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New Brunswick Board of Commissioners of Public Utilities

In the Matter of an application by NB Power dated January 8, 2002 in connection with a proposal for Refurbishment of its facility at Point Lepreau.

Delta Hotel, Saint John, N.B.
May 30th 2002, 9:30 a.m.

Henneberry Reporting Service

New Brunswick Board of Commissioners of Public Utilities

In the Matter of an application by NB Power dated January 8, 2002 in connection with a proposal for Refurbishment of its facility at Point Lepreau.

Delta Hotel, Saint John, N.B.
May 30th 2002, 9:30 a.m.

CHAIRMAN: David C. Nicholson, Q.C.

COMMISSIONERS: Ken F. Sollows
Jacques Dumont
H. Brian Tingley

BOARD COUNSEL Peter MacNutt, Q.C.

BOARD SECRETARY: Lorraine Légère

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CHAIRMAN: Good morning. The Board has a preliminary matter and then I will ask the applicant and/or intervenors if they have any.

Yesterday I indicated that Mr. MacNutt and I would take a look at the provisions of the NEB set of rules dealing with confidentiality hearings and make some revisions and come back when the Board has approved.

The Board secretary has some extra copies. Now we have done one thing. We have included some more names, but I will simply read it to you, that it is the Board order. The Board considers the documents which there were three

of them, one was the Critical Path Analysis for Point Lepreau Nuclear Generating Station. The Ernst & Young study and the Standards Deviation document.

The Board considers the documents not to have broad public interest. The Board, having considered the submissions of NB Power and the formal intervenors on Wednesday of this week, hereby orders the production of the Documents in accordance with the following terms and conditions. 1) The Board declares the Documents to be confidential. 2) The Documents shall be marked as confidential by NB Power. 3) NB Power shall provide a copy of each of the Critical Path Analysis, the Ernst & Young study and the Standard Deviation Document to David Coon, Gordon Dalzell, Sharon Flatt, Rodney J. Gillis, Neil Craik, Peter Hyslop, Donald Barnett, Dana Young, Craig Campbell, David Thompson, Andrew Secord and Terry Thompson. And each such person is hereinafter referred to as a "Designated Person" and collectively as the "Designated Persons".

Two copies each of the Critical Path Analysis, the Ernst & Young study, and the Standard Deviation Document shall be provided to the Board which shall hold them pursuant to the terms and conditions of this order.

And I should note that when the term Board is used

it's not only this panel but also Board staff and counsel.

The Documents shall be provided to the Designated Persons and the Board not later than 11:00 a.m. Thursday, May 30th 2002.

The Documents are to be held by the Designated Persons as confidential documents and they shall not be photocopied or otherwise reproduced and shall not be communicated by facsimile or a telephone or given, or communicated to any other person, unless with the written approval of NB Power.

7) The Documents shall be kept by a Designated Person in a secure storage device.

8) The Documents shall be used by a Designated Person solely for the purposes of conducting cross-examination of NB Power witnesses during the course of the present hearing.

9) Each Designated Person shall return the Documents in his or her possession to NB Power at the conclusion of the hearing.

10) Where reference to the Documents is required on cross-examination of NB Power witnesses or in oral argument during the course of the present hearing, a Designated Person shall advise the Board in advance of his or her intended use of the Documents for that purpose and

the Board will then allow the cross-examination to be conducted in a confidential in-camera session of the Board attended only by the Designated Persons, NB Power witnesses and counsel, and Board staff and counsel.

During the course of an in-camera hearing as described in paragraph 10, a separate confidential transcript shall be made, filed with the Board pursuant to section 7.1 of the Public Utilities Act, and made available to the Designated Persons under the same terms and conditions under which they were provided with the Documents.

12) A summary of the transcript of an in-camera session, which excludes reference to the contents of the Documents will be made and put on the public record of the Board.

13) In the event of an appeal of the Board's recommendation made upon the conclusion of the present hearing or in the event of any challenge to the Board's jurisdiction or rulings involving the Documents, the Board shall, in accordance with applicable procedures, deliver the portion of the Board's record containing the Documents to the Court having jurisdiction in a sealed envelope marked confidential.

Any violation of these terms and conditions will be treated by the Board as a breach of a Board order and the

Board will proceed in accordance with the powers available to it to punish the contempt. And the Board so orders.

All right. So that order is available for all the parties from the Board secretary. We will be revising it at lunchtime and it will be available for anybody who wants it with the additional names that Board counsel got just prior to the start of this hearing this morning.

Now, Mr. Hashey, anything the applicant wishes to bring to our attention?

MR. HASHEY: No, Mr. Chairman, except that you say there are additional people. I have tried to -- for the record, we have distributed a number of those documents last evening marked confidential and identified to a number of the parties. We will try to get the others out. Are there additional parties? I'm just trying to think of the numbers that we would need. I know that Mr. Daniel LeBlanc through Mr. Coon has requested a copy. And I certainly have no difficulty whatsoever providing that.

CHAIRMAN: Is that correct, Mr. Coon?

MR. COON: Yes, Mr. Chairman, that's correct.

CHAIRMAN: Okay. Then we will add Mr. LeBlanc to it. He wasn't here and I guess our approach is that if somebody is not here or hasn't been here, is that when they finally do come they can request a copy of it. But if they are

not going to show any -- not going to show the interest then we are not going to involve them in it. So Mr. LeBlanc will be given a copy.

Would the Board secretary take this down to Mr. Hashey, so he can copy down the names. Anything else, Mr. Hashey?

MR. HASHEY: No.

CHAIRMAN: Okay. Any of the intervenors? Mr. Coon?

MR. COON: Just a question about the Board's authority. You said that the Board had authority to take particular action against anyone who is found to be in contravention of this order. Yes?

CHAIRMAN: Well, certainly, yes. Well actually it's not the Board, it's the Commissioners because we have the powers of a commissioner sitting under the Inquiries Act. It's archaic, Mr. Coon, to say the least.

MR. COON: I just had sort of a question and that was does the Board have any authority to deal with witnesses who give -- knowingly give false evidence?

CHAIRMAN: I'm not going to answer that from here. I could speculate but I'm sure you can ask Mr. MacNutt during the break.

MR. COON: I will. Thank you.

CHAIRMAN: Any other matters? All right. Mr. Craik, you

are next up.

CROSS-EXAMINATION BY MR. CRAIK:

Q. - Thank you, Mr. Chairman. I apologize for not being here yesterday, but some of the things that were said previously in earlier days caused me to go and do a little bit of research. And I would like to table for information only a recent press cutting related to a decision just made by the Tennessee Valley Authority to refurbish, rehabilitate a 1,000 megawatt nuclear power station in Tennessee at a cost of \$1.7 billion US.

CHAIRMAN: Mr. Craik, how that is handled, and Mr. Coon was introduced to it a couple of days ago, is that we will mark them for identification, which means that they are not part of the evidence and if ultimately you are able to prove what is in them as being factually correct, then they could well be admitted into evidence. So have you got some copies?

MR. CRAIK: Yes, I have some copies here.

CHAIRMAN: All right, if you would like to distribute them.

MR. CRAIK: Yes.

CHAIRMAN: And give five copies to the Board.

MR. CRAIK: I would like to direct my first question to Mr. Rodd Eagles.

CHAIRMAN: We will wait until we have handled --

MR. CRAIK: Okay.

CHAIRMAN: So you have this one document headed "Nuclear
Canada, Canadian Nuclear Association Electronic
Newsletter"?

MR. CRAIK: Yes.

CHAIRMAN: Is that correct?

MR. CRAIK: The attachment is just some background on what -
- a little bit of its location and that kind of thing.

CHAIRMAN: Yes. I will mark that for Identification number
4 so when you refer to it, or refer a witness to it you
say to Identification number 4, ident. 4 is what sometimes
is used. Okay.

Q. - Yes. My first question is to Mr. Rod Eagles. And it has
been inspired by the excellent presentation made dynamic
3-D view of the process of retubing.

During the retubing of Pickering one of the steps in
the process for each fuel channel was as soon as a
pressure tube had been removed, they inserted into one end
of the Calandria tube, a great big cleaning bung at the
end of a long rod.

And they pushed it right through the Calandria tube in
order to pick up any bits of debris such as broken garter
springs and pieces of fractured pressure tube that might
have occurred during the cutting process and so on. And

they pushed all this irritating small radioactive material into a can of about 3 or 4 feet long and cleaned out the pressure tube.

Now I realize that that was done partly because they were going to continue to use those pressure tubes. But I didn't see any indication that the similar action would be taken during the retubing process at Lepreau.

And it may be -- and I would simply like to ask Mr. Eagles whether that process is now redundant or was simply not included for the sake of simplicity?

MR. EAGLES: With the removal of the Calandria tube, any components or garter springs which are within the Calandria tube are being removed as the Calandria tube is removed and then brought into the shear press. So there is no requirement to conduct the operations you mentioned.

Q. - Thank you. Supplementary to that, as part of the comparison between the process undertaken at Pickering, the detailed steps and the detailed steps proposed for Lepreau, have you actually done a step-by-step comparison documented with explanations as to why certain processes are different or no longer required, as a matter of engineering quality assurance?

MR. EAGLES: AECL is our general contractor, and as retube contractor has had experience with the work that was

conducted at Pickering and as well has spent some time developing procedures which ultimately were not used at the Bruce station, and in addition to that has spent a number of years refining the process for retubing, and through the Phase 1 of our work developed additional schedules and modeled processes for the conduct of the work.

And although I'm not able to definitively say there is a side-by-side list, I am able to say that that I understand they have taken all of that experience into account in preparing the schedule and processes for this work.

Q. - Well, again as supplementary to that, in these days of quality assurance and ISA certificates and all that, the modern practice is to document all this stuff.

And I'm not suggesting that we should look at it but simply again asking whether at one point in time such a documented comparison will be submitted or has been submitted to NB Power as part of the quality assurance process.

MR. EAGLES: Part of the deliverables of the Phase 1 work was a quality assurance manual which covers all aspects of the work which will be conducted by AECL.

I have I guess at this time no understanding of such a

comparison being presented to us.

Q. - Well, I will leave that. And my next question --

MR. WHITE: Just to add to that a little bit though, the tape you saw the other day of course was a partial segment of the whole retubing process.

And the complete retubing process has been modeled, just as you saw it on the tape. And you can see every aspect and every detail of that. And in order to do that, obviously you need to understand exactly what took place in Pickering, what we do in single fuel channel changes, all that detail to build the work that you saw there as well as build the capability to do it in an improved fashion.

And so I think generically the answer to your question is yes, that AECL has taken all those things into account.

Have they given us a detailed sheet of comparison? No, that is not the way it was done.

Q. - Well, I leave that I guess for the future.

My next question really is to Mr. Rod White. And it addresses a comment made in slide 45 regarding --

CHAIRMAN: We refer to it, for the sake of the record, as exhibit A-16.

MR. CRAIK: A-16. Right.

CHAIRMAN: And that is slide 45, was it?

MR. CRAIK: Yes.

CHAIRMAN: Okay. Just let the room catch up with you.

Q. - Yes. The comment made in the slide was that AECL was chosen because they were willing to share the refurbishment and operating risk.

I would like to ask a question of Mr. White as to whether any other retubing schedules proposed for Lepreau were examined and considered?

MR. WHITE: We discussed proposals for retubing Lepreau with three corporations, AECL being one, a company called NUCO which was a consortium of Marabini and BMW and ANSL and with Siemens of Germany.

Q. - I noticed in the Hagler Bailly report -- I guess I have to give the reference to that. It is in volume 1 of interrogatories number 1.

CHAIRMAN: Is that your interrogatory, Mr. Craik?

MR. CRAIK: No. It was PNB interrogatory.

CHAIRMAN: Interrogatory number 1, PNB?

MR. CRAIK: Yes. That produced a copy of the Hagler Bailly report for our information.

MR. WHITE: Just clarify the reference again, A-5, PNB?

MR. CRAIK: It is PNB-24.

CHAIRMAN: Okay. So you have to go to 5 of 7, attachment number 5, PNB, is that correct? In other words, that

report is in the other volume?

MR. MACNUTT: Mr. Chairman --

CHAIRMAN: Yes.

MR. MACNUTT: -- you will find that there are two documents in exhibit A-9 and one of which is the Hagler Bailly report.

CHAIRMAN: So it is in A-9, Mr. MacNutt?

MR. MACNUTT: Yes. That is my understanding.

CHAIRMAN: All right, Mr. Craik, I think everybody has it.

MR. MACNUTT: It can be found under tab A.

CHAIRMAN: Yes.

Q. - Okay. So if one turns to page A-9 of the said document, there is reference to a report which I believe was made by a Mr. Brian Murdock who I understand was one of the management of the Ontario Hydro Pickering retubing, in which he gives minimum most likely and maximum outage times in days for retubing Lepreau. And I just want to note that the most likely number of days actually more or less agrees with the AECL estimate.

But he did have another column which refers to the maximum number of days and just to make things a little complicated, on the table exhibit A 1-4, that does not include the Calandria tubes. So this was addressed on page A-11 in exhibit A-1-6 where he adds an extra 58 days

maximum for doing the Calandria tubes.

So if you add those numbers together and do a little arithmetic you end up with 645 days, which equals 92 weeks, which equals 21.2 months being the estimate by this expert of the maximum amount of outage time required to replace the Calandria tubes and the pressure tubes and the feeders at Lepreau.

So, Mr. White, would you agree with this -- the relevance of this estimate?

MR. WHITE: Those are the numbers that we put together in terms of trying to understand at the time this report was done in '97 and '98, what would be the outage times that one could predict based on the best operating experience in the past that an outage of this length would take. So these were the numbers that were computed by Mr. Murdock, as you refer to, having been through one of these reactor retubing operations, to give us a baseline from which we could then look at other options that are options in the future, yes.

Q. - Well in terms of project schedule risk cost analysis, would it not be useful to have utilized these numbers which are, as I say, enshrined in the Hagler Bailly report as merely a reference for calculating schedule risk costs?

MR. WHITE: I think yes.

Q. - Well if one did this and compared this with the current schedule warranty in the retubing agreement between AECL and NB Power, one finds a difference of about a month and a half. Just to remind people, the -- in the refurbish -- the retubing agreement the schedule warranty is capped at 40 days. And the difference which is like 18, 19 and a half months. And if you consider that difference you have got a further month and a half.

So I just wondered if in terms of establishing -- and I'm talking here purely of project cost risk -- and I personally believe that it will be done in the most likely duration but that's not the issue. The issue is to explore the assessments that have made of project cost risk which currently is capped at the equivalent of \$10 million, which equals 40 days. And this is many more days than that.

MR. WHITE: Are you asking me a question that you want an answer to?

Q. - Yes. Okay. Let me put the question. Did you ask or discuss in your negotiations with AECL -- ask them to extend their warranty to let us say 21 months as opposed to whatever it is at the moment?

MR. WHITE: Well we have a warranty of two years past the completion of this job.

Q. - Oh no, excuse me. That -- I'm talking just of schedule warranty, the warranty on the 18 month shut-down. I'm not talking about --

MR. WHITE: You are talking about liquidated damages?

Q. - If you like, yes. I mean those current liquidated damages for the schedule for retubing are capped at \$10 million which is 40 days.

MR. WHITE: Yes.

Q. - My question is in discussions with AECL did you not point out to them that you had an independent estimate which postulated that the maximum outage time would be 21 days and therefore pose to them that that should be the period of time that they would cover in their schedule warranty, instead of capping it at \$10 million?

MR. WHITE: Well in discussions with AECL, of course these numbers are based on the Pickering experience and the methodologies that essentially have been used in the Pickering processes. And AECL's processes are an improvement upon that, include some improved tooling, improved ways to do these kinds of things. And the modelling process that we saw is an example of how the sophistication has improved in terms of understanding each individual activity that goes on and being able to time frame each of those activities so that you can ultimately

build up a schedule from those things.

And AECL in looking at that believed that their proposal, okay, was a significant improvement upon these things and therefore they wouldn't have to warrant out as far as these particular estimates. These particular estimates give you another outside dimension to compare to.

And so their belief was that the improved tooling, the computer technology, the modelling, allows you to refine the methodology for doing this and therefore you can improve upon that. And as we have already noted in Mr. Eagles' evidence, that not only have they given us a 12-and-a-half month schedule for that but they have also indicated that the actual schedule, that's the contract number, the actual schedule is a month shorter than that, 11-and-a-half months, and we have issued them a change order to look at additional advancement on top of that.

And therefore we believe that -- and they believed in our negotiations -- to go out this far in warranties was maybe extending them farther than it needed to be, and we believe that the advancement since then gave us additional advantages. And so in the negotiation process that's where we saw it off.

Q. - Yes. But would you accept that the people who are doing

the cost estimates and writing the agreement are the same people who are doing the assessment of the schedule, and is it fair to comment that any independent assessment of this schedule, for the purpose of cost risk analysis, has not been taken into account?

MR. WHITE: Let me ask Mr. Groom if he wants to give us some more details on that because Mr. Murdock was involved in further pieces of this.

MR. GROOM: Yes. As a part of the exercise to confirm the validity of the expected improvements which AECL were proposing to incorporate in their conduct of the work for retubing -- for the total retubing exercise, as well as the schedule estimates, we did engage Mr. Murdock directly to review, provide oversight and to express opinion on the ability to achieve those.

We have confidence that the expected improvements that AECL propose are real and as Mr. White has demonstrated, you saw evidence of some of improved technology that is going to be applied.

So it's different processes that are going to be conducted, improved processes. These improved processes certainly from the point of view of the installation work have all been demonstrated in the ongoing efforts of AECL to put new reactors in place as well.

So we have good confidence that they are effective.

Q. - Well thank you for that answer, Mr. Groom. I would like to come back to the comment which was made on slide 76 of the AECL presentation and -- well it was referred to verbally, so maybe we don't need to dig out the reference.

The comment was that AECL were committed to one month shorter schedule. That was said just now and I think earlier by --

MR. EAGLES: That's correct.

Q. - Yes. Is this schedule going to be supported by a schedule warranty? In other words, is the date of the completion for the purposes of warranty going to be brought forward by a month, or is it just the best effort?

MR. EAGLES: No, the schedule for warranty has not changed.

Q. - I would like now to turn to the refurbishment agreement which I think is in this exhibit. I don't have the number but --

CHAIRMAN: On the spine I think, Mr. Craik. Look on the spine of it.

MR. EAGLES: A-17.

CHAIRMAN: A-17.

MR. CRAIK: Not on my spine. It is one of the more recent documents.

CHAIRMAN: A-17, exhibit number.

Q. - I am sorry, A-17. So in there, there is a tab called refurbishment agreement. And this was mentioned a couple of days ago, there was some question raised by another intervenor with regard to the fact that the schedule penalty was \$75,000 per day. And I believe Mr. White responded to that. Okay.

I am still puzzled as to why there is such a big difference between that \$75,000 a day for refurbishment and the \$250,000 a day for retubing. And so what I would like to ask Mr. White is if he could explain the rationale for that difference? And is it anything to do with the fact that -- that the cost or the value of the refurbishment is much less than that of retubing?

MR. WHITE: Well, I will start off. And maybe if I need some help I will ask one of the other witnesses. But the critical path around this job is really around the retubing process. And the refurbishment is a shorter activity than that. And so the emphasis is on the retubing and accomplishing that work within the schedule. And it defines the overall length of the schedule really. And so we attempt to make the penalty in the case of the \$250,000 a day in liquidated damages in recognition of a portion of the energy replacement that we would have to incur. So as we talked about yesterday, it is between a

third and a half of that value.

When you move into the refurbishment contract, its schedule and I think Mr. Eagles can comment on this in detail, is at least a month earlier than the retubing contract. And most of the items aren't on the critical path relative to that. And the effort there is to get that one done before we get the retubing one completed.

And so being a contract of about half the value of the retubing it has a lesser value also in terms of the penalties on the end of it.

Q. - Well just commenting on that. If it was based on the relative contract value then the number would be half of 250,000, which is a lot more than 75,000.

MR. EAGLES: I think I can add to the comments of Mr. White.

The process of retubing a reactor is one of a major activity in a single area, the core of the reactor. And the processes with respect to the refurbishment are a number of activities as outlines in the evidence that are more individual in nature. And a completion of each one of those activities is scheduled through the time line of the project.

The risk of schedule overrun on activities associated with the contract that is broken down into -- into smaller blocks of individual components of work is substantially

less and that again part of the detail for why the penalty there is not as high as you might have suggested.

Q. - Well however, in the refurbishment there are over 20 different items of equipment, including governance for the turbine generator and a whole list of things.

Now accepting that each individual item isn't going to take a great deal of time to procure and install, the way the contract is written is that the schedule is based on the -- the schedule warranty is based on the completion date which is defined as substantial completion. And if all these things are substantially completed by this date then there is no penalty. There may be I suppose a modest bonus, which is fair enough.

However, as an old commissioning engineer I have commissioned two nuclear power stations in my day, one of the things that used to give us perverse pleasure, if you like, was that many of these systems were only shown to be functioning correctly once the plant was being recommissioned and being put into service.

So the fact that these particular items of equipment have been installed and tested as individual items but not in a functioning integrated system, it suggests that there is a possibility that one or more of these things could cause a delay, hopefully not very long, during a period of

time after substantial completion and commissioning to in-service.

Now that kind of delay is costly. And my reading of this refurbishment agreement it doesn't seem to be covered.

Now getting a little technical here, all the items that are being retubed, the Calandria tubes, pressure tubes and the feeders, are all if you like static items. Now once they have been tested then one does not expect to see any defects in them for quite some time.

The whole list of things that are in the refurbishment contract are dynamic items of equipment and they vary a lot from -- some of them are new designs involving computer systems. Others are new designs for the turbine generator. Hopefully they are copies of existing designs and not brand new. But there is a whole host of these things.

It seems there is the possibility that one or more of them might cause a delay during the commissioning of the integrated systems and raising (inaudible) and is that -- is such a delay considered for purposes of schedule warranties in this agreement.

MR. WHITE: If you notice in 15.3.3, page 63 of that retube agreement -- or the refurb agreement on warranties, it

says the date of final acceptance will be the latter date of final acceptance of either this contract or the retubing agreement. And that ties the two agreements together, certainly from a bonus point of view, and it defines what is the actual date of acceptance at the end of the time.

Q. - Yes. I did in fact read that clause, Mr. White. And the thing that struck me is that there was only a mention of bonus and no mention of penalty. And from that I concluded that a penalty would not apply to the kind of situations which I have indicated.

MR. EAGLES: The commissioning activities to which you are referring to, although being done under the master schedule, being prepared by the general contractor, the conduct of the commissioning work is the responsibility of NB Power. And we -- we are not able to negotiate with AECL for them to have responsibility on a liquidated damages portion for work that we were in fact conducting.

Q. - But with due respect, Mr. Eagles, isn't it that during that time when the discovery whether the design of the equipment or its installation is correct, that that is when this is discovered. And again, as an old commissioning engineer, we were frequently telling the designers what they had done wrong and would they please

come and fix it or modify the design, or better still accept a suggested modification that we commissioning engineers brought up.

But those kind of things can hold up the whole restart of the reactor. And this particular clause here by focusing only on the bonus very strongly implies that there will be no penalty if such a delay occurs. And it is irrelevant whether the commissioning is being undertaken by NB Power or by anybody else. It is the question of what is discovered about the design or the installation of that thing which was covered by this refurbishment contract.

MR. WHITE: I think we appreciate the point that you are making. The clause that I referenced certainly was put there specifically to ensure that there were no bonuses paid if in fact the complete plant was not able to generate electricity.

Q. - Well there is bonuses and there are penalties. Well again this is perhaps redundant. But we have got these two agreements, retubing, refurbishment, so it seems to be clear, and I would just like this to be confirmed, that a delay caused by an item of equipment in the refurbishment contract does not trigger the more costly, if you like, scheduled penalty in the retubing agreement.

MR. WHITE: I think again, as we talked about yesterday, that the way we focus these contracts and I appreciate the issue that you are trying to get at here in terms of what is the maximum value to NB Power in terms of the liquidated damages. The approach we are attempting to do is to drive the incentives on to completing this work early.

We really in fact want to pay the incentives to get this work done early. We have invested in it up front for a shorter schedule, even though the official contract completion dates won't change, we have invested up front in completing it early. And we have put money on the line with AECL that they can earn a bonus on in terms of doing that and those are substantial numbers. And that also increases their profit level, obviously by getting completed early. Because then they can remove their crews and things from site.

We have invested, as you saw in the video, in very sophisticated modelling to understand from an engineering assessment point of view as to whether this work can in fact be done in a shorter schedule even though the contract allows a longer piece of time for it.

And so we have tried to invest less in the downstream piece. Because as it was talked about yesterday, we

understand the implications of a four month delay. And we ran those through the stress cases as panel B will be able to talk to you in detail about. And so we have understood what our exposure is in terms of numbers down there. And I think yesterday we talked about that as being \$63 million.

So our focus is how do you get a job of this size and magnitude to be done well. And the real keys to that is that you have to plan it well and you have to engineer it well before you ever get in there. And if you don't do those things then your chances of success are weak. And that is why we have spent two years already doing that. And we have got another four years to do that kind of thing. And I appreciate your comments around commissioning. It always has its own challenges of things that can come up. And the cumulative effect is certainly there at the culmination of the commissioning processes.

Q. - Well thank you for that encouraging response. I would now like to turn to the plant performance agreement which I think is in the same book.

CHAIRMAN: Yes. It is in A-17.

MR. MACNUTT: Yes, in A-17 as well.

Q. - Well, on page 4, item -- paragraph 7 it refers to the commencement date of this agreement. And it says the

commencement date is the first day following the occurrence of all the following.

And there is a whole list of things, including on the next page "NB Power shall have first declared that PLGS to be available at in-service."

So is it correct to say that the Plant Performance Agreement starts when NB Power declare the plant to be in-service?

MR. WHITE: That is correct.

Q. - So therefore when you turn to the warranty in article 7 -
- if I could only find it -- that warranty starts when the plant is in-service. It doesn't start earlier?

MR. WHITE: Plant performance warranty --

Q. - Yes.

MR. WHITE: -- starts when the plant is in-service, correct.

Q. - Okay. And that is when NB Power declare it to be in-service. And all this installation and commissioning stuff is all behind us.

Just as a matter of project cost risk analysis, supposing there was a three-month delay of the kind that I suggested that this other retubing study might indicate as being a maximum possibility, either in the retubing or in the refurbishment, the cost of such delay to NB Power would, at \$500,000 a day, would be \$45 million, correct?

MR. WHITE: For how much delay?

Q. - Three months?

MR. WHITE: Well, I said that we had calculated four months at \$63 million. So it would be --

Q. - Yes.

MR. WHITE: And those four months included two winter months. So the three months would be slightly less than that. But it is in the order.

Q. - Okay. So let's for the purposes of this discussion assume that that three months possible delay in the in-service date would be \$45 million.

Now if this delay was attributable to the tubing schedules, then AECL would reimburse NB Power for \$10 million which is the number that is in the retubing agreement?

MR. WHITE: That is correct.

Q. - Which means that NB Power would only have to bear the cost of \$35 million?

MR. WHITE: That is correct.

Q. - So that is fine. But the plant is now gone into service albeit under the scenario three months later than one would have hoped.

And it starts performing, as we confidently expect, exceptionally well. And the capacity factor in the first

year and two years is well over 80 percent and perhaps 90 percent.

That is a reasonable scenario?

MR. WHITE: Yes. We hope it will.

Q. - Okay. And in that circumstances that would trigger the bonus to AECL of something like \$10 million a year?

MR. WHITE: It is .63 million dollars, .63 million dollars per percent. So if it was 10 percent higher you would get 6.3 million. If it was 20 percent higher it would be 12 million.

Q. - I'm assuming that the capacity factors are those that are in this spreadsheet that was attached to oh, one of the documents.

And it gave numbers which varied from year to year. But they were around \$10 million. I can get the reference to it if you like, but --

MR. WHITE: Well, I'm just quoting. The upside from an 80 percent capacity factor is \$12 a megawatt-hour. And that is .67 million per percent.

So from the basis of 80 percent, if the plant operated at 90 as an example, we would pay AECL a bonus of \$6,700,000.

Q. - All right. We can debate whether it is 6 million or 10 million. And there is a spreadsheet which -- but a

substantial amount of money that NB Power would now be paying AECL.

And hopefully that would go on for the first year of service, the second and the third year of service. And that looks good.

However, bearing in mind that under this scenario, NB Power have borne the cost of \$35 million for loss of service for this postulated three months, immediately after the plant goes into service, NB Power is paying AECL substantial amounts of money.

Now does this not seem to be a little bit unfair?

MR. WHITE: No. In fact it is good. We hope that we pay them every year. That means that the plant is running at high capacity factors. We pay them essentially one-third of our gain on the upside. And so we have already made two-thirds gain on that upside.

And what we are trying to do here is share risk. And when you share risk in terms of this investment, each party needs to bear some of the pain when it is on the bottom side and you need to bear some of the gain when it is on the upside. And it is a question of how you sort out what that pain and gain is.

In this case we are prepared to pay about a third of our gain. And that is what we are doing. And our desire

would be that we are doing that. And if we are doing that that means that we are running at high capacity factor and the plant is running well.

And that is really what we are trying to embody in the Plant Performance Agreement, is the support from AECL to ensure that the refurbishment outage goes well and that the plant is built to a good quality level so that it can in fact run well.

And the ongoing Performance Agreement is again the incentive to AECL to stay involved technically with the plant to assist us in running it well and getting the maximum value for this asset that we invested in.

Q. - So to sum up, would you agree that the pain of \$35 million is a pain to NB Power and the gain of the \$10 million under the Plant Performance Agreement is a gain to AECL? In other words, NB Power bears the pain and AECL obtains the gain?

MR. WHITE: Well, again, recognizing that if AECL got the gain of \$10 million, NB Power got the gain of 20 million.

Q. - I'm still worried about what happened to that \$35 million. However let me --

MR. WHITE: Well, I'm trying to separate the two issues. Because they do have different dynamics. And the Performance Agreement is an inducement, an additional

inducement on the retube and refurb' contracts to do those contracts well. Because if they do them well, then they set the plant up for them making additional gains.

And so they have an incentive, not only within the contracts themselves in terms of bonuses, but they have an incentive to get the plant on early because they make additional money by doing that.

And so we actually have a benefit to them by getting the plant on early. And that is the driver for us here. Let's get the plant on early, not be paying penalties. And I understand where you are coming from.

But what we want to do is make it that attractive to AECL that in fact this outage will be done, planned well, engineered well, executed well so that they get their bonuses on the outage work and they also get their bonuses on the Plant Performance Agreement. And if they are getting those things, that means NB Power is doing well.

Q. - Well, yes. But with the bonus -- with the penalty capped at \$10 million, I mean, supposing that the three-month schedule as a worst case scenario was adopted, that would have to be increased to \$25 million.

Wouldn't that additional amount of money, let's say an additional \$15 million as a penalty on the schedules, be an added incentive to AECL and provide more comfort to NB

Power and its customers?

MR. WHITE: Certainly the bigger you make those numbers there are added incentives. But you also can pay for them somewhere else in the contract. That may mean that the contract price went up 15 million.

Q. - Well, okay. Let's terminate this one by asking one possibly final question.

Was there any consideration in the Plant Performance Agreement of dating it from the start of the outage and say that this Plant Performance Agreement comes into effect 18 months after the start of the outage, so that the embarrassment of having to immediately pay, using my numbers, \$10 million a year to AECL, having swallowed some \$35 million just recently, would be obviated?

MR. WHITE: I'm not -- I don't think it was discussed in the sense that you say. You know, from our point of view we could insure for this lost generation as well, if we wanted to cover it that way.

Typically a utility, you don't usually buy that kind of insurance. Because first off it is expensive. And secondly we have alternate generation that we can run.

And so therefore we are not like we can't provide our customer usually with a product that ultimately we are supplying. So it is a matter of kind of looking at what

your risk is and how exposed you are and where the offsets are.

And in this case we believed, based on the work that you referenced earlier in the Hagler Bailly work and work that we had done to price what it would cost to retube a job like this, that in fact we got a very good price from AECL on it, and that the addition of more voluminous liquidated damages, we got better value in the up-front pricing of doing this job first, doing this job in terms of AECL's desire to have the CANDU-6 reactor life-extended, so that that demonstrates that their product line is in fact a product line that can run an extended lifetime.

And that they were prepared to give us a good price on that. And the price that we got, as you related to the Hagler Bailly work, was a significantly better price than what we had seen in alternate estimates on this. And that is where we believe we got the value out of this. And so we didn't put the money in the liquidated damages to drive that price up.

Q. - Well, continuing with a question on the Performance Agreement, it states that over the 25 years AECL's penalty on that, on the downside, is \$225 million. And that that is spread over 25 years. So that is approximately, in

present value, about \$100 million order of magnitude.

This -- would it be fair to say that the directors of AECL, in authorizing that kind of a penalty, possible penalty wished to show their support to the project?

And was it ever -- in a worst case situation would they possibly have liked to have seen some of that money applied to the kind of scenarios which I have outlined rather than push it off as revenue to AECL over the next 25 years?

I'm looking at this from the perspective of public perception and of protection of NB Power and its owners in the near term.

MR. WHITE: Well --

Q. - Is there no mechanism whereby in a worst case situation some of that \$100 million could be drawn down to ease the pain that you have indicated might occur to NB Power?

MR. WHITE: Well, certainly contracts can be negotiated in any permutations and combinations that the parties can think of and put together.

And at the end of the day they try to put together contracts that provide certainly an advantage to us in this case. And AECL wouldn't enter into this if it wasn't an advantage to them. So there has to be something that is a win on both sides.

In the case of the \$225 million, when we started out looking at how we would share risk on this job and how we would protect New Brunswickers from particularly the downside risk of the nuclear plant -- it is a great facility when it works well, and because of the fuelling cost differences we know it can be extremely painful when it is not working at the capacity levels that we want. We looked to share the risk on some up-front investment originally.

And as you referred to the Hagler Bailly report, you will see that the -- in 1997, '98 the refurbishment cost was projected to be in the order of \$500 million.

And at that time we were looking to see can we share 30, 40, 50 percent of that cost in terms of a risk-sharing. And so the 225 represents about 45 percent of that number at that point in time.

And so as we went forward -- because AECL under their mandate as an agent of the Crown, can't actually raise capital to put into a project like this because of their financing restrictions, we looked for other vehicles that were more advantageous to us because we in fact can probably borrow the money at the same rate or certainly at very advantageous rates.

And therefore there are other mechanisms to

participate in this. And so the alternate mechanism that we came up with was this one of performance on the back end, which is really at the end of the day what we are interested in, making this unit run well and running at the high capacity factors that Mr. Pilkington spoke to.

And so the 225 million is kind of a carry forward in through the negotiation process of the original desire of covering something in the order of close to half the capital costs at that time.

And we built that into the Performance Agreement as the up -- or downside limit for AECL, that that would be the limitation of their liability. And so instead of investing on the front end, that is where they would invest, on the back end.

But our desire of course is never to collect that. Our desire is to pay them, which means that the unit is running at the high capacity factors that were predicted and that we are getting the value out of it.

MR. CRAIK: Thank you, Mr. White and Mr. Eagles. I have no further questions. I think I have had my fair share of time at this panel.

CHAIRMAN: Good. Thank you, Mr. Craik. We will take a 10 minute recess.

And Mr. Craik, you can trade seats with Mr. Gillis

right behind you, I think.

(Short recess)

CHAIRMAN: Mr. Gillis, I think you are aware that the Board had indicated it would probably rise today around 11:30. So you can pick an area for cross than would be shorter than some that I have heard.

CROSS-EXAMINATION BY MR. GILLIS:

Q. - Thank you, Mr. Chairman. Panel A, my name is Rod Gillis and I would start by telling you where I'm coming from and then I will ask my questions.

When Lepreau works, as you said, Mr. White, it works well, it's a good producer, and I would support the refurbishment and the retubing of Lepreau, but the contracts that are presented here pose an unacceptable risk to the ratepayers and the taxpayers, despite your optimistic approach, and that's where my questions will come from.

So having said that perhaps I could get a little background of the members of Panel A. Do all the members of Panel A, or have all members of Panel A, examined A-16?

MR. WHITE: Yes.

Q. - And they are all quite familiar with A-16?

MR. WHITE: No.

Q. - Which ones are not familiar with A-16?

MR. WHITE: That includes Panel B as well.

Q. - I appreciate that. And my question was -- maybe I will go back to the first question. Are all members of Panel A familiar with A-16?

MR. WHITE: We are familiar with it as the evidence has been presented here, yes.

Q. - Well A-16 composes some of the power point presentations for Panel B, and I would assume that Panel A would have seen those power point presentations prior to the hearing here?

MR. WHITE: We saw them prior and we saw them during the hearing, yes.

Q. - And I would assume that Panel A had discussions with members of Panel B concerning those power point presentations of Panel B?

MR. WHITE: Not an overall detail. That is a Panel B issue.

Q. - I appreciate that, but I just want to make sure that I could ask questions of some of these power point presentations, whether they are in Panel A or Panel B, of this Panel?

MR. WHITE: We wouldn't respond to the Panel B ones, we will respond to Panel A.

Q. - I see. Okay. Well let's get something real simple on the record. We are dealing here with risk to NB Power of

the refurbishment and the retubing, would that be a correct statement? That's one of the things you looked at?

MR. WHITE: Yes.

Q. - So knowing that I would assume that each of the members of Panel A would know how much risk NB Power could take?

MR. WHITE: Not necessarily.

Q. - I see. Well have each of the members of Panel A looked at the financial statements of NB Power for the last five years?

MR. HASHEY: Mr. Chairman, I believe this is really a Panel B area. These witnesses didn't give evidence on this, are not prepared to give evidence on it.

CHAIRMAN: Mr. Hashey, I don't know where the question is going yet. That's a rather simple question. They have already indicated I think that if they don't -- if they believe it's a Panel B question they will not answer it. I would suggest we let this go for a ways. Go ahead, Mr. Gillis.

Q. - So, Mr. Pilkington, for example, have you read any of the financial statements of NB Power let's say for the past five years?

MR. PILKINGTON: Yes, I have.

Q. - Thank you. And Mr. Groom?

MR. GROOM: The question you asked was did we look at them.

The answer is yes, we have looked at them.

Q. - And Mr. Eagles?

MR. EAGLES: I have seen them.

Q. - So you generally know how NB Power is financed, correct, Mr. Pilkington?

MR. PILKINGTON: Well I'm not sure the level to which you are asking the question. Do I know that NB Power is debt financed? Yes.

Q. - All right. And when you say NB Power is debt financed, to what level?

MR. PILKINGTON: Again I'm not a financial person, but if you would like to judge my level of knowledge, I think it's in the order of \$2.7 billion right now.

Q. - Let's say percent wise.

MR. WHITE: I think the evidence presented here by Ms. MacFarlane at the start of this hearing indicates that it's virtually a hundred percent debt financed.

Q. - Yes. So if -- and I'm a simple person here. If I equate it to a house, what you are saying is if a house was worth \$100,000 I have got a mortgage on my house for \$99,700 and I have only got \$300 down payment, would that be the way to look at it?

MR. WHITE: Yes.

Q. - Okay. Well are most of the other utilities in this country financed to that level or is it more like 55 percent?

MR. WHITE: Again Ms. MacFarlane spoke to that at the beginning of this hearing.

Q. - Yes. What did she say?

MR. WHITE: And she said that that's a subject that needs to be addressed as was pointed out by I believe the Board in earlier hearings, and that it's not a subject that has been addressed yet but we are fully able to meet our debt obligations as a corporation, and being undesirable but as a Crown corporation that is still functional, but that's -
- Ms. MacFarlane is the expert on that.

Q. - Would it be fair to say, since you seem to be able to address a portion of it, that most investor owned utilities typically are financed at 55 percent debt?

MR. WHITE: Well I'm not able to say that because I don't know it. I know some are.

Q. - You know what, I'm reading from a document here and I don't know if it's in evidence, I have been away for a few days here, the Dominion Bond Rating Service Limited, the report that's referred to in A-16, did you ever read that document, Mr. Pilkington?

MR. PILKINGTON: No, I have not.

Q. - Mr. Groom?

MR. GROOM: No, I have not.

Q. - Mr. Eagles?

MR. EAGLES: I have not seen that.

Q. - Mr. White, have you seen the Dominion Bond Rating

Services document concerning NB Power that's referred to
in A-16?

MR. WHITE: No.

Q. - Oh. Okay. Maybe I will change my questions and get back
to the financial statement of NB Power. We know that it's
financed -- you say 100 percent, Mr. White. I think it's
99.7 percent.

CHAIRMAN: Mr. Gillis, I am going to interrupt here because
you are going on and these are questions that should be
given to the Panel that deals with financial matters. I
don't mind a general overall but not specifics that you
are getting into.

MR. GILLIS: All right. My concern, Mr. Chairman, is that -
- and I have been through panels before -- you get to
Panel B, C or D and they say, whoops, that question should
have been asked of Panel A. So I have got to put them and
when they say that it's referred to another panel, they
are not able to answer, I accept that, but I think I have
to put the question to make sure that I don't get --

CHAIRMAN: I certainly agree with you that you have to put the nature of the questions to them so that they can at least say that's Panel B, but you don't have to put all your questions to them.

MR. GILLIS: Oh no. I have got a lot of specific ones for Panel B, that go on at length.

Q. - I have just got another very general question about NB Power, and that deals with -- it's net income. And this still deals with risk.

Mr. Pilkington, are you aware generally of what the net income has been of NB Power over the last two or three years?

MR. PILKINGTON: I wouldn't give you the year-by-year number but I have a general knowledge of NB Power net income.

Q. - What would that be, that it has lost money for the last two or three years?

MR. PILKINGTON: Well it generally -- it fluctuates around zero, plus or minus.

Q. - Oh. I thought in 1999 you fellows wrote off a fair chunk of Point Lepreau which caused a loss or a net income figure of about minus \$400 odd million, and then you did some adjusting?

MR. PILKINGTON: I believe that is correct, and I also believe that that would be a very unusual year.

Q. - All right. And I believe last year you lost \$12 million so that's fluctuating around zero, is that what you understand?

MR. WHITE: Most of that information is again Panel B and Sharon MacFarlane spoke to it.

Q. - All right. I will leave some of those then for Panel B. Perhaps I could just get a few basic questions answered with respect to Lepreau. Now Point Lepreau is owned and operated by NB Power, correct?

MR. WHITE: That's correct.

Q. - And it has been operational since 1983?

MR. WHITE: That's correct.

Q. - And you started to build Point Lepreau when?

MR. WHITE: 1974 if my memory is correct.

Q. - 1974. And were there any years of stoppage of construction, or it was a continuous project?

MR. WHITE: It was in continuous construction for that period of time. We obviously had issues with the boiler during that period of time, and so we dealt with those things.

Q. - And you dealt with that by going and making a settlement, if I understand from the interrogatories that were delivered, with AECL?

MR. WHITE: That was a claim against AECL during the

construction that the deficiencies were identified.

Q. - Yes. So that was a nine year period to build the plant.

Now the original design life of Point Lepreau was what, as everybody understood in the period 1974 to 1983?

MR. WHITE: A 210 megawatt plant at 80 percent capacity factor for a nominal 30 years.

Q. - 30 years. And when NB Power built Point Lepreau and it said 80 percent capacity factor, was there any restriction saying that, look, if you run it at 90 percent or 95 percent the life expectancy will be less than 30 years?

MR. WHITE: The 30 years is based on an 80 percent capacity factor. If you run it at a higher capacity factor then the life is less.

Q. - All right. So that being so NB Power knew when it was running the plant at a higher capacity factor in the 80s and the early 90s that you were shortening its life expectancy. Could you tell me by how much you understood the life expectancy was being shortened because you were running at a high capacity factor?

MR. WHITE: You run the plant to get the energy that you need out the plant and this is a base load plant and we would run it at the highest capacity factor we can run it at.

Q. - Perhaps you didn't understand my question. My question

is a simple question. You knew that if you ran it at a higher capacity you were shortening the life of the plant?

MR. WHITE: The life of the plant is based on 210,000 full power hours with the fuel channels and if you run at higher capacity factor you use up those 210,000 full power hours earlier.

Q. - Right. And that's what I'm trying to find out. When you were running it at the capacity factors you were in the 80s what amount of time were you shortening the life expectancy from 30 years?

MR. WHITE: Well our desire is not to get 30 years out of it. Our desire is to get the best output out of the plant.

Q. - All right. Well I'm saying how long it's going to last, and you told me nominal 30 years. Now you tell me if you run it at a higher speed or higher capacity you are shortening the life. Now if you have a 30 year life at 80 percent what was the life as NB Power understood it when it was running at the capacity factors it was in the late 80s? How much was the life reduced?

MR. WHITE: The life isn't reduced. The life is based on 210,000 full power hours of fuel channel life. If you nominally set that at 80 percent capacity factor then you end up with 30 years. If you set it at 90 then you end up

with less than 30 years.

Q. - That's what I -- the less is what I'm trying to find out.

Let's say you set it at the capacity factors NB Power was running it at in the late 80s. What was the nominal life, 20 years?

MR. WHITE: The late 80s we were operating this plant in the 90' --

Q. - '3.

MR. WHITE: -- 93 plus range, something like that. And at 93 plus range -- if I made an approximation, if that's what you are looking for --

Q. - Yes.

MR. WHITE: -- we would probably run this plant for 26 years maybe.

Q. - So 26 years. So you knew by the late 80s and early 90s that running at the capacity factors you were running it at you would have 26 years rather than the 30 years, correct?

MR. WHITE: Well the normal life cycle of a plant like this at an 80 percent capacity factor, one would nominally anticipate that it might run higher in the early years and a little bit less in the latter years. All right.

Q. - I understand. It's like a new car. You buy a new car, you can drive it at a high speed in the first year. The

second year you drive it at a high speed and you may have a few mechanical problems. That's what you are talking about, isn't it?

MR. WHITE: No, I'm not.

Q. - Oh I see. Okay. Well -- so the design life then at the capacity factors NB Power was operating at in the late 80s, early 90s, was 26 years which would take us to which year, 2018, 2019?

MR. WHITE: No. This plant came out in 1983, so 30 years would be 2013.

Q. - 2013.

MR. WHITE: So if it turned out to be 26 years it would be 2009, I think.

Q. - 2009. You are right. And that's what AECL designed it for?

MR. WHITE: 210,000 full power hours was the design for the fuel channels.

Q. - And if NB Power does not refurbish Point Lepreau what is its life expectancy as you understand it today?

MR. WHITE: We are saying it needs to be refurbished by 2006.

Q. - 2006. So that's three years off, 2009?

MR. WHITE: Yes.

Q. - This was a design by AECL, was it?

MR. WHITE: The nuclear steam supply plant was designed, procured and resold to New Brunswick Power by AECL.

Q. - And when you say -- that's the heart of this reactor, is it not?

MR. WHITE: That's the heart of the nuclear supply system, yes.

Q. - And what you are faced with by the year 2006 as I understand it is two things, either decommission or refurbish. Would those be the two options you have?

MR. WHITE: That's the two options that we have put on the table. Obviously if this panel were to decide that refurbishing wasn't the right thing, this plant has value and NB Power would then have to look and see how they extract value from it.

Q. - By that you mean you would sell it for whatever you can get?

MR. WHITE: We might sell it, we might lease it, we might do a whole range of things, but it has value and we would look to see how we get value out of it.

Q. - Now still dealing with some general questions concerning Point Lepreau. I think you indicated earlier that there are some 700 jobs associated with Point Lepreau?

MR. WHITE: We have 700 people there now, yes.

Q. - And the total staffing complement of NB Power is

approximately what?

MR. WHITE: 26', 2,700 people.

Q. - 2,700 people. Now we are dealing here, I gather, with, what, the second Phase of this? You have already gone through Phase 1?

MR. WHITE: We haven't initiated Phase 2. Initiation of Phase 2 requires recommendation from this Board to our Board and they then have to make a decision.

Q. - Right. But Phase 1, that was the study that you had done?

MR. WHITE: Phase 1 is the definition phase that does preliminary engineering work and economic studies to see whether this in fact is a business case that should be brought forward to here.

Q. - And the economic studies that were done were paid for by you fellows at about 40 million bucks or 36 million bucks?

MR. WHITE: That was the cost of the definition phase, yes.

Q. - Now the economic studies, do we have them all tabled here today?

MR. WHITE: Yes, you have the business case here.

Q. - Is that all the economic studies?

MR. WHITE: Well the work that was done in Phase 1 was all relative to developing the business case that could be brought forward here and so they -- those pieces of work

are contained in this business case.

Q. - So there are no draft studies or preliminary studies that are not included, is that right?

MR. HASHEY: Mr. Chairman, I think that's a little bit of an unfair question obviously to everybody, there is probably masses of paper that leads to work like this. There has been a response given to a number of interrogatories by my friend, Mr. Gillis. I think we have given thorough answers and a thorough amount. And as you can see from what's behind everyone here, massive volumes of documents. I don't think this is a discovery process and shouldn't be used for that.

CHAIRMAN: Mr. Gillis, the question I think is probably appropriate but if it is in reference to the expertise of this panel. I mean, that was a very broad question you asked.

MR. GILLIS: The panel hasn't ducked the question yet saying that's it's more appropriately a Panel B question. If they do that then --

CHAIRMAN: Well, no. But they can certainly -- Mr. White can certainly give what is within his control in NB Power and talk about it. But let's not get into the entire process because it's a very broad process and it involves a lot.

So Mr. White, if you want to answer the question, go ahead, but stick to your own field of responsibility.

MR. WHITE: All the work that we have done to present this business case is represented in the business case.

Obviously there are volumes of information that we have dealt with with the regulator, okay, that wouldn't be in here. Okay. There is volumes of background information that is part of developing the economic analysis. Those things aren't all in those documents because there is a lot of documents behind it. But the business case represents all of that work that has been done.

Q. - I understand that. My question wasn't focused on the raw data, but preliminary draft reports, or interim reports or other reports that gave rise subsequently to the business case scenario that you have produced. And I just want you to confirm there are none, to the best of your knowledge?

MR. WHITE: Well I wouldn't say there are none because there are volumes of documents that back-up all of this stuff that have all kinds of studies and pieces in them. You know, but all the things that represent the requirements to build the business case and documented are shown in these documents.

Q. - Maybe I better save that for Panel B, because I get the impression there are some things there but that they may

have more knowledge than you.

CHAIRMAN: I note it is now 25 after, Mr. Gillis. Is this a good time to take our break?

MR. GILLIS: Sure. That's fine.

CHAIRMAN: So we will rise until 9:30 on Monday morning.

(Adjourned)

Certified to be a true transcript of the proceedings of
this hearing as recorded by me, to the
best of my ability.

Reporter