. Our comments will be brief. We'll give you a brief summary and Wayne will address any questions that you have as we go on.

Thank you.

MR. INCH: So good afternoon, Madame President and Members of the Commission.

As Brian McGee has mentioned, my name is Wayne Inch, General Manager of Nuclear Operations within the AECL Nuclear Laboratories Business Unit.

I am here also representing Joan Miller who is a General Manager of Decommissioning and Waste Management who unfortunately couldn't be with us today.

You have before you, for consideration, the proposed Environmental Assessment Guidelines for the bulk materials landfill at the waste management areas of Chalk River Laboratories.

Construction and operation of the bulk material landfill will enable AECL to continue to safely and reliably manage its sewage sludge, soils and like materials from routine excavations in a manner that's

commensurate with the hazards associated with these materials.

AECL agrees with the CNSC's staff recommendations concerning the environmental assessment guidelines including the proposed amendment to sections 9.2.3. We support the CNSC staff recommendation regarding the integration of the licensing and environmental assessment requirements, specifically option 3A in section 4.

Should the Commission approve the Environmental Assessment Guidelines, AECL will complete the EA study report and proceed with licensing submissions in 2008.

AECL appreciates the opportunity to appear before you today and we welcome any question that you may have.

Thank you.

MS. KEEN: Thank you to both of you, and now we will turn to the CNSC staff.

Dr. Thompson, do you have anything to add to your written submission?

DR. THOMPSON: Good afternoon Madame President, Members of the Commission. My name is Patsy Thompson. I am the Director General of the Directorate of Environmental and Radiation Protection and Assessment.

With me today are Mr. Barclay Howden, the Director General for the Directorate of Nuclear Cycle and Facilities Regulation; Mr. Brian Torrie, the Director of the Environmental Assessment Division; Mr. Miguel Santini, Director of Chalk River Laboratories Compliance and Licensing Division; Ms. Kiza Francis, the Environmental Assessment Officer for this file as well as CNSC staff providing support on this project.

CMD 07-H147 focuses on the Environmental Assessment Guidelines for the proposal by Atomic Energy of Canada Limited to construct and operate bulk materials landfill in a new waste management facility “J” at their Chalk River Laboratories site.

The proposed project-specific Environmental Assessment Guidelines are provided to the Commission in CNSC staff, CMD 07-H147.

I would like at this time to bring to the Commission’s attention an omission in the proposed Environmental Assessment Guidelines which is Attachment 1 of CMD 07-H147. There is a bulleted line missing in section 8 and section 8 is “Factors to be Considered in the Screening” on page five of that attachment.

The following line should be added to the end of the bulleted list of factors to be considered in the screening at the discretion allowed for in paragraph

16.1.E of the CEAA. The bulleted line that needs to be added is the following:

> "An assessment of the long-term performance of the waste facility given that a specific proposal to decommission or abandon the facility is difficult to describe at this time."

In addition, CNSC staff has provided our recommendation in response to the supplemental CMD which is CMD 07-H147.1A submitted by Atomic Energy of Canada Limited where AECL has requested a process to be followed with respect to the integration of the Environmental Assessment Screening Report and the licensing process.

CNSC staff supplementary CMD 07-H147.A describes the proposed integrated approach and includes a recommendation on the request from Atomic Energy of Canada Limited for the streamlined approach and whether or not the Environmental Assessment Screening Report should be reviewed in the context of a public hearing of the Commission.

The proposed integrated approach is consistent with that which was described in the hearing held earlier today for the AREVA Caribou Mine Environmental Assessment. The recommendations for decision on the Environmental

Assessment Guidelines and for the process to be followed with respect to the Environmental Assessment Screening Report are provided in CMD 07-H147A.

Specifically, CNSC staff recommends that the Commission one; approves the Environmental Assessment Guidelines for the proposal by Atomic Energy of Canada Limited as Attachment 1 of CMD 07-H147 and; two, delegates to Atomic Energy of Canada Limited, the conduct of an Environmental Assessment Study Report for this environmental assessment and; thirdly, the third recommendation is that the Commission can consider the following options for review of this proposed project:

(A) CNSC staff conduct a systematic review of the proposal under both the *Canadian Environmental Assessment Act* and the *Nuclear Safety and Control Act*. Staff's recommendation on the environmental assessment and assessment in the licensing of the licensing documentation would be provided to the Commission at a public hearing without interventions.

A public hearing with interventions would not be required given the lack of public interest on the project to date.

Furthermore, the public will be consulted on the draft Environmental Assessment Screening Report before the report is brought before the Commission for

decision.

The second option (B) is to approve the Environmental Assessment Guidelines but defer a decision on the streamlining to early 2008. The Environmental Assessment Screening Report is expected to be presented to the Commission at a hearing to be scheduled in April 2008; therefore, a decision on the review and process is required by February 2008.

The third option (C) constitutes the status quo which would be to consider the proposed Environmental Assessment Screening Report at a public hearing of the Commission without interventions. The hearing on the licensing decision will be held at a date after the hearing on the environmental assessment decision if the Commission renders a positive decision on the environmental assessment.

The CNSC staff does not have a formal presentation this afternoon but we are available to answer questions from the Commission.

THE CHAIR: Thank you very much, Dr. Thompson.

I'd like to proceed with two areas of questioning. The first series of questions will be on the guidelines specifically and then we will move separately to a discussion about the process to be followed. And so

we will start out by questions on areas of questioning. The first series of questions will be on the guidelines specifically and then we will move separately to a discussion about the process to be followed.

So we will start out by questions on the guidelines themselves and I'll turn to Monsieur Harvey for his questions.

MEMBRE HARVEY: Merci, Madame la Présidente.

My first question is addressed to OPG. On page 2 of your document the first sentence at the top of the page is:

"Should there be an excess of CRL-generated material at any particular time this material would be in place in the landfill to the extent that it does not compromise the length of time that the landfill will be available to receive waste."

I don't understand completely what you were saying with that. For sure if you've got more material the time will be -- you will shorten the time of availability of the site, but I don't understand exactly what you -- if there is an excess and you think it will have an influence on the land of the landfill what will you do?

MR. INCH: Wayne Inch for the record.

I would ask Jim Walker to please address that question.

MR. WALKER: Jim Walker for the record.

This was a reflection of the fact that we do excavate routine amounts of soil every year at Chalk River. This will be suitable material to be cover for the sewage sludge. Every placement of the sewage sludge has to have a cover on it for essentially reasons of odour. The standard that we would be using would be 25 per cent, which corresponds to the standard in the OME regulation. So if we don't excavate enough material to provide that cover we would simply buy cover from external sources and if we had an excess, then it wouldn't be necessary to use that as cover material and we could store it on the site as needed.

MEMBER HARVEY: But it's not contaminated.

MR. WALKER: That's correct.

MEMBER HARVEY: That's natural soil.

MR. WALKER: Yes.

MEMBER HARVEY: My second question is, we see the containers in Figure 2, how many containers are now on the site and what volume does that represent that will eventually go in the landfill? Is it important.

MR. INCH: Wayne Inch for the record.

I'll ask Paul Toner to address that

question please.

MR. TONNER: Paul Tonner for the record, Manager of Waste Management Operations.

The amount of sludge that will be produced each year is 160 cubic metres at about 10 cubic metres per container, so about 16 containers a year. Currently, there are about 30 containers, in that area.

MEMBER HARVEY: Another question. Page 4:

> **"**Other soils and like material that are in excess of that needed to provide an appropriate cover on the soil would be in place in the landfill if required."

(as read)

I think this is the same thing we just discussed a moment ago. Okay. I'm sorry.

That's correct for now.

THE CHAIRPERSON: Dr. Barnes.

MEMBER BARNES: Yes, several questions.

The waste you're throwing out I think primarily is derived from the site itself. AECL, is it likely to be, over the period of time you're putting waste in this facility, that it would include so-called imported waste from other areas?

MR. INCH: Wayne Inch for the record.

The soil that would go in to the facility

is soil from the Chalk River site, not soil from an external source. Perhaps I should qualify to say that when we talked about the overburden that would be used, that could be material brought in.

MEMBER BARNES: No. I'm talking about the so-called contaminated component, not the cover.

MR. INCH: Right. That material would come from our property, yes. Only from Chalk River

MEMBER BARNES: I couldn't see it in the document again, Madam Chair. I think the guidelines overall are relatively traditional covering things, but the prior material given by staff and by AECL raises some questions and so I didn't see very much reference here to groundwater monitoring of the site, either before the site is developed or after that, and how that would be linked into the wider groundwater monitoring that you do on the site anyway.

MR. INCH: Wayne Inch for the record.

I will ask Christine Gallagher to speak to that please.

MS. GALLAGHER: Christine Gallagher for the record, Manager of the Environmental Protection Program at Chalk River.

For our groundwater monitoring program there is a developed process for when we would be required

to do groundwater monitoring around a specific facility dependent on the risk. I'm not sure that that determination has yet been made for this particular facility. There is I think some groundwater monitoring that was done earlier and will be included as part of the environmental assessment.

MEMBER BARNES: But you would propose to have some baseline information before you start the actual implementation of the facility.

MR. INCH: Wayne Inch for the record.

I will ask Martin Klukas to address that please.

MR. KLUKAS: Martin Klukas for the record.

Groundwater monitoring is undertaken at the site or in the general area at present. As you may be aware there is a waste management area in the vicinity, Waste Management Area C, shown on Figure 5.

We do a baseline groundwater quality for the site. It is reported annually to the CNSC. To that I might add there is also surface water monitoring done at streams down gradient of the proposed landfill location. Again, this information is reported to the CNSC annually as part of AECL's environmental monitoring.

MEMBER BARNES: I recognize that the

material being put in here is very low contamination rates and so I don't see this as a major significant hazard. Nevertheless I think it's a responsibility for AECL to demonstrate that there is no significant contamination.

You're putting something in that is for a period of 100 years and therefore there's a long time potential for changes here, which I think you have to demonstrate that there is going to be no contamination. I think this can only be done with some clear understanding or demonstration that you have that, so in the guidelines, for example, on page 7, on 9.2.9.1, which lists various components, I wonder why groundwater monitoring wouldn't be included in that list. Maybe that's a question to staff because it occurs in the staff components.

The 9.2.1.1, construction and normal operations, there's, I don't know what it is, maybe 20 bullets on there, on pages 6 and 7, and I don't think I see groundwater monitoring mentioned in there. Would it be appropriate to add that to the guidelines at that location?

DR. THOMPSON: Patsy Thompson for the record.

My understanding is that section 9.2.1.1, where you see the list of bullets, includes the information that needs to be provided during the

environmental assessment.

There is a recognition that a follow-up program would need to be identified to be consistent with the results of the environmental assessment.

Also, if you look at section 9.2.2, description of the existing environment, there is a requirement to provide groundwater quality and that would be provided through AECL's groundwater monitoring program. The expectation is that that monitoring program, if required to support this project, would need to be expanded, but the process to be followed is that we would go through the environmental assessment, review the technical documents, the licensing documents, and see the need for any modifications to the monitoring programs or for a specific follow-up program.

MEMBER BARNES: I'm going to follow with sort of two or three related questions here. I notice on page 3-1 of AECL that the location of this is in an area where it was developed for sand extraction from the sight, a sand pit; you have a photograph of that. So presumably if there is any contamination that's being taken away from groundwater that would move fairly quickly from the sight. I'm not quite -- it isn't clear from the documentation and it shouldn't necessarily be in this document, how

extensive that sand environment might be relative to the actual location of the facility.

MR. INCH: Wayne Inch for the record.

I'll ask Martin Klukas to address that question please.

MR. KLUKAS: Martin Klukas for the record.

The hydro geology of the area -- the general area is, I would say, fairly well characterized. It consists of as you know sandy overburden of thickness five to 30 meters overlying bedrock. The water table is within overburden.

Groundwater transit times have been estimated based on hydraulic properties of the soil and groundwater radiance and the residence time or the transit time from the proposed sewage sludge landfill sight to the nearest downgrade and wetland, which is bulk storage swamp, is of the order of three years.

In a nutshell, groundwater velocities are of the order of 30 to 40 centimetres a day.

MEMBER BARNES: So rapid movement away from the site.

MR. KLUKAS: Fairly rapid movement, correct.

MEMBER BARNES: Okay. So if I could now come to the project description of the facility, and

specifically page 4.3, which is figure 8 in the schematic of the liner and leachate collection system, which is basically the cross-section through the facility with the waste on top.

So my question would be you have two thin liners -- high density polyethylene geomembranes shown in black there, two millimetres, the lower one, the 1.5 millimetres on which you plan to emplace gravel .3 metres in both cases. Could you explain how you would emplace that gravel in such a way that the liner would not be perforated by that action?

MR. INCH: Wayne Inch for the record.

I'll ask Dave Cox to address that issue please.

MR. COX: For the record, David Cox, Senior Director of the NLBU Project Office.

With respect to construction of the landfill facility and installation of these membranes, there are standard processes for doing this. This is the standard design, generic MOE Type 2 landfill design. The actual membrane installation; I cannot speak to the details of how it's installed aside from the fact that there are processes and qualified vendors that perform this type of work.

It's not treated casually. There are

processes to be followed and as well there are testing of the installation of the membrane to verify its performance before it’s overfilled.

MEMBER BARNES: Do staff have any comment or concern about this particular type of arrangement outlined in figure 8?

MR. HOWARD: Don Howard for the record.

During the construction and placement of this system -- well, CNSC staff will ensure it’s conducted in accordance with a quality assurance plan; that there will be verification and inspections conducted by staff to ensure that the installation is done in accordance with an acceptable quality assurance plan.

MEMBER BARNES: And how would the inspection show that there was perforation of the liner?

MR. HOWARD: Don Howard for the record.

Essentially, through visual inspections, we would be on sight. There would be some testing that -- I don’t have all the details but just thinking is that the contractor would have to have some form of testing to be done to ensure that there is no perforation of the liners.

I’m not sure exactly what that testing would consist of, whether it be some kind of a water test or whatever, leak detection test.

So basically we would look at the

commissioning reports submitted by AECL, in addition with all of the documentation submitted by the contractor, to give us confidence that the liner has not been perforated.

MEMBER BARNES: Sorry, but I just cannot see in the emplacement of this structure that you're putting here of intervening layers of gravel and clay and then waste on top which applies another weight factor and presumably trucks that are bringing in -- there are significant loads being emplaced on particularly the lower of the liners -- on both liners, particularly the lower one in which case you have gravel immediately on top.

So after you've emplaced that I don't see how you can say whether the gravel has been perforated except if you've got a leak as after the fact as opposed to during the construction.

But let me put that question to AECL.

MR. INCH: Wayne Inch for the record.

I'd ask Dave Cox speak to that question, please.

MR. COX: David Cox for the record.

Again, I cannot speak to the details of how this membrane would be installed and tested. I can speak to a similar experience that we've just completed and was inspected by the CNSC staff for a related project where there was a below grade geomembrane installed and tested

with the function of performing a barrier to a ground water access, and in that case there were visual inspections and then a flood test was performed to verify the performance before fill was applied on top of that barrier. So that's perhaps an example of how testing would be conducted.

I would say that this is standard technology. The Ministry of the Environment generic type-two landfill, which is what we're speaking of, is a standard design and, again, there are processes in place to ensure that the quality of the installation would meet the intended design requirements of the facility.

MEMBER BARNES: Doubtless this will be covered later on in the process. I would have thought that had you added a thin layer of sand immediately above the liner and before the gravel was in place that it would have provided a little bit of extra comfort for the likes of my questioning anyway to at least take the coarse gravel away from the actual liner.

On page 12 of the guidelines, 9.2.4.2, which is the Assessment of the Effects of the Environment on the Project -- okay -- 9.2.4.2., Assessment of the Effects of the Environment on the Project, this speaks to how the environment could adversely be affected, for example, with severe weather and seismic events.

I would have thought that one wanted -- one should address here the wider issues that we've talked about on other occasions of climate change for a facility that's going to be there for 100 years, especially potential changes in precipitation rates and so on. Simply a follow-up to the issue of groundwater flows of building facility on sand which will take any contamination away from the site in fairly rapid speeds.

To staff, should there be some comment on climate change for a facility that's being proposed for a 100-year duration?

DR. THOMPSON: Patsy Thompson for the record. I'll ask Ms. Kiza Francis to respond to your question.

MS. FRANCIS: Kiza Francis for the record.

The third line in that section does say that the assessment must also take into account any potential affects of climate change on the project.

MEMBER BARNES: I missed that, sorry.

To AECL, page 4-5 of your submission, that's figure 9, AECL organizational chart pertaining to the proposed CRL material landfill -- unless I have missed it, where would the QA/QC fit in on this organizational chart, both position and reporting line?

MR. INCH: So Wayne Inch, for the record.

There is QA/QC. The actual operation of the facility would occur under the general manager of Decommissioning and Waste Management and there is QA and QC within that organization.

MEMBER BARNES: A question to staff, then; do you think that's adequately represented?

DR. THOMPSON: Patsy Thompson, for the record.

I'll ask Mr. Barclay Howden to respond.

MR. HOWDEN: Thank you. Barclay Howden, for the record.

This particular facility would fall under the site licence for Chalk River and, as part of that AECL has to have a Corporate Quality Assurance Program as well as a site-specific program.

We are aware that, within this particular office, there is a Quality Management Program and during the licensing assessment we would verify that the program that has been proposed for this particular project -- and then the ongoing operation of the facility, once the project was over, would be satisfactory and we would be in a position to advise the Commission on that, when we've finished that assessment.

Thank you.

MEMBER BARNES: I think some of the past

situations on the site have, perhaps, suffered from not having adequate QA/QC and I would have thought it was advisable to make this a little bit more transparent -- that factor within an organizational chart to AECL?

MR. INCH: Wayne Inch for the record.

I'll ask Dave Cox to address that issue, please.

MR. COX: Dave Cox for the record.

The organization chart shown here does not attempt to depict the organization for the overall project execution, nor for the operation of the landfill, once it's completed.

For the period during which the project, which is currently being launched is underway, there is a quality assurance program in place to ensure that we comply all of the site compliance programs as well as the CEAA process and *Nuclear Safety Control Act*. So we have a quality program and QA and QC staff that are dedicated to monitoring the execution of this project, the scope of which is to licence, design and construct and turn over to Operations the landfill facility.

Once it's turned over to Operations, there is also a quality assurance program in place, as Mr. Inch described, pertaining to that operating part of the life cycle.

MEMBER BARNES: Nevertheless, the caption reads, “AECL organizational chart pertaining to the proposed CRL bulk material landfill”.

MR. INCH: Wayne Inch for the record.

We could certainly add that detail to these charts -- be willing to do that, yes.

MEMBER BARNES: That’s all, Madam Chair.

THE CHAIRPERSON: I just would like to reinforce Dr. Barnes’ comments about the necessity to frame the environmental assessment and projects within the broader project -- the broader management of the facility because, in most cases, AECL responds that you do have the programs in place that are general and specific.

And so, I think that it’s important for Mr. Cox -- for you to recognize this; that this is what is the bottom line for the Commission, is it’s got to be very airtight in terms of the total management of these facilities. And it’s up to you to demonstrate that to us.

So, saying that it exists someplace else or it doesn’t -- brush it off, is not suitable for us to have.

My first comment is that -- my first question is that Dr. Thompson added some wording to the description that was put forward under Item 8, “Factors to be considered in the screening” page 5.

I would like to hear from AECL as to your knowledge of this, and your acceptance of this additional bullet.

MR. INCH: Wayne Inch for the record; the addition that was made earlier in this session is acceptable to AECL.

THE CHAIRPERSON: Thank you.

My next question is that, in the AECL document there is a page 2, three item -- there is a diagram, Figure 1, in terms of the broader delineation and classification of waste. So I have some questions on -- regarding the broad issues which, to me, leads one, Mr. McGee, to the idea of the overall management of waste on the site and the plans of AECL broadly, because what we are talking about is accumulative effects as well as a sense of an overall management.

So what I would like to know is how -- we, of course, are very aware of this particular material that we are putting into this facility but it’s not clear to me from this submission how one would look at the overall waste management and, therefore, the cumulative effects that one would assume. Knowing the facilities are there; knowing this facility; and our responsibility to look at cumulative effects for the foreseen future of other facilities that you intend to add to this.

I don't really have a sense of that from this diagram. And then I'll ask the staff if they are aware of that.

MR. INCH: Wayne Inch for the record.

I will ask Jim Walker to address your question, please.

MR. WALKER: Jim Walker for the record.

Yes, Madam Chairman; what we were trying to do in this diagram is, in fact, to give an impression of the big picture and to demonstrate how AECL was moving forward in building modern facilities for its waste management.

You're quite correct in saying this figure does not address the cumulative effects of this, but our aim in all of our modern facilities is to isolate these wastes from the environment which, as you know, we have some legacies on the Chalk River site.

There will be, as part of the licence condition, the submission to the CNSC in the near future which will provide a better description of how AECL categorizes its waste and how AECL intends to deal with those wastes in the future.

THE CHAIRPERSON: Because this leads me to the question for staff, I do note that 9.2.5 on page 12 does talk about the assessment of cumulative effects. And

this is as noted by AECL, a site that has a lot going on, I suppose -- if you want to put it that way, and a need to have this assessed in the broader context.

Is the staff satisfied that this description will adequately describe not just a systemic view of -- a systematic view of the process for this particular facility, but provide us with the broader context upon which to really look at the facilities' environmental impact?

DR. THOMPSON: Patsy Thompson for the record.

In section 9.2.5 that you have referred to -- in the second paragraph, there is a description that talks to the consideration of past, current and future projects on the Chalk River property boundaries.

AECL has submitted a plan for the site, looking at, sort of, long-term and they are submitting a 10-year rolling plan for the waste management and decommissioning projects.

The expectation is that that information will be included as a basis for the cumulative environmental effects because there are project plans and documented projects for the Chalk River site.

I should also note that AECL has a plan to -- for the existing environment section to have -- you

know the baseline information would be compiled and the document updated on a regular basis so that the information is current as we move forward, for this assessment and other assessments.

THE CHAIRPERSON: I have mentioned in previous hearings that that is my expectation. That is what we will receive in the documents from AECL and analyzed by the staff. I think it is very difficult for us and for intervenors to look at things in a piecemeal fashion, and I think that would be a good practice.

From the AECL -- this is a question for staff. AECL has mentioned the issue of waste classification and storage facilities. Could the staff comment on the classification, Table 1, and how it would compare with international standards?

DR. THOMPSON: Patsy Thompson for the record.

I'll ask Mr. Don Howard to respond to your question.

MR. HOWARD: Don Howard for the record.

Table 1, basically the CRL waste classification that they have put down here in Table 1 does correspond to international practices. The only omission would be what I would call intermediate-level waste. Low-level waste can be subdivided into very low-

level waste or very low-level, short-lived waste. Then we would have low-level waste. Intermediate-level waste is material that requires further shielding as opposed to low-level waste, and high-level waste is basically the fuel components, spent fuel, things of that nature is what would be in that category.

So as I say, what they have here does correspond to international approach except that they're missing the one on intermediate-level waste.

THE CHAIRPERSON: So therefore the staff agrees that the Figure 1 diagram, which notes this bulk material landfill as being very low-level radioactive waste and that this project fits in that, and the Table 1 where the description is the very low-level radioactive waste, that that corresponds with your understanding of this project?

MR. HOWARD: Don Howard for the record.

Yes, I do.

THE CHAIRPERSON: Are there any other questions with regard to the guidelines?

Yes, Monsieur Harvey.

MEMBER HARVEY: Yes, I've got a few questions. In the staff document, page 4, second paragraph from the top, the last sentence, you say:

> "Other bulk materials would be

transferred as generated from points of origin to the landfill."

We're not talking the same materials that was the object of my question at the beginning? What is that "other bulk materials"? What's the nature and the contamination of that material?

DR. THOMPSON: Patsy Thompson for the record.

Could I suggest that AECL respond to that question? It's their project description.

MEMBER HARVEY: It's your document though.

MR. INCH: Wayne Inch for the record.

I'll ask Dave Cox to speak to that, please.

MR. COX: Dave Cox for the record.

The other bulk materials that are referred to in that section are the materials from other excavations arising from different points around the site, not materials associated with the sewage sludge itself. The nature of that material would be sand and gravel from excavations, primarily in Controlled Area 2 at the Chalk River site.

MR. HARVEY: It is the same one that you were talking at the beginning. They're the same type materials. Is that right?

MR. COX: Yes.

MR. HARVEY: Okay. My next question is page 8 of the staff document.

> "See that the required level of details in the description of existing environment where the potential interaction between the project and various components of the environment are weak, are remote in time and space."

I understand very well "are weak" and "remote in space", but "remote in time", how do you explain that? What does it mean? Because if we have an important problem in the future, we cannot avoid to address it right now.

DR. THOMPSON: Patsy Thompson for the record.

If I understand you correctly, you're referring to the last paragraph on page 8?

MEMBER HARVEY: That's on page 8, the -- exactly, yes, last line.

DR. THOMPSON: Essentially, the expectation is that the assessment will be done with the sufficient quantitative and qualitative assessment information to be able to draw conclusions on project interactions with various components when those interactions are strong and likely.

As they become less likely and less important, because the -- for example, the expectation is that spatially, impacts are more important closer to the source and will decrease over the spatial as we move away from the source. It's the same in terms of time. The expectation is the assessment will be done to a level to allow making conclusions, and as the impacts become less important over time or over space, then the level of detail can be less and still allow us to make conclusions. It's not to say that impacts in the future will be considered less important than current-day impacts, but just that if impacts in the future, as they decrease away, there is a level of detailed information that may not be required because they become of very low significance.

MEMBER HARVEY: My last question -- let's see, it's on page 13, the top of the page.

> "Reports and documents will be made available to inform individuals, interest groups, other stakeholders, and the nearby aboriginal community in the assessment."

Would it be of some value to add to that, that those documents, in an appropriate form and timely manner -- because there's a lot of documents to prepare for such study, and sometimes it's not easy to read even

by us but by the public, it's difficult to go through all those documents.

Do you have any intention, or should it be written somewhere that there is a certain form that could be given to those documents in order that the different public and stakeholders and society could -- well, that could facilitate the participation and the comprehension of the project by those groups?

DR. THOMPSON: Patsy Thompson for the record.

CNSC staff has recognized the difficulty for members of the public to be engaged when they are being consulted on very technical documents. In the initiative that CNSC staff has in terms of process documentation and process improvement, this is something that we're considering in terms of how do we develop documents for consultation that are suitable for public consultation? We had not anticipated putting this in the guideline at this time, but it's certainly something that can be done.

MEMBER HARVEY: Thank you. Merci, Madame la Présidente.

THE CHAIRPERSON: Thank you.

I'd just like to comment that Dr. Barnes' questions about the actual structure itself, to me, really

is important in terms of answering 9.2.1.2, which is malfunctions and accidents. And I think that early consideration of design and potential issues that come from the design are just really key to us in terms of answering 9212. That's specifically why it's necessary. It's not that it won't be handled later; it's that we're required, when we see this -- we understand that the guidelines are sufficient to handle that, but just to give you a sense of why it is absolutely essential for us to understand this and I think that waste -- you know, as I said before that waste is -- handling waste is a good idea. You know, making sure that waste is properly handled is a very good idea and the Commission understands that, but because of the long-term nature of the storage, I think that the issues of malfunctions and accidents and what would happen to it long after all of us are gone is a very, very important issue for the Commission and has tended to be a feature of our discussions on all the waste management facilities that we've been handling.

Dr. Thompson, did you want to comment on that?

DR. THOMPSON: If I could, Madam President, the staff's expectation in this section for this assessment is that malfunctions and accidents be considered in relation to the existing experience with

this type of landfill.

These landfills have been built and operated for a long time both in Ontario and elsewhere, and there is operating experience, including malfunctions and defects, that AECL can draw upon to build up that section of the assessment.

THE CHAIRPERSON: I'd like to then turn to the next part of the discussion, which is on the process that has been suggested by AECL and has been commented on by the CNSC staff in their supplementary document.

First of all, I would like to note that the Commission has already sought further information regarding the proposed process that the staff has put forward for consideration of the EA's screening report and licensing information, and that this was done in a previous hearing earlier today and that we will be taking that material also into consideration to the degree that it's applicable for this case in any discussion and decision that we will make with that regard.

So we want to let you know that.

But, I'm not sure, Mr. McGee, if AECL had an opportunity to hear that because the transcripts, of course, are not available yet, but I'd first of all like to give AECL an opportunity to comment on any of the discussion that had happened earlier today, if you were

present, if any of your staff were present, before we get into it. And then we'll offer you any opportunity to comment further on the process to begin with, and then see where we are.

Brian McGee for the record. We were present. I wasn't personally present for all -- for most of it and will ask Martin Klukas to respond to your question on the process.

MR. KLUKAS: Martin Klukas for the record. I would like to refer that to Dave Cox.

MR. COX: David Cox for the record.

AECL believes that the bulk material landfill project is a good candidate for licensing approvals to be combined with environmental assessment evaluation in a single public hearing.

The reason we believe this is that in order to met the requirements under the *Canadian Environmental Assessment Act*, we must prepare analysis and documentation that demonstrates that emissions and the doses to workers, to the public and to the environment fall within all the requirements under the *Canadian Environmental Assessment Act*, and really under the *Nuclear Safety Control Act,* as well.

So we believe the same set of documentation -- the same analysis would support an evaluation under

CEAA and also an evaluation under the *Nuclear Safety and Control Act*. That's applicable to a project of this nature, where it's a standard design and there's no evolution of the design during the EA period.

We're talking about a well-established design for a landfill of this type, and so the analysis that's done up front is commensurate with meeting the requirements of both CEAA and the *Nuclear Safety and Control Act.*

THE CHAIRPERSON: If the Commission considered a process such as this -- either now or at some point of time when the staff put forward a specific CMD on that, does AECL understand that because of the nature of the difference between the Acts and the Commission's requirements to make a judgment under CEAA before there is a consideration of licensing, that the risk would be borne by the licensee in this case?

MR. INCH: Wayne Inch for the record.

Yes, we do understand the risk.

THE CHAIRPERSON: Would the staff like to make any further comments? You had, as I said, quite extensive time. Is there anything in particular with regards to the process that you -- that was proposed by AECL and you commented on that would be -- that you wish to comment on further?

DR. THOMPSON: Patsy Thompson for the record.

We have no further comments at this time. Thank you.

THE CHAIRPERSON: Are there questions from Commission Members with regard to the process?

Well, thank you very much then.

With respect to this matter, I propose that the Commission confer with regard to the information that we've considered today and then determine if further information is needed or if the Commission is ready to proceed with a decision, and we will advise accordingly.

This concludes today's proceedings and I would like to thank you all for your attendance and the hearings will resume tomorrow morning at 8:30 a.m.

Thank you.

--- Upon adjourning at 4:26 p.m.