Atomic Energy of Canada Limited:
Application to continue operation
of the National Research Universal
(NRU) Reactor beyond its currently
scheduled shutdown on
December 31, 2005

05-H28.1 / 05-H28.1A
Oral Presentation by
Atomic Energy of
of Canada Limited

MR. VAN ADEL: Thank you very much, Madam Chair and Members of the Commission. Good afternoon.

Thank you for the opportunity to talk to you about our application to continue the operation of the NRU reactor to July 31st, 2006 and, for the record, I am Robert Van Adel, President and CEO of AECL.

With me today are a number of people who will be supporting us in this submission, including Dr. David Torgeson, who is Senior Vice-president and Chief Technology Officer, Dr. Paul Fahrenbach, Vice-president of the Nuclear Laboratories and Glenn Archinoff, our Chief Regulatory Officer.

As I've stated at the NRU Environmental

Assessment hearing in June of this year, AECL originally informed the Atomic Energy Control Board, back in 1996, that the NRU reactor would not continue operation beyond 2005. That decision was based on the assumption, considered reasonable at the time, that a replacement facility would be operating by now.

As we all now, that has not happened and NRU continues to be a vital source of medical isotope production and it is Canada's premier facility for nuclear power research and materials research.

Considering the need to continue to operate the NRU, we embarked on a comprehensive project to demonstrate that continued operation could be safely sustained.

We then applied to remove the licence condition that required NRU to be shut down at the end of this year.

We have now applied to amend the date of the licence to July 31st, 2006 to provide additional time for our submissions to be reviewed by CNSC staff and for us to satisfactorily address any comments they may provide.

It became clear in the spring and early summer of this year that there were outstanding items to be resolved and, although there is a strong sense of

urgency to resolve these items, I do not want pressure to impact the process, so we are seeking a seven-month extension today.

Should the Commission grant the extension we are confident that, over the coming months, we will demonstrate to CNSC staff and the Commission that NRU is safe to operate for a much longer period of time.

Today, NRU is a safer facility than it has ever been and we are continuing to make improvements, literally, on a daily basis. We have confirmed that the material condition of the reactor and key systems are sound and supports ongoing operation for many years.

The improvement initiative that Dr. Fehrenbach and I discussed on June 29th in an initiative to improve our operating practices and bring them in line with best utility level practices is well underway. It has achieved some immediate benefits and progress is accelerating rapidly.

I want to reiterate to the Commission that AECL is committed to the safe, continued operation of NRU. AECL's Executive Committee, which I chair, receives and reviews progress reports on NRU on a weekly basis. So we are on top of the situation and we are keeping a close eye on it to ensure that progress continues.

We keep our Board of Directors apprised

regularly and I confirm, again, their continued support. We will continue to make the necessary investments to ensure NRU's safety.

As I did this morning, I would like to thank our community stakeholders for their efforts in supporting our application. We appreciate very much your interest and your support very much and look forward to continuing the dialogue.

I will turn the presentation over to Dr. Fehrenbach to provide specific details.

Thank you very much for your attention.

DR. FEHRENBACH: Good afternoon, Madam Chair and members of the Commission, and thank you for the opportunity to speak to you today in support of this Application.

For the record, I am Paul Fehrenbach, Vice-President of AECL Nuclear Laboratories.

As Mr. Van Adel pointed out, we are here today to request an amendment to the Chalk River site licence which would permit operation of NRU to July 31st, 2006. The present licence requires that NRU be shutdown by December 31st, 2005 unless otherwise approved by the Commission.

As Commission members are aware, we applied in April of this year to have the licence condition

removed and to permit continued operation of NRU to about 2012. Since then we have made more than 30 technical submissions in support of removing the licence condition and will make additional submissions over the next several months.

We have also had a number of meetings with CNSC staff. Through these discussions it became clear that additional time would be required to complete the review and comment disposition process on our submissions and that we would find ourselves bumping up against the shutdown date in the licence without complete resolution of all of the items under discussion.

An additional seven months will therefore allow for further discussion of the various items without reducing the urgency to resolve them and would bring the site licence condition, concerning operation of NRU, into alignment with the renewal date for the site licence.

Therefore, we are here today in support of a request for a seven-month extension to the site licence condition.

Our request to remove the licence condition, that is, our request for longer term operation of NRU, will be dealt with at a future hearing of the Commission should the Commission grant the extension we are seeking today.

Just to remind the Commission, NRU is a heavy-water cooled and moderated reactor. The reactor is shown in the centre of this slide with fuel rods oriented vertically. The fuel rod flask operates over top of the reactor. The biological shielding around the reactor reduces radiation fields to very low levels, allowing staff and researchers to work safely inside the main reactor building and in close proximity to the reactor.

NRU started operation in 1957 and has, during its lifetime, reached power levels up to 200 megawatts. The fuel was changed in the early nineties from highly-enriched uranium to 20 per cent enriched uranium, referred to as low-enriched uranium or LEU. The reactor typically operates today at power levels up to 130 megawatts thermal.

The coolant for the reactor core operates at a low temperature and pressure, about 55 degrees C and 0.76 megapascals. That would be 130 degrees Fahrenheit or 100 psi. There are two experimental fuel test loops passing through the core that operate at CANDU power reactor conditions within their own pressure boundaries.

We believe that a seven-month extension for NRU is strongly supported by the sound condition of the facility, the good operating record and the safety improvements that have already been implemented. These

comprise both engineered safety features and improvements in processes and resources as part of the NRU improvement initiative that Mr. Van Adel mentioned earlier.

The good progress that has been made on activities related to longer term operation of NRU provides additional support for the seven-month extension. I will expand on each of these points.

A key issue for supporting continued operation of NRU is to confirm that the structures, systems and components important to safety are in good condition.

Therefore, we have performed aging assessments of the NRU systems that are most important to safety. The methodology we used is standard in the industry for evaluating the prospects for continued operation of nuclear facilities.

Our assessments include reviews of equipment operation, maintenance records, information from the manufacturer, technical knowledge of component performance and detailed equipment inspections.

The most basic of these inspections is a walk-down, which is a visual inspection of the accessible systems and components by a technical expert. This is done for every aging assessment.

We have also done more detailed inspections

using visual liquid penetrant, ultrasonic and any current techniques.

Our inspection results for the heavy-water pressure boundary show little variation from those obtained in the early 1990s, indicating that the material condition of the reactor is little changed from that time and will support continued safe operation.

Overall, the results of the aging assessments support continued operation for at least 10 years and even longer by completing recommendations identified in the assessment reports. This positive prognosis will be supported by ongoing maintenance, equipment replacement and inspections and these are part of our aging management program.

We have appeared before the Commission over the course of the last year to discuss several significant events that had occurred at NRU. Without minimizing the importance of those events, they somewhat overshadow the otherwise good performance of the facility on key measures that are important to health, safety and the environment. These key indicators are reported in the CMD by CNSC staff. So I won't repeat the numbers here.

However, the story the numbers tell is important. Worker doses are low and no individual worker at NRU has exceeded a dose action level in recent years.

Releases of radioactive material from NRU to the environment are generally small fractions of the derived release limit and are below the action levels.

The worker safety record is excellent with only two minor lost time accidents in 2004 and one so far this year.

The number of events that were reportable to the CNSC has declined in recent years with 2004 being the exception. We have been proactive in dealing with this change in trend, as discussed at the Commission meeting in June, and I will touch on this again later in my presentation.

We have also been making physical safety improvements to the facility in the form of seven major safety upgrades. This slide shows the upgrades and the dates they were placed in operation or will be for the last two. These upgrades strengthen NRU's defences to a postulated accident.

The Qualified Emergency Response Centre provides a hazards-qualified location for ensuring that the reactor can be placed in a stable shutdown state and that adequate fuel cooling can be maintained.

The second trip system augments the reactor protective system through the addition of independent separated sensors and trip circuits providing redundant

and increased trip coverage. The liquid confinement vented confinement system contains radioactive releases should they occur.

The main pump flood protection system ensures that the main coolant pumps remain operable following postulated large pipe breaks, specifically, process water mains in the building.

The qualified emergency water supply system and the new emergency core cooling system provide seismically-qualified sources of post-accident cooling water.

The emergency power supply provides a seismically-qualified source of power to key safety-related equipment.

The emergency power supply and the new emergency core cooling system are in the final stages of being made operational. Both systems are installed and have undergone successful commissioning tests.

We have completed the last stages of staff training on the emergency power supply system and just last week the emergency power supply was tied in. Now, a seismically- qualified power source is available to all of the safety upgrades.

We have also been making improvements in our processes and resources under the umbrella of the NRU

improvement initiative that we outlined to the Commission in June and which we have provided to CNSC staff. I am pleased to report that we are making excellent progress on this initiative.

Our housekeeping improvements are well underway, and we are seeing immediate benefits in several ways. First, we have removed material that could have represented a fire hazard. This includes loose combustible material as well as permanent fixtures such as wooden shelves and racks. These items have been replaced by non-combustible metal fixtures.

We have implemented new processes to ensure that combustible material is prevented from coming into the building to the extent possible. One way we have done this is to unpack equipment destined for NRU before it comes into the Controlled Area 2.

We have also removed equipment that was being stored in NRU and have provided temporary storage outside of the building as an interim measure while a new permanent storage structure is built. We have increased the standards for cleanliness and have repainted the walls and floors.

So we are not only enhancing the look of the facility, we are implementing processes to maintain excellent housekeeping and to minimize fire and other

risks on an ongoing basis.

We have also made excellent progress in the area of plant operation and, in this regard, are learning from and adopting industry best practices. We have implemented a new reactor re-start policy that requires an enhanced safety checklist to be completed before the reactor can be re-started following a reactor trip. Such policies are in place at the power reactors.

We have implemented an operational decision review panel, again similar to utility practice, to ensure that key decisions related to operation are made expeditiously but taking into account input from all key functions in the facility. This provides greater support to the Production Manager in making such operational decisions.

We have a daily Operations meeting involving NRU management and managers from various support organizations on the site. The purpose of this meeting is to focus everyone's attention on NRU's immediate needs to resolve any issues that have arisen since the previous meeting and to provide additional senior management oversight of operation of the facility.

This process is common across the nuclear industry. We are introducing three-way communications as one of the industry event-free tools to be implemented in

NRU.

We have also strengthened our resource base; first, by bringing in external consultants to fill in gaps immediately. These people have had tremendous experience at implementing improvement programs of the utilities, and they are helping by mentoring our management staff and by taking a lead role in the improvement initiative while our managers focus on operation safety.

In parallel, we have also been filling permanent positions. Since June, we have hired 23 full-time staff into NRU. We are also bringing back former NRU resources from other areas of the company to help with the improvement initiatives, and we are expanding the NRU management structure to add management strength.

There are many other activities underway in the improvement initiative and we will be reporting on them to the Commission at a future date.

So I will not go into further details, except to mention one more important activity. This activity is visits by our Reactor Operations and Maintenance staff from both NRU and from the Dedicated Isotope Facilities to nuclear power plants in Canada.

We have recently completed the first of these visits, their purpose being for our staff to

experience firsthand the processes used at the utilities and to learn directly from their counterparts. We are receiving excellent cooperation from the utilities on this initiative. This exchange will be ongoing and is an important part of our improvement initiatives.

As noted by Dr. Hedges this morning, many of the NRU improvement initiatives are being implemented in close collaboration with the DIF improvement plan and a number of improvement initiatives such as the Operating Experience Program and utility site visits are being done in common.

The progress we have made on the activities to support longer term safe operation of NRU also supports our application for the seven-month extension. We completed a periodic safety review of NRU based on an internationally-accepted International Atomic Energy Agency Guide for periodic safety review in power reactors.

A highly experienced external contractor carried out this review to ensure that we had an independent view. The issues identified by this review were transformed into actions that are contained in the Safety and Licensing Plan and communicated to CNSC staff.

We have completed 17 of the 20 actions and provided to CNSC staff a schedule for completing the remaining items. The work we have completed in addressing

these items supports continued operation of NRU both in the short term and the long term.

One very important activity that we have completed is the NRU Severe Accident Assessment. This assessment looks at the potential consequences of very severe accidents occurring at NRU. The assessment confirms that the continued operation of NRU represents a very low risk to the public compared to the risks to which they would be normally exposed. Completion of this assessment represents a major step forward in confirming the safety of NRU.

As mentioned earlier, the safety upgrades are also an important element of long-term operation of NRU. We are implementing an Aging Management Program to ensure that the important structures, systems and components are monitored and maintained on an ongoing basis, and we are well underway on the NRU improvement initiative, a program that focuses on processes and resources and which is aimed at preventing events caused by human error. This program will move NRU towards industry-best practices in operations and maintenance.

I mention these activities to give the Commissioners confidence that our request for a seven-month extension is based on a solid framework being prepared to support a longer-term extension of NRU

operation.

To conclude my remarks, our view is that this request for a seven-month extension has a sound basis. It is strongly supported by the sound condition of the facility as determined by our aging assessments; it is supported by NRU's track record of performance in the key indicators related to health, safety and the environment; it is supported by the safety improvements that we have made, both engineered safety features and the safety upgrades and the process and resource improvements made under the NRU improvement initiative; and it is supported by our continuous improvement activities as evidenced by the progress made on activities to support longer term operation of NRU.

That concludes my presentation. Thank you for your attention. We would be happy to answer questions.

THE CHAIRPERSON: Thank you very much, Mr. Van Adel and Dr. Fehrenbach.

We will now move to the presentation by CNSC staff outlining CMD 05-H28 and 05-H28.A and I will turn to Mr. Barclay Howden who is the Director General responsible for this area.

Mr. Howden, you may proceed, sir.

05-H28 / 05-H28.A

Oral presentation by

CNSC staff

MR. HOWDEN: Thank you, Madam President and members of the Commission.

For the record, my name is Barclay Howden. With me today are Mr. Greg Lamarre, Director of the Research Facilities Division, Mr. Constantin Nache, Project Officer for the NRU Licence Extension Project and the rest of the CNSC Licensing Team for this facility.

CNSC staff has reviewed the Application from AECL to amend the operating licence of the Chalk River Laboratories to allow the continued operation of NRU beyond December 31st, 2005, and has formed a position on the Application and put forward recommendations for your consideration.

I will now turn the presentation over to Mr. Nache who will outline these for you.

MR. NACHE: Thank you.

For the record, my name is Constantin Nache. I am Project Officer for the NRU Licence Extension Project.

As Mr. Howden mentioned earlier, AECL has applied for the amendment of the licence to operate the NRU reactor at Chalk River Laboratories until July 31st, 2006. Our presentation provides a brief overview of the

key issues of these applications which are detailed in our CMD submitted to the Commission and staff's recommendations.

Our presentation provides background information on the NRU Reactor, a review of AECL's application to amend the operating licence for the Chalk River Laboratories, a review of licence performance during the current licence period in relation to the NRU Reactor, a review of areas that in the CNSC staff's opinion would require improvement if longer term operation of NRU is granted, and the staff's overall conclusion and recommendations to the Commission.

The National Research Universal (NRU) Reactor has been in operation since 1957 and is becoming older and an increased effort is required for continued operation in the future.

A Comprehensive Engineering Assessment has been performed during 1989-1992 and a safety upgrade proposal is undertaken. Currently, a Plant Life Management Program for the NRU Reactor is being implemented incorporating assessments and inspections of critical structure systems and components.

Currently, the NRU Reactor is used to produce medical and industrial radioisotopes, to conduct engineering experiments in support of nuclear power

development, to conduct fundamental research in neutron physics and as a neutron source for other commercial applications.

Currently, the NRU Reactor is operated under AECL's Chalk River Laboratories' operating licence that is valid until July 31st, 2006.

During the licence renewal in 2003, CNSC staff recommended and the Commission accepted the condition to restrict the operation of the NRU Reactor beyond December 31st, 2005 unless otherwise authorized by the Commission.

Last year in April, AECL applied -- sorry, AECL applied to amend the operating licence to extend the operation of the NRU Reactor until July 31st, 2006, which is the expiration date of the site licence.

Simultaneously, with the review of the licence application, CNSC staff performed an Environmental Assessment which concluded that the continued operation of the NRU Reactor is not likely to cause significant adverse environmental affects.

CNSC staff's review of the Application concluded that the information contained in the application meets the relevant requirements.

This slide summarizes CNSC staff's assessment of the various safety areas that are relevant

to the NRU Reactor. As seen on the screen, the NRU Reactor performed satisfactorily during the current licensing period.

CNSC staff identified weaknesses in the Environmental Protection Program and in the implementation of operating performance and performance assurance safety areas.

However, CNSC staff has weighted these weaknesses against the evidence of good performance in managing other key safety areas and AECL's recent improvement initiative and concluded that the risk which continued operation of the NRU Reactor poses should not be unreasonable for the proposed licence period.

CNSC staff's opinion is that there are several improvement areas, both short term and long term which require to be addressed if the seven-month licence extension is granted and if any longer licence extension will be considered.

If the seven-month licence extension is approved, CNSC staff expects AECL to perform the following tasks which are listed on the screen, before July 31st, 2006:

To complete the outstanding safety system upgrades, to continue the so-called "Phase II Plant Life Management Condition Assessment", to complete the short-

term improvement initiatives, to submit a Comprehensive Preliminary Decommissioning Plan and Financial Guarantee, to finalize the Systematic Approach to Training and the Certification of the CNSC Chief Engineer, to submit the revised safety analysis report and to submit the revised Plant Life Management and Gap Analysis report.

If the seven-month licence extension is approved, CNSC staff expect AECL to work towards a resolution or to produce acceptable schedule for their resolution of the following issues: the development of a formal Aging Management Program which is the same as Plant Life Management, Phase III in AECL submissions for the NRU Reactor; to update the periodic inspection program for full acceptability, to implement the longer-term NRU improvement initiative, to produce a design code reconciliation, development of severe accident management guidelines and the assessment of NRU staffing requirements, taking into account operation, maintenance, inspection testing, assessments and any other NRU related projects.

At the end of our review, CNSC staff concluded that AECL is qualified to carry on the licence activities and that AECL has made and, in the opinion of the staff, will continue to make adequate provisions for the environment, the health and safety of persons and the

maintenance of national security and measures required to implement international obligations to which Canada has agreed.

CNSC staff recommends that the Commission amend the proposed operating licence to operate the NRU Reactor for a seven-month period to July 31st, 2006.

And this concludes my presentation and thank you for your attention. I will now return the floor to Mr. Howden.

MR. HOWDEN: Thank you, Madam Chair. That concludes our presentation and staff is ready to respond to questions.

THE CHAIRPERSON: On an exceptional basis, I would like to just start by clarifying a question before I open the floor to the other Commission Members.

When I look at comparing the staff slides, I have got two questions. On staff Slides 7 and 8 there are clarifying questions that when I -- I will start -- the first question that I would like you to answer is you talk about short-term being before July 31st, which is expiry, but with the process that we are undergoing we really have to start this process in April. I mean you are really going to be submitting CMDs in April.

So my first question is going to be what will have to be done before April, you know, when you are

starting the assessment process?

The second is when you compare Slides 7 and 8, which are the short term and long term areas for improvement, and you match them against the progress on short-term activities which it is not numbered but it is in the AECL slides -- are short term and then there is long-term operations -- when you compare them they don't exactly match up in terms of easy reading here.

So I would like to know *grosso modo* at the beginning -- and then my colleagues can start asking the more detailed questions -- are you confident that what you are talking about in short term is understood by AECL in short term and that those match those actions and that there is an understanding of what long term is and then there is a match on those?

One could provide some wording that could get those matches together but I want to know that the staff -- and then, I will ask AECL the same question -- so talking very much from the *grosso modo* level with regards to timing and exactly what is short and long term and a clear understanding between the licensee and the staff of what that contains.

So we will start with the staff and then we will move to the licensees.

MR. LAMARRE: Greg Lamarre, for the record.

To answer your first point, Madam Chair, yes, certainly those short term initiatives on slide 7 will have to be submitted by the April timeframe.

And we could go down through them point by point, but I will not in a lot of detail, unless you would like me to, but the safety system upgrades, for instance, is a recommended licence condition that we are putting forth in front of the Commission today to have those fully operational by the end of December.

So that is certainly one that we are expecting to have done in the very near term.

The completion of the PLIM condition assessments, these are what AECL terms the 2A and 2B assessments. And those are also to be done within the period between now and April.

But most certainly, the resolution of all the 2A PLIM items, those are what are deemed the safety critical assesses, the system structures and components. Those will most certainly be done and staff will have had the opportunity to review comment and get resolution on those.

So, to answer your question -- your first question -- short-term, yes, most certainly, those issues we should have resolution on at the time of April next year.

As for slide 8 ---

THE CHAIRPERSON: Sorry ---]

MR. LAMARRE: --- oh? -- yes ---

THE CHAIRPERSON: I think it would be worthwhile for you to go through those, if you do not mind, Mr. Lamarre. I think it is important for us to clearly understand the timing.

So if you could just -- that degree of detail is sufficient for me, and I will see what my colleagues say later, but just go through them one by one.

MR. LAMARRE: Yes, Madam Chair -- Greg Lamarre, for the record, once again.

The NRU improvement initiative short-term -- that is bullet number 3 -- AECL has recently provided to us their formal NRU Improvement Initiative Plan.

There has been a number of discussions ongoing through our bi-weekly meetings that have been set up, following the issues brought before the Commission.

And I would also like to highlight the fact that there is a commitment by staff to come back separately on the NRU Improvement Initiative Plan early in the new calendar year.

So that one will certainly be delivered to you in advance of April.

CPDP and financial guarantee, Madam Chair,

this is an issue that staff is recommending a licence condition be put in place requiring AECL to deliver on the outstanding issues related to the site-wide preliminary decommissioning plan and financial guarantee by April 1st, 2006.

The SAT base training and certification of the SRSEs, this is a fairly comprehensive undertaking by the licensees that staff is following up on to certify the current senior reactor shift engineers. That we want to see done prior to relicensing.

I could not comment -- perhaps another member of the team could comment as to what the due date is for the certification of the existing senior reactor shift engineers, but that is certainly a prerequisite to us recommending a licence renewal for the site and for us coming back for a separate NRU licensability extension hearing.

The revised safety analysis report -- and the revised PLIM and gap analysis reports are all committed to us, I believe in the April 2006 timeframe next year.

THE CHAIRPERSON: And could you just move to then slide 8, as you tried to earlier, before I drew you back into slide 7? So, slide 8, please.

MR. LAMARRE: Greg Lamarre, for the record.

These slide 8 items, as Mr. Nache alluded to in his presentation, many of them are to be committed to with implementation schedules not necessarily delivered on by the time of a separate NRU licensability extension hearing next year.

The Aging Management Program, essentially phase 3 of the Plant Life Management Program, is not expected to be implemented by the time we come back in front of the Commission next year.

However, we should have a plan in place, an implementation strategy in place, that we can agree with when we come forth with a recommendation to the Commission next year.

The Periodic Inspection Programs, there is basically two areas, the heavy water system, essentially the reactor, all its cooling circuits and that, as well as the pressurized loops, U1, U2, where AECL carries out its materials advanced CANDU testing. Those two periodic inspection programs we are expecting some progress on.

We expect that the full implementation of the Periodic Inspection Programs will likely not be completed at the time that we come back to you next year.

The NRU Improvement Initiatives Longer Term, we look at this improvement initiative as not a "one of" type measure, but more of a continuous improvement

initiative.

So as I previously alluded to, we have made a commitment to come back early in the calendar year. At that time there, I think we will be able to detail to you what the implementation strategy is longer term.

The Design Code Reconciliations is a bit of a legacy issue that we are dealing with AECL on right now. We do not expect that to be fully resolved at the time that we come before you next year. However, we should certainly have a resolution plan in place that we can detail at that time.

Severe Accident Management is a prerequisite that is somewhat new onto the table, has not yet been delivered, but we expect once again a commitment from AECL to deliver that longer term, once again post April 2006 likely.

And the NRU Workforce Study, we consider this somewhat part and parcel with the improvement initiative and it is ongoing. We should certainly have some information for you at the time of April 2006 but I do not believe that that initiative will have come to its completion at that point either.

THE CHAIRPERSON: So I will turn now to the licensee.

You have heard the staff in terms of the

areas that they think fit into short and long term. And we have heard your description, short and long term.

Are there any areas of discrepancy between what the staff is saying and what you believe has to -- can be done in the time periods we have talked about?

DR. FEHRENBACH: Paul Fehrenbach, for the record.

No, Madam Chair, in fact we believe the two lists are pretty well aligned. I think one potential source of confusion is the way we have used terminology in the two presentations.

As I understood Mr. Nash, he prefaced slides 7 and 8 both -- in both slides -- items that will be required to support NRU operation in the longer term. And we agree with that.

THE CHAIRPERSON: Assuming there is a granting of the extension, I think that it is going to be important for us to have some common terminology, as we did with the discussion on MAPLE and the others, so that we -- not just for ourselves and for the licensees and the staff, but for other intervenors seeing this. I think they will want to have as clear an idea as possible.

So I am not sure what lists we use, or how we do it, but I would recommend that assuming -- not prejudging the decisions of my colleagues.

So with apologies to my colleagues for starting first, which I do not usually do, I will now turn to Mr. Graham, please.

MEMBER GRAHAM: Thank you, Madam Chair, and that gives some of the clarification that was going to be asked with regard to slides 7 and 8.

My first question, I guess, is around the age of the plant -- built in 1957, I guess, or construction at that time, if I am correct in what I read -- and, in the last 10 years, according to the table -- one of the tables that was presented by CNSC -- since 1995, it has run 75 to 80 per cent of the time.

Would that be correct?

DR. FEHRENBACH: Paul Fehrenbach, for the record.

Yes, that is about right -- it is as little bit less than that, but in that neighbourhood.

MEMBER GRAHAM: Based on 8,760 hours a year -- some of them were less, some were up there -- especially the last two years in which you have had increased hours.

My first question is: metal fatigue and fatigue within the existing plant, boilers, tubing, so on and so forth -- some of those inspections I read, I believe, date back to 1996 and so on, some of the

inspections within -- and I believe that was in your overhead -- is this for the norm or how often will you be doing further inspections with regard to metal fatigues and so on?

DR. FEHRENBACH: Paul Fehrenbach for the record.

There are several aspects to this question. The first one is that to support our request for a longer term operation, we are doing a complete system assessment of all of these components and systems, which are part of the walk-downs that I spoke about earlier, part of the use of these various techniques for investigation of metal components like ultrasonic inspection techniques and eddy-current techniques, and they are designed to pick up very small flaws such as you would find from fatigue.

The second aspect to the answer is that in the longer term we're, based on these inspections and based on our periodic inspection plan, we're putting in place an Aging Management Plan, which includes periodic inspections of these key components with time to ensure that all of these components remain fit for service.

So we will be repeating these inspections on a regular basis as defined in the Periodic Inspection Plan and the Aging Management Plan.

MEMBER GRAHAM: My question, I guess, the

way I should put is: When was the decision made by AECL to go for the seven-month extension; how far back was the planning done to do that other than going with the original plan of having the licence expire at the end of this year?

DR. FEHRENBACH: Paul Fehrenbach for the record.

Back in 2003, Commissioner, we decided that we would require NRU in operation longer than December 2005, and planning started in 2003 and it was in 2003, as Mr. Van Adel mentioned earlier, that we informed the Commission that we intended to seek application to operate NRU longer than December 31st, 2005.

So, in April of this year, we made a formal application to the Commission to consider this request and as a result of the work that's been done since that time and the discussions that have been held between ourselves and the CNSC staff, we recognized that we were going to need a little more time than would be permitted by the December 2005 date, in order to assess all of the material that had been produced by AECL and respond to the questions and resolve any issues that arose.

So the decision to request the seven-month extension to the licence condition occurred probably in about the June-July timeframe.

MEMBER GRAHAM: Thank you.

The reason I'm asking the question is the decision to extend the life was probably made about 18 months.

What I was really coming to is had there been the necessary maintenance done prior to that 18 months ago, was it just going to be to phase the facility out at the end of 2005, and then the decision. Has there been adequate maintenance done to carry it further, not the seven months, but to carry it further in both the short and long term?

That was the reason of my question.

DR. FEHRENBACH: Thank you, Commissioner. Paul Fehrenbach for the record.

We do have an ongoing preventative maintenance, an ongoing maintenance program and I'd ask Bill Shorter to respond with some of the details of that plan.

MR. SHORTER: For the record, I'm Bill Shorter, the NRU Facility Authority.

We have had an extensive maintenance program in place for decades. That program has been fully sustained through the period of the last few years irrespective of the conditions requiring NRU shutdown.

The program has about 4800 annual

preventive maintenance routines. That program has resulted in about a 40 per cent reduction in unplanned shutdowns due to equipment failures and a similar reduction in trips, if you note on the tables in the CMD provided by staff.

Nonetheless, we're currently looking to improve that program and the Plant Life Management Project, currently underway, as part of the Licensability Extension Program, examines that maintenance on a system assessment process.

We will be implementing that into a Living-Aging Management Program, and the results will be used to augment the existing maintenance program.

In answer to your question, the maintenance program has been sustained throughout and we are looking to improve it.

MEMBER GRAHAM: The CNSC staff, do they concur with the adequate maintenance that has been maintained in the last decade?

MR. LAMARRE: Greg Lamarre for the record.

To answer you question, Mr. Graham, I would say that we would concur that, certainly, a maintenance program has been in place for some time, but I don't think that we could necessarily say that the maintenance program has been fully comprehensive and adequate.

As we noted in the previous SDRs, there were some omissions in the maintenance program, and I think what AECL is doing now in putting in place these periodic Inspection Programs fed into a preventive maintenance program should improve the situation that we've seen in the past.

MEMBER GRAHAM: Thank you.

I just have one other question for this round, Madam Chair, and that is with regard to the unplanned events.

In the last five years, they have doubled and, in fact, 2004 has seen the highest unplanned events in the last 10 years, and reportable events number -- or five of them, which is the highest in the last six or seven years.

Can you explain why the trend has been trending upwards there?

And that is to AECL.

DR. FEHRENBACH: Paul Fehrenbach for the record.

We believe that 2004 represents somewhat of an anomaly. As I addressed in my opening remarks, Commissioner, the trend had been steadily downward from 1999 through 2004. That upward ---

MEMBER GRAHAM: --- Pardon me, 2003 was

considerably higher also with 62; 2002 was 44; 2003, 62; 2004, 73; so the last two years.

DR. FEHRENBACH: Excuse me. I was speaking about reportable events.

Yes, with respect to unplanned events, there are a number of reasons for this, one of which is we are trying to introduce a stronger reporting culture, and we expect to see the number of events increase that we will keep track of, going forward.

MEMBER GRAHAM: Would CNSC care to comment?

MR. LAMARRE: Greg Lamarre for the record.

I concur with Doctor Fehrenbach's comments. Staff is understanding that the reporting criteria essentially changed during that period, around 2000-2001, which led to the increase in the unplanned events.

Once again, the reportable events have gone up in the past year, and I think up to this point in 2005, we're at about three.

So those are still significant and those are areas that we want the licensee to address and those are areas that, I believe, are being addressed through their Comprehensive Improvement Program for NRU.

THE CHAIRPERSON: Doctor Dosman.

MEMBER DOSMAN: Thank you, Madam Chair.

I was just referring to page 7 of the

October 18th, CMD 05-H28, by staff, and I was looking at the various safety areas and, in particular, operating performance implementation, is "C – little change"; performance assurance is "C – little change"; and environmental protection, I believe, is corrected in the supplementary CMD; Environmental Protection Program is 'B'; implementation 'C' with and upward trend.

I would just like to confirm with CNSC staff that that's correct, that that has been modified by the supplementary material?

MR. LAMARRE: Greg Lamarre for the record.

Yes, I confirm that.

MEMBER DOSMAN: I guess I'd just like to enquire of the licensee, about their plans in the area of operating performance and performance assurance and get some type of picture of how those issues are being addressed.

DR. FEHRENBACH: Thank you, Commissioner.

Paul Fehrenbach for the record.

We believe that we have, and continue to focus on making improvements in all of the areas of performance, particularly those in which we received a 'C' rating.

I would note that these ratings were established primarily as a result of a 2002 extensive

audit by the CNSC, and we have been working hard since then to improve them.

For example, the Radiation Protection Program has improved as a result of a recent review by CNSC, and I would note that, as you did, that in the CNSC staff's supplemental CMD, they do reflect the change in trend for several of the areas.

With respect to performance assurance particularly, we have just recently revised and reissued the Nuclear Operations Quality Assurance Manual, and that addresses many of the concerns expressed in the 2002 audit by CNSC staff and I believe that when CNSC staff have had a chance to review that revised program and then come for a subsequent inspection, that that will confirm that we have improved in those areas.

MEMBER DOSMAN: Madam Chair, may I ask, what about if CNSC or if a licensee might comment on operating performance?

DR. FEHRENBACH: Operating performance?

MEMBER DOSMAN: Yes, please.

DR. FEHRENBACH: That is, of course, one of the primary focuses of our Improvement Initiative Program.

So as a result of the reportable events in 2004, we are taking a very strong and aggressive approach to improving a number of aspects of our performance that

will ultimately result in fewer reportable events; human performance, management performance, stronger operating experience programs, et cetera.

MEMBER DOSMAN: Sorry, may I ask about the documentation in this category; has it been updated and so on and what is the status in that regard?

DR. FEHRENBACH: Are you referring, Commissioner, to the documentation of our improvement plan?

MEMBER DOSMAN: Yes, to documentation necessary for operating performance.

DR. FEHRENBACH: Well, as I mentioned, the document described in the overall Quality Assurance Program for nuclear operations has been revised and reissued, so that document has been updated.

Part of our NRU improvement initiative will be to update and improve a number of the procedures associated with regular operations; for example, going all the way from housekeeping to the kinds of things, which I spoke about in my introductory remarks such as procedures for providing greater support for operational decisions, et cetera.

MEMBER DOSMAN: Thank you.

I wonder if I might ask CNSC staff to comment on the way they see the attempts at operating

performance and performance assurance.

MR. LAMARRE: Greg Lamarre, for the record.

In terms of the ratings that we have given and the trend in those two areas, Dr. Dosman, what we would be looking for is some improvement -- I'll say through the NRU improvement initiative and its implementation over the period of the proposed licence or the licensability extension, particularly as Dr. Fehrenbach has talked about operating performance as an example, issues such as error-free tools, issues such as root cause analysis and some of the improvement initiatives that AECL is implementing in that regard to get to the root causes of some of those underlying systemic issues; address them and prevent recurrence of similar type events. We are looking for improvements in those areas.

When we see improvements we will indicate the appropriate trending arrow and, once again, we will be able to report a little bit more specifically on our review and verification of the NRU improvement initiative plan early in the calendar year.

MEMBER DOSMAN: I am just wondering. I know that the licensee, AECL, gave a rationale for the seven months, and I certainly do not want to pretend to be -- getting into micro areas, but I guess I just have this

nagging thought that there seems to be a lot to do by the time the necessary documents are submitted for the next stage, and I am just wondering if we could have perhaps a little more explanation from the licensee on the rationale for the time, the request of seven months.

DR. FEHRENBACH: Paul Fehrenbach, for the record.

The situation, as we believe it exists, Commissioner, is that we have submitted documentation to the Commission staff in support of most of, almost all of those requirements that they have indicated in their presentation, as being required to be addressed before we come back for the formal request for longer-term operation of NRU.

That is the focus of what we need to do in the seven months. We need to complete the review of that information that we have submitted and the resolution of any issues that arise as a result of that review.

We believe there is a good chance, a very good chance, of completing that work before we come back before the Commission for the request for the longer-term operation.

MEMBER DOSMAN: Thank you, and I wonder if I might ask CNSC staff for a view on this matter.

MR. LAMARRE: Greg Lamarre, for the record.

I concur with Dr. Fehrenbach's comments that there are a number of submissions that have already been provided to CNSC staff.

If I go back to our Slide 7 that outlines our short-term areas requiring improvement, some of those have not yet been delivered and some of those are key areas that staff would not be in a position to recommend complete removal of that licence condition until they were delivered. "Safety system upgrades to be fully operational", that is a key one, and staff is of the position that we would not recommend any longer-term operations until those are fully operational.

Other issues such as the revision of the Safety Analysis Report, I think AECL was hoping to move that along a little bit more quickly, but based on discussions with staff, we wanted to ensure that the plant configuration credited in the FSAR, the Final Safety Analysis Report, was current in the field, i.e. that those safety system upgrades were fully commissioned, fully operational.

There has been a lot of documentation that has been submitted to us, PLM Gap Analysis Reports. A lot of that staff has submitted comments back on so we are in a bit of an iterative-type process here whereby we are hoping that in that seven-month period we should be able

to reach resolution and have those submissions meet the expectations of CNSC staff.

MEMBER DOSMAN: Thank you, Madam Chair, I have occupied some time. Shall I wait for another round?

THE CHAIRPERSON: Yes, if you wouldn't mind and then we'll move to Dr. Barnes, please.

MEMBER BARNES: Yes, I had the same concerns expressed by President Keen on the dates and I would like to follow up on a couple more.

Accepting that what we are dealing with is a seven-month sort of interim solution to a problem, and Dr. Dosman has asked why seven months, and Dr. Fehrenbach has given a reply; right?

And I think from our viewpoint, it would be really helpful in these sorts of procedures -- and it doesn't just apply to this particular licence -- to kind of, particularly to staff, to restructure somehow the reporting mechanism so that we do get -- I know, it can't happen all the time -- but we can have information in such a way that we can receive the appropriate information at the time of licensing, okay?

For example, this morning, there were two reports that had been submitted that we asked about that were not available. That may just be a matter of internal timing but, for example, President Keen mentioned the

matter of the date and if we go specifically on page 13, 12.1, this comes to an area that hasn't been touched on before and that's the completed Comprehensive Primary Decommissioning Plan.

Again, you are asking for that on or before July 1st, 2006. It would seem to me that that is something that would be sensible to involve in the next licensing issue and yet, under that deadline, because you all say that you need time to look at that, that will not be part of the renewal licence, cannot be under that kind of timing. So I will go through these one by one.

Is it not possible to advance that -- whatever, if it is April or something -- whatever the time, such that when we receive and you might again advise us which month we are likely to be looking at a renewal of the licence?

Perhaps you could tell me that information first and then respond to this.

MR. LAMARRE: Specifically, for that one we have advanced that one to April 1st, 2006 for the exact reasons that you are saying.

MEMBER BARNES: And is that acceptable to AECL?

DR. FEHRENBACH: Yes, we believe we will be able to make that date.

Thank you.

MEMBER BARNES: Just to reiterate on some of these things, on the short-term improvements, that sort of thing would be really helpful to have in some form of a table under -- sort of questioning -- Mr. Lamarre, you gave us some specific dates, but had we had those dates, had it been looked at in terms of milestones, I think we could then look back in whatever month we meet and see whether AECL has actually met those milestones.

Because seven months from now, it will be somewhat distant for us to keep this in our minds or for you to refer back in a rather more analytical way had a table like that had more specificity to it.

Then, we could see whether, in this case, the licensee was meeting the expectations and, if not, we could ask why. There may well be good reasons, but at the moment it's all kind of fuzzy.

So I will come back and -- well, I will just -- since we are on page 13 -- and this is trivial, but I will get onto more substantial things -- 13.1, the licensee by December 31st, and you are asking:

> "Demonstrate to the satisfaction of the Commission that all seven NRU reactors' safety systems are fully operational. As I have heard

Fehrenbach he has indicated that you expect all those to be met by December 31st."

That's 13.1, the wording, the new licence condition on page 13 of the staff presentation.

DR. FEHRENBACH: Yes, as I indicated, we have five of them in full operation, we have one almost in full operation and there is one left and our goal is to complete that by December 31st.

MEMBER BARNES: Okay.

My trailer question would be: In that sort of situation -- two trailer questions -- is it sensible to use a thing like December 31st, you know the middle of the holiday season, as opposed to January 15th when it is a licence condition?

You don't want to fail a licence condition.

DR. FEHRENBACH: I agree, and if we have the option I would much prefer January 15th.

(LAUGHTER)

MEMBER BARNES: To staff, does it matter?

(SHORT PAUSE)

MEMBER BARNES: Or December 15th?

(LAUGHTER)

THE CHAIRPERSON: Or we could leave it at December 31st.

MEMBER BARNES: Whatever.

I think, Madam Chair, there is -- but since it is the wording in a licence conditions, it is a little bit more than ---

THE CHAIRPERSON: I believe Mr. Lamarre would like to respond.

MR. LAMARRE: Greg Lamarre, for the record.

The rationale behind that was that that was the original shutdown date of the reactors. There was previous commitments made to have those safety systems in place so we thought it prudent not to extend the fully operational date beyond what the original shutdown date was.

It provides AECL with the opportunity to have those fully operational and for staff to perhaps do some verification follow-up activity early in the new year.

MEMBER BARNES: Okay.

In that same licence condition you say that all seven NRU reactor safety system upgrades are fully operational. There is nowhere in the licence that refers to what those are.

Now, I presume they are the ones that are listed in Table 3 of AECL's submission on their page 13, but in a licence condition is it appropriate to have that

wording when they are not actually specified?

MR. LAMARRE: Greg Lamarre, for the record.

From a historical perspective, that terminology, "seven safety system upgrades" has been recognized through streams of numerous licensing correspondence and Commission documentation.

So from my perspective I think it's explicitly clear.

MEMBER BARNES: Okay. Thanks.

I come back to the issue that Dr. Dosman started on, and I will just reiterate from a previous licence. It's the wording. Again, I am concerned about the kind of wording that staff place in these documents. So forgive me, Mr. Howden, if I just repeat my concern again. But it is reiterated here in a somewhat different way.

So on page 7 where you have under "safety areas" and there is a table, the table shows -- first, a question. AECL said that table was really based on a 2002 assessment.

Is that correct?

It's not indicated here so a reader like myself might be led to believe that it is a recent assessment.

MR. LAMARRE: Greg Lamarre, for the record.

The safety ratings on page 7 of CMD 05-H28 I can confirm are accurate and up-to-date.

The issue I should draw, that perhaps will clarify the issue of the 2002 audit, that some of those safety areas are site-wide programs.

So they are rated as site-wide programs and the last column is the relationship between the site-wide program and NRU. That 2002 audit was a site-wide audit on QA and other aspects.

When you look at the operating performance and performance assurance, those are clearly indicative of recent performance shortcomings that have been reported to the Commission and those are up-to-date. But I can confirm that as of the writing of that CMD those ratings are as staff saw the situation at that date.

MEMBER BARNES: So how can -- when I read this and I see 12 letter grades and one-third of them are below requirements, the first point; the second point, the trend shows little change in all those listed and, yet, in the sentence above you write the following:

> "Overall, staff is satisfied that the performance indicators for many of the key safety areas meet CNSC requirements and that the safety areas that do not should improve over the

period of the proposed extension."

So first of all, I wouldn't have thought you were satisfied when one-third of these were below expectations and since you have indicated little change in the trend of all those components, I don't see how you can say that those -- in a sense below requirements -- should improve over the period of the proposed extension.

And if I go to page 12 of the conclusions, again, the last paragraph of your summary there under 9 "Conclusions" you again state simply that:

> "The overall performance of AECL at the NRU Reactor during the current licence period is considered acceptable and performance is expected to be acceptable during the seven-month extension."

So I am concerned that you go to a lot of effort to present data, but the data is not, I think, fairly summarized in your summary of safety areas.

MR. HOWDEN: Barclay Howden speaking.

I think the main point I would make to that is I can understand where your comments are coming from but, at the same time, a lot of things that we base performance on is performance indicators: doses, releases, effluents, events; although in this case maybe

events isn't the best one. So that gives us a certain level of confidence.

Then, going forward, we do look at the programs. Some of these programs, as you look at them, are all rated "B" "B" with no change. Really, that's meeting regulatory requirements. So little change is not necessarily a bad thing in those ones.

For environmental protection we are seeing an increased trend which is very positive given some of the events that occurred last year and in terms of -- those are site-wide programs.

In terms of operating performance and performance assurance, these are very much -- performance assurance NRU falls onto the site quality assurance plan but they have to apply it within their own facility. So we have shown that there has been weaknesses there. Similarly, operating performance is NRU-specific.

At the same time, AECL is going through the improvement initiatives which gives us a certain level of confidence that things will improve.

However, until we actually get the evidence of improvement, staff is leery to change the trend from "little change" to "improving" and perhaps that's the conservative nature that we take to it.

Nonetheless, from our overall view of risk,

we are satisfied that the risk is not unreasonable.

Should we reword this? Based on your comments we will certainly look at maybe doing a better job of explaining the way we do our assessments.

Thank you.

MEMBER BARNES: I think that's the point I am trying to make here, and the two examples I have given today is that it's not the way you do the assessments if as, the sentence above that, because it is entitled "Safety Areas". You say:

> "A summary of these safety areas is provided in the table below".

So again, for the reader that's the data that they have in front of them in this document and then from that it seems to me you are drawing some conclusions which are not supported by the information in that table.

I think you could have said, for example, building on that and perhaps building on what we have heard today and in the AECL submission that there is evidence of significant progress.

I do get concerned that CNSC staff is making particularly in summary statements that again probably some person in the public is going to look at that you have essentially fudged over what to me is one-third of ---

THE CHAIRPERSON: Dr. Barnes, I would like you not to use the word "fudged over", please. So would you choose another term?

MEMBER BARNES: I will retract that.

That the summary that you make does not accommodate in this case one-third of the safety areas being deemed to be below requirements.

So I think it's a matter of wording that to me is important.

If I could just ask one final comment, and that is to -- I think you partly covered this but just for my own benefit -- AECL on page 10 under 3.3.1, "Safety and Licensing", the last three lines, you indicate that:

> "...PSR gap disposition report will be submitted to CNSC staff in September '05 and the updated SAR will be submitted to CNSC staff in October '05."

I know you have mentioned it but were both of those -- have both of those been submitted to CNSC staff?

DR. FEHRENBACH: Paul Fehrenbach, for the record.

The one of those reports is submitted on time, the other one we have agreed with CNSC staff to

delay for a short while.

MEMBER BARNES: Okay, thanks.

THE CHAIRPERSON: Dr. McDill.

MEMBER McDILL: Thank you.

I have some very specific questions but I would like to start with a more general question for both AECL and staff.

I guess it's something along the lines of what is the biggest stumbling block that you are facing with respect to the seven-month extension and being ready to go forward at that point? Is it a quantifiable thing?

DR. FEHRENBACH: Paul Fehrenbach, for the record.

I think just the sheer volume of work including inspection, including analysis and including review of the analysis and then discussion of the comments which arise from that review and resolution of those comments.

I think there was concern expressed on both sides from the beginning of whether we would be able to be ready in time. We thought we could but the sheer volume of work is making it very difficult and has resulted in the request for the seven-month extension.

MR. LAMARRE: Greg Lamarre, for the record.

I can certainly concur with Dr.

Fehrenbach's last statement that the volume of submissions is a very key challenge. Some of the key elements like the severe accident assessment are a very significant undertaking that not only took the licensee significant time and resources but will also take staff significant time and resources. The PLIM Program, the Aging Management Program that's to come, are very significant pillars of AECL's licensability extension project but, fundamentally, notwithstanding those major chunks of work, one of the major stumbling blocks is the convergence in terms of what staff's expectation is as compared to AECL's and that's not to say that there is any sort of a breakdown in communication.

I think there is a very good flow of dialogue and formal communications back and forth. Once we have completed our review that review is turned around and we also have the benefit of these periodic meetings to voice concerns even prior to formal submissions going back.

But what staff's expectations of certain key elements of the program are and what AECL's is in certain areas right now is a gap that needs to be addressed, and that's a challenge.

MEMBER McDILL: My next question, then, would be I know there is a question of resources at AECL

in the documentation but just with respect to this, does AECL have sufficient staff to get to where it has to get to? I would ask the same question of staff.

DR. FEHRENBACH: Sufficient staff is always an issue whenever you ramp up an effort in anything, no question about that.

We have been hiring, we have been bringing people on. We have been bringing people back from other projects to devote to various things. So that is true with our licence extension program, finding the right people at the right time to do the inspections. It's true to the NRU improvement initiative. We have been bringing people in, as I mentioned earlier. New hires complemented by contract staff from utilities.

As a matter of fact, we did the same in the LE licence extension project initiative. We had fulltime staff supplemented with external contractors.

In terms of operating staff we are doing the same. We are hiring new people to keep up and try and keep ahead with attrition. We had fallen behind attrition.

We had a significant number of people leave in a relatively short time and we were struggling to catch up with that, but I think we have hired the people now and now the challenge is to train them and get them all

qualified so they will be able to fully contribute.

So staffing is an ongoing operational issue whenever an increase in effort comes before you. So if you ask anybody whether they have enough resources I think the answer will always be "no".

MR. HOWDEN: Barclay Howden speaking.

Within my directorate, this project is our number one priority and with the resources the challenge is that we have is there are other new projects coming online, reactor refurbishments have been announced because we rely on many other resources from outside the directorate. So we are basically through the planning and prioritizing process working with the other director generals to make the resources available for this.

We are adding staff. We have approval to increase staff across the CNSC to deal with these issues, but it does take time to engage those staff and get them onboard.

But we are working through it and I am confident that we will be able to respond ourselves. Mr. Lamarre can make a couple of comments on the project itself.

MR. LAMARRE: Greg Lamarre, for the record.

Just to provide you with some very short context, within our small division, essentially got 1.8

FTEs just on the compliance and licensing and dedicated to this project.

Above and beyond that, as Mr. Howden has alluded to, we rely extensively on specialist resources within DAA and I think by the size of the team behind us and in the audience you can tell the type of effort and focus that this has.

As Dr. Fehrenbach alluded to, we could always use more resources. However, with the project plan that we have got in place now we are looking at our needs not only short term -- we are not just looking until July 31st, 2006 but given the fact, as I have alluded to this morning or this afternoon -- excuse me -- of the ongoing nature of the Aging Management Program and other initiatives that are likely to continue to stretch beyond re-licensing next year, we are looking for the commitments to be longer term.

So certainly, we have got the project plan in place to ensure that we have got the resources necessary within the CNSC, I believe, to effect the reviews, the licensing and compliance activities required to provide oversight on this program.

MEMBER McDILL: Thank you.

I can defer to the second round or continue, as you prefer.

THE CHAIRPERSON: Well, I would like to do something I haven't really done before.

The questioning that started with Mr. Graham talked about why are we here because I don't think it is very acceptable to have licence extensions.

I mean, we don't do a lot of them. I am not very comfortable about this. This is nearly a 30-year old reactor and I think the citizens need to know that it's operating at the top of performance and that the licence timing means something.

So I think perhaps Mr. Graham was awfully nice in saying, you know, why are we here? I think there should be some great angst in AECL about why things were not done in the time period. But that said we are here.

I think the questioning that has been taking place about how do we know where we are going to be next April has been extensive, and I think this definitely shows the Commission members' concerns about that, and I think Dr. McDill's excellent set of questioning on resources makes me nervous.

I think that there is real reason for us to be putting the licensing discussions together in July. I think that makes good sense. It's more efficient and I think we are all committed to efficiency.

But I just am concerned that the pressure

is going to be really, I think, on the staff end. The pointy end of this stick is going to be with staff because they will be going back and forth and there is going to be this push at the end to get things done, and I think this is a really important and difficult decision.

We have heard earlier today about how important the NRU is and how important this is but, nevertheless, I mean, when we go through this licensing process, I think we have a reasonableness to assume that this will, as Dr. Barnes said, have the information necessary, but I really worry that we are pushing the staff in what may be an unacceptable way for this to be done at the time when we are looking at MAPLE and everything else.

So I guess what I would like you to do, and my apologies to the intervenors who are being patient here, but I would like to call right now a 15-minute break and I would like the staff and the licensees to talk about whether seven months is enough time. I think this is -- we can't wait until some other time to talk about it. The Commission could make a decision, but would that be the right decision?

I think I would like you to discuss whether this is really enough, and I think that there are certainly other issues that come from other licences that

are -- you know, the issues around other licences and we have been, frankly, busy blackberrying to try and understand what the implications are, but the Commission does have the ability to do something on that side as well.

So I will be asking our legal counsel to work with -- to just look at what would be the implications.

You can understand my concern. I just worry that we are going to come down to April and then May and then June and July and we are going to be -- the staff are obviously very pressed on a lot of projects. We have got announcements coming everyday on Bruce, et cetera, which has implications for AECL as well as for the CNSC staff.

Is that clear enough what I am saying? I really wonder if seven months is sufficient time to do this.

I just want to ensure that what we see here on July -- well, when we are starting, which is May and June, is the best application for the citizens of this area and for Canada that they know exactly that we have got a safe operation going and that it has a plan to go forward. This is an awful long licence period that will be requested next time out and I want to be ready.

So 15 minutes and we will be back here and we will want to hear what you have to say.

Thank you.

--- Upon recessing at 2:57 p.m.

--- Upon resuming at 3:40 p.m.

THE CHAIRPERSON: I would just like to give you a sense -- I am going to be asking a question in a moment, but I just wanted to frame it appropriately.

After I ask for the advice from the licensee and the staff on this issue of your recommendation on timing, the Commission will not make a decision on that. We are not going to give you feedback. That will be part of our decision process.

But we do have further questions, a round two of questions for the licensee and staff, and then we will go on to the intervenors. So just to give you a sense of -- just to reframe this since we have had a once in five years experience.

So we will start by asking if the Licensee has an opinion with regards to the extension; any views about that and why would that extension be viable in terms of the health and safety mandate of the Commission.

DR. FEHRENBACH: Thank you, Madam Chair. Paul Fehrenbach, for the record.

As you asked, we have been in discussion

with the staff during the break and, in view of the amount of work that still needs to be done, primarily which is completion of the AECL submissions and review of those submissions by staff and then some significant review and comment period to ensure that full resolution of any issues that have arisen from the review is achieved, the CNSC staff and ourselves think that it would be very appropriate rather than ask for a seven-month extension, as we have, to instead ask for a 12-month extension.

That we believe will give a high degree of confidence that not only will all of the necessary items that we have agreed to be completed, but we will have a chance for a fulsome review and an opportunity for resolution of any issues that arise from that review.

For our side, we would intend to proceed according to our original schedule for deliverables so that we ensure that the extra time is used for the review and then comment and disposition of comments subsequently.

THE CHAIRPERSON: Before we move to the staff's view, Dr. Fehrenbach, would you give us a sense of what would be the health and safety implications during that time period, during that five-month time period, what would be the implications for the operation of this facility from the point of the mandate of the CNSC for health, safety and protection of the environment?

DR. FEHRENBACH: Yes, thank you. I neglected to address that part of your question in my first answer.

We don't see a significant impact. As a matter of fact, as I tried to indicate earlier, we have been doing a fair number of inspections in support of the longer-term operation and everything we have found suggests that NRU can operate safely going forward.

The difference between seven months and 12 months, there is in our view no significant difference in the ability to continue operating NRU safely.

In fact, over that period of time, we expect things to continue to improve. Our improvement initiatives will have more time to take effect; our training programs will have more time to take effect; our safety culture activities will have more time to take effect.

All of our initiatives will have more time to take effect, and we will be well into the Phase 2B assessments, physical assessments as well, and moving into our Plant Life Management Program.

So we see it as an opportunity to further improve the situation and we don't see it as being a risk at all in terms of health and safety.

THE CHAIRPERSON: Thank you.

I would like to ask now CNSC staff to answer those two questions, please.

MR. HOWDEN: Thank you, Barclay Howden speaking.

We had two meetings during the break, one with my staff and then one with AECL

The first, with my staff, was to discuss the health safety and environmental potential impacts of operating the reactor an additional five months and, based on the information that has been provided to support this application before you, we see that information is applicable for an additional five-month period.

So we do not see an increase in risk to an extension of 12 months, as opposed to 7 months.

From the standpoint of management of the work, as Dr. Fehrenback said, the process is for review of a significant number of documents as submission review and then iteration to come to convergence on some of the nuances and the details.

We also see other benefits in that the Plant Life Management program will be further along into Area 2B which will give much more information.

The Final Safety Analysis Report, taking credit for the upgrades, will have been able to be fully reviewed. The training and certification of the SRSE will

be much farther along, possibly completed, and we will have to work out the exact details of those dates. And also there will be more inspection information available from the Periodic Inspection Program

So from our perspective, we are of the opinion that the reactor can be operated safely for that period of time and that the work required by us in reviewing the submissions from AECL will be fulsome, and I think we will be in a good position to make recommendations to the Commission in a year's time.

THE CHAIRPERSON: Two questions, and I will ask -- one question was: In your view, looking at this facility, the operations for an additional five months, you said that you talked to your staff about the implications thereof, do you have any comments with regard to the mandate of the Commission, the concerns of the Commission, for that five months in terms of health, safety and the protection of the environment?

MR. HOWDEN: I think following those discussions, the conclusions would be that we can recommend to the Commission an extension and -- because there will not be unreasonable risk to health, safety and environment and that the mandate of the Commission will be executed during this time.

Certainly, we are very much focussed today

on NRU and its licensability extension, but we will continue with our day-to-day -- the staff will continue with our day-to-day oversight of the Chalk River site and NRU.

We will also have a Chalk River site office in place within about three or four months, which will actually give us further access to inspection information that will be brought to bear on the recommendations that we would bring back to you.

THE CHAIRPERSON: So is it your understanding that this time period -- that AECL would continue to work through to the April time period so that any additional time would be then available to extend the amount of assessment time that the staff would have in any going back and forth to ensure that the Commission received as total a package as possible?

MR. HOWDEN: Barclay Howden speaking.

Yes, AECL has committed to continue on the current schedule of submission of information, so there has been no movement by them to extend that, which would then put us under the pressure at the end, no.

Their commitment is to remain with that schedule, which will give CNSC staff more time to go through the assessment.

THE CHAIRPERSON: A question for the

licensee and then for staff.

We have gone from seven months to twelve months. Was there any consideration of any other time period, other than going as far as 12 months?

Why twelve?

DR. FEHRENBACK: Paul Fehrenback, for the record.

We had considered other times. It is a matter of ensuring that the resources are available to do what needs to be done and we wanted to pick the right time. But we did not want to go beyond what was necessary either.

So it was -- we discussed a range of times and ---

THE CHAIRPERSON: So you discussed times between seven and twelve?

MR. FEHRENBACK: Mostly beyond twelve.

We were concerned that -- we did not see an opportunity, really -- a significant benefit in anything between seven and twelve.

But I would like to say, while I have the opportunity, that one of the reasons that we are approaching the deadline apparently so quickly, of December, 2005 is that the deadline was established in 2003. Before 2003's site licence hearing that hard

deadline had not existed.

So we have been ramping up and preparing to try and do everything that was necessary since after the site licence condition was established in 2003.

That is one of the reasons why we find ourselves here today and a little bit of short time.

THE CHAIRPERSON: Would the CNSC staff like to comment with regards to discussion of time periods between nine and twelve, or -- I mean, between seven and twelve, or what were the pros and cons?

MR. HOWDEN: Barclay Howden speaking.

We looked at times between actually seven and 15 months. We concluded that 12 months was a reasonable period for the work to be done.

Extending it beyond twelve months would be just basically going into the area where you would be getting more work done.

But what we were trying to focus on is: What would be the time required to focus on the prerequisites required for continued operation of NRU, recognizing that there will be prerequisites and then, beyond that, there will be ongoing requirements well into the future.

For example, the Aging Management Program, the continued certification of staff and perhaps

certification of staff below the senior reactor shift engineer's level.

But what we concluded was that, from the prerequisites that we see that would need to be done in order to make a recommendation to you for operation -- continued operation in the future -- we felt that twelve months was a reasonable time period and we spoke to the people who will be providing resources to us and they felt that was reasonable and allows them to smooth the resources.

But, going beyond that, we would be going -- we would be providing more information, but I wanted to focus on what are the prerequisites that we need AECL to meet, in order to make a recommendation to you.

THE CHAIRPERSON: As I said, we will not certainly be making a decision at this time and certainly not before discussion, but that is one element, only one element, of what we are here today to talk about is those issues.

But I am going to ask my colleagues if they have any questions with regards to this specific matter, before we move to round two of general questioning.

Any specific …?

Okay, then we will move to round two and Dr. McDill has indicated a round two question, and then

Dr. Dosman.

MEMBER McDILL: Thank you.

I would like to refer to page 10 of CMD 05-H28, with respect to Safety Analysis and Hazards Assessments.

Perhaps this could be answered in the context of a possible extension so that it is a little bit fuller.

With respect to the Safety Analysis and Cathena and the question of whether the loss of coolant accident and the comment, "contrary to Safety Analysis Rules for Licensing a New Reactor," perhaps I could have staff's and the licensee's comment on that, especially with respect to -- for example:

> "… AECL claims that the computer code such as Cathena used for the Safety Analysis do not require validation against relevant data since the codes were validated for CANDU reactors …"

et cetera.

THE CHAIRPERSON: Is the question for the licensee?

MEMBER McDILL: Both, but ---

DR. FEHRENBACK: Paul Fehrenback, for the record.

I would like to ask Ray Leung to respond to that, but I wonder if you could just clarify your question for us, Commissioner?

MEMBER McDILL: I am mostly concerned with respect to Safety Analysis and the fact that there is a -- I guess the term that may have been used earlier in the day was "a lack of convergence on the opinions with respect to the use of Cathena".

DR. FEHRENBACH: I'd like to ask Ray Leung to respond to that, please.

MR. LEUNG: For the record, I'm Raymond Leung.

The discussion on the validation of Cathena has been ongoing and, actually, we have Cathena validated and there we poured in different activities, in other activities, and what we have looked at is actually the extent to which the validation has covered and we will be continuing discussing with CNSC staff on their view and we will actually come to a resolution of it.

But yet you had exchanged information, but we haven't really come to the resolution of that.

MEMBER McDILL: Thank you.

Could staff perhaps comment?

MR. HOWDEN: Yes, I'm going to ask Mr. Sang Shim, our Technical Safety

Specialist in this area, to respond.

MR. SHIM: Basically, what we are looking for here is a code that's qualified for the application -- application for the NRU.

Basically, the Cathena code is developed primarily for power reactor and many of the modules and correlations are tailored for power reactor conditions.

However, what we are looking for here is the specific condition to NRU, such as geometry and operating condition which is low pressure and low temperature ranges here.

So basically, we are examining here the applicability of the Cathena code for NRU, especially some key assumptions and key modules in the code.

Thank you.

(SHORT PAUSE)

MEMBER McDILL: Did the differences -- are the differences going to contribute to any concerns for health and safety?

I'm going to have to ask both AECL and staff again.

MR. LEUNG: For the record, this is Raymond Leung.

We actually believe, we actually have

validated Cathena to cover off the low pressure and low temperature range and we actually have specific studies that actually deal with specific geometry effects for NRU and I think those are the issues that we actually need to actually resolve with the CNSC staff with respect to their opinion on this.

And there's no implication on health and safety.

MR. SHIM: This exercise here is basically a conformity exercise. We want to make sure the assumptions in Cathena are really valid for NRU applications.

For this reason, for example, when they use one dimensional reactor figure calculation, they are making comparison of the reserves with the actual 3D simulations using the right physics code and so on.

So up until now, we haven't seen any significant deviation from the original reserves. So at this point, that's all we can report to you.

Thank you.

(SHORT PAUSE)

MEMBER McDILL: Maybe I could ask: Is there any issue with respect to health and safety?

To staff.

MR. LAMARRE: Greg Lamarre, for the record.

To answer you question, Dr. McDill, the last paragraph of that section says that, based on our preliminary assessment, there are no undue risk to workers, the public, the environment especially over the proposed license extension period.

It's one of those issues that I had mentioned before where there is a gap between what staff's expectations and AECL's expectations of this issue are.

It is an issue that is going to have to continue to evolve and we've got commitments from AECL to continue to address our concerns in those areas.

It's one, if I may term it "depth of detail" in that AECL believes that they have submitted sufficient information to address a point and staff hasn't yet seen the depth of information to resolve uncertainties in their minds.

So it's certainly one that we are going to continue to look at over the term of the proposed Licensability Extension, but I think what you are hearing from staff is that, in our view, it doesn't -- it certainly doesn't present a short-term risk.

MEMBER McDILL: Even to 12 months?

MR. LAMARRE: Greg Lamarre for the record.

Yes, and that applies to the 12-month extension as well.

MEMMBER McDILL: Thank you very much.

THE CHAIRPERSON: Dr. Dosman.

MEMBER DOSMAN: Madam Chair, thank you.

The issue that I wanted to discuss was already addressed by Dr. McDill.

I'd just like to pursue the issue. It's come up rather late in the discussion and I think, Mr. Lamarre, you first brought up the issue of what you termed "lack of convergence".

And I'd just like to ask, I mean, how big an issue is this issue because it strikes me that that's almost as important as some of the other steps that are being taken.

I mean, in the best of all worlds, a licensee is proactive, does something state of the art and CNSC comes along and says "Yes, that's…", you know, "…that's great".

And then what I detect here is that there are a number of issues in which there is an agreement and then, it seems to me -- I don't know if 'paralysis' is the right word -- but it's certainly a lack of progress or a slowing of progress because of this conflict between proactivety and reactivity.

So I guess, for me trying to get a handle on the situation, I would ask CNSC staff their view as to

how big an issue is this and how much ping pong does go on and how do these issues get resolved?

(SHORT PAUSE)

MR. LAMARRE: Greg Lamarre for the record.

To answer your question, Dr. Dosman, there are a number of issues that, as outlined in our CMD, where gaps and expectations do exit.

The one that is brought by Dr. McDill is a good example.

I think what you are seeing here is a fairly old reactor that -- in which we are applying modern tools to try, to model and the safety analysis hazards assessments is a good example of that.

So what we do in order to resolve the discrepancies, obviously, is to get together, lay out our position on the table once receiving a submission and have AECL address those.

It’s certainly an iterative process, but I think it’s intrinsic on both parties to ensure that the lines of communications are wide open, which I think they are on this issue.

On other issues, key to safety, we have seen some convergence.

Unfortunately, this is one issue that’s still outstanding, but it’s certainly one that is going to

continue to progress, in my opinion, over whatever term of proposed licence is accepted by the Commission.

MEMBER DOSMAN: Madam Chair, and yet it is fair to say that safety isn't negotiable.

I mean, at some point, we, as a Commission, need to make decisions based on information from them and from staff.

THE CHAIRPERSON: Perhaps we could ask the licensee to comment?

MEMBER DOSMAN: Yes, Madam Chair.

Would AECL be willing to comment on this issue and perhaps give a judgement as to how important an issue this is and whether AECL considers itself to be more proactive or more reactive to CNSC suggestion?

DR. FEHRENBACH: Thank you, Commissioner.

It's Paul Fehrenbach, for the record.

I guess I'd like to respond to this question on two levels. First of all, there's the overall approach to things that needs to be taken to licensing, as Mr. Lamarre said, an old facility to modern standards.

That necessitates some degree of interpretation and agreement on what the appropriate approach will be, and I think the CNSC and AECL have made great strides over the past year in terms of coming to convergence at that level, primarily by the more proactive

meeting between our experts and at senior levels as well.

And we are meeting on a bi-weekly basis now at more senior levels, so we are picking up potential issues more quickly and moving in parallel more quickly than we had been in the past.

A good example is the workforce study which we have agreed to undertake for NRU, where we spent more time proactively meeting up front before we started the study, to make sure that our AECL's application of the request, or execution of the request, was going to meet CNSC expectations.

So on a high, level I think the convergence has improved considerably.

The kinds of things that you are discussing here -- and that Mr. Lamarre has mentioned -- are important differences that currently exist with respect to the details that have come out of our analysis and our inspections and our conclusions.

And those are the kinds of things I was referring to earlier when I said -- when I was trying to respond to the question of what is going to take time going forward.

It is the time to get this feedback from the CNSC to our analyses, to recognize where the gaps are, the differences -- or the lack of convergence as it is

being termed at the moment -- and to deal within that. And I think we will.

I have confidence that we will be able to ultimately come to ground on most of these points.

It will take, as Mr. Lamarre said, an iterative process with communication to ensure the experts are both seeing the same thing and then they convince one another of what the appropriate determination or interpretation of that is, in coming to ground on the ultimate impact that that may have, or may not have, on the safety of NRU.

So we agree that it is important to resolve these things and we believe they will be resolved, but that is one of the things which takes the time going forward.

THE CHAIRPERSON: My sense is -- what the expectations are of the Commission is that they -- certainly these issues are resolved, if appropriate and, if not, when we come to a point of discussing the licence -- not the extension, but the licence -- that it -- the issues are clearly outlined for the Commission in terms of the reasoning that has -- the scientific reasoning that has led to us having these various issues.

So we will look forward to that discussion.

So we would assume there would be

convergence on issues, but not at the expense of safety and that is what the expectations are for the Commission, for their chief advisors, which are the staff of the CNSC.

Any further questions?

Yes, Mr. Graham.

MEMBER GRAHAM: Just two quick questions. I know the day is getting long.

On page 10, 6.4, "Compliance with Licence Requirement", you talked about -- or in CNSC's presentation, they talked about the fire inspection that had been carried out in 2004 and that there need to be revisions to the safety -- fire safety plan -- pre-fire plans and fire emergency plans in the overheads in the presentations.

Are we far enough along that all those plans now meet the requirements to extend the licence for seven -- or for how many months that is decided?

Is CNSC staff satisfied that the NRU fire hazard assessment report now meets the requirements, because it did not meet the requirements in 2004.

MR. HOWDEN: Barclay Howden speaking.

I am going to ask Grant Cherkas to comment on this but, basically, from a high-level position we are satisfied that we can move forward with regard to the specifics of the fire plan.

So I will let Mr. Cherkas comment on that.

MR. CHERKAS: For the record, my name is Grant Cherkas. I am the Fire Protection Specialist with Engineering Assessment Division.

The outstanding items in terms of the fire pre-plans, fire safety plans and the inspection findings from the 2004 inspection have not been closed by CNSC staff and we do not believe that they are currently completed.

Having said that, there is a significant amount of effort and progress being made by the licensee in this area.

For the Commission's information, there are currently three meetings or inspections planned by the end of December of this year to try and further discuss and clarify these issues.

I do not believe that this ultimately affects the extension of the proposed -- the licence extension. From our perspective, important issues are being dealt with and staff are pursuing the important and high-risk issues and that is independent of whether the facility is operating or in a shut-down state.

Because simply, the building would continue to be occupied long into the future. So these issues are at my forefront and we will continue to pursue them.

MEMBER GRAHAM: AECL, are you prepared to give us -- we have some timeframes and dates that we had on the short term.

Would this be looked at as an area requiring improvement in the short term? And what dates do you think you could have compliance?

DR. FEHRENBACK: Paul Fehrenback, for the record.

I agree with Mr. Howden. In a high level I think that we are moving forward towards resolution of the outstanding issues here.

I have asked J.P. Létourneau to provide more detail with respect to timeframes for our deliverables.

MR. LÉTOURNEAU: Jean-Pierre Létourneau, for the record.

You have raised a number of questions. First, on the fire hazard analysis for NRU that was submitted to CNSC staff in 2004, we have now completed 19 of the 59 recommendations that came out of the fire hazard analysis and some of the important activities that we have done are related to improvement in the housekeeping of NRU and for CNSC staff who have been on site in the last few weeks, those improvements are really fairly obvious and important.

As we go along, we use certain rooms as models for the rest of the facilities.

We have also, as Dr. Fehrenback indicated today in his opening remarks, we have been making important modifications to transient combustible materials that are brought into the facilities.

And, currently, we are also working on our pre-fire safety plans and we are focusing on the NRU reactor right now, to make sure that the pre-fire safety plans are completed before we come back in front of the Commission in mid-2006 for the Chalk River licence renewal.

I want also to highlight some of the activities that are being done on site.

For instance, in the last three months, we have been revising our inspection check list for buildings and facilities on site and those check lists have been expanded to include, not only the recommendations from CNSC staff, but also to bring it up to date with the National Fire Code and National Building Code.

I understand, from talking to our fire protection people, that we now have currently 14 new fire fighters that are being fully trained in those check lists and the inspections are now being done across the site.

One thing we have done as well is improve

initiatives. As soon as we seen kind of deficiency, we report that to the facility authority, or the building landlord and they are given a report and they have to complete ---

THE CHAIRPERSON: I think this is a very long answer ---

MR. LÉTOURNEAU: Okay -- oh, I am done, thank you very much.

MEMBER GRAHAM: One other question I have and not with regard to that -- you have given the answer of 19 of 59 have been implemented.

Checking the other records was -- there was a storage tank on that site -- on the site -- regarding NRU, I believe, was I not, that was leaking and you replaced it with a new tank and so on.

Am I correct on that, or was that on -- just on the CRL site?

DR.FEHRENBACK: That was a tank used for liquid wastes, but NRU would be one of the facilities which would make use of that.

MEMBER GRAHAM: NRU would be? Okay.

Then my question was: Has that tank been emptied, because there was a new one replaced and so on? Has that been emptied and so on now, or is it decommissioned?

DR. FEHRENBACK: It has been emptied and will be decommissioned.

THE CHAIRPERSON: We are going now move to the interventions -- although we have lost our intervenors.

So it is probably difficult for new interveners to understand that the Commission moves at whatever pace is necessary for the areas to go.

05-H28.2
Oral presentation by the
Regional County
Municipality of Pontiac

05-H28.11
Oral presentation by
Don Lindsay, Liberal Candidate,
Renfrew - Nipissing - Pembroke

THE CHAIRPERSON: So two oral interveners the 05-H28.2, which was the Oral presentation from the Regional County Municipality of Pontiac and the Oral presentation by Don Lindsay, the Liberal Candidate from Renfrew Nipissing Pembroke, 05-H28.11 have asked that their interventions be considered written interventions.

So I would like to start by asking the

Commission Members if they have any comments to make with regards to what is now the written presentation of the Municipality of Pontiac that Mr. Spence has put forward.

Are there any questions or comments with regards to this?

No, well then thank you very much.

Then I will move to Mr. Lindsay's presentation which was 05-H28.11, Mr. Don Lindsay's presentation.

Are there any comments or questions for the Licensee or staff with regard to Mr. Lindsay's presentation?

No, well then we will accept those both as written.

05-H28.3 / 05-H28.3A
Oral presentation by
Maurice D. Cole,
Kenneth Merrett, Al Pyatt
And Cliff Brown

05-H28.4 / 05-H28.4A
Oral presentation by
MDS Nordion

05-H28.5
Oral presentation by the
Canadian Nuclear
Workers' Council

05-H28.6
Oral presentation by the
Corporation of the
Town of Deep River

THE CHAIRPERSON: As noted by earlier intervenors during the MAPLE hearing process, we had the following interventions that were tabled for the NRU, which included Messrs. Cole, Brown, Merrett and Pyatt and MDS Nordion, and the Canadian Nuclear Workers' Council and the Corporation of the Town of Deep River.

They have indicated that their submissions are now complete and that their earlier interventions to be considered part of the NRU hearing.

Unless the Members have questions with regard to these, we will now accept those interventions. Are there any comments or questions with regard to those?

Thank you.

Then, we will now move to the written submissions.

05-H28.7

Written submission from the

National Research

Council of Canada

THE CHAIRPERSON: There is a written submission by the National Research Council of Canada, CMD 05-H28.7.

Are there any questions or comments from Commission Members with regard to this written submission?

05-H28.8

Written submission from the

Canadian Forces Base/Area

Support Unit Petawawa

THE CHAIRPERSON: Okay. We will now move to the next submission, written submission by the Canadian Forces Base/Area Support Unit Petawawa, CMD 05-H28.8.

Are there any questions or comments from Commission Members with regard to this written submission?

05-H28.9

Written submission from the

Corporation of the Town of

Laurentian Hills

THE CHAIRPERSON: Seeing none, we will move to the next one, which is the Corporation of the Town of Laurentian Hills, CMD 05-H28.9. Are there any questions or comments with regard to this submission?

05-H28.10
Written submission from
Cheryl Gallant, M.P.,
Renfrew - Nipissing - Pembroke

THE CHAIRPERSON: Moving to the written submission by Cheryl Gallant, M.P. for Renfrew, Nipissing, Pembroke, CMD 05-H28.10.

Any comments or questions with regard to this written submission?

05-H28.12
Written submission from the
County of Renfrew

THE CHAIRPERSON: Moving to the next written submission, County of Renfrew, CMD 05-H28.12.

Are there any questions or comments with

regard to this written submission?

Thank you very much.

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

This brings to the end the hearing today for the NRU, and we will be continuing tomorrow morning with the hearings, which would be 0830 hrs, but the Commission meeting will start at 1630 hrs; 1630 hrs the Commission meeting will start.

So thank you very much, ladies and gentlemen, for joining us today.

--- Upon adjourning at 4:18 p.m.