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New Brunswick Board of Commissioners of Public Utilities

Delta Hotel, Saint John, N.B.
January 16th 2002
9:30 a.m.

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CHAIRMAN:	David C. Nicholson, Q.C.
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COMMISSIONERS:	Robert Richardson Emilien LeBreton Jacques Dumont
BOARD COUNSEL	Peter MacNutt, Q.C.
BOARD SECRETARY:	Lorraine Légère

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CHAIRMAN: Good morning, panel. Good morning, ladies and gentlemen. Before we begin, are there any preliminary matters? Mr. Hashey?

MR. HASHEY: Mr. Chairman, I believe it might be appropriate to answer yesterday's outstanding undertakings at this point in time.

CHAIRMAN: Yes, please.

MR. HASHEY: I have through the good work of our court reporting service a transcript of yesterday in front of me.

And the first undertaking appeared at page 332 of the

transcript. And it is I guess to be answered. I will have four of them. The first three -- or the first two are almost combined to Mr. Marshall. The first one deals with the unadjusted number of the emissions of CO2 in 1990.

And Mr. Marshall I believe answered, it is 6.3. And he undertook to do a check. Mr. Marshall, did you do that? And what is the response?

MR. MARSHALL: Yes. We have done the check. And the number is 6.3 as reported yesterday.

MR. HASHEY: Thank you. Then the next one dealt with at page 335 was the actual amount of the emissions in the year 2000.

And you -- I believe the discussion there was concerning a 9.3 million tonnes for 2000. And you indicated you believed that is correct. Can you comment on that?

MR. MARSHALL: Yes. And that 9.3 is correct as well.

MR. HASHEY: Thank you. Then the next undertaking -- I believe there were three that were listed that were answered, 247, 295 and 345.

The next outstanding I believe was questions from my friend Mr. Hyslop where he was asking if the data here for 2001, the 4.5 is a calendar year average price, whatever, then you want to know what the price was for the end of

December 2001.

Now have you been able to do calculations in response to that undertaking?

MR. MARSHALL: Yes, we have. And we have a sheet prepared which details the calculation which we would like to enter as an exhibit.

MR. HASHEY: Mr. Chairman, I would like to enter as an exhibit what is called the response to undertaking in transcript of January 15, 2001 at page 363.

This gives the natural gas Henry Hubb dollar prices for 2001 from January through December.

CHAIRMAN: That will be A-15, Mr. Hashey.

MR. HASHEY: We will circulate those, Mr. Chairman.

MR. MARSHALL: The request yesterday was to check the number from response to PNB-1, exhibit A-6 or --

MR. HASHEY: No, sorry.

MR. MARSHALL: -- exhibit A-7.

MR. HASHEY: Right.

MR. MARSHALL: Interrogatory PNB-1, part (e) on page 2. And the reported number for 2001 was a projected number at the time of the submission of evidence where data was not available yet for November of December. And the projected number was 4.55.

On the exhibit just handed out you can see the monthly numbers. The correct numbers for November and December

based on actual Henry Hubb pricing would be 306 and 2539. That would be a calculated number then of 4.38 to replace the 4.55.

Also while you look at that you can see the range of prices over that year from a high in January of 9.788 to a low in October of 1.88. This variation in price is what is called volatility. And we have responded to volatility.

If you turn to the next page, in response to PNB-1 there is a table outlining the high and low prices for gas from '96 to 2001.

And you can see a significant range of numbers from highs and lows over the previous five years in addition to 2001. This issue of volatility is a significant one for us for natural gas.

It is important to note that the Coleson Cove power plant is essentially the marginal power plant in our system. And it sets the price for the marginal value of electricity in New Brunswick.

It has a significant impact on export value because of that price. It also has a significant impact on the pricing of energy to our large industrial customers.

All of our interruptible and surplus energy sold to industrial customers is priced on the margin based on our cost of generation.

And this level of volatility for gas would be a significant issue in terms of the ability of those customers to budget and plan and schedule their operations.

I might also note that on PNB-1 on page 3 there is also the table showing the heavy fuel oil price, highs and lows annually over the years as well. We can see the volatility of heavy fuel oil which is also an issue but not as great an issue as it is for the volatility of natural gas.

And in part (f) of that interrogatory we also note that the measures of volatility, that gas has been calculated at a 65 percent volatility, oil at 35. Orimulsion -- the 6 percent for Orimulsion is calculated based on our actual supply of Orimulsion since 1994.

The index under which we would be buying Orimulsion for this particular project is significantly lower than the 6 percent.

CHAIRMAN: Mr. Marshall, that certainly is enlightening. But that is a bit more than responding to an undertaking. That is repeating a good part of your examination in chief.

And as I say, it was interesting. However we want to get on with the hearing. Please don't embellish quite so much the next time.

Anything else, Mr. Hashey?

MR. HASHEY: Thank you, Mr. Chairman, for the direction. Yes, one last one. And we will try to make it a little shorter.

Anyway it is Mr. Brogan's. And this deals with the question asked about the 10 degree Centigrade and what would happen to Orimulsion.

Mr. Brogan, could you address that final undertaking?

MR. BROGAN: At 10 degrees Centigrade, at that temperature, the product is still Orimulsion. It is still pumpable and it is still burnable.

The 10 degrees Centigrade is set as a lower engineering standard, not to go below 10 degrees Centigrade. From there the issue is at the pour point of Orimulsion. That is the point where would it pour out of a glass? And therefore is it pumpable?

The pour point of Orimulsion is 3 degrees Centigrade. Now that compares to 15 degrees Centigrade for the heavy fuel oil that is in use today. So at 10 degrees Centigrade it is still Orimulsion. It is still pumpable. And it is still usable.

CHAIRMAN: Thank you, Mr. Brogan. Anything else, Mr. Hashey?

MR. HASHEY: No. Thank you, Mr. Chairman.

CHAIRMAN: Thank you. Any other preliminary matters? If

not, Mr. Hyslop?

MR. HYSLOP: Mr. Chairman, in view of Mr. Marshall's answer on the price of gas, would it favor the Chair if I were to ask a couple of follow-up questions? I shouldn't be very long on that point.

CHAIRMAN: Go ahead.

CROSS-EXAMINATION BY MR. HYSLOP:

MR. HYSLOP: Thank you very much. Mr. Marshall, I believe it is A-15 which is the document that you have just entered into evidence. That is expressed in U.S. dollars, I assume?

MR. MARSHALL: Yes.

MR. HYSLOP: And what would be the source for the information that you provided?

MR. MARSHALL: I believe it comes from -- we subscribe to a couple of sources that are available. I don't have it right on the top. I know that we get it regularly and look at it. It provides the future prices and prices of Henry Hubb. So it is a NYMEX PRICE is what is there. And it is calculated as the NYMEX spot price. The price for each month is based on the average price of the last three days of trading of NYMEX for the next month.

So the price for example December of 2001 is based on the average price for futures for December of the last three days of November. That is the way the prices are

calculated.

MR. HYSLOP: What I asked -- and I don't want to cut you off. But what I asked is if you could provide me the source. And I appreciate that you may not have the answer at your fingertips. But you could provide that to me later --

MR. MARSHALL: Yes. We certainly can, yes.

MR. HYSLOP: Thank you.

MR. MARSHALL: That is available.

MR. HYSLOP: Thank you very much. I would like to briefly refer -- because you went on a number of years and talked about volatility.

And just perhaps in an effort to ensure the complete records being considered, I would refer you to exhibit A-7 which would be PNB-1 at page 2?

MR. MARSHALL: Yes. I have it.

MR. HYSLOP: Okay. Now I understand there was a great deal of confusion in the natural gas market over 2000 and 2001, the volatility in the price of gas in 2002 and 2001?

MR. MARSHALL: Yes.

MR. HYSLOP: Now if I look at the second column of the table on page 2, starting in 1990, I believe the high price would be -- and that is from 1990 through to 1999 -- the high price from that table would be $2.63 in 1997?

MR. MARSHALL: Yes. These are average yearly prices.

MR. HYSLOP: Yes. I understand that. And the low price in 1990 would be -- for 1999 it would be -- it would be $1.50 in 1991?

MR. MARSHALL: Yes.

MR. HYSLOP: Yes. Now one of the results I understand of the increase in the gas prices that have taken place in 2000, 2001 is there has been an accelerated rate of exploration and development for natural gas.

Would you agree with that statement, Mr. Marshall?

MR. MARSHALL: I would think that is probably the case.

MR. HYSLOP: Yes. Okay. Thank you very much.

Maybe just one more follow-up. With increased exploration and development presuming that would increase the supply of gas in the near and distant future hopefully. And I'm not an economist, but increased supply would tend to put downward pressure on prices. Would that be a fair statement, Mr. Marshall?

MR. MARSHALL: That's only half of the indicative indication of price. An economist would say that it's the supply and the demand, okay, and the matching of supply and demand would indicate the price. And there are forecasts for significant increase in gas demand for power generation throughout the United States.

MR. HYSLOP: And there is significant exploration as well.

MR. MARSHALL: There may be some. I'm not aware of all of

the exploration. But I am aware of the increases in gas demand.

MR. HYSLOP: Thank you very much, Mr. Marshall. I would like to deal, if I could, with the debt situation that comes from this project.

And, Ms. MacFarlane, I would refer you to exhibit A-6 at page 120. And I think perhaps we will deal with that first. And there is a table on page 120 called total net debt.

MS. MACFARLANE: Yes, I have it.

MR. HYSLOP: You have that. And that indicates that in March of 2003 by your projections there would be a total debt for NB Power of $2.8 billion?

MS. MACFARLANE: Yes, that's correct.

MR. HYSLOP: And you are expecting, according to your analysis, that by March 31st 2009 the debt would be $3.3 million?

MS. MACFARLANE: Yes, that's correct.

MR. HYSLOP: I say million.

MS. MACFARLANE: Billion.

MR. HYSLOP: I have a hard time getting around billions, but it is billions.

MS. MACFARLANE: Yes.

MR. HYSLOP: And I would suggest that a simple mathematical calculation, the increase in debt for NB Power between

March 31st of 2003 and March 31st 2009 would be $464 million?

MS. MACFARLANE: Yes, that's correct.

MR. HYSLOP: And I also understand that these calculations have been prepared on the basis of the Coleson Cove project?

MS. MACFARLANE: The Coleson Cove project and the Point Lepreau project. And the figures would indicate that though the spending on those two projects is approximately 1.5 billion, our debt over that period only increases by the numbers that you indicated. And the difference there, of course, is that a good part of the projects are able to be funded by the strong cash flow that comes from the benefit of the lower fuel prices on Orimulsion.

It's a further indication that in fact this project is very strong economically and in fact contributes to keeping our costs low, keeping our rates stable and being able to service our debt effectively.

It's a project with a six year pay back. And that is indicated by the fact that our debt only goes up over that period less than half of the capital cost of the projects.

MR. HYSLOP: Now just how much is the Point Lepreau figure in the table on 120?

MS. MACFARLANE: The table on 120, as I indicated in my presentation to the Board on the first day, is based on

the business plan done March 2001. And that business plan was based on high level or broad brush estimates that were available to us at the time before the detailed engineering proceeded on the two projects. So the cost included in here, the capital cost included in here for Point Lepreau is $700 million.

MR. HYSLOP: Could I just have a moment, please. I'll come back to that later. With regard to the stress -- with regard to the stress case, Mr. Marshall, and in particular the stress case that was prepared by you and in the evidence at A-6 at page 109.

MR. MARSHALL: Yes, I have it.

MR. HYSLOP: Right. That particular stress case did not include stress case for an overspending of 25 percent. Is that correct?

MR. MARSHALL: That's correct.

MR. HYSLOP: And subsequently in exhibit A-7 at page 67 -- or PNB 67 or IR -- PNBIR 67 there was a stress case done that included the 25 percent overspending. Is that correct?

MR. MARSHALL: That's correct.

MR. HYSLOP: And that particular stress case showed in fact an advantage to the oil blend of $76 million?

MR. MARSHALL: I believe that's the case. Wait until I get it here.

MR. HYSLOP: Sure, okay.

MR. MARSHALL: Yes, that's correct. On page 85 of exhibit A-7.

MR. HYSLOP: Yes. And the gas oil blend is a disadvantage. The extra cost of the gas oil blend would be $21 million. Is that correct?

MR. MARSHALL: I don't see a 21 million on that page.

MR. HYSLOP: Are you looking at PNB 67, Mr. Marshall?

MR. MARSHALL: Yes, I have PNB 67 at page 85. And I believe you are referring to the next page, page 86.

MR. HYSLOP: Page 86, yes. And that would show 21 million?

MR. MARSHALL: Yes.

MR. HYSLOP: Yes. Okay. Thank you very much. It was just the wrong page.

Now I would like to talk a little bit about the CO2 emission strategy, Mr. Marshall. I understand one of the supporting factors in the CO2 emissions to control them is -- or one of the advantages in this project is the increased export sales that might be possible from the Coleson Cover refurbishment. Is that correct?

MR. MARSHALL: That is -- that is one potential advantage of Orimulsion, in that being a lower marginal cost, there would be an opportunity for increased exports. But in the evaluations that have been done in all of the PROVIEW evaluations we have not given that additional advantage to

the project. The project has been evaluated at the same level of exports in all cases. So the value of exports is simply the differential cost from Orimulsion to the price of the export market. There is no consideration of additional export quantities.

MR. HYSLOP: And one of the advantages I understand from the export sales is that we are able to -- I will use the word, subsidize, New Brunswick ratepayers by 10 to 15 percent.

MR. MARSHALL: The 10 to 15 percent is the current projection of total export margin contribution today.

MR. HYSLOP: And I also understand at the same time there is an advantage to increase sales in order to combat emissions one of the -- in particular CO2 emissions, one of the strategies to do so would be to reduce export sales?

MR. MARSHALL: That's correct.

MR. HYSLOP: And from your evidence I do understand it would be the low margin sales that would be reduced first?

MR. MARSHALL: That's correct.

MR. HYSLOP: However, if for example the base of 6.3 million tonnes was to occur for carbon dioxide, I would suggest that it might be necessary to completely reduce export sales?

MR. MARSHALL: Yes, I think that -- that's possibly correct.

MR. HYSLOP: Yes.

MR. MARSHALL: Along with that would go a significant increase in electricity and energy prices for all of New Brunswick society.

MR. HYSLOP: Right. And in fact to use your numbers it's possible rates might increase by as much as 10 or 15 percent?

MR. MARSHALL: I would expect they could increase significantly more than that.

MR. HYSLOP: Thank you. Now, Ms. MacFarlane, in your evidence in A-11, which is the -- exhibit A-11, slide 50. I am correct in saying that -- first of all the analysis that is done on the financial statement impact analysis of net income, that was based on the so-called base case?

MS. MACFARLANE: That was based on the base case, yes.

MR. HYSLOP: Thank you. And the base case would show that if the natural gas oil blend option was selected, New Brunswick rate payers would be exposed to an increase of potentially 8.7 percent on the gas oil blend?

MS. MACFARLANE: It indicates that in order for the natural gas oil blend to generate the same level of net income as the Orimulsion conversion generates, there would be an increase of rates of 8.7 percent.

MR. HYSLOP: And you have just heard your colleagues answer to the question that if the 6.3 figure was adopted for the

base case for carbon dioxide emissions, we might well expect rates to go up far in excess of the 10 or 15 percent?

MR. MARSHALL: I said I expected rates to go up probably more than 15 percent in -- and just in reference to the gas case, the 8.7 percent increase would be an increase in rates of the gas option in comparison to the Orimulsion option. And if we refer to figure 4-1 on page 111 of document A-6, you can see that the chart on CO2 emissions at the bottom of the page and you can see that the -- in the base case the CO2 emissions on the gas case are at about 8.3 million tonnes. Under your hypothesis of reducing to 6.3 million tonnes, the gas case would also have to have additional reductions of 2 million tonnes which would have significant additional cost which would raise rates significantly higher than the 8.7 percent that we have calculated here.

MR. HYSLOP: You haven't done that calculation to this time?

MR. MARSHALL: No, I have not.

MR. HYSLOP: Thank you very much, Mr. Marshall. Just to get back to my question with regard to your 8.7 percent. That is based on the base case upward pressure on rates if we were to adopt the gas oil blend. Is that correct, Mr. Marshall?

MR. MARSHALL: It's a comparison from the Ms. MacFarlane's

financial analysis of the difference in rate impact of the natural gas oil blend case versus the Orimulsion case.

MR. HYSLOP: Thank you. Now dealing with some environmental issues, Mr. Wilson. And you may need some assistance perhaps from Mr. Brogan on some of this. It's my understanding that part of the application we are dealing with is to advance the time line on this project by one year, is that correct, to your knowledge?

MR. BROGAN: We plan to complete the project in November 2004 and the original conceptual designs saw the completion the fall of 2005.

MR. HYSLOP: So that your time line has been advanced one year, Mr. Brogan?

MR. BROGAN: Yes.

MR. HYSLOP: Yes. And I also understand that one of the advantages to improving that time line is a saving of approximately $100 million?

MR. BROGAN: That's correct.

MR. HYSLOP: So there is some sense of urgency I suggest to gaining all these necessary regulatory and environmental approvals?

MR. BROGAN: Well I think the urgency is that the earlier the project is completed, we do reap the -- both the environmental improvement and the economic improvements.

MR. HYSLOP: Sure. Now as I understand the status of some

things, Mr. Wilson, there is yet to be an application filed in relation to any pipeline, is that correct?

MR. WILSON: That's correct at this time.

MR. HYSLOP: Yes. The -- and that includes both an application to this Board and to -- for environmental approval, is that correct?

MR. WILSON: The -- any pipeline work is handled by the Public Utilities Board and as well as the environmental issues associated with that is through the same Board unless they direct it otherwise.

MR. HYSLOP: Right. And none of that process has been started with the environmental at this point in time?

MR. WILSON: That's correct.

MR. HYSLOP: And there has been no application filed with this Board?

MR. WILSON: That's correct.

MR. HYSLOP: And as I understand, Mr. Brogan, in fact although you are getting a little closer to it, you are not even sure which delivery option you are going to be using?

MR. BROGAN: We would hope to finalize the delivery options within the next two months.

MR. HYSLOP: And, Mr. Wilson, I would assume that until this issue is decided you won't be able to go forward with either the application to this Board or an environmental

assessment of the pipeline, would that be correct?

MR. WILSON: That's not completely correct. As we are doing with the whole refurbishment project, we are proceeding with environmental studies that we see that are necessary to be completed. So some work certainly can go on complementary with this process, which is what we are doing with the environmental impact assessment process either -- even prior to registration or following registration.

So there is usually -- in any project there is a number of things -- because of our history we have a fairly good understanding of what has to be done and certainly historically we have done that. We would apply and we would do the type of studies that are necessary that we felt to meet the requirements of any of those approvals.

MR. HYSLOP: And again, I appreciate -- if I can catch your answer, what you are telling me is we would be doing the preparation in order to file applications?

MR. WILSON: Yes. It's a little bit more than that. You know, it doesn't mean -- there is -- an application generally is a document sort of to register it but certainly at any point in time when we feel we have got a good understanding of what we are doing, we would put together the proper studies that would be necessary to

ensure that it's a good project and that we are meeting the proper environmental conditions associated with that project. So those can take place at any time.

MR. HYSLOP: I see. But you would not actually be filing applications until a decision had been reached on which delivery system would be used?

MR. WILSON: That would be correct, yes.

MR. HYSLOP: And the earliest that would be would be -- allowing two months would be late March or early April?

MR. WILSON: I'm going to have Mr. Brogan just address that one on the schedule issue again.

MR. BROGAN: I'm sorry, could you repeat the question?

MR. HYSLOP: I'm just saying based on your answer, that you expect to be two months finalizing negotiations on a delivery system, the earliest we can expect applications to deal with the pipeline and the environmental impact assessments would be late March or early April?

MR. BROGAN: Well it's the -- obviously we will have to make a decision on which delivery point. There is only one final item to be dealt with and that is the one single item that is taking two months. And in fact, we could make a decision almost immediately, although it does leave us with a balance of risk on this one final item. So it's our preference to complete the negotiations in total before we make the final decision, which will be about two

months, and then file.

MR. HYSLOP: Yes.

MR. BROGAN: Now in parallel with that, we haven't -- we are undertaking the engineering work, some of the environmental studies that we anticipate for both options. That -- and it's being done in a selective manner to keep pace with the schedule that we have.

MR. HYSLOP: Has there been any discussion to this point in time in relation to dates for the hearing before the Public Utilities Board, Mr. Brogan?

MR. BROGAN: Obviously we would hope to have those hearings this year and I think we had been anticipating in the summer. Can you add anything?

MR. WILSON: No, We haven't come up with a particular date on that.

MR. HYSLOP: There is no timetable then for dates and hearings in this regard to this point in time, Mr. Wilson?

MR. WILSON: That is correct.

MR. BROGAN: Could I point out as well, that -- just for the Board's information, on the critical path, we would not expect to begin construction at either delivery point until 2003.

MR. HYSLOP: You wouldn't -- that is on the delivery system. Mr. Wilson, under the Pipeline Act, I understand that once an application is filed, the application must be sent

to a

number of government departments for their view and consideration? Is that correct?

MR. WILSON: From the point of view of any environmental work that goes on that certainly we have been involved in, whether it is EIA work or whatever, the department sets up a technical review committee that would take a look at that, technical experts in the field that they would be interested in. So we would go to a number of people.

MR. HYSLOP: And the timelines on that are often a little bit difficult to be certain of, I understand? Would that be correct, Mr. Wilson?

MR. WILSON: Some timelines are established within different regulations. I can't specifically talk to this one. We found, generally speaking, that the department has worked well to try to accomplish what was necessary.

MR. HYSLOP: Now just a question. The point I am getting at is the -- there is some risk to the timelines with regard to the regulatory approvals that might be required in order to complete this project by November 2004?

MR. BROGAN: I would say we will need the approvals to proceed and achieve the schedule in 2004, yes.

MR. HYSLOP: Yes. And what would be the latest date that you would require all these approvals to be in a position to complete by 2004? Mr. Wilson?

MR. BROGAN: I don't think we have looked -- I will tell you

what our anticipated schedule is. We are hopeful --

MR. HYSLOP: I don't mean to interrupt, Mr. Brogan, but what would be the latest date you would have to have these approvals if you are going to meet your 2004 schedule?

MR. BROGAN: The -- for the project itself, the plant conversion, the latest date would be August of this year. For the pipeline it would be perhaps January, February of 2003.

MR. HYSLOP: So a year from now?

MR. BROGAN: Yes, for the pipeline.

MR. HYSLOP: Refer to exhibit A-11 with numbers, question for Mr. Thomas. Refer you to page 56. That is the -- that is a graph indicating the project costing schedule, the process.

MR. THOMAS: Yes.

MR. HYSLOP: And I am guessing, but you have got EIA July 02 and it would appear at that point in time there is a substantial increase in the capital expenditures relating to this project.

MR. THOMAS: Yes.

MR. HYSLOP: So in -- is it anticipated that some of these capital expenditures are going to be incurred prior to final regulatory approvals?

MR. BROGAN: I think the response was what is the latest we could receive the approval on the pipeline. And yes, it

is a year from now in order to allow the construction to proceed.

That is not -- we would expect to receive approvals prior to that. Now the process that we are taking here is basically it is one step at a time. The first is that we need to receive the output, the approval, a recommendation from this Public Utilities Board. That is a clear signal of whether or not to proceed.

And that point we would have to go back to our own Board of Directors, talk about the outstanding approvals at that time and make a decision on funding and the speed of expenditures.

As well by say March of this year we will understand very clearly what the delivery options are at which location we are going to. We will understand the integrity of the existing pipeline and whether or not it seems reasonable to expect to use that pipeline. Or whether or not we have to go with a complete new pipeline.

So we will take this one step at a time through the approval process.

MR. HYSLOP: Sure. And I appreciate that. But the point I am getting at, I am going to suggest to you that the ability to advance your schedule one year seems to be subject to a certain amount of risk in terms of timing and the final approval of a number of regulatory matters.

MR. BROGAN: That is correct.

MR. HYSLOP: Yes.

MR. BROGAN: The schedule is a concern.

MR. HYSLOP: It will be a tight schedule, I suggest, Mr. Brogan?

MR. BROGAN: That is correct.

MR. HYSLOP: And if the tight schedule isn't met, at the end of the day this is going to cost an extra $100,000?

MR. BROGAN: Well it would be $100 million.

MR. HYSLOP: $100 million, I'm sorry.

MR. BROGAN: If we lost the whole timeframe. Now the next -- as we look at the schedule, the next critical window would be that if we can't bring the plant into service in November of 2004, the next opportunity for us to complete the conversion would be April 1st 2005. So it is a step process.

The delay in the schedule doesn't mean you lose the whole --

MR. HYSLOP: Sure. There is a bit of a sliding scale there.

MR. BROGAN: Yes. But the first winter is important.

MR. HYSLOP: And the delay, worst case scenario if you were delayed a year, it would cost an extra $100 million according to the numbers you have given to us in terms of lost revenues?

MR. BROGAN: Yes, I suppose, yes. I am just not sure

whether the 100 million is based on 12 months or --

MR. BROGAN: It is a hundred million dollars for one year.

MR. HYSLOP: Yes. Thank you very much. Now talk about a document called New Brunswick Energy Policy, Mr. Marshall. Maybe you can help me a little bit here. I understand you are fairly familiar with a document that is commonly referred to as the New Brunswick Energy Policy. The White Paper.

MR. MARSHALL: Are you referring to the White Paper?

MR. HYSLOP: Yes.

MR. MARSHALL: Yes, I'm somewhat familiar with it.

MR. HYSLOP: I see you grinning. I understand you might even have had a hand in its authorship, would that be a fair statement?

MR. MARSHALL: I had made some comments on what was in the document, yes.

MR. HYSLOP: Yes. And one of the key components of that document is the intention and the intended policy of the Province of New Brunswick for the development of a competitive market place by April 2003 for wholesale and large industrial users of electric power.

MR. MARSHALL: Yes, that's correct.

MR. HYSLOP: And as I understand what that phrase means, the development of a competitive market, it would give certain industries and users the right to opt out from buying

their electricity from New Brunswick Power Corporation?

MR. MARSHALL: That's correct.

MR. HYSLOP: And they are able to go and look for the most competitive deal that they can find.

MR. MARSHALL: Yes. And I might add that that's subject to the condition that there is no cost shifting to other customers in the province.

MR. HYSLOP: Well that's good, because my next question was that if they exit New Brunswick Power they have to pay an exit fee for the stranded cost, is that correct?

MR. MARSHALL: The provision in the White Paper is that there would be a consideration of some type of an exit fee to cover stranded costs, if there were any stranded costs, that being to protect all existing ratepayers from any cost shifting that would go to them as a result of any customer that exited the system.

MR. HYSLOP: Yes. And look, that's well and fine and very good. Now one of the results of this project and presumably the Point Lepreau project, using the numbers, is we are going to be adding -- very rough numbers, but we are going to be adding somewhere around one-and-a-half billion to one-and-three-quarter billion dollars of debt to the New Brunswick Power Corporation's books.

MS. MACFARLANE: That's not correct. We will be spending on the projects a capital expenditure in that vicinity, but

as was indicated a few moments ago in answer to your question about our debt levels, by the period 2008/2009 we will be adding less than 500 million in debt.

I indicated in my evidence that you have to look both at the project spending and the cash flows that come subsequent to those to look at the total impact on debt.

MR. HYSLOP: And the amount of that 2009 was 464 million, I understand, Ms. MacFarlane?

MR. MARSHALL: Yes. And I might add to what Ms. MacFarlane just said that that level of debt by 2009 is under the assumption there are no rate increases, that that's the existing rate structure that exists today out to that point in time.

Currently today NB Power's rates are well below mark market prices and market rates in other jurisdictions and that our rates are beneficial to customers.

So even projected under that we would be out to 2008 with no change in prices in order to achieve the same level of debt.

Under those projections at this point in time it's unlikely there would be any stranded costs and it's unlikely that there are going to be many customers leave the system.

MR. HYSLOP: Well there is still extra debt and there is increased stranded costs if the debt is there, would that

be correct, Mr. Marshall?

MR. MARSHALL: No, sir. The question of stranded cost is -- stranded costs occur if the value of the assets cannot be recovered in the competitive market. If we can sell power into other markets and recover the money, the revenue that we lose from a customer leaving, then there is no stranded cost.

So with our cost structure being as low as it is on the generation side, then there is reasonable opportunity to recover those costs through the market place, and then in that case there would not necessarily be any stranded costs.

MR. HYSLOP: So you would anticipate, Mr. Marshall, that if large users were to leave there would be no exit charges that result to them?

MR. MARSHALL: At the current level of markets, at the current price cost structure that we have, that is possible. The issue is transmission access to these other markets and whether the market's prices change and whether we can recover that. So there are some variables involved, but under current projections right now I would think the probability of exit fees or stranded costs is low and the quantity would be -- would be reasonably low at this time.

MR. HYSLOP: And that's not withstanding the capital

expenditures in Point Lepreau and Coleson Cove?

MR. MARSHALL: That would be including those, yes.

MR. HYSLOP: Yes. And just -- I'm sure that will make our industrial users --

CHAIRMAN: Mr. Hyslop, I did hear Mr. Marshall say that that's one hearing the Board won't have to have. But I wonder where you are going with this?

MR. HYSLOP: I just have one or two more questions on that line.

CHAIRMAN: Okay. Let's wrap it up.

MR. HYSLOP: One quick last question, again since you alluded to the fact that the projections do not carry with it upward pressure for rates for eight years, the press reported this morning that in fact there would not be, if this went through, an increase in power rates for eight years. Can you unequivocally state that that's an accurate statement?

MS. MACFARLANE: I believe that was in the press yesterday as opposed to today. The statement that they were referring to was on the slide in exhibit A-11. They were looking at slide 50 in my presentation in making that statement. And slide 50 was intended to demonstrate the difference between rate impacts in the oil blend case and the natural gas oil case compared to Orimulsion. This slide was intended to demonstrate that this project will

have downward pressure on our costs. The other two alternatives will have upward pressure on our costs. It was not a statement that there will be no rate increases. There are many reasons for rate increases, but this project is not one of them.

MR. HYSLOP: So the press misinterpreted that document, Ms. MacFarlane?

MS. MACFARLANE: That's correct.

MR. HYSLOP: And to repeat my question, you can't unequivocally say today that there won't be rate increases over the next eight years?

MS. MACFARLANE: As I said, there are many reasons for rate increases and they may occur over the next eight years, but this project will not be a cause of rate increases.

MR. HYSLOP: So in answer to my question that there won't be rate increases, the answer is you can't unequivocally say that? Your answer would be no.

MS. MACFARLANE: That's correct.

MR. HYSLOP: Thank you very much.

MR. MARSHALL: And I would like to add to that that the issue on the market and the question of stranded costs, the market design committee is currently meeting and deliberating on those issues. They have yet to come to clear recommendations on a methodology to calculate and determine whether or not there would be stranded costs.

What I gave you is my projection at this point in time based on what I know of costs. But the methodology of how stranded costs would be determined, whether it would be an exit fee and how that would be done, is an issue that the market design committee is deliberating on. So that's an issue that's not yet known.

The other point relative to rates, there are issues that could -- as Ms. MacFarlane said, there are other reasons for rate increases. One possible reason for rate increases again is the government process on what they are going to do with NB Power assets and how they are going to go forward with that. We have yet to be informed of what they will do with the structure of the corporation. If their decisions to change the structure make us move to an equivalent private corporation with debt equity ratios and payments in lieu of taxes, those types of government decisions could also cause increase in power rates, even though our cost structure would not change.

So there are many other issues involved that could influence rates in the future.

MR. HYSLOP: If I can summarize what you have told me -- I know you have cut me off on the issue a little bit, Mr. Chairman, but I would like to tie it together.

CHAIRMAN: Not very effectively.

MR. HYSLOP: I'm not sure I have asked another question

though in fairness, Mr. Chairman.

CHAIRMAN: Ask your final question.

MR. HYSLOP: Mr. Marshall, if I can summarize what you have just said, is that at the end of the day you don't feel there is going to be any stranded costs and you don't believe that there is going to be any upward pressure to create exit fees to people who opt out of the NB Power system, is that correct? Is that a summary of what you just said?

MR. MARSHALL: I said based -- I think there is a low probability based on our current cost structure, based on current market conditions and projections and availability to market. But if there is a change in the corporate structure of NB Power as a result of the government process in review of the corporation which would cause an increase in the requirement -- revenue requirement to make payment in lieu of taxes, or do other things, then there could well be stranded costs. That would change effectively our cost structure.

So there are other factors that are there that depend upon the results of the current market design process, which is not concluded, and the current government study on what they are going to do with the assets of NB Power.

So those things have an influencing factor on power rates and on stranded costs.

MR. HYSLOP: So trying to summarize, you don't see any of this project, the Coleson Cove refurbishment, as being in any way in conflict with the New Brunswick Energy Policy.

MR. MARSHALL: No, sir.

MR. HYSLOP: Thank you very much. It might be an appropriate time for a break, Mr. Chairman.

CHAIRMAN: Okay. We will take our 15 minutes then.

(Recess)

CHAIRMAN: Any preliminary matters? Mr. Hyslop?

MR. HYSLOP: Mr. Chairman, Commissioners.

Ms. MacFarlane, if you could, I would ask that -- I refer you to page 127 of exhibit A-6. And at the same time, if I could also ask you to refer to exhibit A-7, which is PNB interrogatory 11 at page 15.

MS. MACFARLANE: I'm sorry. Could you repeat the second part?

MR. HYSLOP: Yes. It would be PNB-11 in exhibit A-7, page 15.

MS. MACFARLANE: Page 15. Yes, I have it.

MR. HYSLOP: Thank you. Ms. MacFarlane, I just want to look at some of the numbers. And looking at the cash flow analysis on -- first of all, just what they are.

The PNB-11 there is a Coleson Cove refurbishment payback analysis. It is a table inserted into the interrogatory response?

MS. MACFARLANE: That is correct. But I'm not sure that I have the correct reference in A-6. I'm looking at evidence of Jim Brogan on page 127.

MR. HYSLOP: That was page 120. And on page 127 of exhibit A-6, that is the -- page 120, it is the total debt, net debt which is a table which is inserted toward the top of the page?

MS. MACFARLANE: That is correct.

MR. HYSLOP: Now as I understand the payback analysis, this is a cash flow analysis that was prepared?

MS. MACFARLANE: That is correct.

MR. HYSLOP: And as I understand it, based on certain capacity revenues we can expect the cash flows that are highlighted in column D, is that correct?

MS. MACFARLANE: Yes.

MR. HYSLOP: And that would be the positive cash flows that are resulting in the years from 2004 through to 2010, '11?

MS. MACFARLANE: Yes.

MR. HYSLOP: And those are the extra cash flows that you say come out of the Orimulsion project, is that correct?

MS. MACFARLANE: Yes.

MR. HYSLOP: Now if I take those cash flows and I do a little bit of comparison, on page 120 of exhibit A-6, the third column is the increase and decrease in net debt for the years 2002, '3 through to 2008, '9?

MS. MACFARLANE: Yes.

MR. HYSLOP: Okay. So if I read these two documents properly, and I look at for example the year 2005 and '6, you are projecting a positive cash flow of $150 million?

MS. MACFARLANE: Correct.

MR. HYSLOP: And if I look at the debt repayment for the year 2005 and '6 there would be no increase or decrease in the debt in that particular year?

MS. MACFARLANE: That is correct.

MR. HYSLOP: And similarly in 2006 and 2007 you would have cash flows of $147 million?

MS. MACFARLANE: That is correct.

MR. HYSLOP: And you would have, according to your calculations, a debt repayment of $30 million?

MS. MACFARLANE: I'm sorry. I would like to correct that. This table on the top of page 120 is not indicating the increase or decrease in our debt.

It is increasing the change to the business plan that was tabled in appendix C that had indicated our eight-year projection with both projects with different estimates, with an estimate that Coleson Cove would come on line in November 2005.

With the project now coming on line in November 2004 the debt table is changed. So the increase/decrease referred to on the top of page 120 is not the increase or

decrease in the debt.

It is the change in the debt from the original business plan that was tabled to the project -- or to the business plan now that the project timing has been changed.

MR. HYSLOP: Okay. So on the basis of what you told me, for 2006, 2007 you would expect to be able to pay off $30 million more of debt?

MS. MACFARLANE: That is correct.

MR. HYSLOP: And in 2007, 2008 you would expect to pay off $32 million more debt as a result of --

MS. MACFARLANE: The advance in the schedule.

MR. HYSLOP: That is correct.

MS. MACFARLANE: That is correct.

MR. HYSLOP: Now the cash flows, your cash flows of $150 million, $147 million for 2007, 2008 are $143 million?

MS. MACFARLANE: That is correct.

MR. HYSLOP: Now -- and I appreciate that these are projections of the future and it is part of the change in the business plan.

If we were to be off 15 percent in the cash flow projection for 2006 and 2007, would the -- that would cause a reduction of approximately $20 million in your cash flow?

MS. MACFARLANE: That is approximately correct.

MR. HYSLOP: And if that was $20 million, the increase in the debt that would be paid off, instead of being $30 million would in fact be $10 million?

MS. MACFARLANE: That is approximately correct.

MR. HYSLOP: Yes. I'm just using approximations. And similarly in 2005, 2006 if the cash flows were $140 million we would have an increase in the debt of $10 million?

MS. MACFARLANE: Can you repeat that please?

MR. HYSLOP: Well, for example, in 2005 and 2006 if the cash flows came in at $140 million and not $150 million, the additional debt would be $10 million?

MS. MACFARLANE: That is correct.

MR. HYSLOP: Right. Now 10, 15 percent variations in cash flows, is that something that over the past has been something to -- that has occurred at NB Power, Ms. MacFarlane?

Have you had years when your cash flow projections would have been off by 10 percent?

MS. MACFARLANE: We have had situations like that.

MR. HYSLOP: Yes.

MS. MACFARLANE: But these cash flows are ones that are related to a project where the costs are stable and predictable. That is one of the advantages of the conversion to Orimulsion. The fuel price is stable and

predictable.

The areas in which we have had increases in or decreases in our cash flow, variability in our cash flow, have been related to issues like changes in weather and load, low hydro flows, operation of our nuclear facility, et cetera, not related to the operation of our traditional generation facilities and particularly not related to those priced on stable fuel prices.

MR. HYSLOP: Well, they would be directly related to the capacity factors and utilization that you outlined in column A on page 15 of PNB-11?

MS. MACFARLANE: That is true. But the capacity factors again in our traditional generation facilities, our conventional generation facilities have traditionally been quite predictable.

The conventional generation facilities are very reliable sources of power. And therefore the capacity factors are quite predictable.

MR. HYSLOP: They are quite predictable. But they could be off 10, 15 percent in a particular year based on weather forecasting, et cetera.

MS. MACFARLANE: Perhaps I could ask Mr. Brogan to speak more to that.

MR. BROGAN: No. Our conventional plants, and Coleson in particular, is -- you know, the negative aspects of

weather, that is a reduced load impact, reduced hydro flows which impact us significantly. But the generating facility itself is not affected by those influences.

MR. HYSLOP: That would be your production at Coleson Cove?

MR. BROGAN: Or any of our conventional plants.

MR. HYSLOP: But to get back to the analysis I have drawn, Ms. MacFarlane, you would agree if these cash flows are off, the application to the debt would be -- if we are 10 million off, the debt figure would change by 10 million?

MS. MACFARLANE: I would agree with that. But I would reemphasize that this is in a very predictable part of our operation.

MR. HYSLOP: I understand. You keep telling me that. But I'm just getting to the point that the 5, 10 percent can make quite a substantial change in the debt result?

MS. MACFARLANE: It can make a change in the debt result, yes.

MR. HYSLOP: Thank you very much. Do you have knowledge over the last five years what the total debt reduction at NB Power might have been from 1996 to 2001, Ms. MacFarlane?

If I indicated $423 million, would that be approximately correct?

MS. MACFARLANE: I believe it is in the order of half a billion.

MR. HYSLOP: Right. And would I be correct that approximately 1996 NB Power predicted that they would be reducing their debt over the next five years by $750 million?

MS. MACFARLANE: There was a business plan that was published in that period of time that would have indicated reduction of debt in the order of $750 million.

But as with any business plan it is based on the best information available at the time. It is based on, in our case, a wide variety of assumption about prices that are set on world markets for things like the Canadian dollar, interest rates, fuel prices, et cetera.

And in that particular business plan, as an example, the assumptions around the dollar, which were based on forward projections from markets at the time, were in excess of 80 cents. And we know that the dollar is now in the vicinity of 62 cents. That in and of itself has had a significant impact.

Business plans are put in place in order to project the future. What is important about business plans is your ability to respond to the changes that occur in your operations and in the market going into the future.

We are very, very satisfied and proud of the efforts that we have made on behalf of New Brunswick ratepayers and New Brunswickers in our significant debt reduction

over the last five years.

MR. HYSLOP: I'm quite proud of it too, that it has come down so far, 423 million. But the point of making is one of your statements in your answer was business plans or projections. And they are to be flexible to deal with new factors that come along.

Would that be a fair assessment of your statement, Ms. MacFarlane?

MS. MACFARLANE: That is correct.

MR. HYSLOP: And might I suggest that these cash flows and debt repayment schedules are meaning business plans?

MS. MACFARLANE: The table indicated on the top of page 120, as I indicated, has been drawn from our business plan.

But it does reflect, as it goes to this project, information that is very predictable based on historical results.

MR. HYSLOP: It is still a business plan?

MS. MACFARLANE: It is still a business plan.

MR. HYSLOP: And all business plans may adjust through time?

MS. MACFARLANE: That is very much the case.

MR. HYSLOP: Thank you.

MS. MACFARLANE: But as it goes to the portion of the business plan that is affected by Coleson Cove, we are very confident in our capital projections and in our ability to maintain these cash flows.

MR. HYSLOP: One of the issues relating to this project is -- and I would like to get a little bit of a feel from Mr. Brogan or from Mr. Marshall. NB Power's position that we have to meet the environmental constraints, would that be the position that we start from with regard to this project?

And I would like to read, if I could, part of Mr. Marshall's evidence yesterday. I'm reading at page 230 of the transcript. And it's in response to a question by Mr. Coon. And five lines down on page 230 you have made this statement, Mr. Marshall. "And as a system planner our obligation is not just to operate the system for tomorrow or today. But our obligation is to operate the system over the life of the project. And so we need to evaluate the economics and the targets over the life."

Would that be an accurate statement of your evidence yesterday, Mr. Marshall?

MR. MARSHALL: I don't have the transcript in front of me. But I trust you that's what I said.

MR. HASHEY: That's not the complete statement. There is another sentence that was followed.

MR. HYSLOP: Yes, there is another paragraph. I don't want to mislead him.

CHAIRMAN: Well why don't -- show him the transcript.

MR. HASHEY: I will give him my copy.

MR. HYSLOP: It starts about four lines down, Mr. Marshall.

MR. MARSHALL: Which page?

MR. HYSLOP: 230.

MR. MARSHALL: 230.

MR. HYSLOP: Five lines down.

MR. MARSHALL: Yes. Okay, I have it.

MR. HYSLOP: Yes. And just to read the rest of your answer, and I don't want to mislead so I will read the whole answer again. It reads, "And as a system planner our obligation is not just to operate the system for today, for tomorrow or today. But our obligation is to operate the system over the life of the project. And so we need to evaluate the economics and the targets over the life. So that is our projections for sulphur and nitrogen oxide limits in the near term, and that is why they are included."

That would be your evidence yesterday?

MR. MARSHALL: Yes.

MR. HYSLOP: And a clarification in that. When you use the phrase, we need to evaluate the economics and the targets over the life, would that also include emission standards over the life of the project?

MR. MARSHALL: Yes.

MR. HYSLOP: And would it be fair to say that in view of Mr. Brogan's answer there any need or requirement as a planner

to look ahead to how those emission standards may change?

MR. MARSHALL: Yes, that's what we have done. With respect to sulphur emissions we have had discussions with the Department of Environment. We have had clear indications on the 40,000 tonne requirement on Coleson Cove. We have had clear indications on the intent of the 30 percent reduction to 86,000 tonnes in 2005. And 50 percent reduction to 61 and a half thousand tonnes in 2010.

On the NOx level we have, as was discussed yesterday, the targets for reduction of NOx in 2007. And we set a projection of that target clearly at 30 percent reduction of NOx for 2007.

So those are the near term immediate -- more immediate requirements that we see on the -- on the system. So we have set those limits, and are evaluating projects against those.

In addition, we have looked at the CO2 requirements set by the governors and premiers at stabilization at 1990 by 2010. And a 10 percent reduction by 2020. And the energy emission rate for 2025 based on emissions per megawatt hour for the electric -- electricity generation sector. We have look at those emissions but, again, because there are no clear definitive mechanisms in terms of achieving carbon or how it would be traded or how it would be done, rather than include that in the base case

evaluations, we included the carbon emissions as a sensitivity. And have evaluated it in an emission trading case, in a stress case and other ways as to how we can deal with it.

We have shown clearly that we can achieve the 2010 requirements because they are more in the near term. And we have looked at the possibilities of how we might get to the longer term ones. So in that sense we have evaluated over the life of the project our projections of emission requirements.

MR. HYSLOP: So your view is that NB Power is attempting to look long term. Now I understand that there is suggested stricter standards for nitrogen oxide?

MR. MARSHALL: I think that was addressed yesterday by Mr. Wilson. There are draft guidelines out for nitric oxide emissions from new stationary point source guidelines that are federal guidelines. And they are out for discussion at this time.

MR. HYSLOP: And those standards would be reduction from .21 to a standard somewhere between .12 and .15. Is that correct, Mr. Brogan? I think that was your evidence.

MR. BROGAN: I think the current draft guideline which is out there is .21, and that is the target emissions level that we are designing for.

MR. HYSLOP: And there is new and modified standards in the

area of .12 to .15 that are under consideration for 2005?

MR. BROGAN: Well, I guess, let me back up. The current standard is .26 pounds per million BTU. The draft guideline which is out at the -- out now, sets it at .21 pounds per million BTU which we have adopted. There is, I believe, another undertaking put forward of further reductions next year. But that is -- has not been mandated, required. And, as well, that generally that would apply to a new source. Those are new source proposed guidelines.

MR. HYSLOP: Well in view of the anticipated standard, if you are a forward looking electrical power producer, which is what Mr. Marshall said you were, would you not be preparing plans to meet with the new guidelines?

MR. BROGAN: Our immediate objective is to address the emission rates as part of the environmental impact assessment. In the draft guidelines at the present time that target is set at .21 pounds. So we would like to come to an understanding as to what the emission targets are. And right now they are set at .21.

MR. HYSLOP: You have referred to some guidelines. These are draft guidelines for environmental impact guidelines, Mr. Brogan?

MR. BROGAN: Yes.

MR. HYSLOP: And I think the sentence perhaps you are

referring to is on these new -- new projects or a substantial modification of projects you are required -- I will read from it and you can confirm whether this is your understanding.

Demonstrate the ability of the proposed project to meet or exceed emission standards as proposed in the EIA registration document, namely 6 pounds per million BTUs for sulphur dioxide, 21 pounds per million BTUs for nitrogen oxide, and 2 pounds per million BTUs for particulate. Would those be the standards you are referring to, Mr. Brogan?

MR. BROGAN: Actually each one of them is at .6 pounds.

MR. HYSLOP: Yes.

MR. BROGAN: But, yes, those are the standards.

MR. HYSLOP: And this can go to either you or Mr. Wilson. And I understand that the other impact on it is that as part of your EIA you are required -- and I will read a little further, "To consider and discuss the feasibility and the options available to adapt converted facility -- converted facility to more stringent emission limits in the event they are revised in the future."

Would you understand that to be an accurate part of the guidelines, Mr. Brogan?

MR. BROGAN: That is correct.

MR. HYSLOP: Now if the guidelines are reduced for nitrogen

oxide from 21 parts -- .21 parts per million BTUs to .12 pounds per million BTUs, is there an option available for NB Power to deal with that?

MR. BROGAN: Yes, there is.

MR. HYSLOP: And that would be the SCR nitrogen oxide reduction?

MR. BROGAN: There is two possible technologies that we would pursue further. One is called SNCR, selective non-catalytic reduction. And the other technology is an SCR, selective catalytic reduction. So there are two more technologies we -- we could adopt.

MR. HYSLOP: And if I could refer you to exhibit A-7 and Province of New Brunswick interrogatory 85 at page 113.

MR. DUMONT: Could you repeat that please?

MR. HYSLOP: Yes. It's Province of New Brunswick interrogatory number 85 which would be at page 113 of exhibit A-7, Mr. Dumont. Do you have it, Mr. Brogan?

MR. BROGAN: Yes.

MR. HYSLOP: Thank you. And, Mr. Brogan, in the response in paragraph C you have indicated that the addition of an SCR would increase the current estimate to the project of being approximately $48 million?

MR. BROGAN: Yes.

MR. HYSLOP: Yes. So if these guidelines were to be implemented, the lower guidelines would be implemented for

nitrogen oxide, would that envision an additional $48 million capital cost for NB Power to meet the new standards?

MR. BROGAN: And you are suggesting the new standard might be what?

MR. HYSLOP: .12 -- .15, Mr. Brogan.

MR. BROGAN: We believe that would be our maximum cost.

MR. HYSLOP: Yes. So adding 48 million to 747 would increase the capital cost of the project to approximately $795 million.

MR. MARSHALL: Not necessarily, in that we do have approximately a $70 million contingency which we have for the project. At the present time we are near to completing the fixed price contracts at our budget estimates, and they total approximately 250 to $280 million. So that actually frees up contingency funds . There is no longer a risk because we have locked in almost 50 percent of the project costs.

So there are significant funds left within the contingency to address the issue of a new SCR or a new SNCR.

MR. HYSLOP: If these new guidelines in fact became described guidelines, would it be New Brunswick Power's intentions in view of the fact that you intend to comply, or do your best to comply with the future, would NB Power

go ahead with the additional SCR reduction?

MR. MARSHALL: Well if they are identified in the guidelines for the environmental impact assessment that's not our choice. It will be a requirement to meet those emission standards.

MR. HYSLOP: You mentioned other initials, SMCR. Just to educate me, Mr. Brogan. What is the "M" for or how does that work in?

MR. BROGAN: Okay. It's SNCR. It's selective non-catalytic reduction.

MR. HYSLOP: And the SCR conversion would be approximately $48 million. What would be the cost of the SNCR conversion?

MR. BROGAN: The SNCR would be less. I should -- I will defer that question to Mr. Thomas.

MR. THOMAS: Early indication for the cost of an SNCR would be between 10 and $15 million.

MR. HYSLOP: And would that have the benefit to reduce the standards to the .12 to .15, Mr. Thomas?

MR. THOMAS: It has some potential and again it's early in the process and we haven't found how we -- it will go in an SNCR.

MR. HYSLOP: Thank you. So we don't know if the SNCR could do the job or not.

MR. THOMAS: There is a possibility of a mixture, hybrid

system that may be involved, like a combination also of SNCR and SCR, which would have a smaller impact as well. But we haven't gone that far based on the expected targets at the time were .21.

MR. BROGAN: As well whatever mixture we use of technology we are confident we can meet those reductions at a $48 million cost.

MR. HYSLOP: Thank you. Now just one very quick point. Your answer to C on NBP -- or PNB 85. The first sentence says, "The initial cost estimates for SCR's and associated infrastructure was approximately $120 million."

MR. BROGAN: Yes.

MR. HYSLOP: I am going to ask you just to review some testimony you gave yesterday, Mr. Brogan. I am referring to page 300 of the transcript. Do you have a copy of the transcript, Mr. Brogan?

MR. BROGAN: Yes.

MR. HYSLOP: And approximately a little over half way down, Mr. Brogan, you stated, The initial or the estimates we received on the SCR came in approximately $150 million, and that was well above our estimates. Can you clarify which of the $120 million referred to in PNB 85 or the $150 million referred to in your evidence yesterday is correct, or if there is some explanation why different numbers might have been used?

MR. THOMAS: Let me clarify this. The process of the SCR, okay, when we went through the negotiation, we started with a open book approach in terms of the estimating cost. And at one point we received a reduction of around $120 million, okay, with the revised process.

However throughout further evaluation and further discussion we estimated that there was actually higher cost built in with the estimate. And this is why we have been able to, you know, bring the boiler cost on the budget through negotiation.

We went from an open book to a fixed price approach. So we estimate it is between 120 and $150 million, okay, approximately. That is the differential cost.

MR. HYSLOP: So the differential cost on this particular item, if it was to be put in, would be -- if it was $150 million we would be 20, 25 percent higher than we would be at $120 million, right, Mr. Thomas?

MR. THOMAS: On that particular estimate, again because it was very early on in the process.

MR. HYSLOP: Right. Is the correct number the evidence that Mr. Brogan gave yesterday, the $150 million?

MR. THOMAS: It is approximately between 120 and 150. We didn't further evaluate it. There is a difference between indicative price and getting into a firm price or close to a contract price. And I can assure that the 48 million is

the firm price.

MR. HYSLOP: The 48 million --

MR. THOMAS: Yes.

MR. HYSLOP: -- you are very sure on that. But the 120 to 150, you are not quite as sure on?

MR. THOMAS: Because of the different stage of the process of negotiation, it is in between there.

MR. HYSLOP: Thank you.

MR. BROGAN: This was a whole series of estimating, negotiations and changing from one technology to another.

MR. HYSLOP: Sure.

MR. BROGAN: At the end of the day we came to a technology which is the in-furnace modifications which we could install and do it within our $747 million budget.

Having made that decision, obviously we were able to then get more focused on what the size of an SCR would have to be in order to allow further reductions, which allowed us to get very clearly to the $48 million.

And if we do that we will still go with in-furnace technology as well.

MR. HYSLOP: It wasn't my suggestion that you were in any way misleading, Mr. Brogan. I just wanted -- I knew there would probably be an explanation. And I wanted the explanation. And I thank you for it.

Also just to tie it together, it would be your

position, if it was needed to use the SCR, which would add $48 million to the project approximately, it is your view that that would be handled within the contingency, Mr. Brogan or Mr. Thomas?

MR. BROGAN: I couldn't say that it will all be handled within the $70 million contingency. But I do believe a significant portion of it would be, could be.

MR. HYSLOP: So there would be some addition to the project cost if it was required to meet the future environmental standards to install the SCR?

MR. BROGAN: That is possible. But not the full 48 million.

MR. HYSLOP: Thank you very much. I have just another short line of questions. It will be a couple more minutes.

Mr. Wilson, if I might, the guidelines that I have just referred to, the environmental impact guidelines that were just discussed with Mr. Brogan, you are familiar with those as well?

MR. WILSON: Yes, I am.

MR. HYSLOP: Are they in any way related to proposed guidelines for 2005 from the Canadian Environmental Protection Association -- Agency?

MR. WILSON: There is a connection there. But I just forget the exact relationship.

MR. HYSLOP: Would these guidelines be the same guidelines being proposed by the Canadian Environmental Protection

Association?

MR. WILSON: The guidelines that you are speaking of is stationary source -- new source stationary guidelines which are federal guidelines which they in themselves are not regulated to -- for individual companies to pick up. And that is what has to be used.

It is a decision of the provincial government, as I understand it, to decide if that is going to be the rules that we follow when a new station is built.

So the guidelines -- and I believe you are speaking of the new source guidelines, stationary source guidelines. And those, when and if they do come out, there may be new numbers.

And they may come out in six months, a year or two years, whatever. And they could apply to new generating sources next year or the year after or whatever, depending on what the guidelines state.

And those guidelines of course can change over time, whether it is this year or -- and in a couple more years they can change again. And perhaps in another couple of years they can change. Because they would be reviewed regularly.

MR. HYSLOP: It is our understanding, and perhaps you could confirm and check for us that these guidelines will apply not just to new construction but new and modified

facilities, Mr. Wilson.

And could you undertake to check that and advise in due course whether we are correct on that understanding?

MR. WILSON: I can -- I can go back and look at the specific words. But what I would suggest is that it is really -- again my understanding is that it is up to the provincial government.

And in our case it would be the Department of Environment and local government who would be the group that would come up and decide on what it is the standards that we would have to meet.

And that will be all worked through through the EIA process, whether through the guidelines that will be coming out over time.

MR. HYSLOP: My question isn't so much as to what those guidelines might be. But the issue would be whether they apply to just new facilities or new and modified facilities.

MR. HASHEY: Mr. Chairman --

\ CHAIRMAN: Yes.

MR. HASHEY: -- it is very obvious that the Department of Environment are present and have been very active in this hearing in instructing my learned friend. If there are guidelines that he is referring to, why doesn't he simply produce them and show them to Mr. Wilson. Wouldn't that

simplify the process?

CHAIRMAN: I certainly -- I agree with you, Mr. Hashey. We are here to try and ferret out the facts.

And if you have sitting at your table, Mr. Hyslop, individuals from the Department of the Environment who are able to show that to the witness, well, please do so.

MR. HYSLOP: I won't go further with the questioning, Mr. Chairman. I'm hoping to acquire the specific document and take specific instructions.

And I would ask the Board's consideration, allowing me to reserve to come back only to that point.

CHAIRMAN: Either that or you might speak with Board counsel, Mr. MacNutt, who sums up.

MR. HYSLOP: Yes.

CHAIRMAN: And he can probably ask the questions for you, Mr. Hyslop.

MR. HYSLOP: Thank you. That completes the questioning of the Province of New Brunswick, Mr. Commissioner.

I would like to thank the members of the panel for their cooperation and assistance throughout. Thank you.

CHAIRMAN: Good. Thank you, Mr. Hyslop.

My sheet indicates that Mr. Dalzell for the Saint John Citizens Coalition for Clean Air would be the only other party that indicated that they probably would want to ask questions before Board counsel questions the panel.

Is Mr. Dalzell here today?

MS. FLATT: Sharon Flatt, Mr. Chair. Unfortunately he has been called back to work. And he was hoping that around 1:00 o'clock he would -- well, he figured for sure he would be here around 1:00 o'clock.

CHAIRMAN: Okay. Thank you. Mr. MacNutt, your job is a difficult one in that you have to complete the record for the Board. And you have to try and not duplicate what has been -- the questions that have been answered up until this time.

Would it be beneficial to you if we broke for a little longer at lunch to give you an opportunity to go back and review what has been covered and what you will need to cover later?

MR. MACNUTT: Yes, Mr. Chairman, particularly in light of the fact that Mr. Hyslop may have a question for me to ask and which I don't -- didn't exactly follow what was being done at the time.

So yes, additional time would be --

CHAIRMAN: Well, what we will do then is that we will break until 1:30, which is a two-hour break which would give Mr. MacNutt additional time.

And you can get in touch with Mr. Dalzell and tell him that we will be going at that time. And he can question the panel.

We will rise until then.

(Recess - 11:35 a.m. - 1:30 p.m.)

CHAIRMAN: Good afternoon, panel and ladies and gentlemen. Any preliminary matters? Yes, Mr. Hashey?

MR. HASHEY: Mr. Chairman, I believe there was one undertaking outstanding that Mr. Marshall could address.

MR. MARSHALL: Yes. It was the question on the source of the natural gas pricing information. And we have various sources.

One that we track on a daily basis is provided by CIBC World Markets Energy Update. It is a daily price sheet that we at NB Power get. It is provided by CIBC. I don't know if it is publicly available or just provided to their clients or whether we purchase it as a service. But that is one that we use.

But in addition to that I just want to reiterate that the pricing information provided was New York Mercantile Exchange Gas Pricing which is NYMEX.

That information is also publicly available in The Globe and Mail on a daily basis. It is quoted daily in The Globe and Mail. It is under NYMEX, U.S. Futures. And in today's version of The Globe and Mail you can get it on page B28.

And in addition to that you can get NYMEX gas prices on a regular basis at their website, www.NYMEX.com. And

you can look in the Markets section, settlement data, futures and options and get the Henry Hubb natural gas prices.

Now I'm aware we utilize -- on a regular basis people in our company get the CIBC World Markets Energy Update. And we monitor it on a regular basis to check gas prices.

CHAIRMAN: Thank you, Mr. Marshall.

MR. HASHEY: Nothing further, Mr. Chairman.

CHAIRMAN: Nothing further. Mr. Hyslop?

MR. HYSLOP: Thank you, Mr. Chairman. Just briefly in response to the answer to the undertaking, if I may, which price is the price that you were using for your December calculation?

MR. MARSHALL: As I explained earlier, you have to monitor the daily prices. You would take the last three trading days of the month, when you buy a future price for the next month. Many contracts are priced this way.

So the price for December is the average of the last three trading days of November for a futures contract for December.

MR. HYSLOP: So is it the average of several? Or is it the CIBC World Markets or the NYMEX U.S. futures?

MR. MARSHALL: It is the NYMEX U.S. futures.

MR. HYSLOP: Thank you very much.

MR. MARSHALL: Yes.

MR. HYSLOP: And the source of that is CIBC World Markets information?

MR. MARSHALL: Energy Update. We get on a daily basis.

MR. HYSLOP: Thank you very much.

CHAIRMAN: Any other matters? If not, Mr. Dalzell?

Mr. Dalzell, are you ready to go ahead, sir?

CROSS-EXAMINATION BY MR. DALZELL:

MR. DALZELL: Okay. Thank you very much. My name is Gordon Dalzell from the Citizens Coalition for Clean Air.

And with me today is Ms. Sharon Flatt who also is associated with our network as well as her own network of interest. And we will be asking some questions today to --

CHAIRMAN: Can you hear Mr. Dalzell --

MR. DALZELL: I will speak up a little more then. Well, what we would like to do is -- and I'm sorry. I do regret that I was unable to be here for part of the other questioning and the evidence that was discussed this morning.

But due to an opportunity -- employment opportunity came up. And I did not expect not to be here. But we are here now and will do our best to clarify and ask for some clarification on some of the evidence.

Well, perhaps we could begin in the evidence with respect to the A-6 which is the number of quantitative

claims have been made in respect to the Orimulsion and environmental advantages for it, the emissions rates to be reduced in the evidence in a number of sources.

It talks about NOx by 70 percent or better, SO2 77 percent or better, particulate by 55 percent or better. Basically these are claims we understand made by NB Power itself, quantitative claims regarding these emission reductions.

Now basically what we would like to know is where in the evidence is there that substantiates these claims? In fact how will NB Power technically be able to meet their own claims? We would like to ask a specific case where you could justify this.

And we want to see if we could, for the record, get some kind of indication where is the technical substantiation or justification for making your own claims that you have made in respect to those emissions. And of course keeping in mind the cost -- the cost input.

So I wonder if you could either explain how you are going to be able to guarantee? And how did you come to those? And where is the technical and evidence to substantiate those claims that you have made please?

CHAIRMAN: Mr. Dalzell, I think it would be helpful to the panel, if you are able to do so, to make a particular reference to the evidence --

MR. DALZELL: Yes.

CHAIRMAN: -- so that they can focus on, as you would call them, claims in that evidence.

MR. DALZELL: Yes. Well, in A-6, and I think it is appendix D, there is a number of -- there is a number of outlines where the claims are made. In fact they are made in the summary that was presented to us on Monday.

MS. FLATT: A-11 plus numbers.

MR. DALZELL: A-11 --

MS. FLATT: Plus numbers.

MR. DALZELL: -- plus numbers.

MS. FLATT: Slide 36.

MR. DALZELL: Slide 36 particularly. And those are the claims that I'm referring to.

MR. BROGAN: In our evidence -- all right. Could you tell me -- all right. This is in A-6, evidence of Mr. Thomas. And --

CHAIRMAN: What page, Mr. Brogan?

MR. BROGAN: On page 137.

CHAIRMAN: 137? Thank you.

MR. BROGAN: In table 4 we have identified the targets that we have set for ourselves for NOx emission rates compared to the actual situation.

For example, in nitrogen oxides the current emissions are 0.7 pounds per million BTU. Our target is .21. And

again for sulphur dioxide our target is .6 and particulates .02. Those are the design requirements of the project.

So number one, it is a requirement of our designers to meet those new emission levels. And at our current state of negotiations, within the contract -- there are performance guarantees in the contracts to meet those emissions rates or better them. And that would apply to particulate as well, if I missed that.

MR. DALZELL: Now the -- you mentioned those were the requirements and the performance guarantees. But considering that there will be, you know, millions of dollars to be invested in them, can you provide all the documentation or evidence that would be able to substantiate those types of claims, considering that they are going to cost millions of dollars to reach them?

We understand that you have made -- NB Power has made the claims. And the manufacturers are indicating that they will be able to meet them.

But in order to evaluate that, I don't see in the evidence or any materials or documentation or justification or technical reports that would say yes, this can be met, we actually have proof of it and we have had past experience and they can be met, there is no problem.

Correct me if I'm wrong. But I didn't see that in the evidence. And considering it is going to cost millions of dollars, I was kind of looking for something more substantive to review.

MR. BROGAN: I think the specifications that we have set for the project are not unusual in the industry. So they have been met before. And so it can be done.

I think where the issue of the targets and the absolute requirement to meet them, where we have to fulfil that obligation is that it is a requirement of the Environmental Impact Assessment that we put a project in place to meet these targets or better them.

So it is a must-do requirement. We must meet these targets.

MR. DALZELL: I guess the question is considering the, you know, amount of resources that would be mobilized to meet those.

Is that -- you know, is it a kind of an investment that is based on assurance and clear proof that those targets will in fact be met?

Do you feel that it is an industry standard? Do you feel confident that they will be met? There is no question that you accept?

MR. BROGAN: Yes. There is no question in my mind we can meet these standards.

MR. DALZELL: Yes.

MR. BROGAN: And in the event of any component not actually meeting those standards, we have made provision to backfit additional equipment if need be, you know.

MR. DALZELL: Yes.

MR. BROGAN: If the designers miss the target the first time around, our conceptual design allows us to make more improvements to ensure it meets the spec.

MR. DALZELL: Yes.

MR. BROGAN: For example, in the scrubber design, the standards that are being provided to us are in fact much better than we have set for the suppliers, so --

MR. DALZELL: Yes. In -- just to kind of continue with that, in our interrogatories, the first set, 7 -- number 32 of our inquiry, and I think it's --

MS. FLEET: A-7.

MR. DALZELL: -- A-7. Number 32 if you recall -- I would just like to lead a little more into this, if I could. This is the area about the SCR and the various control technologies to meet those standards that you -- that we asked for and you did answer.

Okay. Basically what we would like to know -- in all of the research I have done is -- and perhaps somebody here is more technically knowledgable can correct me if I'm wrong. But with these SCR technology, the NOx

emissions can be reduced by 95 percent. I understand it's a very high level of reduction when you are using the selective catalytic reduction technologies. And up until on or about October 22nd there was public information and comment, you know, on the open houses, that up until about that time the SCR was going to be one of the sources of control technology to be used.

But you have -- NB Power has since changed that technical instrument and is going to look at reburn and the NOx burners and other technologies.

Now when you look at what an SCR could do with such a substantial reduction, how do you know that the other lesser technologies, reburn and these NOx control technologies, can do the same thing.

And I guess the big question we have is even in your own evidence you say that if you cannot meet these standards -- on the next page. If you can't meet -- in the -- in unlikely event that the targeted NOx emission control is not achieved with this technology alone, then one would consider other mechanisms. And then you identify the SCR.

So I guess the question is from a cost point of view, it seems to me it's cheaper to plan and to put in place the SCR infrastructure and not have to retrofit and do it later. If you don't meet these standards, and you have

acknowledged that you are going to use the SCR, the concern about the millions of dollars that you would have to spend after the fact, and I -- from a cost efficiency point of view question whether -- that that's a big cost there that is not perhaps factored in. Because when you look at some of the cost analysis on the evidence, it doesn't factor in the SCR.

So the question is what are you going to do if you don't meet them. Are you going to put this SCR in and it is going to cost millions of dollars more? And is that efficient, you know, is that an effective way to plan, you know, financial resources.

So perhaps you could try to help me get an answer to that, if you could?

MR. BROGAN: All right. I will -- I will go back to our initial objectives in the conceptual design were to meet an emissions rate on NOx of .21 pounds per million BTU. And in that initial design, conceptual design, we had looked at or selected SCRs as the technology to meet that emissions rate.

The existing emissions rate at the facility is approximately 0.7. So we would take the rate from 0.7 down to .21. And the plan was to use SCR technology.

As we moved forward and developed the cost estimates on SCRs, they were extremely expensive. And we did talk

of numbers this morning in the range of 120 to $150 million.

So at that point we revisited the technology issue. Coming back to our fundamental goal was to achieve a reduction down to the .21 target. And it's at that point that we began to look at in-furnace technologies, reburn technologies, low NOx burns.

MR. DALZELL: Mmmm.

MR. BROGAN: And with that particular design in fact one of the benefits you just don't create NOx.

MR. DALZELL: Mmmm.

MR. BROGAN: Within -- the way it works is with in-furnace technology you just don't create the NOx so there is nothing to remove on the back end.

MR. DALZELL: Mmmm.

MR. BROGAN: SCR, we had initially looked at it as a little modification to the furnace. And we would create the NOx and simply remove it in an SCR.

However, based on cost it drove us to select the in-furnace technology. And one of the biggest cost drivers that we had was that from a conceptual point of view, or the conceptual design, the only obvious place to put the SCR was at the top of our boiler house or outside some place. Outside of the boiler house and masses amounts of ducting and steel. It was an extremely large structure.

And it was the structural steel that was increasing the costs of an SCR.

MR. DALZELL: Mmmm.

MR. BROGAN: So that was a cost driver and that is why we went back to low NOx burners reburn technology in-furnace. Now SCRs are a perfectly good technology, but it is an option that we could use in future to reduce the NOx emissions if necessary.

MR. DALZELL: Right.

MR. BROGAN: Existing draft guidelines have a requirement of .21 pounds per million BTU. We will achieve that with reburn technology. And now if reburn took us from .7 pounds to .21, and if you argue if you go from .21 to .15, we need a much smaller SCR. We actually referred to that as a trimming SCR. It still physically is somewhat difficult to get up into the boiler house. But the size of it, the weight of it is so much smaller that that could be put in place for approximately $48 million in cost.

MR. DALZELL: 48 million. So it would cost $48 million to install it later if it became necessary then?

MR. BROGAN: That's right.

MR. DALZELL: And had that amount been identified in the -- in the analysis, specifically the cost analysis in the evidence. I don't recall, I could be wrong and didn't -- I missed it. But that $48 million you have just

identified, was that in -- in the evidence where it talks about project costs. I notice in the project cost in the evidence there, page 57.

MS. FLEET: Slide 57.

MR. DALZELL: Slide 57.

MS. FLEET: Of A-11.

MR. DALZELL: Of A-11, thank you. In the project cost breakdown I notice there is no mention of the SCR, unless the contingency -- I'm not sure if the contingency is what you were referring to there in terms of that amount.

Could you -- could you clarify if you included that $48 million you just mentioned as part of the project cost breakdown in slide 57, which includes the SCR later if needed. I don't see it there.

MR. BROGAN: In the slide on page 57 --

MR. DALZELL: Yes.

MR. BROGAN: -- it does not specifically have a -- have a line item for an SCR at $48 million.

MR. DALZELL: Okay.

MR. BROGAN: Those are the cost estimates that we would need to install the in-furnace technology to meet the .21 pounds per million. Now the $71 million is a contingency fund that if it ever should need an SCR to meet the emissions, then some of the funding, the 48 million, most of that could come out of the contingency funds.

MR. DALZELL: I see.

MR. BROGAN: That is not identified as a specific line item for the project because the guidelines require us simply to be at .21 pounds per million BTU.

MR. DALZELL: I see. Okay. I just might just change -- shift just for a moment before we go back to the NOx and some other issues around that. But I thought perhaps I would just take a moment.

In evidence A-7, which is the supplementary interrogatories of our group there and the other evidence. A-7, number 33, the second set of interrogatories. And our group asks a number of them. This is about the LNG issue.

And as you recall we did ask and you did clarify in the answer, has NB Power had any discussions with Irving Oil in respect to recently proposed LNG facility, which is written there. And the answer in 2 is, yes, discussions at a very early stage.

Now in the other part of the evidence that was presented, it talked about the fuel delivery, the three options. Two of which are being considered. One was Canaport. One was Pier 10. And the other was the monobouy out at Coleson Cove. If I recall in the A-6 for the -- in the slides --

MS. FLEET: That's A-11.

MR. DALZELL: A-11, in that particular presentation it talked about two of them, Canaport and Pier 10 being considered.

Now, I guess the question is considering that this liquified natural gas project is described as a multi-purpose pier -- it is described as a multi-purpose pier, the question I have is do you -- does NB Power plan to enter into or arrange the Orimulsion fuel to be brought in by ship to the LNG multi-purpose pier, if and when it's ever built, and to use that infrastructure to bring the Orimulsion fuel in. Because I don't get a sense in the evidence that that is there. And it may not even be -- even being considered.

But I thought it might be important to ask if that is one of your plans or options. And if so, I don't see it costed in there or I don't see too much planning in respect to that. It may not even be an option. I wonder if you could comment on that? Thank you.

MR. BROGAN: All of the discussions around delivery to Canaport, all of those discussions involved using the existing monobouy. There is no anticipated use of the -- of new infrastructure in future. Now that may create possibilities in future, but the current plans are simply to go to the existing monobouy.

MR. DALZELL: Mmmm. So there is no consideration whatsoever

in respect to this application or this project in this evidence that would have anybody conclude that that would be an option. That you might in the future look at the Orimulsion fuel being brought in on this multi-purpose pier system. It's in the monobouy area that -- that you are considering.

MR. BROGAN: Yes. It is the monobouy that we are considering.

MR. DALZELL: Right.

MR. BROGAN: The only comment I could make is that if some year into the future new infrastructure was put in place at Canaport, that may lead to some discussions going to new infrastructure, whatever that may be. But everything today is based on the existing monobouy.

MR. DALZELL: Okay. Thank you. Regretfully, I did not have a great deal of time to study this letter, however, I did have some opportunity to read the part -- this is the letter which was from the Department of the Environment. I believe it's evidence -- the new --

MS. FLATT: A-13.

MR. DALZELL: A-13. Yes, A-13, reference. Now the -- I guess there is two kind of -- I guess I will stick to this one first. You know, you have set certain targets and certain objectives, you know, for emission reductions which are in the evidence. But considering that -- in

this letter on page 2 it says, The Department has not yet identified a specific approach to NOx reductions for New Brunswick. However, internal discussions are about to begin on accepting a path forward.

But considering that there are no -- I guess the question is how are you going to be able to plan for the future -- and you already are planning for the future in terms of reducing your emissions, right. But you don't really know yet what these new NOx reductions are going to be and of course you don't know, as none of us know, what the new federal government CEPA guidelines are going to be for NOx reductions. They are coming, I understand, June 1st in the Royal Gazette. From what I understand there will be new proposed federal guidelines for NOx -- guidelines for Canada.

So here we have a couple of examples where you really don't know what you are going to be facing, you know, in the future, but yet this plant is being planned and developed and looked at for a 30 year period into the future where obviously there will be new regulations.

So with all that money you are going to spend and with all these reductions you have targeted, how do you know they are going to be enough? I mean, could you reach a point where you could be faced with more regulatory -- more rigorous regulatory stringent conditions and you are

spending all this money setting these targets but is it wisely spent? I mean, could you be in a position that you might have to have spent more and you might have had to do it a little differently with the federal and these provincial guidelines?

So I'm just wondering in terms of about planning and a cost analysis did you really take into consideration, you know, the future and did you plan for the best -- or let's put it this way -- the worst case scenario that you might be faced with some very rigorous reductions?

So you put these targets in place but are they the right ones, you know, considering the regulatory future? That's what I'm trying to get at.

MR. BROGAN: Well there were a number of drivers that we recognize that we must reduce the emissions from the Coleson Cove facility. And have we selected the best targets? They are the targets that we believe we have to meet in future. And they are also the targets that have set -- been set in the guidelines for the environmental impact assessment.

MR. DALZELL: I notice you cited in the evidence of A-6 and -- the New England Governors, the Regional New England Governors, Eastern Canadian Premiers reductions, the 30 percent by 2005 as one of the drivers. It's in there. But I guess from our point of view is -- or what I'm

trying to find out is when you spend all this money to plan all this, is it -- you know, is it going to be money well spent to ensure that you are going to be able to comply with much more rigorous reductions? For example -- how do you know, for example, your industry may not be given a demand that says that each specific site will have its own reductions?

Right now your reductions are based on all the emissions from NB Power sources, you know, the whole -- all these generating sources. You have to have a certain kind of percentages. But how do you know in the future -- the next certificate of approval could say they will be industry specific. Like it may say Coleson Cove as a site will have to reduce its emissions by a certain percentage. Right now you have to reduce them within the whole framework of all your regulatory, all your emissions -- total emissions, right?

So I mean, there are a lot of ifs here and a lot of questions that you could be facing. And from a cost analysis point of view are you really sure that this is going to do the trick? I mean -- you know, spending this money and looking in to the future like we know?

MR. BROGAN: Well if you look at our existing operation and we will just focus on our fossil plants.

MR. DALZELL: Yes.

MR. BROGAN: At Dalhousie and Belledune, we have already installed scrubbers at those locations. And it is in our evidence -- and perhaps Mr. Marshall can try and find the actual emissions from each one of our facilities. But as he finds that what that chart is clearly going to identify is that Coleson Cove is our largest emitter.

And so there is -- in my mind there is no question that that is the facility that has to be targeted to reduce emissions. And it would be followed by our Grand Lake plant operation as a large emitter, certainly for the amount of energy that we get.

It is in exhibit A-6, page 84. So you can see in that chart, you know, in comparison to all the other operations the Coleson plant is the plant that we have to target. It is the big emitter. It's the one that has to be dealt with. And followed by Grand Lake because of its SO2 emissions.

The Belledune and Dalhousie operation are very good in comparison to Coleson.

MR. DALZELL: Yes. Okay. Now since you don't really know the actual real targets, you know, that you may be facing -- we have that in the letter. And we don't know what the new Canadian and federal standards are going to be but you are working under the existing framework, we believe that that's where the financial risk might be.

That there might be a financial risk to this. Because if this money is invested and it's not sufficient it could be a risky proposition because you would have to go back and spend a lot more money to meet these new standards. So do you believe that there is any financial risk that -- you are setting your own targets for your own industry which we understand are there. But it is kind of an iffy thing in terms of these new future regulatory standards and guidelines. And I'm just wondering if you believe there is any financial risk entering into a project that is -- has a lot of unknowns?

MR. BROGAN: I think the most important point is to recognize that if there are new standards that will be implemented or required at the station, there is technology, there are areas to improve the operation. And in NOx there is additional technology that could be used in the scrubber to reduce SO2 emissions. There are things that could be done even with the existing scrubber to improve its operation. And similarly for particulates.

MR. DALZELL: I would like to turn over the questions now to Ms. Flatt. Excuse me. Sorry. I will come back but I was going to ask -- Ms. Flatt would like to ask some questions and then I will come back and ask more questions.

CROSS-EXAMINATION BY MS. FLATT:

MS. FLATT: Thank you. Do you know if there is any validity

to the myth that time of breaking ground for the new project, you are only have to abide with the emissions that are set at that day, as far as NOx, et cetera? That is a myth I have heard going around.

MR. BROGAN: I think, Mr. Wilson, could you --

MR. WILSON: Maybe just a point of clarification here and I tried to clarify earlier but I may not have done a very good job of it.

There are various standards and federal standards that are established under certain guidelines, if you like. Like there is stationary source, there is standards for that and those tend to be federal standards.

And the rules that we follow come to us from the provincial government. And the provincial government is the ones that says to us here is the standards that you must follow or here is the rules of the road, if you like, as to what you must follow at that particular time.

Now any station that was being built, like a brand new station, you know, you look at the guidelines at the time and you say here is what you have to meet and not to use the old car analogy, but eventually you do fix things up to some degree.

But we can't forecast, you know, down the road, years and years from now as to what the standards are going to be and I assume that they will change over time.

But certainly what we believe we have in place now is a facility that should we be permitted to refurbish it, we can show there is going to be substantial reductions in a number of different areas that has to be good for the environment and has to be good for all of us.

And the standards that we would follow would be the ones that are established by the provincial government at the time when we get our approvals from them.

MR. FLATT: Thank you. Just one more question about this SCR. On slide 57, package A-11 with numbers -- no, excuse me, slide 16, plant layout. Where exactly did you envision the SCR to go in this layout if it were indeed necessary to add a piece of equipment at a later date?

MR. BROGAN: If you see number 3 on the picture, which depicts the boiler and at the top the black line indicates the flue gas exiting the boiler. So one of the options was to install the SCR at the very very top of that boiler depicted as item 3 and in the gas stream coming from the boiler.

There had been some consideration because of its size and weight -- I think some very preliminary work was done to actually physically locate it out over the top of item number 4 in the picture, which is an existing electrostatic precipitator. And we would physically mount it out over the top.

But the one that we ended up, the design was actually to locate it in the boiler house right at the top.

MR. FLATT: Would it be possible to retrofit an SCR on a working plant or would there have to be some sort of shut down at that time?

MR. BROGAN: If we had to retrofit, most of the work would be undertaken while the plant is operating and it would have a -- one unit at a time would have to be shut down for the interconnections to the SCR. And we don't anticipate that would be a very long outage. It would be done during our annual maintenance outages, the actual tie-in. So it would need limited down time on the units.

MR. FLATT: And the only other question -- go on about this issue, would be is there a price -- or do you know of a cost difference from putting the SCR on now or later?

MR. BROGAN: If we went now with an SCR we would not do the in-furnace technology. So an SCR at the present time for the project has a cost of from 120 to $150 million.

If we don't do the SCRs then we will do the in-furnace technology, which allows us provision to meet future standards by the installation of an SCR, but yet an SCR that is much smaller in order to meet the future standards. And that would have a cost of about $48 million.

MR. FLATT: So just for clarity, that would be slide 57, if

you added the SCR now, you would not spend the $184 million on your boiler modifications, you would spend closer to 120 on an SCR as opposed to after the fact you would add 48 million to an already spent $184 million boiler modification?

MR. BROGAN: I think we are trying to make the answer too complicated for you.

As our discussions this morning said an SCR at increased cost 120 to 150 million, but really if we back out the in-furnace technologies, that would end up being likely a ballpark estimate $100 million extra.

MR. FLATT: Thank you. If we could refer to A-7, again the Saint John Clean Air Coalition's section, page 10, this question referred to evidence by Jim Brogan regarding where he said that NB Power has a high degree of confidence that BITOR would be a reliable supplier. In the question we asked how exactly you could justify this confidence in light of several things that are going on at the moment, including world events, intense weather conditions related to climate change, political or social unrest in the country of fuel sources. This one in particular I was quite interested in as your response was c) due the importance of Orimulsion exports to Venezuela, NB Power would expect any future government to do everything in its power to maintain reliable deliveries of

fuel. When asked what studies, if any, have been done to test this confidence, you answered that no studies had been conducted.

I took the liberty of doing a bit of research and I am wondering if NB Power is at all familiar with recent CNN news item that came across the wire in January regarding Venezuelans leaders allies attack law makers?

MR. BROGAN: I have not read it.

MR. FLATT: No. Perhaps Venezuela oil and energy article came out a year ago entitled "Oil suppliers in crisis"? No?

MR. BROGAN: No.

MR. FLATT: There was an article -- perhaps you are familiar with Capitalism magazine, an article entitled "A recipe for economic collapse in Venezuela - Hugo Chavez's anti-capitalist philosophy"?

MR. BROGAN: No, I am not familiar with the articles. However, I can relate our own experience over the past two decades.

Venezuela has always been a significant supplier of fuel to Coleson Cove. And some information we have provided in the last five years, 50 percent of our fuel has come from Venezuela for the Coleson facility.

And we have never suffered any disruptions in that fuel supply.

MR. FLATT: Okay. I wanted to ask some questions in reference to the CCNB number 2, the Orimulsion fuel supply agreement.

MR. BROGAN: Could you give me the reference again please?

MS. FLATT: CCNB-2. It is the Orimulsion fuel supply agreement.

MR. BROGAN: Which exhibit number?

MS. FLATT: CCNB-2.

CHAIRMAN: Interrogatory. And that would be in what, A-7?

MS. FLATT: It was an exhibit that was offered by the Clean Air Coalition and passed out --

CHAIRMAN: Oh, I see.

MS. FLATT: -- yesterday.

CHAIRMAN: What number was that, Mr. Coon? Do you remember?

MS. FLATT: CCNB-2. In paragraph -- or section I guess 1, halfway down it says "Associated with the conversion would be the installation by buyer of a suitable air quality control system to reduce plant emissions as required by the Province of New Brunswick or other governmental authorities with jurisdiction in said province."

My question was that if the pollution control equipment chosen does not adequately control emissions to satisfy the standard of the day, for example the new NOx numbers of possibly .12 to .15, would NB Power be bound in any way by this contract to improve their emission control

systems?

MR. BROGAN: The authority here in New Brunswick to set those standards are the Province of New Brunswick. And those standards will be set as part of our obligations under the Environmental Impact Assessment.

MS. FLATT: Okay.

MR. BROGAN: So that will satisfy this clause --

MS. FLATT: That will --

MR. BROGAN: -- of the contract.

MS. FLATT: Okay. At the end of that same section it says "Further, buyer intends to make life extension investments considered necessary to enable the plant to operate on a base loaded basis."

My question is what are life extension investments? And do they cost anything? And did you factor those costs into the cost of the project?

MR. BROGAN: Yes. There is a cost. And it has been provided in our evidence. I think it was in -- I think it is in my evidence.

It is in document A-6, page 128. And the table at the bottom shows our estimated costs for life extension are 126 million.

MS. FLATT: Thank you. One more question in regards to the fuel supply agreement. In section 4 of that agreement, Quality, "Detailed specification for Orimulsion will be

provided in appendix A of the fuel supply agreement. Seller would be obligated to deliver Orimulsion meeting this specification."

A question that came to mind when I read this was, is there Orimulsion currently available of higher quality?

MR. BROGAN: I'm not aware of that. The standard formulation is a mixture of 70 percent bitumen and 30 percent water.

And that is what we are using at our Dalhousie facility. And we would use the same product at Coleson Cove.

MS. FLATT: So the quality wasn't actually referring to the amount of DOCs, heavy metals or anything like that that was in the formula?

MR. BROGAN: I'm not sure what is all within the specifications. It would certainly include items such as BTU content of the fuel, the heating value of the fuel.

MS. FLATT: Right.

MR. BROGAN: But I don't know what else. It would include likely vanadium content.

MS. FLATT: Yes.

MR. BROGAN: But I'm not sure what else.

MS. FLATT: Thank you.

CROSS-EXAMINATION BY MR. DALZELL:

MR. DALZELL: Just in respect then to the A-7, the

interrogatories, the first set, November 20th, A-7, Clean Air Coalition number 10 there in respect to references to climate change and impact on fuel delivery and infrastructure there, and the direct evidence of Mr. Brogan, page 132 there, lines 6 to 9, where the -- how can this confidence be justified in respect to -- we asked about intense weather conditions related to climate change.

The question I would like to ask in respect to that, you mentioned in your answer "NB Power is not aware of any intense weather conditions that would threaten the reliability of Orimulsion fuel supplies."

Just a supplementary question in respect to that. NAFTA recently released under the North American Commission on the Environment a report, a financial analysis report. It was not an environmental written report but one on the financial impact on NAFTA and environmental impact on climate change.

And in that report, which was just made public recently, it does raise very significant predictions and questions about economic damage that is expected to result from climate change in the future.

It talked about infrastructure damage, economic damage from droughts, from high seas, storm surges, et cetera. And it even cites the Bay of Fundy. This is not an

environmental report written by environmentalists but written by financial experts under NAFTA.

So in respect to that do you still, from the evidence there, do you feel confident, as you mentioned there -- of course that report wasn't out when you answered that question.

But do you feel confident that in light of that report, that it is going to predict damage because of climate change, that the infrastructure, the facility itself that is being proposed over the next 30 years could be damaged, could be harmed and damaged?

And what adaptations -- or what are you going to do now, from a financial planning point of view, to protect the facility, to make sure it is not damaged from expected damage from weather systems, intense weather systems?

Because we know in 1977 with the Ground Hog storm, when I was down there for a tour, one of the officials explained that boulders literally were flying literally over the breakwater into the parking lot. And I understand there was damage to the facility.

So the question is, from a financial point of view here and a financial risk management point of view, where is the evidence or the materials that will give the public some reassurance that this facility will not be in fact compromised by what is expect to be intense weather events

and storm surges and damage? That is the question.

MR. BROGAN: Well, we -- at the Coleson facility, you are correct, we have had some vicious storms on the site and some bad experience. And I think the Ground Hog gale was one.

MR. DALZELL: Yes.

MR. BROGAN: However even a storm of that magnitude doesn't do permanent harm or damage to the facility. With the design of that particular plant, the worst exposure that we have would be of flooding in the basement.

Now obviously that causes you operational problems. But they are very short-term problems and was provisions to keep the basement pumped out and dry.

As well, any additions that we are making to the facility are being designed to the current standards. And in fact is one of the -- perhaps one of the items that drove up the cost of the SCR, you know, the structural requirements for that building.

MR. DALZELL: Yes. For example you say you are planning it for the current standards. Again from a financial risk point of view, what if these standards are changed, i.e., you know, engineering standards or other national standards that might be put in place, as more evidence comes in about the impact on the seacoast with climate change?

Again, is it -- you know, can you still continue with that confidence, knowing what we might know 30 years from now?

Because the facility is going to go for 30 -- you know, quite a long time. And by that time there could be more standards, tougher standards. And we could be dealing with some pretty tense weather conditions, you know what I mean.

It is better to plan for the worst again now and tell everybody what it is going to be? Or do you have to adapt and spend more money later to deal with these new standards later?

MR. BROGAN: Assuming new standards to deal with weather conditions, they would apply to any facility, whether that is a converted Coleson Cove station or a new combined cycle gas plant.

MR. DALZELL: Yes.

MR. BROGAN: So any operation could be subjected to more intense weather conditions and the requirement to potentially backfit additional reinforcement to the facility, to sustain that.

I believe the approach that we would take is monitor the situation and make judgments over the years as to what has to be done to ensure the integrity of the facility.

MR. DALZELL: Yes, of course.

MR. BROGAN: And that applies to any of the facilities we have.

MR. DALZELL: Yes.

MR. BROGAN: And the next new facility the same concerns apply.

MR. DALZELL: But considering what is now known and even more recently reported, that it is anticipated that there will be storm surges, high tides and intense weather conditions, it would appear that it would be reasonable to plan and -- financially plan and have the cost pretty well factored in, considering what you are going to possibly have to face.

And I don't see in the evidence or in the materials any type of cost analysis or breakdown on the money that you might have to be forced to spend later. As you say, you are going to evaluate it as conditions unfold?

MR. BROGAN: We have no information or no knowledge that clearly the intensity of the storm surges in the near term, the next 10 years --

MR. DALZELL: Yes.

MR. BROGAN: -- 15 years are that dramatic. We just do not have information that says very specifically this is what has to be dealt with.

MR. DALZELL: Yes.

MR. BROGAN: Now in our case and just looking at the Coleson

Cove design, those storms are -- it is just a question of breakwaters and being able to control the water, the storm surge.

Because we can take a significant amount of water in our basement before it causes operational problems.

MR. DALZELL: Yes. Would it be reasonable to ask NB Power to -- if through your resources you could get a copy of that recently-published NAFTA report -- it is quite a very comprehensive document -- and make it available or at least to make a commitment yourselves to study that? Or could it be made available to the Board or to others? Would that be reasonable?

Because I believe in reading or looking at that report and hearing some of the media comments about it, that this new information about the Bay of Fundy is rather frightening. I mean, it made the headlines. And I haven't read the report, to be honest about it.

But I'm wondering if you and NB Power and the Board might find it of importance. Because their adaptation is considered to be what people -- what organizations are going to have to do in the future to adapt to this.

It is quite a report. And it does specifically talk about the Bay of Fundy which is quite of course immediately adjacent to the facility there. So I just thought I would raise that.

Because that has raised some concerns in our mind about it and about how this facility is going to be able to weather it and how much money was planned to protect and to ensure it is not harmed or damaged if you are going to -- I'm not sure if it is appropriate to ask for that report here. I'm sorry.

CHAIRMAN: Mr. Hashey?

MR. HASHEY: No. I would think this probably should worry the Province of New Brunswick significantly, the City of Saint John, St. Andrews, all the other places along the bay, if there is such a report.

Unfortunately the parties have had an opportunity to put in evidence. We have been generous I think in not trying to restrict anything from being put before the Board.

But this really is getting into an area that has not been given an opportunity to prepare. And I don't think it really is relevant to this hearing or should be considered.

CHAIRMAN: Now that is the purpose of the interrogatory process, so that you can put the question and ask NB Power to file in response a copy of that report and then question at the time.

Now you are a layman. You are not a lawyer. And I appreciate it.

MR. DALZELL: Yes.

CHAIRMAN: But I think you should probably get onto something else.

MR. DALZELL: Yes.

CHAIRMAN: I'm going to add one thing. I hope that, looking at CCNB-2, that whoever does the editing for the Power Corp. realizes that Saint John is spelled "Saint John". They are all from Fredericton.

MR. DALZELL: Of course we understand that point, regretfully that report was not available to, you know, enter into evidence or to refer to at the time. It was just recently publicized a couple of weeks ago. Okay. There is just -- one question just perhaps -- it may not take too long to -- for this answer, but it is more or less just a quick clarification.

Mr. Brogan, you referred earlier there -- in testimony there -- a few minutes you referred to emission reductions set out in the guidelines for the environmental impact assessment for Coleson Cove. Now are these not in fact the targets that NB Power proposed itself when registering the project for an EIA?

MR. BROGAN: Yes. In the work we had done where we try and anticipate what the future requirements are for the emissions reductions, we identified the need to go to those emissions rates and we provided that information and

in a draft guideline that -- those same targets exist in the draft guidelines. But the final decision on the draft guidelines obviously rest with the Department of Environment.

MR. DALZELL: Thank you. That satisfies that question.

Just in terms of the process, will this be the only opportunity we would have to ask questions or will there be other times during the hearing to be able to ask questions? Or is this the end of the opportunity, Mr. Chairman?

CHAIRMAN: I'm sorry, this will be your last shot.

MR. DALZELL: Okay.

CHAIRMAN: That's subject to a couple of other things that might occur but -- and you can address the Board as well in summation. But this is the time to question NB Power.

MR. DALZELL: Yes. There is one final question. I'm not sure if it's going to be within the prerogative. And you could correct me, Mr. Chairman, if it isn't an area of the Board's interest.

But in terms of Mrs. MacFarlane's evidence there in A-6, the main evidence produced, I was -- in terms of the cost -- reading this material and studying it there, the whole area of cost analysis -- I just -- perhaps you could clarify just for interest. I noticed in the cost analysis aspect of your study you didn't include -- and perhaps it

wasn't appropriate to be included -- any other externals. Like for example, health cost analysis. For example, we know -- for example, whenever there is a standard or an environmental control technology there is an outcome. And we know there is a link between more stringent standards and more stringent technology. There is going to be less pollution and consequently more health protection. There is a relationship, you know, between the pollution and health and air quality.

But I noticed in your analysis there you didn't seem to include any type of analysis or impact on health care costs, depending on what technology was going to be used or how this project was costed out. For example, the tighter the reductions are -- the more stringent the reductions, the less pollution, the more health protection. And of course -- I suppose the higher the pollution -- higher the levels of pollution the more health -- negative health impact. I think it's generally -- there is a link there.

But I noticed within your study -- and I did ask for some question which was answered. But could you tell us why perhaps you didn't include that in your very comprehensive analysis on the financial study of this project, other externalities, like health impact or health -- have health economic specialists look at this too in

terms of looking at the real cost of this project?

MR. MARSHALL: I believe that's actually addressed in my evidence and some interrogatories. The -- that issue was raised at the generic hearing. Our position is that the Department of Environment and other regulators set the standards that are required in order to protect the interest of public health and of society. And our obligation under the Electric Power Act is to meet those standards that are laid down for us. And as we project to the future are required of us. And that's what we have done.

And I might refer you to the response to your interrogatory number 12 on page 12, would be Saint John Coalition on Clean Air. And the quote from the July 11th decision from the generic hearing where this Board agrees that an evaluation of social policy and health issues is most appropriately carried out by the government departments with the statutory mandate to set the policy direction in those areas.

We agree with that position and that's an issue then for the Department of Environment and Department of Health and others. And our mandate is to then adhere to those standards. And that's what we have done in all of our analysis in this case.

MR. DALZELL: Thank you very much. And that does conclude

our questions. Thank you very much.

CHAIRMAN: Thank you. We will take a 10 minute recess then.

(Short recess)

CHAIRMAN: Thank you. Now the important things have been looked after. We all have water. Mr. Hyslop?

MR. HASHEY: Could I have a moment --

CHAIRMAN: Oh.

MR. HASHEY: -- please, Mr. Chair. Two points of order. One is the question about Intervenor statements. I'm not sure that we have satisfied that. And I'm wondering if it would be appropriate to address that now as to whether that should be at the end of this afternoon or Monday possibly even.

CHAIRMAN: Well my understanding is there are some folks here who would like to address the Board. And whether or not they are formal or informal Intervenors, I don't know. But I think the Board's approach, subject to what counsel have to say, is that on the close of evidence this afternoon if somebody wants to just address the Board then we will give them the opportunity to do so at that time. But we will insist on the close of evidence. And if there is anybody else who has been missed in this process, if they wish to attend on Monday when we adjourn for summation, why then we can work them in then, Mr. Hashey.

MR. HASHEY: Thank you, Mr. Chair.

CHAIRMAN: Okay. Do you have any other matter?

MR. HASHEY: Yes. The second area which is leading to Mr. Hyslop. Mr. Hyslop has consulted with me and with our team concerning a document that was issued late yesterday that no one really has had a long chance to examine. It is the guidelines for an environmental impact assessment, Coleson Cove Generating Station Refurbishment.

I have indicated to Mr. Hyslop there is nothing that we are trying to hide here. I think that what has -- that we were speaking of this morning that we were -- when I objected to a reference, I thought I was dealing with the federal guidelines which apparently aren't fully written. But I guess to put the positive spin on this document it's a document that has been issued to show that the environmental process is moving ahead rapidly as well, which is good.

With that -- in light of the fact that when the questions are asked, in fairness there has not been an opportunity for the appropriate officials to study this brand new document. It's dated January 15th. Today is the 16th. But subject to that, I have no problems with this Board obviously having the document or any document. And similarly to have a few questions asked to our panel by Mr. Hyslop but with that caveat, that it's a little bit difficult.

CHAIRMAN: Yes. Has the panel had an opportunity to see it?

MR. HASHEY: Yes. But just during the break, you know. Really that's --

CHAIRMAN: All right. I think this would -- I presume, Mr. Hyslop, that is what you wish to address?

MR. HYSLOP: It's good to have the rebuttal, Mr. Chairman, before the motion. But I have consulted with Mr. Hashey. In fact, if I might make a preface, Mr. Hashey's wizardry as one of New Brunswick's leading counsel has been very much impressed on me. I understand this document was prepared last night and the first copy of it, in fact, was delivered to NB Power. And we had to go through quite a bit of requests this morning to obtain it ourselves. So I'm not sure how Mr. Hashey -- his backroom wizardry I can only suggest is exemplified here.

But in any event, Mr. Chairman, what we spoke to this morning was a document which had been released on November 15th, which was the draft environmental impact guidelines for this project from the Department of the Environment.

The document which we propose to introduce as an exhibit into evidence is a document entitled "Guidelines for an Environmental Impact Study Coleson Cove Generation Station Refurbishment" and it's dated January 15th 2002. So this would be the document that was finalized from the draft document I was speaking to this morning.

And I believe with the consent of all parties it would become an exhibit.

CHAIRMAN: Yes. I presume no one has any objection to that being admitted. And that would be PNB-1.

Have you been able to provide a copy to the other Intervenors as well, Mr. Hyslop?

MR. HYSLOP: Yes. I will arrange more copies. We made 25 and I think everybody has got one.

CHAIRMAN: I'm just thinking that the other participants, for instance Mr. Coon, might also wish -- he has got one, that's good.

MR. HYSLOP: He has got one.

CHAIRMAN: Yes. Mr. Dalzell indicates he has. Okay. Sorry, go ahead.

MR. HYSLOP: I believe -- I believe that everyone received one, Mr. Chairman.

CHAIRMAN: Good.

MR. HYSLOP: And if not, I will ensure that they do. Just a couple of very brief questions arising out of this, perhaps directed towards Mr. Wilson and/or Mr. Brogan.

And I would refer to, first of all, Mr. Chairman, have we assigned an exhibit number to this?

CHAIRMAN: First one.

MR. HYSLOP: Thank you very much. Referring to PNB-1 and page 13 of 16 relating in section 4.1, impact on air

quality.

Now with respect to the first sentence in paragraph 2 -- first of all, just to back up. I understand that this is the directive from the Department of Energy or Department of Environment whereby NB Power is to present a environment impact assessment and study report back to the department. Would that be correct?

MR. BROGAN: Yes, I believe so.

MR. HYSLOP: And this document outlines the standards and the requirements to be contained in your report?

MR. BROGAN: It does, yes.

MR. HYSLOP: And with respect to the second paragraph under part 4.1 it indicates that NB Power is required to demonstrate the ability of the proposed project to meet or exceed emission standards as proposed in the EIA registration document, namely, .6 pounds per million BTU of SO2. .21 pounds per million BTU of nitrogen dioxide. And .2 pounds -- .02 pounds per million BTU for particulate. And explain why NB Power proposes these limits.

And I -- up to now I was under the understanding these were set standards that had to be met. Would I now be correct in suggesting that these are standards that have to be justified by NB Power and then be met?

MR. BROGAN: Sorry, that have to be justified?

MR. HYSLOP: Have to be explained.

MR. BROGAN: Yes, that's right.

MR. HYSLOP: So in actual fact -- and I appreciate that I represent the Department of the Environment and they have set different standards. But there is always some chance or risk that the standards at the end of this assessment may be lower than those set out in paragraph 2 of section 4.1?

MR. BROGAN: Yes. That's right. The Department of Environment have the authority to set the standards.

MR. HYSLOP: Okay. I also note that the -- you have to give consideration to meeting standards met by a number of other protocol and/or regulatory agencies, one of which is Thermal Power Generation Emission National Guidelines for new stationary sources under CEPA.

MR. BROGAN: Well, yes, those are for a new power plant.

MR. HYSLOP: Okay. Thank you. I do suggest that and would like to -- if the standards set for NOx were reduced to .12 to a .15 pounds per million BTU, I want to clarify that in fact you would have to add the SCR nitrogen and oxide NOx controls?

MR. BROGAN: Yes, that's correct.

MR. HYSLOP: And that's the item that would cost an extra $48 million?

MR. BROGAN: That is correct, up to 48 million.

MR. HYSLOP: Yes, as we discussed. Thank you, Mr. Chairman. They are my questions arising out of the document. And I thank Mr. Brogan.

CHAIRMAN: Okay. Mr. Coon, do you have any on this at all that are -- you don't have a mike?

MR. COON: No, that's okay. I don't.

CHAIRMAN: Well Mr. MacNutt will pass that back. Thank you, Mr. MacNutt.

MR. COON: We are sharing mikes. Just one quick clarification, Mr. Brogan, or someone else on the panel. The Thermal Power Generation Emissions National Guidelines for new stationary sources under CEPA, it's my understanding that they would apply to a refurbished Coleson Cove Power Plant, or any refurbished power plant. Is that true?

MR. WILSON: That may be the case. It's not necessarily so. As I said these are federal guidelines that are established. And that while they work through the EIA processes to exactly what gets rolled over into the requirements for the new -- our refurbished facility.

MR. COON: So you are under -- so your understanding is that these may be applied in New Brunswick by the Department of the Environment to a refurbished Coleson Cove?

MR. WILSON: That's correct.

MR. COON: But may, you are not --

MR. WILLIAMS: That's correct, yes.

CHAIRMAN: Thank you, Mr. Coon. Mr. Dalzell, do you have any specific question in reference to this document?

MR. DALZELL: I did notice in reading the list that on page 24.1 on impact on air quality, it lists a number of the agreements or undertakings. But I notice there is no reference to new proposed federal guidelines for NOx emissions which I understand the federal government are about to register in the Royal Gazette. And there is no reference there to those, although they do cite other agreements or plans for the future. I'm just wondering why -- perhaps I should be -- I'm just wondering if this means that the new NOx, federal NOx agreements -- sorry, new federal NOx guidelines will not have to be considered. They are coming. But they are not in regulation yet. I'm just wondering if the proponent would have to include those as well?

CHAIRMAN: Mr. Dalzell, I don't know how the panel can comment on the basis of something which has not get been Gazetted in the federal case. I suggest that if they are not there, then you ask the representatives of the Department of Environment who is here today why they weren't included. Okay.

MR. DALZELL: Yes. Thank you, Mr. Chairman.

CHAIRMAN: Thank you. Now Mr. MacNutt. Just for those of

you who are not familiar with the way in which these matters are done, Mr. MacNutt is Board Counsel. And his unenviable task is to complete the record. In other words, the staff of the Board tries to anticipate any and all matters that the Board in its deliberations may wish to have evidence led during the hearing.

And Mr. MacNutt and staff attempt to anticipate the kind of evidence that the Board might wish to have and ask questions on. So he has to check and see what everybody else has asked and then fill in the gaps.

With that background, Mr. MacNutt, go ahead.

CROSS-EXAMINATION BY MR. MACNUTT:

MR. MACNUTT: Yes. And I trust you will excuse if there is a little bit of overlap from some the questions that were asked, but they form a part of a line of questioning.

Question directed to Mr. James Brogan. I'm going to ask you to get out, but you may not have to refer to it, exhibit A-6, Appendix D, pages 172 to 175, and Appendix A-7, CCNB 60.

CHAIRMAN: Can we have the first one again?

MR. MACNUTT: Exhibit A-6.

CHAIRMAN: Yes.

MR. MACNUTT: Pages 172 to 173 which is Appendix D. And exhibit A-7 CCNB 60.

CHAIRMAN: And the second was A-7 which are the

interrogatories. And it's CCNB which?

MR. MACNUTT: 60.

CHAIRMAN: 60.

MR. MACNUTT: Which is page 66 of that group.

CHAIRMAN: Thank you, Mr. MacNutt. I think we are all there.

MR. MACNUTT: In exhibit A-6 at pages 172 to 176 the Orimulsion fuel delivery system is described. In exhibit A-7, CCNB 60, the fuel delivery system is stated to be included in $180 million balance of plant capital costs. And we heard evidence on that yesterday.

Please describe how New Brunswick Power will handle the loss of the use of the pipeline, whichever version option is selected, for a period of time which exceeds the total fuel stored on site?

MR. BROGAN: The -- this would be the loss of the pipeline in the long term, not as part of the conversion process, but perhaps some point in the future with the loss of the pipeline.

MR. MACNUTT: Catastrophic.

MR. BROGAN: We have at the site 25 days storage capacity. And if there should be a failure of the line, then what we would do is, number one, the plant would not normally dispatch for 25 days at a thousand megawatts 24 hours a day. So we -- by normal dispatch of the unit we could get

more than 25 days of operation from the plant in order to meet the critical in province load.

And the next step to conserve fuel would be that we would back out of the export market. And I'm describing a situation even in winter where with high in province loads we do have the opportunity to export at times. We would get out of the export market. We would redispatch the unit trying conserving fuel using other resources in the province.

As well, we would explore market opportunities to go buy energy in the market. So we could easily get into a situation to extend that 25 days of on site storage to out to two to three months of total elapse time. And we would anticipate in that time period that's more than adequate to make any repairs necessary.

MR. MACNUTT: And what would this be -- what would the situation be if in fact you did not get it repaired within that time?

MR. BROGAN: In that situation, assuming that we have -- we have stretched the fuel as possibly could, is that if it couldn't be repaired, the plant would literally run out of fuel. And that's no different than a -- than a gas pipeline with a single pipe -- now we -- point is that our fuel supply today is coming from a single pipe running from the oil refinery. So we have experience over the

years of dealing with down time on the pipeline, so it can be managed.

MR. MACNUTT: Now because there is a certain load on the system and you would lose Coleson Cove in the hypothetical I have given you where the pipeline isn't repaired prior to exhausting the fuel, would it be correct to say that you would use replacement electricity to cover off what was lost from that Coleson Cove plant being down?

MR. BROGAN: Yes, that's fair. Whatever shortcomings we had. But I -- I would -- I would pick the example of the worst case may be for this situation to occur on January 1st. Extremely high loads in the province and so on. Now we could -- with the loss of the supply pipe we could manage, as I said, out to two to three months. Out into March time period. And any energy shortages, yes, we could -- we could purchase from the market.

Now if you look at the timing in that example, we are also moving into April which is -- we have more than adequate hydro resources. So we could bridge the time period if it should be an extremely long outage on the pipeline.

MR. MACNUTT: Say it was just the reverse and the outage went July, August. And you had the 30 -- the two or three month period leading into January, which is your high demand period for this generating station, what happens

there?

MR. BROGAN: In that example and if we thought it was an extremely long outage on the pipeline, we would simply conserve fuel and ensure it is available for January in that example.

MR. MACNUTT: Is there any consideration given to trucking fuel, or is that not realistic?

MR. BROGAN: Not in the volumes that we require.

MR. MACNUTT: If the pipeline went down on a catastrophic basis, who would be responsible for the cost of replacement electricity if it is attributable the electricity has to be purchased as a result of the loss of the pipeline?

MR. BROGAN: Still in negotiations where we are is that we could be the owner of the pipeline in the future. Or the ownership would rest with Irving Oil Limited. So with either of those options we would take the risk on replacing energy costs for down time on the pipeline.

MR. MACNUTT: Thank you. Still with Mr. Brogan, exhibit A-6, appendix D, page 153 there is a paragraph there, 2.4 on water supply. And exhibit A-7, CCNB-71 at page 77.

I will just repeat those. A-6, appendix D at page 153. Exhibit A-7, CCNB which is page 77, exhibit A-7.

Mr. Brogan, the Coleson Cove Orimulsion Conversion Project is described as requiring considerably more water

than the current plant at Coleson Cove.

As well it is stated the negotiations are ongoing with the City of Saint John with respect to this additional water. And to date NB Power has received assurance that the supply is available.

The evidence also indicates that the price to be charged by the City for this additional water is in the process of being negotiated, is that correct?

MR. BROGAN: Yes. Well, basically the City sets the rate on a tariff.

MR. MACNUTT: Okay.

MR. BROGAN: There is not much negotiation.

MR. MACNUTT: In exhibit A-6 which is appendix D, at page 153 it is stated that the consumption of water at the plant following conversion to Orimulsion will be a net 7,500 cubic meters per day, is that correct?

MR. BROGAN: Yes.

MR. MACNUTT: As well, it is stated the gross consumption before offsetting the recycled water will be 10,500 cubic meters per day, is that correct?

MR. BROGAN: Yes.

MR. MACNUTT: Therefore the cost of 26 cents per cubic meter, the net 7,500 cubic meters a day will have a daily cost of about $1,950?

MR. BROGAN: Yes.

MR. MACNUTT: And the gross 10,500 cubic meters a day will have a daily cost of $2,730 a day, is that correct?

MR. BROGAN: Yes.

MR. MACNUTT: To determine the yearly cost, the respective daily cost would be multiplied by how many days? Do you use a standard 365 days? Or is there a demand cycle?

MR. BROGAN: Those demands would be, I would believe, at 1,000 megawatts capacity. That is full-rated capacity on the station, 100 percent capacity for every day.

So we would -- the anticipated loading on the units averages out to 65 percent. So we would -- our costs would be prorated down to approximately 65 percent.

MR. MACNUTT: Now in calculating the NPV in the analysis of the options, which figure was used in calculating the NPV for the Coleson Cove Orimulsion Conversion Project, that of what it would cost to supply water at a volume of 10,500 cubic meters per year or the cost of supplying 7,500 cubic meters per year, in the circumstances you just described?

Essentially the question I'm asking is, as a worst case scenario where the recycling operation shuts down and you are faced with --

MR. BROGAN: Our budget is --

MR. MACNUTT: Go ahead.

MR. BROGAN: Our budget is based on a recycling operation.

MR. MACNUTT: So --

MR. BROGAN: It assumes recycling.

MR. MACNUTT: So if the recycling plant failed, the cost to buy the 10,500 cubic meters at 65 percent of demand is not included in the NPV calculation analysis and assessment?

MR. BROGAN: Well, that is correct. But the reason it is so minor, we wouldn't consider it. Most of the recycled water would come from our new waste water treatment facility that is being installed as part of the project.

So it is critical that the waste water treatment plant operate continuously. And it does have backup equipment to ensure that it does operate. Because we have to be able to at times discharge water.

So our waste water treatment plant, in order to keep running the operation, we have to produce clean water out of the waste water stream. So therefore it would be available for recycle. So it is not considered a risk area. And we have a recycle operation at Dalhousie and Belledune now.

MR. MACNUTT: Are you suggesting that it is zero risk?

MR. BROGAN: No. It is never zero. But I would offer it is a few minor days per year perhaps, very low number of days per year would be the risk.

MR. MACNUTT: I'm now going to ask you to turn to exhibit A-6, page 132 to line 13. It is your evidence. And it goes

to the retention of heavy fuel oil capability. Again A-6, page 132, line 13.

In exhibit A-6 at page 132 at line 13 you state that Coleson Cove will retain its heavy fuel oil capability following conversion, is that not correct?

MR. BROGAN: That is correct.

MR. MACNUTT: And to my understanding, from the evidence and your comments just earlier, a few moments ago, that the chance of the Orimulsion supply being interrupted is remote.

However I want you to assume for the moment that supply of Orimulsion to the Coleson Cove plant after conversion ceases for a period of more than six months, whether due to failure of supply, difficulties in loading or pipeline cannot be used.

What -- would this impact fuel costs at the Coleson Cove plant? And if yes, in what way?

MR. BROGAN: Well, the total loss of the supply, Orimulsion would mean that we would swing back to heavy fuel oil which we burn today. And there would be an increased cost. It would be similar to the operation today.

MR. MACNUTT: In what way has such an eventuality been taken into account in the determination of the capital cost of the project and in the sensitivity screening for the project?

MR. BROGAN: In the short term it has been addressed by adequate storage in order to get into -- get through short-term supply disruptions.

We have not -- within the project we have confidence in the supplier. However failing that there are provisions within the contract for damages in the event that should occur.

MR. MACNUTT: In other words you are referring to the fuel supply agreement that will be signed with BITOR?

MR. BROGAN: Yes.

MR. MACNUTT: And damages would be recoverable by NB Power if the interruption or delay or interruption with the supply of Orimulsion was, in their area of responsibility, a risk?

MR. BROGAN: Well, I guess -- I assume the way you are describing this, that a failure to supply for six months is really an indication they there are no longer available to supply fuel to our operation.

And in that eventuality we do have protection under our fuel supply contract.

MR. MACNUTT: Do you have any estimate or expectation that the damages -- damage provisions and the money would be paid as a result of that would be able to offset fully the extra fuel cost incurred in running the plant on heavy oil?

MR. BROGAN: I believe when we did supply or provide the fuel contract, those sections of the contract were blacked out. Those are subject to confidentiality agreements --

MR. MACNUTT: Yes. I appreciate that.

MR. BROGAN: -- the actual provisions.

MR. MACNUTT: I'm not asking you for finite figures. I'm asking you for -- to explore the depth or the extent to which you have anticipated this even remote possibility and have taken it into account in both analyzing the options and selecting the Orimulsion option.

MR. BROGAN: I think both the scenarios under which the damages clause would be exercised and what the amount of those damages would be, both of those pieces of information are subject to the confidentiality agreement.

MR. MACNUTT: That is great.

MR. HASHEY: Mr. Chairman, again it is confidential. But I believe a similar arrangement could be made if the Board indicates that that is something that they would want to know, that Mr. Easson possibly could review the contract and report, if that is important.

There is nothing we are trying to hide from the Board as far as the ultimate result of that contract.

CHAIRMAN: I appreciate that, Mr. Hashey. I thought Mr. MacNutt's question was so global that it really would not infringe. And I daren't put words in Mr. MacNutt's

mouth.

But my appreciation of the question was are you convinced that, with the provisions in the agreement, that if you had to go to another fuel that you would be sufficiently protected in the extra cost?

MR. BROGAN: Okay. The spirit of the contract would allow us to not suffer any risk, any damage as it relates to the capital investment. So if they failed to supply, we have installed all the environmental equipment needed.

And we suffer no risk because of having made that investment. Although we would revert back to the existing fuel at its price today, which would be a risk for us.

MR. MACNUTT: And also if you had to revert back to the existing fuel, then the emission calculations would revert to the current situation except to the extent that the emission controls put on for Orimulsion were applicable to heavy oil. Has that been --

MR. BROGAN: If we reverted back to heavy fuel oil we would reap all of the same environmental improvements, the emissions reductions.

MR. MACNUTT: Okay.

MR. BROGAN: So the emissions reductions would stay the same if we went back to heavy fuel oil.

MR. MACNUTT: This is a question to Mr. Bill Marshall and it's -- I'm going to ask you to look quickly at exhibit

A-6 which is the evidence of Mr. Stewart MacPherson at page 10, line 1, where he describes the two options in competition with the Orimulsion conversion option.

MR. MARSHALL: Page 10?

MR. MACNUTT: Exhibit A-6, page 10, line 1.

MR. MARSHALL: Yes, I have it.

MR. MACNUTT: Mr. MacPherson states that the second most viable alternative to the proposed Coleson Cove Orimulsion conversion is a new combined cycle gas unit at Coleson Cove combined with reduced utilization of the existing Coleson Cove units using blended fuel if necessary.

Now is that a correct statement? I think I just -- I intended to just quote from what he said.

MR. MARSHALL: Yes, that is. That is the combined cycle gas/oil combination case that's been evaluated throughout the evidence.

MR. MACNUTT: Now if that option or alternative were constructed, would all four units ever be operated simultaneously, that is, the new combined cycle gas unit and the three existing units on blended fuel?

MR. MARSHALL: Possibly. Depending upon system load and economics of the units.

MR. MACNUTT: Now would this mean that Coleson Cove plant would then have the capability of producing approximately 400 megawatts of power from the combined cycle natural gas

unit and approximately a thousand megawatts of power from the existing three units on blended fuel simultaneously? That would be correct?

MR. MARSHALL: Yes.

MR. MACNUTT: Yes. This would mean that the emission levels from Coleson Cove plant, such an operating configuration would have to take into account not only the emissions from the combined cycle gas unit but also emissions from the existing units operating on blended fuel, is that correct?

MR. MARSHALL: Yes.

MR. MACNUTT: Were those emission levels for this option or alternative used in the screening process in the analysis of the options and alternatives?

MR. MARSHALL: The NOx controls -- in that option NOx controls were not added to the existing Coleson Cove facility in 2005. The were deferred to 2014 and added at that time.

So NOx emissions running on oil with the existing units would remain at the current emission rate of .7 pounds per million BTU.

The new gas fired unit is assumed to meet all current standards for gas units in terms of emissions and they are laid out in table 3.1 of the evidence.

The issue of NOx target that we tried to achieve as we

have explained earlier was the 30 percent reduction by 2007. And we interpreted that not to be point source emissions as specific units but to be a system-wide requirement. So we set a target of 18,000 tonnes which is a 30 percent reduction from year 2000 numbers. And so then the system would be operated in such a way in order to meet that requirement and the Coleson Cove power plant would be operated in order to meet the SO2 requirement of 40,000 tonnes out of the existing units given that natural gas has very low sulphur content. And I think in our analysis we have assumed zero. So the only SO2 emissions would be from the existing units operated on heavy fuel oil. We have met the 40,000 tonne limit with that. And that's where the blending is required if necessary.

So if the existing units were to operate at capacity factor I believe higher than 34 percent, it's necessary to blend fuel and include low sulphur oil.

So we met those requirements in doing that evaluation.

MR. MACNUTT: Mr. Thomas, I am going to give you a number of references here but you will end up only looking at one of them I think. Exhibit A-6, page 147, which is Appendix D of exhibit A-6 -- exhibit A-6, the evidence of Mr. Marshall at page 32, and exhibit A-6, figure 4-2 on page 61, and I will just go through those again. Exhibit A-6, page 147, which is a description of the plant as it

exists. Exhibit A-6, page 32, evidence of Mr. Marshall. A-6, figure 4.2 on page 61.

CHAIRMAN: Page 32. What was the next one, Mr. MacNutt?

MR. MACNUTT: A-6, 147, A-6, page 32, A-6, page 61.

CHAIRMAN: 61?

MR. MACNUTT: Correct.

CHAIRMAN: Thank you.

MR. MACNUTT: And I'm going to start by referring to the last first, namely exhibit A-6 at page 61. And on that page reference is made to Coleson Cove existing oil blend with NOx controls. And figure 4-2 at page 62 of the same exhibit contains a line marked "Existing Oil Blend"

MR. THOMAS: Which page are you starting from?

MR. MACNUTT: A-6, page 61.

CHAIRMAN: 4-2 was replaced by A-12, was it not, Mr. MacNutt, that particular graph?

MR. THOMAS: Yes, it was.

MR. MACNUTT: Yes. Okay. This goes to -- it's the wording used to describe the various options. The point is that as you have just heard from what I have read there, that the terminology has been that Coleson Cove existing oil blend with NOx controls and there is a reference to existing oil blend throughout the exhibit A-6. I look at the description of the plant in exhibit A-6 at page 147 and I see no reference to existing oil blend. So my

question really is that -- does the existing Coleson Cove plant, as we sit here today, have oil blend capability and if it does, would you explain how it is used and how it is incorporated into its operation.

MR. BROGAN: It may be easier if I answer the question.

MR. MACNUTT: Whoever feels most comfortable.

MR. BROGAN: The plant does have oil blend capability. It is not used today. The way we would use -- we burn normally a three percent fuel at the plant today and in order to reduce the SO2 emissions in future cargos of lower sulphur content would be brought in mixed with the three percent fuel to create a blend, and that's how we would reduce the SO2 emissions.

We have that capability today, but as there is -- under our operating license there is no requirement to do that.

Now there is one thing I should point out to you. We do have number 2 light oil on site at the present time. If the plant should ever run into environmental restrictions because of using heavy sulphur oil, we have back-up provision to burn number 2 light oil. So it's not an oil blend but it is another way to reduce SO2 emissions. But to my knowledge, that has never been put in place at the plant.

MR. MACNUTT: Now in appendix A-6 at page 32 it's stated

that if Coleson Cove were continued in operation without conversion, that by 2005 the plant would have to utilize a blend of heavy fuel oil, is that not correct?

MR. THOMAS: Yes.

MR. MACNUTT: Now Mr. Brogan just has described the existing blending capability. Is that the same blending capability as would have to be used in 2005 if the conversion did not take place?

MR. THOMAS: What Mr. Brogan explained is the capability is there today. It would be a similar capability in 2005 with a mixture of one percent and three percent sulphur fuel, but not this reference to number 2 oil -- light oil. That would not apply.

MR. MACNUTT: Just for my own interests and -- because I had difficulty in following it, the existing plant was used -- referred to throughout the evidence occasionally by the phrase "oil blend" or "existing oil blend". In all cases is it correct to say that that was wherever a plant using oil blend or existing oil blend, that was a reference to the existing Coleson Cove plant, or was there some other plant that may have been referred to, in other words, just because of a change in phraseology?

MR. MARSHALL: I think the references -- and I guess we apologize for maybe inconsistency in terminology a little bit throughout all of the evidence. Any time we refer to

existing operation and oil blend or operation of the existing power plant or the oil blend option we are referring to the alternative one in Mr. MacPherson's evidence that you originally referred me to a couple of questions ago. That's what it would be. Operation of the three existing boilers, the existing turbine generators, fuelled by a mixture of -- or a blend of three percent sulphur heavy fuel oil and one percent sulphur heavy fuel oil, blended sufficient to keep the SO2 emissions below 40,000 tonnes on an annual basis.

And that particular option as well when we refer to the oil blend option in the case, we are talking also about boiler re-burn capabilities to reduce NOx controls as well in that option.

MR. MACNUTT: What you have described is all one option, not several options?

MR. MARSHALL: That is one option. Its alternative -- I believe in Mr. MacPherson's evidence where we started these discussions on page 10, at the top of page 10 of NBP A-6, the alternative 1 (oil blend), and it says after that, remain on oil with blending of low sulphur oil and implementation of NOx controls to meet emission requirements. That is the option that we refer to as the existing oil operation or existing oil blend option that is evaluated throughout the evidence.

MR. MACNUTT: Okay. Thank you.

MR. MARSHALL: And it's referred to in the screening curves as Coleson Cove oil blend with NOx controls on all of the screening curves. That's the option that we are talking about.

MR. MACNUTT: Okay. And are there any other different type of reference to that option that you can think of offhand?

MR. MARSHALL: Usually it's been referred to as the oil blend option.

MR. MACNUTT: Okay. That should satisfy it. Thank you.

MR. MACNUTT: Now Mr. Brogan or Mr. Thomas, whoever feels most comfortable, I would ask you to go to exhibit A-6, page 134. And in your response to question 1 on that page you state your responsibility for the Coleson Cove Orimulsion conversion project. And the reference again is A-6, page 134.

MR. THOMAS: Yes.

MR. MACNUTT: Do your responsibilities include the preparation of the capital cost estimates for the project and the selection of the project management team?

MR. THOMAS: On part 1, yes. On part 2, in conjunction with senior management.

MR. MACNUTT: It's a group thing as to the project management team, is that correct?

MR. THOMAS: Yes, it is, you know, between Mr. Brogan, and

Mr. MacPherson at the time and others on the senior executive.

MR. MACNUTT: Now is it fair to say that the Coleson Cove Orimulsion conversion project will be exposed to the largest cost overruns of the three options?

MR. THOMAS: No.

MR. MACNUTT: Is it not the most capital intensive of the three options?

MR. THOMAS: Yes. But it is a very well known conversion project of a very similar kind that we have done in Dalhousie. And we certainly have the experience in dealing with a project of this type of conversion.

MR. MACNUTT: Now would you identify for us your senior management team for the Coleson Cove Orimulsion conversion project? And in doing so, would you include a description of their experience in similar project management positions that include -- that would include a description of their -- of the project in which they were involved, including scope and value. And in doing so, advise where you and Mr. Thomas fit or -- yes, both Mr. Thomas and Mr. Brogan fit in that management team.

MR. THOMAS: Well a senior project team starts with Mr. Brogan. He is directly responsible for the overall project as Vice-President of Generation Conventional. As the Project Director, I report to Mr. Brogan. Members on

my team include John Sturgeon, who was the engineering manager for the Dalhousie conversion project. He has a lot of experience in Orimulsion fuel conversion and the overall engineering.

MR. MACNUTT: How many years overall has he been in that sort of equivalent role?

MR. THOMAS: In that role for 15, 20 years. I would have to check.

MR. MACNUTT: Thank you. Yes, go on.

MR. THOMAS: He was also the previous plant manager at Coleson Cove Generating Station. So he is very familiar with the station. And he was instrumental in helping us with kicking off this project.

We also have used New Brunswick consulting firms to complement the team, so we have worked with A.D.I. We also worked with Amac and we consulted the original equipment manufacturer, Babcock and Wilcox, who hired as a sub-contractor Neil and Gunter. All these consulting firms have been involved in similar work for the Dalhousie project. And have experience as well in building the Belledune Generating Station.

MR. MACNUTT: And are they staffing -- would they be staffing this project with people who had experience in those projects?

MR. THOMAS: Yes, they will. We also have Gary Ross who is

our Director of Generation Engineering who has technical experts. Senior efficiency specialists such as Wayne Davies. We have a turbine specialist, David Fukes. We have a number of people like Kevin Calhoun who led the distributor control systems for the Belledune construction. And other people, you know, as required throughout the project are available, yes.

MR. MACNUTT: Now you would agree with me that on the face of it NB Power is subject to the Crown Construction Contracts Act, is that not correct?

MR. THOMAS: Yes, we are.

MR. MACNUTT: And do you propose doing the -- calling the construction contracts for this project should the Coleson Cove Orimulsion conversion be recommended? Would they be called in accordance with the terms of the Crown Construction Contracts Act or would you be seeking exception for certain portions?

MR. THOMAS: No, we wouldn't. We would go through the Crown -- the CCA Act.

MR. MACNUTT: Now you would agree that the accuracy of the capital cost estimate is fundamental in evaluating the project?

MR. THOMAS: Yes.

MR. MACNUTT: And you have identified that tenders are being issued to assist in the estimating procedures for the

project?

MR. THOMAS: Yes, we did. For the scrubber and wet electrostatic precipitator particularly. And the turbine upgrades.

MR. MACNUTT: Of all the areas of the project broken down, what areas of the project are most concerned to NB Power in respect of delay in deliveries or other aspects that could significantly impact cost overruns?

MR. THOMAS: Well like I explained in the leading presentation, the areas where there are -- you know, the largest areas are the boiler modifications and the scrubber and wet electrostatic precipitators just because of the large number.

However, our contract strategy is to tie these contracts under an ECP engineer construct and procure approach, which is a turn-key approach. Also on a fixed price basis where the contractors or vendors would take those risks, including the construction risk. And we are very close to succeed to lock-in between 40 and 50 percent of our fixed price contracts.

MR. MACNUTT: Now in the project who are you proposing to identify in the contracts as the -- NB Power's engineer in the contracting, namely say the owner's engineer? Would that be inhouse staff or would that be consultants?

MR. THOMAS: At this stage we are proposing consultant. We

have not come up with the final selection yet. However, there are discussions ongoing and negotiations as we speak as well. For the preliminary part of the project and the estimating we have hired A.D.I. Limited to help us prepare that estimate. However, they have not been selected or no one has been selected yet as our owner's engineer.

MR. MACNUTT: Does A.D.I. have engineers on staff who have good project experience in doing capital cost estimates on Orimulsion projects?

MR. THOMAS: Yes. They were involved with our previous project as well. There was a consortium of engineers that we had for -- working for us when we did the Dalhousie Orimulsion project which included A.D.I., Neil & Gunter and the same consortium type for the Belledune Generating Station project.

MR. MACNUTT: Now the evidence yesterday was the cost for engineering on the project is in the order of $47 million, was that correct?

MR. THOMAS: Yes, this is our estimate.

MR. MACNUTT: And that about 5 million has -- of the engineering costs has already been spent?

MR. THOMAS: Approximately, yes.

MR. MACNUTT: Which leaves about 43 million unexpended. Now what percentage of that unexpended portion of the engineering costs will be attributable or devoted to

design work?

MR. THOMAS: What percentage of -- would you repeat please?

MR. MACNUTT: The unexpended portion of the engineering cost estimate would be attributable to design.

MR. THOMAS: A very large portion. I don't have the exact figure but I suspect it would be, you know, in the 80 percent.

MR. MACNUTT: Okay. Is the design complete?

MR. THOMAS: No, it's not complete. However, this preliminary estimate included some design engineering to arrive at those costs that will be certainly useful in phase 3, the execution phase of this project if this project is approved by the Board.

MR. MACNUTT: And you estimate the execution phase or phase 3 to be when, all things going well?

MR. THOMAS: All things go well, we would expect that to start, you know, any time after a decision of the Board.

MR. MACNUTT: And you --

MR. THOMAS: The engineering portion of it, which we are committed, you know, we have a budget to continue with some preliminary engineering.

MR. MACNUTT: When would you have the design complete?

MR. THOMAS: Well it's a pretty open question. The design is in -- as I explained yesterday or Monday, sorry -- we have many systems and each of those systems have different

-- you know, different steps or different timing in the schedule. So if you take the boiler design, we could have that complete within three or four months. if we talk about the stack it may be August. If we talk about the scrubber building, it would be later on. So, you know, very many components. And we broke down all those components and we have a proposed schedule for the design, construction and commissioning of all these various sub-systems. So it's a pretty wide question.

Most of the design would be completed by mid 2003, if that is the general question you were --

MR. MACNUTT: Yes. It was one of the directions I was going.

MR. THOMAS: Yes.

MR. MACNUTT: Because the more -- to a certain degree there is going to be a bit of a design build on this, is there not?

MR. THOMAS: Yes. A good portion of it.

MR. MACNUTT: Okay. And in what way have you taken into account in your costing of the project this aspect of design build which has a tendency, in my experience, and perhaps you can correct me, to run into change orders and cost overruns?

So how has that been accounted for in your project costing?

MR. THOMAS: Would you specify? I'm not sure where you are getting at with the design build. Would you specify which portion of the estimate you are talking specifically, because --

MR. MACNUTT: Well, the portion that you have got unexpended -- you say the design is not complete. You have got a portion of your engineering costs which haven't been committed yet.

MR. THOMAS: Right.

MR. MACNUTT: And 80 percent of the uncommitted is going to go to design. And you are going to go ahead with construction before all design is complete. Therefore you are exposing yourself to change orders and changes in design as you proceed.

So my question is directed to in what way have you taken into account in the project costing the problem that always arises in projects of this nature of cost overruns?

MR. THOMAS: The design area that we are talking here, if I understand your question, is the balance of plant systems. And we have done preliminary overview design to come up with our estimate.

We do feel confident that these are certainly within the contingency level that we have put in there. And that would include such things as, you know, unforeseen design change or change orders. That is part of this process.

That is how we come up with the contingencies.

MR. MACNUTT: So you are completely satisfied that the contingency will cover any design changes or change orders during the course --

MR. THOMAS: Yes.

MR. MACNUTT: -- of construction?

MR. THOMAS: Definitely. We went through a risk financial analysis that will -- that come up with the same level of contingencies.

MR. MACNUTT: And that contingency is -- the amount?

MR. THOMAS: $71 million. And the risk analysis came up with something like $67 million, which is lower.

And with the level of confidence we reached with the negotiation process on the two major contract areas, if we were running the model it would be even better today.

MR. MACNUTT: Mr. Thomas, I'm going to ask you to look at exhibit A-7, the Province of New Brunswick 33 which is at page 40, and exhibit A-7, Public Utilities Board 3 which is at page 3.

So at A-7, PNB-33 which is at page 40. A-7, PUB-3 which is at page 3.

MR. THOMAS: 33? PUB-33?

MR. MACNUTT: A-7, PNB-33 which is at page 40. The other one is A-7, PUB-3 which is at page 3.

MR. THOMAS: PUB-3.

MR. MACNUTT: Yes. And we are looking at cost overruns.

MR. THOMAS: Yes.

MR. MACNUTT: In exhibit A-7, PNB-33 it is stated that at a cost overrun of 65 percent the Coleson Cove Orimulsion conversion would not be the low-cost option on an NPV basis.

And A-7, PUB-3 it is stated that at a cost overrun of 25 percent the Coleson Cove Orimulsion Conversion Project is not the low-cost option.

My question is was the PUB-3 response stated in terms of the ranking on an NPV basis? And if yes, please explain which is the correct percentage at which the Orimulsion conversion project is not the least cost option on a NPV basis?

MR. MARSHALL: I believe --

MR. MACNUTT: Whoever wishes to.

MR. MARSHALL: Yes. Well, I believe that is my evidence that you are referring to. The sensitivity analysis, break-even analysis done under PNB-33 of 65 percent, we ran PROVIEW.

And we increased the capital cost until one of the three options -- one of the alternative options was equal to the Orimulsion option. And that is at a cost overrun of 65 percent. And that was done under the base case evaluation.

The reference in PUB-3 to a cost overrun of 25 percent is the additional adding of a 25 percent cost overrun to the stress case. The stress case already included low gas prices, low export prices, low export margin, no load growth beyond 2010 and environmental cost, emissions cost.

In addition, adding 25 percent to the stress case made it that the result of this new high-stress case, that the Orimulsion project was then not the lowest cost.

MR. MACNUTT: Thank you. Still with Mr. Marshall, exhibit A-7, CCNB-20 which is at page 20 -- A-7, CCNB-20 at page 20 -- CCNB-20.

MR. MARSHALL: Yes. I have it.

MR. MACNUTT: At the end of the response to the question that was asked there is a statement, and it is in the last two lines, "Subject to transmission limitations, project economics might improve if more than the assumed 150 megawatts of contestable load were to leave."

And I'm focusing on the phrase "Subject to transmission limitations."

Am I correct in assuming that the statement means that should more than 150 megawatts of contestable load disappear that the Coleson Cove Orimulsion Conversion Project economics improve?

MR. MARSHALL: The reference there is to the average revenue from large industrial customers and wholesale customers.

So we are saying if a large industrial customer leaves, the revenue that we currently get from large industrial is about $50 a megawatt hour as the average rate of large industrial supply, of firm supply to large industrial load.

And with market prices into the New England market model on average at $55 a megawatt hour, we could sell the energy into the market and get more money than if we sell it to the large industrial customer.

So if some large industrial customers left under those market conditions and under the condition that there is sufficient transmission for us to get it to the market and to collect the $55 on the energy, we would actually make more money selling it outside the province than to the customers inside the province.

MR. MACNUTT: And as I just mentioned a moment ago -- thank you -- in the quoted sentence, the sentence I just quoted, there is reference made to transmission limitations. Please explain the limitations on the transmission network to which Coleson Cove is connected and to which you were referring?

MR. MARSHALL: Well, with respect to transmission there are essentially no limitations inside the New Brunswick system for us to supply all in-province load.

We can dispatch any one of our generators and run

Coleson Cove and Lepreau at full load and ship power north. We can have them off-line and have power in the north flowing south or coming in from Hydro Quebec. So there are no transmission limitations within the province to move power to where it is needed.

The transmission limitations referred to here are the transmission interconnection between New Brunswick and New England to get to the external market.

That current line is referred to as the MEPCO power line. And it runs in New Brunswick from Keswick station to the border. And then the MEPCO piece picks up at the border and runs down to Orrington, just outside Bangor, Maine. That particular power line is capable of transferring 700 megawatts of power south into New England.

Now currently many times that power line -- that line is congested and runs at full load. And so today we utilize that power line in order to export power and bring the revenue back for the benefit of New Brunswick customers. That is part of our contribution of 10 to 15 percent reduction in rates because of the revenue and money we make out of that.

We currently have an application before the National Energy Board to build a second transmission line from Point Lepreau to Orrington, Maine which will enable us to

increase our transfer capacity to the market and be able to sell more.

So if there is transmission available and we can sell the power and get $55 for it outside the province as opposed to $50 inside, then there would be economic benefits.

If there isn't transmission available and we can't sell it, then the loss of the $50 is a loss. And there is an issue then of potential stranded costs if customers exit.

MR. MACNUTT: Now is it correct to say that Coleson Cove is not now a base load plant and after conversion to Orimulsion it would not be a base load plant? Is that correct?

MR. MARSHALL: The Coleson Cove today was designed as the capability to operate as a base load thermal oil-fired power plant. Its utilization on our system essentially is as what we refer to as an intermediate load plant.

It is the major swing plant on the system. It provides the variation in load from summer to winter. It provides a significant part of the variation in load from night to day. We utilize our hydro system as much as we can to shave daily peaks.

Coleson Cove also contributes to shifting load from night to day. So in that sense it is an intermediate type

operation. With a lower fuel cost such as Orimulsion there will be an opportunity for it to sell more into the market. It could run at a higher capacity factor and more towards base load.

But our projections and all of our analysis and for net present value calculations, we have evaluated Coleson Cove utilizing the same capacity factors and exports for all of the options.

We have not given it any preferential treatment for additional export. They have all been evaluated at the same operation levels. And that is essentially as an intermediate type unit at around 50 percent capacity factor.

MR. MACNUTT: Now during the period of time that Point Lepreau would be down for refurbishment, Coleson Cove would be operating as a base load plant and operating at almost 100 percent capacity, would it not?

MR. MARSHALL: That is correct. I believe in the evidence the capacity factor in that year is 85 percent.

MR. MACNUTT: 85 percent. And during that period of time would the transmission limitations you described earlier affect the operation at Coleson Cove?

MR. MARSHALL: No. The use in the base load type operation if Lepreau is out of service is mainly to supply a load inside New Brunswick. And it runs at a high level.

As I said, there are no transmission limitations in New Brunswick which cause any difficulties of moving power around the province to supply all of our customers. The limitation referred to is only to export power out of the province.

MR. MACNUTT: Mr. Marshall still -- exhibit A-7, PUB 4 at page 4. Exhibit A-10, PUB 4 supplemental.

CHAIRMAN: Again?

MR. MACNUTT: A-7, PUB 4, A-10, PUB 4. That's the original IR and the supplemental IR number 4 from the PUB.

MR. MARSHALL: Okay. Yes, I have it.

MR. MACNUTT: In response to PUB 4 in exhibit A-7 and to PUB 4 supplemental on exhibit A-10. The responses state the buy back on the Quebec Hydro contract and the repurchase of the Mill Bank turbine generators from -- would be uneconomic as base load capacity replacements. Is that not correct?

MR. MARSHALL: That's correct.

MR. MACNUTT: Please describe the extent to which NB Power has explored the buyout of the Hydro Quebec contract and the repurchase of the Mill Bank turbines as a replacement for peaking capacity and the conclusions reached?

MR. MARSHALL: Is your question that we -- have we evaluated buying back the contract to supply peaking capacity for to meet New Brunswick needs?

We have -- we have looked at the contract. We know the cost. Our analysis is that we currently are making significant amounts of money on that contract. And it has -- the revenue stream from it is very valuable to us. About -- I don't want to get into the details of the contract. I'm not sure whether the contract is subject to confidentiality or not with Hydro Quebec.

But we -- we would have to buy back the contract. We would forgo all of the revenue that we get under the current contract. And then we would have the units to use. We are -- rather than -- rather in terms of getting peaking capacity that we need, rather than buy back the Hydro Quebec contract our interest would be more in negotiating with Enron because the purchased two of the units from us already and they are still sitting at the Mill Bank station. And we think we could buy those back cheaper and do a better deal with -- from Enron rather than we can out of Hydro Quebec.

MR. MACNUTT: And what have you do in that -- with that with respect to Enron or whoever can speak for Enron now?

MR. MARSHALL: Okay. First of all, we don't need additional peaking capacity right at this time. And we had some negotiations with Enron about the use of that capacity, and we are able to utilize some of that capacity at Mill Bank and pay them some fee for using it when we need it.

At this point in time considering that the state of Enron's finances and the situation that they are in, our position is -- our strategy is it's better to wait until they are into a fire sale bankruptcy situation and then we might be able to get a better price in buying the units.

MR. MACNUTT: Okay. Now coming back to the Hydro Quebec situation, under what circumstances would it be appropriate or prudent or financially responsible for you to buy yourself out of that contract?

MR. MARSHALL: You have to understand the Hydro Quebec contract started in 1990, I believe, at 400 megawatts from Mill Bank, tied to Mill Bank station.

It reduced to 300 megawatts in '97 or '98, I believe. And it reduces to 200 megawatts in this coming year, in November of 2002. So at that point in time we get a hundred megawatts back out of the contract this coming year.

So what is outstanding is 200 megawatts on to 2011. In 2011 the full capacity reverts back to NB Power and we have it to meet our suppliers beyond that point in time.

As I say, the revenue that we receive from that contract is substantial. And we don't need the capacity. So to forgo that revenue for capacity we don't need is not a prudent investment for us to make at this time.

MR. MACNUTT: Again with Mr. Marshall, this is a little bit

of a summation question. Reference to exhibit A-10, PUB supplemental 3, exhibit A-11 numbered addition, slide 33, exhibit A-10, PUB supplemental 3, which are pages 2 and 3 of PUB supplemental, exhibit A-11 numbered edition slide 33.

MR. MARSHALL: Yes, I have it.

MR. MACNUTT: Thank you. By reference to exhibit A-10, PUB 3 supplemental and pages 2 and 3, would you confirm that on the evidence submitted in this application to date the NPV values for the Coleson Cove Orimulsion conversion and the two next most viable alternatives are shown on the first row of the table on page 3 marked base case?

MR. MARSHALL: Yes.

MR. MACNUTT: Thank you. And you will confirm that these NPV values are for the Orimulsion conversion $5.337 million, for oil blend $5.730 million. Billion, excuse me, I will restate that. For the Orimulsion conversion $5.337 billion, for oil blend, $5.730 billion and for oil blend/natural gas combination $5.841 billion. Is that correct?

MR. MARSHALL: Yes, that's correct.

MR. MACNUTT: And you confirm that, or agree that the difference in the NPV value is $393 million less for the Orimulsion conversion than the oil blend alternative?

MR. MARSHALL: Yes.

MR. MACNUTT: And that the difference in the NPV value $504 million less for the Orimulsion conversation than the oil blend/natural gas combination alternative?

MR. MARSHALL: Yes. I believe it's 503. There may be a round-off in the last digit.

MR. MACNUTT: Yes. I was just going to get you to contrast the figure on slide 33 of exhibit A-11, where Ms. MacFarlane said that the Orimulsion option is 503 million lower. And you have in the figures you had just confirmed with me 504 million. Which is correct and why is there a difference, not that I'm overwhelmed by it, but just as an explanation.

MR. MARSHALL: As I said, the difference is a round-off error. The -- I'm not sure exactly the numbers, but the 5337 for Orimulsion could be 5337.3 or 5336.7, and the oil blend the same way.

So when you do the subtraction including the first decimal you get the 503 which is what we did to do the calculation.

When you present the numbers only to millions of dollars you end up getting a perceived roundoff error in the results.

MR. MACNUTT: Okay. Exhibit A-6. And you don't -- I guess this will be directed to Mr. Wilson, exhibit A-6 generally.

And I don't -- you know, if you have need to you could refer to any portion of the prefiled evidence which is exhibit A-6. My questions are with respect to environment generally.

It is my understanding that since the evidence on A-6 was prepared, the Minister of Environment has announced that the Coleson Cove Orimulsion Conversion Project will be subjected to a full environmental assessment.

And a hearing will be held followed by a decision of the Minister approving or rejecting the project. Am I not correct?

MR. WILSON: In general that is correct, yes.

MR. MACNUTT: Now what is your understanding of the date for the hearing and the date by which a decision might be expected on the EIA?

MR. WILSON: We are hoping to have a decision. And this will be certainly up to the process to see how well it goes. But we hope by summer -- that a decision will be made by this summer.

MR. MACNUTT: Would you be more particular? We have heard a lot of sort of --

MR. WILSON: We will say July, August.

MR. MACNUTT: -- large expanses of time referred to. We are trying to narrow you down a bit.

MR. WILSON: I can't be specific exactly on when there will

be the public meeting associated with the Environmental Impact Assessment report when it gets published.

But we would expect that we would have the report into the Department of Environment within the next -- by the end of February is our plans.

And following that there will be a decision made by the Department as to when the rest of the process can take place.

But we would hope that the public meetings can take place following that for public input. And we would have a decision made sometime in the July timeframe.

MR. MACNUTT: July of '02?

MR. WILSON: That is correct.

MR. BROGAN: We did meeting with the Department of Environment and looking at the schedule. And both parties agreed that we would try and work towards achieving a July or summer final conclusion.

So we have gone through all the work that has to be done with the Department of Environment. And both parties have agreed that that is a date that we could possibly meet.

MR. MACNUTT: Since submitting the evidence contained in exhibit A-2, what consideration has NB Power given to the possibility that the Minister may require control systems other than those contemplated in the project as described

in exhibit A-6?

I mean environmental control systems I'm talking about here.

MR. BROGAN: I think really the only question that has come up so far perhaps are the NOx limits. And we have provision -- we have the capabilities to achieve new, more stringent NOx limits if they should be required.

We have no indication of the other targets being an issue.

MR. MACNUTT: So you are talking in terms of not only emission but other environmental controls in areas outside the stack emissions?

MR. BROGAN: Well, yes. If you look at others outside stack emissions, for example the waste water treatment plant, we believe we understand what the requirements of a new waste water treatment plant are.

And so we don't expect any new difficult standards to meet, if you like.

MR. WILSON: Just to complement that, we have done a fair amount of work on quite a few of the environmental studies that are required for the EIA process.

And as I indicated in my brief presentation, there has been nothing that we have found at this point that would indicate any changes to the project scope.

We have got a number of studies under way. And those

are falling in line quite well with what we would have anticipated for this project.

MR. MACNUTT: Now would you agree that the Minister of the Environment may, in rendering a decision on EIA, state that the Coleson Cove Orimulsion Conversion Project may only proceed if additional environmental controls be included in the project?

MR. WILSON: We certainly appreciate that the Minister has a decision-making authority there with respect to what the conditions that they would place on the project.

We know that through the draft guidelines and now through the final guidelines, which we will be looking at and discussing and reviewing, that that will clearly spell out where we are going with the project with respect to the environmental controls that are necessary.

MR. MACNUTT: You agree then that the Minister's decision on the EIA for the project may result in increased cost for the project should NB Power elect to proceed with it following such a decision?

MR. BROGAN: There is no question the Minister has the authority to set the emission limits. And there are some areas that we could likely handle with no increase in cost to the total project budget.

But significant issues like NOx, for example, could put pressure on the cost of the project, yes. But the

Minister has the authority to set the standards.

MR. WILSON: I think the one thing that the Minister will do with respect to that though will be to provide guidelines and direction as to what is to be accomplished. And our task will be is to come up with the most cost-effective way of doing that.

That may in some cases not require additional expenditures. It may just be a different methodology in getting to that particular answer.

So some new requirement or some change or whatever does not necessarily equate to an additional expenditure.

MR. MACNUTT: Now the final three options that were considered in the analysis, what additional controls may be required for (a) waste water, (b) water or solid waste with respect to the Orimulsion conversion project, the oil blend project and the oil blend/natural gas combination?

MR. BROGAN: I'm sorry. I think we actually missed the question.

MR. MACNUTT: Well, I have been told that you perhaps answered it. And I have just asked it in a different way. So we will pass on that.

MR. MACNUTT: When the NPV of each of the options was calculated, was there included in the calculation for the eventuality that eventual -- additional environmental controls might be required and, if yes, what was the

allowance for each of those options?

MR. BROGAN: The only allowance that we have for additional environmental improvements would have to come out of the $71 million contingency allotment.

MR. MACNUTT: Now what additional costs and environmental controls beyond those described in exhibit A-6 would cause the Coleson Cove Orimulsion conversion project to be cancelled?

MR. BROGAN: None that I can anticipate.

MR. MACNUTT: In your experience has the imposition of environmental controls resulted in large increases in contract prices at the last minute, such as major environmental pieces of equipment?

MR. BROGAN: Well --

MR. MACNUTT: You have experience with that, haven't you?

MR. BROGAN: Well we do not expect to experience that difficulty or we would -- we intend to complete the environmental impact assessment to clearly identify the requirements of the project. And then we will understand truly the scope of the project. And so we have confidence in what the numbers are.

MR. MACNUTT: Now have you experienced any regulatory delay to date on this project? Environment? Whatever. Approvals?

MR. BROGAN: No, I don't believe we have.

MR. MACNUTT: Okay. Now what would NB Power do in the event that the EIA decision was delayed beyond the anticipated September 2002 date?

MR. BROGAN: I think what we had obviously -- the impact there is on the completion schedule, and that if we saw that the approval date was going to be pushed back past September it needs more engineering work to actually get to fine tune how late we could actually start.

Now there are estimates that we don't have to be on site breaking ground until November. But it's getting extremely tight.

MR. MACNUTT: In doing the analysis, Mr. Marshall, was it taken into account that such a delay may occur and in what way was it taken into account in the NPV for each of the options? And if it was taken into account are they all affected equally?

MR. MARSHALL: There was no specific consideration of a delay in the project. The project was modelled to come on line in late 2004, the other alternatives in 2005. Other than all of the sensitivities and the sensitivities that we had agreed at at the generic hearing, if the project is delayed a year there is an issue of the hundred million dollars of lost opportunity and potentially an increase in capital cost because of ongoing IDC or expenditures dragged out over a longer period. I guess that would be

covered off in the capital cost over-run sensitivity of plus 25 percent and in that case Orimulsion was still the lowest cost option.

And we also did the break-even point on Orimulsion on a cost over-run we did was, you know, 65 percent cost over-run.

I know Mr. Thomas has laid down conditions here that we have a high degree of confidence in the cost estimate and we do not expect cost over-runs to that level. But if we were deferred a whole year, you know, we would cover it off with that level of sensitivity.

MR. MACNUTT: Now questions for Ms. MacFarlane. Mr. Chairman, we are going to be looking at exhibit A-6, the evidence of Ms. MacFarlane generally, which are at pages 116 through 125. And we are going to be looking at exhibit A-6, appendix C. And in this line of questions I will be referring not only to her evidence as just identified but also to appendix C which is the business plan and financial projection 2001/02 to 2008/09.

I just want to point out that the business plan itself contains an appendix C. I propose to refer to this appendix C as appendix C of the business plan for clarity.

As well I just want to note that the business plan has its own set of page numbers and they are not consecutive in the front of exhibit A-6.

As well, Mr. Chairman, I propose to ask Ms. MacFarlane to refer to two pages to provide us with confirmation of a number from the New Brunswick Electric Power Commission annual report for 2000/2001. It's not presently before us in evidence. I do have an extract from the two pages I want her to refer to. They have been provided to her and we can distribute additional copies for the Board and the Intervenors, if you like.

CHAIRMAN: I think it should be marked as an exhibit if you are going on record now, Mr. MacNutt.

MR. MACNUTT: You wish the whole report to go in or just the two pages to be referred to? I have no problem putting the whole report in.

CHAIRMAN: What is the witness and counsel's desire? Do you want the whole -- I'm sure you are quite familiar with it, Ms. MacFarlane. Two pages?

MR. HASHEY: That will be fine.

CHAIRMAN: Good. It will be PUB-5.

MR. MACNUTT: Page 37 from that annual report will be the first one and page 49 in that annual report.

CHAIRMAN: That's the 2000/2001, Mr. MacNutt?

MR. MACNUTT: 2000/2001. What was the number again, Mr. Chairman?

CHAIRMAN: PUB-5, Mr. MacNutt.

MR. MACNUTT: Both of them under the one number, Mr.

Chairman?

CHAIRMAN: I just thought you had them stapled together, but since you didn't why we will give them two numbers. And we will give -- page 37 from that annual report will be PUB-5 and page 9 will be PUB-6.

MR. MACNUTT: Now I want you -- Ms. MacFarlane, I want you to turn to page 3 of the business plan, and under the heading Financial Projections 2001/02, 2008/09, in the last two lines it is stated, :A separate rate proposal will be prepared during the 2001/2002 business planning process." Correct?

MS. MACFARLANE: That's correct.

MR. MACNUTT: And has a rate proposal been prepared?

MS. MACFARLANE: We have begun work on certain elements of a rate plan and those elements are specifically related to the requirements under the Energy Act to look at green pricing options, time of use options, et cetera. We have begun that element of the work related to a rate plan.

MR. MACNUTT: When do you expect to file it with the Board when completed?

MS. MACFARLANE: It is -- we don't have an anticipated date for that now. We do anticipate that over the course of the summer we will be bringing all aspects of that together and it will come before our own Board of directors some time later this year.

MR. MACNUTT: And will that rate proposal be prepared using the same economic assumptions used in appendix C of the business plan at page 18?

MS. MACFARLANE: As we undertake our business planning, as is always the case, we will refresh our assumptions to ensure that they have continued validity into the future.

MR. MACNUTT: In exhibit A-6 at page 116, which is your evidence, at lines 21-22, you state that, "The projections used in the plan were prepared last winter, along with NB Power's budget for the current year." I just want you to confirm to me -- for me that the fiscal year referred to is the year ending March 31, 2002?

MS. MACFARLANE: The reference to current fiscal year is for the 2001/2002 year ending March 31st, 2002.

MR. MACNUTT: Thank you. That fiscal year is included in the business plan, is it not?

MS. MACFARLANE: Yes, it is.

MR. MACNUTT: For example, I note that it is included in appendix G of the business plan under the heading Consolidated Statement of Income at page 22.

MS. MACFARLANE: That's correct.

MR. MACNUTT: Now in your evidence at pages 116 to 125 you update certain information and tables found in the business plan to reflect the advance of the project date by one year for an in-service date of 2004, is that not

correct?

MS. MACFARLANE: Yes.

MR. MACNUTT: Thank you. In exhibit A-6 at page 119 at the top you provide an update for the forecasts for the items specified on page 117, which in fact is an extract from the business plan income statement found on page 10 of it, correct?

MS. MACFARLANE: That's correct.

MR. MACNUTT: On page 117 of exhibit A-6 in describing the significant changes giving rise to the need to update the business plan you identify reduced heat rate as one of the significant changes, correct?

MS. MACFARLANE: That's correct.

MR. MACNUTT: Now reduced heat rate represents an improved generating performance, does it not?

MS. MACFARLANE: Yes, it does.

MR. MACNUTT: At page 119 of exhibit A-6 you identify the impact of the accelerated in-service date and reduced heat rate as $46 million for the -- in the 2004/2005 fiscal year on the line noted as gross margin, correct? I could give you that reference again if --

MS. MACFARLANE: That's right.

MR. MACNUTT: I'm going pretty fast here.

MS. MACFARLANE: Yes.

MR. MACNUTT: If the in-service date of Coleson Cove

Orimulsion project is November 2004 then there are five months of operations to March 31, 2005, are there not?

MS. MACFARLANE: Yes.

MR. MACNUTT: In exhibit A-6 at page 119 in the table there is a line labelled OM&A expenses. Just for my assistant and others, what does OM&A stand for?

MS. MACFARLANE: It stands for operations, maintenance and administration.

MR. MACNUTT: In that table what is the estimated increase in the annual OM&A expenses for the year 2005 and 2006?

MS. MACFARLANE: In this table there are no anticipated increases in the year 05/06 over and above the business plan that was developed and published March 2001. Am I understanding your question correctly? There is a dash there which would mean that the number is less than a million or somewhere between zero and a million.

MR. MACNUTT: What was the original figure?

MS. MACFARLANE: What was the original figure for what? Could you just clarify your question, please?

MR. MACNUTT: For the increase. What was the original figure for the increase in operating expenses for Coleson Cove for 2005, 2006?

MS. MACFARLANE: 2005, 2006?

MR. MACNUTT: Yes.

MS. MACFARLANE: Existing operation?

MR. MACNUTT: Yes.

MS. MACFARLANE: The increase or decrease over the existing operation?

MR. MACNUTT: Correct.

MS. MACFARLANE: Okay. If you would just excuse me for a moment. Mr. MacNutt --

MR. MACNUTT: Yes.

MS. MACFARLANE: -- I'm sorry for the delay. We have the exact numbers with us but not in this room. But the estimate would be somewhere in the vicinity of 1 to $2 million increase in operating costs at the plant after the Orimulsion conversion. And when I say operating costs I mean OM & A costs.

MR. MACNUTT: Why are OM & A expenses forecast to be reduced even more from 2006, 2007 onwards than we found when looking in appendix G on page 22 of the business plan?

MS. MACFARLANE: I'm ready to answer your question.

MR. MACNUTT: Yes. I'm sorry.

MS. MACFARLANE: At the time that we prepared this business plan it was very early in the project design. And I might refer you in the business plan to page 8 that talked about environmental considerations and what our plans at the time were.

We did anticipate that we would deal with emissions at Coleson Cove at the time this plan was prepared through --

and it is the third bullet down -- emission rates at Coleson Cove can be significantly reduced by -- and it would be the third bullet -- catalytic reduction equipment to reduce the NOx emission rates.

Since the time this plan was prepared, we have changed our technology to deal with NOx emissions to in-furnace burners. And so the operating costs of -- the OM & A costs of operating the SCR have been -- have been eliminated from this plan in the table on page 119.

So that is why you see reductions on the OM & A line. It is the costs of running the SCR.

MR. MACNUTT: Now I want you to turn to appendix E of the business plan at page 20. And I note in the table at the bottom of the page, in the last line labeled "nuclear capacity factor", that the factor for 2001, 2002 is 92.7 percent. Am I correct?

MS. MACFARLANE: Yes.

MR. MACNUTT: What does this number represent?

MS. MACFARLANE: This number is representative of the -- in layman's terms -- the number of days that the nuclear plant is operating out of a total number of days that it is possible for it to operate.

It is -- the capacity factor term is the same term that we are using throughout our whole system. It is the term we have been using to make reference to Coleson Cove

as an example. It is the amount of running hours of the plant compared to its potential number of running hours.

MR. MACNUTT: Thank you. Now in appendix C of the business plan at page 18, in the table at the bottom of the page there is a table called "sensitivity analysis".

It is noted that a 1 percent change in the nuclear capacity factor will have a 2 to $3 million impact on net income. Am I correct in that statement?

MS. MACFARLANE: That is correct.

MR. MACNUTT: Now what is the nuclear capacity factor expected to be for the fiscal year 2001, 2002, which would be the year we are in now?

MS. MACFARLANE: Certainly the plan had been to achieve a 92.7 percent capacity factor, which is very high because there was no planned outage in this year.

As we are aware, we have had some disruptions in service from that plant in the previous month. And so we will not achieve the 92.7 percent.

I don't have the latest projection with me. But we could certainly get it very quickly.

MR. MACNUTT: You are talking quickly? You are talking 10, 15 minutes or --

MS. MACFARLANE: Yes.

MR. MACNUTT: I have got at least another half-hour, it turns out, Mr. Chairman.

CHAIRMAN: You are being off on estimates, Mr. MacNutt. You were a long way off in your cross. You are trying to suggest that maybe this is a good time for a break?

MR. MACNUTT: Yes. And I will finish within the former alleged half-hour or less than that.

CHAIRMAN: Okay. All right. Well, I certainly think it is time for a break.

MR. MACNUTT: Yes. And could you get that figure for me?

CHAIRMAN: And during the break, if the technician could possibly try and rearrange or activate the second mike down here it would be appreciated.

Because my intention would be that as soon as Board counsel has completed his cross is that I would ask the two parties that wish to address the Board to come up to those tables.

And I will ask Mr. Coon and Mr. Thompson if they wouldn't mind making some room for them there, so that the two parties could be there.

So we will take a 10-minute recess now. Sorry, Mr. Hashey?

MR. HASHEY: Mr. Chairman, we would have a short bit of redirect. And I also would ask for some guidance as to the return of Mr. MacPherson which hasn't been addressed, whether that is necessary.

CHAIRMAN: Well, thank you for bringing that up. Nobody has

brought it up.

MR. HASHEY: Could we also indicate or suggest to those -- I know one person spoke to me who intended to speak this afternoon, who I believe has to leave at 5:00.

Could we say that those that can't be here to speak this afternoon or this evening could be back first thing Monday morning?

CHAIRMAN: Yes. That certainly was the Board's plan. I wish they would speak to the Board Secretary and let us know.

Frankly not only does Mr. MacNutt have to complete. My Commissioners and I may have some questions as well. And then there is redirect from yourself, Mr. Hashey.

So you say a half an hour, Mr. MacNutt?

MR. MACNUTT: Yes.

CHAIRMAN: So we are looking at quarter to 6:00 or thereabouts before they would be able to address the Board at all.

So during the break would those two parties that were wanting to address the Board, that is the Construction Association and -- I forget who the other party was, but it doesn't matter -- would you approach Mrs. Legere, the Secretary and indicate whether or not you can stay tonight or if you would like to come back on Monday morning? Probably we will adjourn till 10:00 o'clock on Monday

morning after this.

So we will take a 10-minute recess.

(Short recess)

MR. MACNUTT: Mr. Chairman, Ms. MacFarlane indicated to me during the break that she has that number. That is the nuclear capacity factor for --

CHAIRMAN: Sorry, Mr. MacNutt, we are having difficulty hearing you up here.

MR. MACNUTT: I need to bellow again?

CHAIRMAN: I think everybody is.

MR. MACNUTT: During the break Ms. MacFarlane indicated that she had the nuclear capacity factor number that we were asking for. And it is?

MS. MACFARLANE: For the current fiscal year the projected capacity factor is 83.2 percent.

MR. MACNUTT: 83.2?

MS. MACFARLANE: That's correct.

MR. MACNUTT: Thank you. Now I want you to take the expected nuclear capacity factor for 2001, 2002 and subtract it from 92.7 percent and multiply it by 2 million and $3 million. And provide us with the result and range of impact.

MS. MACFARLANE: I have the actual impact.

MR. MACNUTT: Let us go with the single number.

MS. MACFARLANE: The actual impact is $24.2 million.

MR. MACNUTT: Now please turn to appendix G at page 22 of the business plan. At the bottom of the consolidated statement of income there is a line marked net income (loss) for the year. What is the figure forecast for 2001, 2002?

MS. MACFARLANE: In the business plan financial projection that number is indicated as 32 million.

MR. MACNUTT: Thank you. What is the latest projected result --

MS. MACFARLANE: There are a number of --

MR. MACNUTT: -- for 2001, 2002?

MS. MACFARLANE: There are a number of factors that have affected our operations this year, including the nuclear -- the disruption in nuclear services. And our current projection is that we would have a net income just under $1 million.

MR. MACNUTT: So equivalent roughly to breakeven in the element --

MS. MACFARLANE: Roughly to breakeven.

MR. MACNUTT: -- of the numbers we are talking about? Now earlier I provided you with a copy of two pages from NB Power's audited financial statement for the year 2000 and 2001.

MS. MACFARLANE: Yes.

MR. MACNUTT: And we have already marked the two pages, PUB-

1 and -- excuse me. PUB-5 and PUB-6. With reference to PUB-5 would you confirm for me that the NB Power audited financial statements to March 31, 2001, on page 37, show retained earnings of $8 million?

MS. MACFARLANE: That's correct.

MR. MACNUTT: Therefore the projected results for 2001, 2002 is $1 million, plus $8 million for a total of $9 million. Is that correct?

MS. MACFARLANE: Between 8 and $9 million, that's correct.

MR. MACNUTT: Now in the business plan at appendix H, page 23, the projected net income for the year 2001, 2002 shows retained earnings of $78 million, is that correct?

MS. MACFARLANE: That's correct.

MR. MACNUTT: Now would you please subtract $69 million from the $78 million you just gave us, and what is the result? Sorry, I have got it -- would you take the $78 million figure you have just given us --

MS. MACFARLANE: Yes.

MR. MACNUTT: -- and subtract the $9 million figure you just gave us from that?

MS. MACFARLANE: Yes.

MR. MACNUTT: And what's the result?

MS. MACFARLANE: 69 million.

MR. MACNUTT: And you would confirm for me that you would have a perspective shortfall for 2001, 2002 of that

amount?

MS. MACFARLANE: Appendix H would be different from what we are now projecting by that amount, yes.

MR. MACNUTT: And that amount is?

MS. MACFARLANE: 69 million.

MR. MACNUTT: Now presumably this amount will be replaced by debts?

MS. MACFARLANE: That's correct.

MR. MACNUTT: Will it be short form debts?

MS. MACFARLANE: It may be short term debt.

MR. MACNUTT: Whether it's short or long term will this amount be obtained from the province or will NB Power do it directly?

MS. MACFARLANE: In the case of our overall debt position, we have a number of issues. It will be -- let me start again. It will be obtained through the province of New Brunswick, yes.

MR. MACNUTT: Now would this affect the table total net debt which appears in exhibit A-6 at page 122? I believe we referred to that this morning. That is exhibit A-6, page 122.

MS. MACFARLANE: The exhibit that you are referring to is the net debt under the oil blend alternative.

MR. MACNUTT: Okay.

MS. MACFARLANE: But in fact under all three scenarios the

opening balance sheet is different than what was included in our business plan because of operational issues we faced in the last two fiscal years. So under all alternatives the debt will be different by that opening balance sheet amount.

MR. MACNUTT: When NB Power needs to borrow money does it do it directly or does the province do it on its behalf? And I believe you just mentioned that the province does it, would you just explain that relationship?

MS. MACFARLANE: The province does the borrowing and then there is a contractual arrangement through NB Power and the province of New Brunswick such that part of that issue is then seconded to NB Power. So the final legal obligation is ours but the contract with the debt holder is held by the province of New Brunswick.

MR. MACNUTT: Now when it was last done can you just give us an outline of what the terms of the issue, the issue amount, the coupon rate and the issue price was for that most recent issue? As best you can.

MS. MACFARLANE: I believe our last borrowing has been within the last three to four months. I believe it was in the order of 100 million. And the all-in cost of that borrowing were in the vicinity of 6 percent. Now that's before the guarantee fee that we pay to the province but that would have been the all-in cost of the issue itself.

MR. MACNUTT: And just as a matter of interest, the guarantee fee, I think it's called, that the province charges is .65 percent?

MS. MACFARLANE: That's correct.

MR. MACNUTT: And -- now when you say the all -- when you said 6 percent, does that -- that includes the .65 percent the province charges?

MS. MACFARLANE: That does not include that amount.

MR. MACNUTT: So you must add the 6 percent all-in borrowing cost and have it added to that, the .65 percent provincial guarantee and that would give you a total of 6.65 percent?

MS. MACFARLANE: That's correct.

MR. MACNUTT: And what was the term of that loan, if you remember?

MS. MACFARLANE: If I recall it was a 10 year issue.

MR. MACNUTT: Now I'm going to ask you to turn to appendix C of the business plan at page 18. And in the economic assumptions table at the top of the page it shows that the long term interest rate is projected to be 6.65 percent?

MS. MACFARLANE: I'm sorry, could you tell me that reference again? It's page 18?

MR. MACNUTT: Appendix C, business plan.

MS. MACFARLANE: Yes.

MR. MACNUTT: Page 18. Economic assumptions.

MS. MACFARLANE: Yes. It says long term interest rate of

6.5 percent.

MR. MACNUTT: Oh, I -- I didn't intend to say 6.5. Okay. And does that fee as expressed in that table include the provincial guarantee fee of .65 percent?

MS. MACFARLANE: No, it does not.

MR. MACNUTT: Now I'm going to ask you to turn to appendix G of the business plan at page 22. At the bottom of the table consolidated statement of income, there is a line marked finance charges. Has the provincial guarantee fee been included in the forecast financial finance charges on this line?

MS. MACFARLANE: Yes, it has.

MR. MACNUTT: In exhibit A-6 at page 13 of the business plan, under the heading finance charges, you state, "NB Power takes the opportunity to refinance high coupon debt at lower rates whenever possible. Annual finance charges will be reduced as this occurs. A significant portion of the corporation's debt will be refinanced in 2002, 2003 and as a result finance charges will decline in future years." Is that an accurate statement?

MS. MACFARLANE: That's true.

MR. MACNUTT: In exhibit A-7 in response to PUB 20 at page 26. That's PU -- exhibit A-7, response to PUB 20?

MS. MACFARLANE: Yes, I have it.

MR. MACNUTT: NB Power said in response to a request that it

describe its preborrowing program the following -- and I'm just going to read from the response. "The graph at appendix C at page 15 depicting maturities and calls, indicates the corporation is required to refinance approximately 700 million in long term debt in the fiscal year 2002, 2003. The amount is more than three times greater than any other single year in the eight year business plan.

In June 2000 the corporation implemented a preborrowing strategy to avoid pressures of market liquidity and to hedge against interest rate fluctuations in the fiscal year 2002, 2003. The strategy was implemented through a program of forward dated swaps covering a period from September 2000 to February 2003. The program effectively fixed the interest rate at 6.5 percent on $600 million of existing long term debt to be refinanced." Did I quote that accurately?

MS. MACFARLANE: Yes.

MR. MACNUTT: Thank you. Would you please describe how the preborrowing strategy operates?

MS. MACFARLANE: In late -- during the year 1999 as we were looking forward with our financial projections, we were concerned and the province was concerned about the high level of exposure that we had in the year 2002, 2003. Exposure to both availability of funds and to the interest

rates that may be available at that time.

And so we looked at the next two to three years borrowing and we decided as opposed to borrowing shall we say $1 billion in increments of 200 one year, 700 the next year and 100 the following year, to smooth that out over the period and borrow it in equal increments. And it would reduce our exposure to any concerns about availability of Canadian debt and any exposure that we might have to increased interest rates.

MR. MACNUTT: Thank you. The response I just described and -- there is reference to forward dated swaps. Would you please explain to the Board what a swap means in that context?

MS. MACFARLANE: It's an arrangement whereby you can fix your interest rate for future obligations at the present time, so that you reduce your exposure to any volatility in the interest rate markets by signing a contract now for what interest rate will occur at that future date.

We were concerned about volatility in interest rates particularly because of the large amount of borrowing that we had in that year, and so we chose to reduce the risk of that volatility and to increase our predictability in our business plan by fixing those rates at that time.

MR. MACNUTT: Now it's my understanding that when a swap is done they are executed -- or swap agreements -- and they

are executed with third parties, is that correct?

MS. MACFARLANE: That's correct.

MR. MACNUTT: Now is it correct to say that N.B. Power having signed a swap still legally owes the debt which it has incurred?

MS. MACFARLANE: That's correct.

MR. MACNUTT: And in recent swap agreements entered into by N.B. Power does it have any liability for the debt or interest payment of the third party?

MS. MACFARLANE: I'm sorry. I don't quite understand your question.

MR. MACNUTT: Well if things go off the rails and the contract doesn't go smoothly do you have an ultimate responsibility for the debt payment or interest liability of the swap partner -- or the third party, excuse me?

MS. MACFARLANE: Certainly we have an obligation to meet our debt obligations and we would have -- we would find ourselves in a position of if the third party somehow defaulted and had back stopped that arrangement we would find ourselves with some obligation there, which is why we were very careful to deal with credible third parties in that swap arrangement. We dealt with the Royal Bank and with CIBC.

MR. MACNUTT: Now I am going to ask you to turn to the N B Power annual report for March 31, 2001, and this would be

exhibit PUB 6. That would be the second of the two sheets we marked earlier.

MS. MACFARLANE: Yes, I have it.

MR. MACNUTT: Please turn to page 49 and go to note 16 to the financial statements under the heading Interest Rate Risk Management, and just to save time I am going to quickly read it. It is stated there, "the corporation has entered into interest rate swap agreements with effective dates of March 15th, 2001 to November 15, 2002, and termination dates from June 15 to 2011 to February 17th to 2013. These agreements have a notional principal amount of $450 million. The corporation will pay a weighted average fixed rate of 6.555 percent. If the agreements had been closed out at March 31, 2001, the loss would have been 17 million (2000-immaterial)." Are these swaps the same type as the ones you just described?

MS. MACFARLANE: They are not only the same type, they are the same transactions which are referred to in the business plan.

MR. MACNUTT: Can you explain for us -- or would you explain for us the loss of $17 million which was referred to in that quote which would have been incurred if the agreements had been closed out at March 31, 2001?

MS. MACFARLANE: Our financial statements are prepared under CICA guidelines. And the disclosure guidelines of the

CICA at the present time are to mark your instruments to market. In other words, revalue them at the market price at your year-end date. At the year end date the market price for those instruments were lower because in fact interest rates had declined. The rate at March 31st was lower than the 6.55 percent rate that we had executed the agreements under. So if we had closed out the instruments there would have been a financial cost to doing that.

I might point out when you enter into these agreements no one has a crystal ball. You look at what the industry is telling you about where interest rates are going and you make your projections on that basis. Certainly what the forwards were telling us was that there was an exposure to interest rates increasing and given the high degree of exposure we had to that we felt it was prudent to lock those rates in and get that stability and predictability built into our financial position. The fact that interest rates went against us is unfortunate shall we say.

MR. MACNUTT: Crystal ball is never clear.

MS. MACFARLANE: That's right.

MR. MACNUTT: Is it your present expectation to hold the swap obligations to maturity?

MS. MACFARLANE: Very much so. There is about I believe just under 250 million that is still outstanding and we

will hold those until maturity, and they will all be executed by the fall of this year.

MR. MACNUTT: What does the notional amount outstanding as at December 31, 2001 -- what was the notional amount?

MS. MACFARLANE: In the vicinity of 250 million.

MR. MACNUTT: Okay. Would there have been a loss if those contracts had been closed out at that date and, if so, how much?

MS. MACFARLANE: That is speculative because of course we don't know what is going to happen to interest rates between now and the time that those contracts come due. The loss only arises if on the day that the contract comes due interest rates are lower than the contract amount. So it may be that in fact we have a financial gain on those contracts. It may be that there is a financial loss. In any event, the contracts have given us the ability to have predictability and stability in our borrowing program.

MR. MACNUTT: Did you mark to market December 31, 2001?

MS. MACFARLANE: No, we didn't. We do that on an annual basis.

MR. MACNUTT: What time of year?

MS. MACFARLANE: At year end.

MR. MACNUTT: Oh, fiscal year end.

MS. MACFARLANE: Fiscal year end, yes.

MR. MACNUTT: Okay. Slightly different line but not much

different line of questions again for Ms. MacFarlane.

Appendix 6, appendix C at page 18, which is the business plan at page 18, and at the top of that page there is a table providing "Economic Assumptions" made in preparing the business plan, is that correct?

MS. MACFARLANE: That's correct.

MR. MACNUTT: And at the bottom of page 18 there is a table called Sensitivity Analysis, is that correct?

MS. MACFARLANE: That's correct.

MR. MACNUTT: Now for the purposes of illustrating the magnitude of a change in an economic assumption, I would -- magnitude it can have -- I would like you to go through the following exercise with me.

The Canadian dollar to the U.S. dollar is shown as trading in a range of 66 cents to 68 cents on that page.

MS. MACFARLANE: Over the period of the plan, yes.

MR. MACNUTT: Yes. And the sensitivity analysis indicates that a change in the exchange rate of one cent can have a four to $6 million impact up or down depending on the direction of change.

MS. MACFARLANE: That's correct.

MR. MACNUTT: And you would agree with me that the Canadian dollar is worth about 62-and-a-half cents, or let's say for discussion purposes 63 cents, currently?

MS. MACFARLANE: That's correct.

MR. MACNUTT: What is the impact of that change in the value of the Canadian dollar to the U.S. dollar from say 67 cents to 63 cents when the sensitivity analysis figure is applied? This would require multiplying I think -- and perhaps you could do it for us and give us the result -- four cents times 4 million would be in the order of 6 million and -- did I do that wrong? Well perhaps you would do the -- each penny is worth 4 million and there is 4 -- so that would be 16 million, is that correct?

MS. MACFARLANE: It's correct that 4 million times 4 million is 16 million.

MR. MACNUTT: And what would the upper part of the range be?

MS. MACFARLANE: 24 million.

MR. MACNUTT: Thank you. Is this impact included in the projected result for 2001 and 2001 that you provided earlier?

MS. MACFARLANE: In 2000 -- prior to 2001 and 2002 we hedged most of our US dollar exposures in that year. We have a program of hedging to the extent that we can those commodities. Our exposure to heavy fuel oil. Our exposure to natural gas. Our exposure to the Canadian dollar. And our exposure to interest rates, in the near term over an 18 month period as an example, we hedge 80 percent of our exposures. So going into the fiscal year 2001, 2002 we had hedged most of our US dollar

requirements for that year at approximately 66 cents.

In fact it's our hedges that help us determine for the budget year what our assumption should be for things like the US dollar. So the fall in the US dollar in the near -- in the near term will not have a large impact on the current fiscal year because the dollar was hedged.

MR. MACNUTT: Now is it correct to say that the fuel supply for Coleson Cove, both present -- present heavy oil and proposed Orimulsion is calculated in US dollars?

MS. MACFARLANE: That's correct.

MR. MACNUTT: And what is the impact of that 4 cent reduction in the Canadian dollar on the fuel price of $15.50 for 2005 and 2006?

MS. MACFARLANE: About half of the sensitivity arises from our exposure to fuel prices. The other half of our exposure arises from -- from our interest payments on our US dollar debt. So of the $4 million dollars, it's about 2 and a half million from exposure to fuel prices, and it's about one and a half million that is our exposure to foreign exchange on our interest payments on US debt.

MR. MACNUTT: Now is it fair to say that a large portion of the $747 million capital cost of the Coleson Cove Orimulsion conversion project would be comprised of equipment and components to be purchased in the US?

MS. MACFARLANE: I believe that was the subject of an

interrogatory. And some of that equipment will come out of the US.

MR. MACNUTT: Can you, without digging and spending a lot of time, can you remember roughly the percentage? Anybody on the panel?

MS. MACFARLANE: We answered the interrogatory that that information is not available yet.

MR. MACNUTT: Oh, I see.

MS. MACFARLANE: Yes. In fact I checked the day before we came down to see if we had a better estimate, and we do not have an estimate for that yet.

MR. MACNUTT: Just for information, would a change in the exchange rates Canadian to US impact the cost of the equipment and components purchased in the US?

MS. MACFARLANE: Because the quotations included in the estimates, as Mr. Thomas indicated, have been the subject of negotiations and recent negotiations, recent US dollar estimates have been included in any of those negotiations. And we do not anticipate significant changes in those estimates, given that we are very close to signing fixed price contracts.

I think the answer in the interrogatory about any US dollar exposure was that because we are at -- because we are looking at fixed price contracts that risk would be on the supplier, not on NB Power.

MR. MACNUTT: Now if the Canadian dollar was to stay at the current rate for the balance of the period, would this have a significant impact on any of the primary options considered for the Coleson Cove project?

I guess this may be a question for --

MS. MACFARLANE: It would have --

MR. MACNUTT: -- not only you --

MS. MACFARLANE: Yes.

MR. MACNUTT: -- but for the rest of the panel if they are interested.

MS. MACFARLANE: It will affect all the options. Because under all of the options the fuel is purchased in US dollars.

MR. MACNUTT: And that would be the only impact on the options? It wouldn't cause the NPV of any of those to change?

MS. MACFARLANE: The NPV includes both the operating -- both the capital costs and the operating costs over time. So it will affect the NPV of all of the options.

MR. MACNUTT: As the rising tide all affected equally or how would it vary?

MS. MACFARLANE: The rising tide would not change the order of the -- the rank order of the cost effectiveness of the options. It would continue with Orimulsion being the least cost alternative. Oil blend and natural gas being

less cost effective than Orimulsion.

MR. MACNUTT: Now what impact will the 4 cent change in the Canadian dollar have on export sales?

MS. MACFARLANE: In fact the -- when the dollar weakens, it's to our advantage from a perspective of export sales because our prices are more attractive to -- our prices are in US dollars. We sell into the market and we receive the revenue back in US dollars. So that actually provides a natural hedge to us against our US dollar cost exposures.

MR. MACNUTT: So are you subject to any hedging or forward contracts on your export sales or are they all spot?

MS. MACFARLANE: When we undertake to look at our hedging on our heavy fuel oil commitments and on our US dollar commitments, we take into consideration that we will have some revenue in US dollars and we net that off of our exposures before we undertake those hedges.

MR. BROGAN: If I can add some information?

MR. MACNUTT: Yes.

MR. BROGAN: The question was on do we do forward contracts in sales in US dollars in the export market as opposed to all spot pricing. We do both. And, for example, there are for this coming summer there is -- there are megawatts presold, forward contracts for July and August, so there is some of both.

MR. MACNUTT: Very short here, only two more -- two or three short questions hopefully. I guess this will be directed to Mr. Marshall. Exhibit A-11, numbered edition, page 33. Again, A-11, numbered edition, page 33.

MR. MARSHALL: Yes, I have it.

MR. MACNUTT: Exhibit A-11 at slide 33 provides the most recent expression of the NPV and the final three options considered for Coleson Cove. Is that correct?

MR. MARSHALL: Yes.

MR. MACNUTT: The preferred option is conversion of Coleson Cove to Orimulsion. Is that correct?

MR. MARSHALL: Yes.

MR. MACNUTT: Assume for the moment that the Orimulsion conversion option is not available for whatever reason. What is NB Power's next preferred option?

MR. MARSHALL: The oil blend case.

MR. MACNUTT: What is the increase in the NPV to move to this option from the Orimulsion option?

MR. MARSHALL: It's the number shown on the -- on the slide. It's $393 million would be the increase net present value to move to oil blend.

MR. MACNUTT: Thank you. What is the single most significant factor that causes this increase in NPV? Is it the price for the fuel for this option or are there some other major factors. I'm going to ask you several --

MR. MARSHALL: I think the major --

MR. MACNUTT: What major several factors -- several major factors influence it?

MR. MARSHALL: I think the major factors are the difference in fuel price between Orimulsion and oil.

MR. MACNUTT: And what would be the next factor having a major weight or impact?

MR. MARSHALL: Well because of that difference in fuel price, there is also a difference in export margin. Because the sales into the export market you get the same price back but it costs you more to generate the energy to sell it so you get less margin. So it still comes back to essentially the difference in fuel prices is the key driver.

MR. MACNUTT: Approximately what percentage change would be required in the cost of this factor to bring the NPV of the second most preferred option close to that of the Orimulsion project?

MR. MARSHALL: I don't know that at this time. We did not do a breakeven price calculation against oil prices for the oil blend against Orimulsion, so I don't have a response at this time. That would require some detailed analysis of rerunning our computer models.

MR. MACNUTT: This is directed to Ms. MacFarlane. I ask you to look at Appendix -- excuse me, exhibit A-6, Appendix C,

which is the business plan and financial projection. And in particular, Appendix I of the plan which is at page 24.

I'm not going to look at it in detail. My question is would NB Power undertake to file an updated version of this table to reflect the same changes as in the table on page 119 of exhibit A-6, which was where you made the correction in your oral testimony or verbal testimony?

MS. MACFARLANE: Certainly.

MR. MACNUTT: Would it be possible before final argument on Friday morning?

MS. MACFARLANE: We can file it on Friday.

MR. MACNUTT: Friday.

MS. MACFARLANE: Is that possible?

MR. MACNUTT: Thank you. I want you to return to exhibit A-11. I guess it would be the numbered version at page 57.

MR. MARSHALL: Mr. MacNutt, we just -- in response to that question on cost difference of what a break even price might be, we have done a very quick calculation, so I could give you a very rough estimate of what it might be against oil prices. Calculating the difference, we believe it's about a 25 percent reduction in oil prices to break even. And our forecast load prices are about $16 a barrel. So it would mean that we would need about $12 a barrel oil prices escalating only at the inflationary number of 1.8 percent over the term of the project to be a

break even against Orimulsion.

MR. MACNUTT: Thank you very much, Mr. Marshall. I'm going to go to exhibit A-11, page 57, and the subject is boiler modifications. What is the amount for re-burn equipment that is included in the $184 million for boiler modifications as shown on that page of the exhibit?

MR. THOMAS: Approximately $40 million.

MR. MACNUTT: Thank you.

MR. THOMAS: That would include the low NOx burner and the over-fire system just to be complete. Okay. It's the whole re-burning system, over-fire air and low NOx burners, $40 million.

MR. MACNUTT: Thank you very much, Mr. Chairman. That concludes the questions from the Board.

CHAIRMAN: Thank you, Mr. MacNutt. The Board is prepared to carry on. But I have been remiss in not seeing if the translators and the shorthand reporter are okay for another 20 or 25 minutes. I see the shorthand reporter, you are okay -- sorry, the translator and the shorthand reporter. Good. Then I will ask my Commissioners if they have any questions.

BY THE BOARD:

MR. RICHARDSON: Yes. Thank you, Mr. Chairman. I will

direct my questions to the panel, and whoever would like to ask them -- answer them, help yourself.

I would like to talk just a moment on the BITOR contract. As I read the contract that's available for us to read, is there any break clause in it from the standpoint of NB Power, if for example 10 years down the road new technology comes on-line that would make Orimulsion not a feasible thing, or anything -- whatever might happen that makes it unattractive to you, is there any way you can break that contract?

MR. BROGAN: Basically, the fuel contract is a fixed contract for 20 years. The only out would be that legislation or regulations here that actually prevent us from using that fuel for some reason, that you are legally prevented from using it.

MR. RICHARDSON: So in other words, if the government passed legislation that said you could not longer participate in that contract that would be your way out?

MR. BROGAN: Yes. Although it would have to be -- behind that would have to be a linkage back for clear environmental rules or whatever.

MR. RICHARDSON: Yes. Looking at a contract from Venezuela, and looking at a 20 year time frame, and considering the fact that you have to invest 747 million to get a plant up to scratch to handle BITOR, have you any performance guarantees connected with that contract? And when I am referring to performance guarantees, I am referring to

third party guarantees that says BITOR will complete its share -- it's part of the agreement?

MR. BROGAN: Perhaps I will ask Ms. MacFarlane to answer that question.

MS. MACFARLANE: We do not have third party guarantees. We have a long history of dealing with BITOR. And in fact the corporation that this contract is with have significant assets, physical assets, being the reserves themselves, and the -- all of the equipment that is used to produce and deliver. And we feel that our right under the contract to sue in the event of default is able to be backed up by the assets of the corporation.

MR. RICHARDSON: I hear what you are saying, but the -- you have the right to sue and you certainly do, but suing in Venezuela could be a problem?

MS. MACFARLANE: We -- in -- I think there was a response to one of the interrogatories about third party guarantees, and we have looked at third party guarantees, and we are continuing to look at those. I would suggest to you -- and certainly our early evaluations are that they are very expensive. Once we have those quotations in, we will be able to make a cost benefit evaluation to determine whether or not the provision of bid bond, guarantees, or what have you would be -- would be reasonable in this case. But we are quite confident in the contract because

of our previous relationship with BITOR.

MR. RICHARDSON: The cost should not be one of NB Power. It should be one of BITOR, I would think. But secondly, you really didn't discuss it with BITOR at the time of your negotiations, I gather, is that right? You never asked them to put up any type of a performance bond?

MS. MACFARLANE: I'm hesitant to answer, because I'm conscious that that section of the contract is blacked out. But I will tell you that there are no provisions in the contract that are other than with BITOR, itself, on guarantees.

MR. RICHARDSON: The term sheet that they have issued, and I have been referring to it as a contract is a term sheet only and not legally binding. How soon will that be completed as a legal and binding document if you get the go ahead to proceed?

MR. BROGAN: We do -- we do have a draft contract. And one of the reasons for the signing of that contract being held up relates to transportation issues. And they relate to whether we go to pier 10 or Canaport, large vessels at Canaport versus small vessels. So not only is -- so because we haven't made our final decision on which offloading option to take, we are not in a position to sign the final contract with BITOR, because there are items within the contract dealing with the shipping issue

and the costs of shipping and forward indexes.

MR. RICHARDSON: Does it mirror the term sheet?

MR. BROGAN: Yes, it does.

MR. RICHARDSON: Thank you. Turn now to the point -- or slides 57 and 58, and to the business plan. I would like to get a little clearer in my mind just exactly what some of the numbers are here, or as I view it anyway.

Mr. Thomas, as I understand our discussions yesterday and today, we are at approximately 45 percent firm on the total capital costs of the project?

MR. THOMAS: Yes.

MR. RICHARDSON: You are comfortable at 45 percent. In looking at your financial business plan on page 15, financing requirements. And it is indicated in here that the operating cash flow will fund 75 percent of the capital expenditures made during the period. Now those capital expenditures as outlined on page 14 in the graphs, indicate that that would represent not only the capital expenditures for Coleson but also for Lepreau. But in addition, approximately 100 to 150 million a year on other capital expenditures, your general capital expenditures, is that correct?

MS. MACFARLANE: Yes.

MR. RICHARDSON: Going back to slide 56, here you are showing interest during construction of $47 million.

Slide 57, excuse me. How can that be if you are going to fund it from cash flow?

MS. MACFARLANE: The project financing will match the life of the plant. The cash flows from the project would allow this particular -- the debt assigned to this to be paid back over a much shorter period of time. In fact we have indicated a six year pay back. But for purposes -- in a utility for purposes of inter-generational equity, we match the financing to the term of the asset itself so that we have appropriate allocation of costs to the ratepayer over the life of the asset.

The excess cash flows that -- from this project that will not be directed to its own debt will be directed to funding capital programs throughout the corporation and to repayment of general debt of the corporation, so that there is no leakage in the system. It's just that despite the economics of the specific project we will finance it in a manner that matches the term of the debt -- the term of the asset, I'm sorry.

MR. RICHARDSON: If you got caught into a problem where you had an overrun in costs, and you have done your financing in-house with your own cash flows, then really that doesn't become an expenditure, does it? A really true expenditure? Sure, it is to show your individual project and show what the capital costs and the costs associated

with it, but in fact you don't have to pay that money out, do you?

MS. MACFARLANE: If we run into a cost overrun on the project?

MR. RICHARDSON: Yes. I guess I am trying to find some more money for you in case you get --

MS. MACFARLANE: It turns into a cost and affects rates over the life of the project through depreciation, and obviously through interest charges over the life of the project as well.

MR. RICHARDSON: But the 47 million can -- is already -- is really not there if you are paying 75 percent from cash of your own money?

MS. MACFARLANE: 75 million of our interest costs will be capitalized with this project.

MR. RICHARDSON: I beg your pardon?

MS. MACFARLANE: Pardon me. 47 million of our interest costs in the corporation will be attached to this project and financed.

MR. RICHARDSON: But if you get caught in a jam that doesn't have to be an outlay of cash. What I am saying, you still have that money that you can use somewhere else.

MS. MACFARLANE: Yes.

MR. RICHARDSON: And I guess I'm trying to show that you have got some room to manoeuvre here, or at least as I see

the figures. On the basis of a 45 percent fixed cost at this point -- and let's call them fixed, we are 99 percent sure -- it would represent about 337 million and that leaves about 410 million left that has to be dealt with, which is pretty good before you even get off the ground.

MS. MACFARLANE: Right.

MR. RICHARDSON: To help you along with any mistakes you might have -- or come up against -- you have 71 million in your contingency account, you have 18 million sitting in your escalation account which really is, as I would view it -- and that's on slide 57 -- 58 -- and then you really have this money for interest on a cash basis that you could rely on. And if you move that all out of your total capital costs, if you deduct them all off, really what Mr. Thomas has to look for is about 286 million in fixed hard costs to negotiate to finalize the project?

MS. MACFARLANE: And as Mr. Thomas said when he was going through the nature of the rest of the costs, they are costs with which we have significant construction experience and we feel quite confident --

MR. RICHARDSON: Yes. Sure.

MS. MACFARLANE: -- in those estimates.

MR. RICHARDSON: And I don't disagree. But to help you offset any cost overruns you have about 124 million, if you look at your 18 plus your 71 plus -- and I even put a

little money in there for interest, you know, to pay the poor bankers somewhere along the way. I will say 35 million. But if you get caught in a jam, you have got lots of manoeuvrability here, is that right?

MS. MACFARLANE: From a cash perspective, yes.

MR. RICHARDSON: Yes. That's what I mean.

MS. MACFARLANE: Yes

MR. RICHARDSON: Okay. With saying that and the fact that there is only 286 -- and I say only very lightly, and you have this extra buffer, would it be reasonable to assume that you might come in under budget?

MR. THOMAS: Yes.

MR. RICHARDSON: And I'm saying this also, Mr. Thomas, in light of what took place at Dalhousie where you came in at 20-some percent under budget. So can we -- Mr. Brogan is going to head this up, maybe he is going to look at coming in about 15 percent? It would be very nice. You know, it's my dollars out there.

MR. THOMAS: Based on what we have done so far, you know, your assumptions are correct. Again based on a non-changing base.

MR. RICHARDSON: I understand that.

MR. THOMAS: If the environment requirement changed it's a different story.

MR. RICHARDSON: Look, I understand, but this afternoon at

6:15 it looks pretty good from the project standpoint.

MR. THOMAS: I agree.

MR. RICHARDSON: Thank you. I wish you well.

MR. THOMAS: Thank you very much.

MR. BATEMAN: I have a follow-up and I will address this to the panel and anyone can answer if they wish. And to follow-up a bit on what Commissioner Richardson has been saying. I haven't heard anyone here talk about -- we have a 20 year contract, but what is the guarantee of supply? Is the supply in Venezuela such that there is no problem or any problem in that length of time?

MR. BROGAN: There is -- I think we may have -- we will search for -- through the interrogatories for some more information, but it's often described in Venezuela, it's a sea. They are awash in bitumen. I believe they are the largest bitumen resources in the world. Now Canada has significant bitumen resources in our mines as well -- in out west and I believe the Russians have large resources. So it's very significant. I have heard it described that they have enough resources to fuel perhaps something like 500 power plants the size of Coleson Cove and come nowhere near to ever depleting their resources. So they have just huge, tremendous resources.

And one of the reasons the bitumen, the Orimulsion, is so important to the Venezuelans is that being members of

OPEC they are subject to the kind of the quotas and restrictions placed on the regular crude business. Those quotas do not apply to Orimulsion. So they can maximize and increase production and not be affected as members of OPEC. So hey have a strong desire to increase production and there is huge quantities of it.

It's in A-7, PNB 4, on page 6.

MR. BATEMAN: PNB 4, page 6. Yes.

MR. BROGAN: If you have page 6, and in the response to this interrogatory BITOR has 267 billion barrels of proven reserves. And to put that into perspective, we will use approximately 10 million barrels per year. So -- we at our Coleson Cove facility.

MR. BATEMAN: But how much is being used by the total exports of Venezuela at the moment?

MR. BROGAN: World-wide -- we are estimating it may be as high as 50 million barrels, and that probably is on the high side.

MR. BATEMAN: So what you are saying is you are very comfortable with the supply and the 20 year contract. I guess another question I might have asked is why did we go with a 20 year contract rather than a ten year contract or 12 year contract? A 20 year contract is very long.

MR. BROGAN: Yes, and it was a -- we wanted to lock in the benefits I guess of the low cost fuel source. And really

that summarizes it. It -- we considered it, but for example to go at ten years and then the concern came was where is your negotiating position at year ten to negotiate a new ten year contract? And that was one of our major concerns --

MR. BATEMAN: I see.

MR. BROGAN: -- is to be able to lock in that price in the future ten years.

MR. BATEMAN: Okay.

MR. BROGAN: Now there is another point here in that also on page 6 within response A, this volume of bitumen, it represents -- that's 25 percent of the world's recoverable oil reserves.

MR. BATEMAN: So it's an incredible --

MR. BROGAN: So it is huge. It is massive.

MR. BATEMAN: It is huge, yes.

MR. BROGAN: Yes. And it is hardly even tapped into.

MR. BATEMAN: Okay. Well thank you. I think you mentioned that there is a bi-product from Orimulsion, what you called a fly ash, that is sold into the United States for the steel industry?

MR. BROGAN: Yes.

MR. BATEMAN: What is the significance of that? I mean is that a market that is there to grow? I mean is there lots of market for fly ash? There is no problem to market it

at all or --

MR. BROGAN: No. We don't -- actually we see the real benefit to us to sell it into the U.S. steel industry is avoided landfill costs.

MR. BATEMAN: Okay.

MR. BROGAN: When we initially started operating the Coleson facility on heavy fuel oil, we actually took the fly ash and sent it to a landfill. So you had all the capital costs of building landfills and the operating cost to dispose of it.

Our Coleson facility today sells their ash into the steel industry. And so our main objective actually is not to be a gas generator, it's to avoid operating costs.

MR. BATEMAN: So if that market was not there what would it cost us? I mean if we had to put it in the landfill or something, what -- would that be -- would that be a huge cost, a small cost,or would it affect your numbers to any extent?

MR. BROGAN: I don't -- I can only think off the top of my head here. We have recently built a cell for the storage of coal ash at our Belledune operation. For two-and-a-half million dollars that gave us a cell that would last five years and that will hold about 500,000 tons of ash. So if you look at Orimulsion it's an extremely small ash generator. There is very little volume. So --

unfortunately I'm thinking out loud, but I'm thinking I could build a cell there that would -- for $5 million that would hold the ash for the life of the plant likely.

It's -- the trouble is the very fact that you are having to landfill and deal with it on the environmental side, it's -- there is hidden costs there as well, but our preference is to sell into --

MR. BATEMAN: Yes.

MR. BROGAN: And we do sell our Dalhousie ash right now.

MR. BATEMAN: Yes. No, I think that's an excellent way to take care of the problem is to turn it into some dollars.

Just another question for interest. What percentage of our power generation is exported today?

MR. BROGAN: It's -- of our total generation approximately 25 percent would be exported. It's about 20 percent of our total production is exported.

MR. BATEMAN: Okay. And looking down the road ten years how do you see that market? Of course I know it's limited by transmission, but is it something that you can see growing or shrinking or --

MR. BROGAN: We are seeing similar volumes -- similar volumes of business ten years out.

MR. MARSHALL: I just might like to add to that. We are pursuing a second transmission line from Point Lepreau down into the Bangor area. And that will potentially give

us more transfer capability into the market.

So we could possibly increase supplies. But in our evaluations we have not taken account of increased exports. We have taken a projection of exports to do all of the PROVIEW net present value calculations as a reasonably conservative amount based on history of what is an average of what we normally have done.

MR. BATEMAN: I guess my thought would be if it is so profitable why shouldn't we be trying to double it?

MR. MARSHALL: Well, if the opportunity is there and we can meet all of the emission requirements and do it within the environmental standards, we certainly will pursue it.

MR. BATEMAN: Yes.

MR. MARSHALL: It has value to our customers and ratepayers in New Brunswick.

MR. BATEMAN: Thank you.

MR. LEBRETON: Okay. I have a question regarding the organization that sell us Orimulsion or that sells the corporation Orimulsion. First of all, can you give me some information on the company? Is it nationalized? Or is it a partnership or what have you?

MR. BROGAN: On a daily functional basis we deal with a firm called BITOR America who are responsible for the North American business. They in fact are owned directly by BITOR Venezuela.

And BITOR Venezuela is owned by a company called PDVSA. Now those are initials PDVSA, which is the National Petroleum Company of Venezuela and are owned by the Venezuelan government.

MR. LEBRETON: So I take it is not like here where you have Syncrude, Suncor owning certain concessions, that they own the whole 25 percent of the world supply of oil reserve?

MR. BROGAN: That is right. They do. It is all owned by a single company or a single parent eventually, PDVSA who in turn are owned by the Venezuelan government. And there are no other players.

MR. LEBRETON: Okay. Is the contract that we have with them, is it subject -- of course we sign a contract with them.

Is it subject to legislation by the Venezuelan government that could change the contract similar to what we have here on emission, the Province could change --

MR. BROGAN: No. I don't believe so. I think the -- as I remember on that half of it, it is only -- if the regulatory approvals cannot be obtained in Venezuela to build new production facilities, that would allow BITOR to get out of the contract. But that would be before the project even started.

But that is no longer a concern. That concern was they need to raise capital and get the approvals in

Venezuela to build production facilities. But what they have undertaken to do is actually begin construction of a new production facility already.

And that decision was based on a contract with the Chinese where they will be receiving Orimulsion. So they have an out. But they have already decided to go ahead a build a production model -- module.

MR. LEBRETON: Thank you.

CHAIRMAN: Mr. Marshall, just back to the Mill Bank questioning by Mr. MacNutt. You indicate that the Hydro Quebec contract on one of the units is up November of this year, is that right?

MR. MARSHALL: Yes. That's correct.

CHAIRMAN: And in the information that was filed with us in the generic hearing, they are about -- they are about 100 megawatts, are they not?

MR. MARSHALL: Yes.

CHAIRMAN: In the load forecast that you filed in the generic hearing, which to my recollection showed your shortfall on generating capacity when Lepreau was to go off line was about 400 megawatts?

MR. MARSHALL: I believe that's correct. In that range.

CHAIRMAN: Was that 100 megawatts of that one unit for Mill Bank that would be freed up by the completion of the Quebec contract, was that included in what was available

to you? Or would that be extra?

MR. MARSHALL: No. That's included in our resources. In November of this year that 100 megawatt -- that contract reduces by 100 megawatts.

And the capacity is now available as an in-province resource for New Brunswick. And it is included in our projections.

CHAIRMAN: Okay. Thank you, Mr. Marshall. I will let Commissioner Dumont have a question or two here.

MR. DUMONT: Thank you, Mr. Chairman. Looking at 57 -- exhibit A-11, it says boiler modifications 184 million. Does that include modifications to the turbines or generators?

MR. THOMAS: No, it doesn't. The turbine upgrades are under the efficiency improvement initiatives.

MR. DUMONT: Okay.

MR. THOMAS: And the generator is not included in the modifications here.

MR. DUMONT: Okay. If no modifications would be done to the turbines, how long would they last, the lifespan of the turbines right now?

MR. THOMAS: The turbine upgrades are scheduled to be done during the boiler outage. The boiler outage will be the critical path within the boiler. And the turbine can be done -- the turbine work can be done within that period of

time.

MR. DUMONT: Yes. That is not my question. My question is if nothing was done to the turbines right now, what would be their lifespan? How long would they last?

MR. THOMAS: The turbine here has -- is being inspected, you know, every year. One of the reasons for the turbine improvement is to extend the life but also to make them more efficient.

MR. DUMONT: I can understand that.

MR. THOMAS: Yes.

MR. DUMONT: But the way they are right now, how long would they last? What is their lifespan right now, the way they are now?

MR. BROGAN: I used to work at the station, so -- Gaetan hasn't worked there yet. The current condition of the turbines is that basically at this point in their life they are ready for maintenance. And primarily the HP cylinders have to be overhauled. And the efficiency improvements are a replacement of all of the high temperature internal rotating components.

So the only thing left on the high-pressure end will be the cylinder itself. So having done that, that puts us in a position to run the turbines out to 2030, the new life of the project.

Today where we are at 2017 what we would have to do --

if we don't do the project we will have to do major maintenance on the turbines. And it may not be the efficiency improvements but -- if you didn't do Orimulsion. So major maintenance in the next two or three years would be required.

Then in 2017 where we are about I think 40 years of life, we would actually have to do a complete review of the integrity of those rotating components to see if they could run further. Now that is on the turbine side.

On the generator itself we have done -- there is -- we have done a lot of work on the generators themselves over the last two to three years. And there is no specific major issue that will be undertaken as part of the project.

But in the long-term planning we have made provision to install one new generator in the event of the failure. So the machines will be in good shape.

MR. DUMONT: Okay. And that efficiency improvement initiatives, does that include work on the transformers?

MR. BROGAN: It does not, because in fact for another reason. The transformers are being overhauled at the present time. Those are the main unit transformers that you are probably thinking of.

Two of them have been completely rebuilt in a manufacturer's shop. And the third unit will be rebuilt

this coming year.

MR. DUMONT: Okay. Thank you.

CHAIRMAN: We are an economic regulator. And we are NB Power's regulator for rates. And this -- I'm only bringing these matters up because of the testimony that has been before us. But you have not been before the Board -- I think it was '93, '94, somewhere thereabouts.

At that time you had, to the best of my recollection, a debt equity ratio in the vicinity of 80/20, as I remember it. Your interest coverage ratio was probably at 1.25 or 1.3, somewhere like that, maybe even better than that. But that is from my recollection.

You presently have no equity. So there is -- you know, it is unity. Your interest coverage ratio, according to your testimony, is 1.09, is that correct?

MS. MACFARLANE: Our interest coverage ratio currently is below 1. In each of the last two fiscal years it has been below 1 because of the losses we have incurred in those two years.

CHAIRMAN: Okay. I notice -- and I won't bother -- I'm referring to your business plan that is in evidence. But Mr. MacNutt read from the same quote and a separate rate proposal will be prepared during the 2001, 2002 business planning process. That would end the end of March of this year, would it not?

MS. MACFARLANE: Yes.

CHAIRMAN: My recollection of your testimony was that it would be sometime in August before any decisions would be made --

MS. MACFARLANE: That is correct.

CHAIRMAN: -- is that right? I refer you to the numbered rendition of exhibit A-11, Ms. MacFarlane, in particular your slide number 49.

MS. MACFARLANE: Yes.

CHAIRMAN: What's set forth in that particular slide that which is sound business practice dictates that NB Power will recover all operating expenses, provides sufficient net income to meet unexpected circumstances. Service the debt and ensure ability to attract new capital debt, to maintain and expand facilities as required.

With frankness, if you didn't have the provincial government guarantee you would have a very difficult time in raising the 745 million or the reduced sum that you are going to pay for out of cash flow on the market at the interest rate you are projecting?

MS. MACFARLANE: The reason why we have such a low equity at this point in time is because of an accounting adjustment that was made two years ago to write off $450 million worth of the net book value of Point Lepreau. And that we had approximately $450 million worth retained earnings on

the balance sheet at that time and that accounting adjustment eliminated those retained earnings. The debt rating agencies -- and we deal with them regularly -- the debt rating agencies have looked through that issue in respect of our ability to service debt and are looking at our actual cash flows. That was a noncash transaction. So we still are in a position of having the confidence of the rating agencies that NB Power's debt is self-sustaining and is not a burden on the province such that they may consider changing the credit rating of the province.

Now it is the case that I believe we need to re-establish our balance sheet. And as we go into the future operating with a zero equity and with interest coverages where they are today, is not sustainable into the long term. And does not meet the requirements as you so clearly pointed out. And that will be part of the planning that we -- part of the consideration that we look in putting together a rate plan for the long term.

CHAIRMAN: I have no further questions. Mr. Hashey, any redirect?

MR. HASHEY: Mr. Morrison would have a few questions.

REDIRECT EXAMINATION BY MR. MORRISON:

MR. MORRISON: Thank you, Mr. Chairman. Just a couple of questions coming out of the Intervenor's

cross-examination. The first question is for Ms. MacFarlane. Ms. MacFarlane, this morning in cross-examination by Mr. Hyslop he suggested that if this project is delayed by a year that it will increase the cost by $100 million, and I think there is some confusion about what this $100 million is in terms of cost to the project. I wonder if you can clarify that?

MS. MACFARLANE: The $100 million benefit that we have referred to in the evidence and in the interrogatories as an economic benefit for advancing the schedule has two components, both of which arise from the lower fuel price and getting the advantage of that one year earlier. The first advantage, of course, comes from lower in province fuel costs and the downward pressure on our generation costs for in-province load. The second economic benefit we get is that we are able to dispatch into the export markets because we are more competitive with the lower fuel price and we see an advantage on the export side from that perspective. So it isn't -- if the project is delayed we will not have the advantage of that lower fuel price in-province, and we will not have the advantage of being more competitive in the export markets over that year. But it will not increase the capital costs of the project which is what the implication might be of an additional $100 million cost.

MR. MORRISON: Ms. MacFarlane, also if you would -- and I don't know whether you will have to turn to it but Mr. Hyslop examined you with respect to exhibit A-7, PNB 11. And this was the issue with respect to the confidence you had in the cash flow predictions. I think he put forth the scenario if the cash flows were off by 10 to 15 percent.

In any event, his question to you was with respect to the confidence you had with respect to the cash flows for Coleson Cove. There was no mention about what is the probability of a variation in the cash flows with respect to the -- or your confidence in whether there is going to be a variation in cash flows with respect to the other two options. And I wonder if you could elaborate on that point?

MS. MACFARLANE: Mmmm. The cash flow represented in the -- in PNB 11 is in regard to the -- looking at the payback of the project and the fact that we anticipate this project will have a payback of six years. I had indicated that this is part -- these cash flows are part of our business plan and we are very confident in this part of our business plan because the predictability of capacity factors in conventional generation are very high. We have a stable fuel price here, so we feel that the cash flows here have a high degree of predictability.

If we looked at the other two options of course we don't have the advantage of the predictable fuel price. In the case of natural gas the volatility of natural gas prices is 65 percent. The volatility of heavy fuel oil prices were we to go with the oil blend option is 35 percent. So yes, we have included in our financial projections an estimate of what those prices would be, but we are far less confident in those coming to fruition than we are in this option coming to fruition because the stability of the fuel price simply isn't there.

MR. MORRISON: Thank you. My final question, Mr. Chairman, is going to be directed to Mr. Marshall.

Mr. Marshall, I believe it was yesterday afternoon Mr. Hyslop in a question to you suggested to you that your modelling analysis was theoretical I think was his term and you were using the PROVIEW or PROSCREEN modelling as a substitute for prudent management functions, if you will. I am paraphrasing.

I think you tried to explain what the modelling process was or what the modelling analysis was. And I don't think you got the opportunity to do that. And I think it would be of benefit to the Board and everyone if you could explain how the modelling process works.

MR. MARSHALL: Okay. We utilize two major computer models, the PROMOD model and the PROSCREEN package of which

PROVIEW is a part. These two programs are supplied to us by New Energy which were formerly Energy Management Associates of Atlanta, Georgia.

And essentially what they do is in them they simulate the operation of the power system out into the future. And by simulating the operation of the system, what I mean is that they simulate the economic dispatch, the scheduling functions that are undertaken by our generation scheduling people that work for Mr. Brogan, and they simulate the activities of the energy control centre in the operation of the system.

So in order to do that they look at -- in that objective the objective is to minimize the cost of operations of the system on a monthly, weekly, daily and hourly basis.

And within that of course we have to minimize costs but we have to operate within the environmental standards. We have to provide a reliable supply. So there are different issues that are involved.

We have to look at the nature of the system. We have to look at the limited nature of our hydro energy. And at this time of the year when there is not a lot of rainfall and the rivers are frozen, the flows in the river are down, we only can generate a certain amount of energy every day. And if we take the water out of the head pond

we don't get any water coming down the river to go in, so there are limits as to how we can use that.

So there are schedules of how we optimally use that hydro energy.

There are also other limits that we have to look at. And one of them is we have to look at fuel constraints on contracts. So that we have to look at the taker-pay nature of contracts so that we have to burn a minimal amount of fuel specified to contracts or a maximum amount of fuel specified by contracts.

Now in this issue it's one that would also apply to the modelling of the gas options. If we were to contract for gas and through or arrangements with Bayside in operating the Bayside plant, again we have taker-pay obligations on the output of the Bayside plant. So we have to consider those limits.

One thing that we have done in modelling the gas option into the future is that we have treated the gas option preferentially, or as I say I guess we have not treated it in any way that there are any limitations in the contracting for gas. We have assumed that we would contract for gas transportation, we would contract for gas supply. And that we then dispatch the gas unit based on its cost against the other alternatives, and if there was a lower alternative we assume that we could free up the

gas and sell it into the market place and have no loss on that resale. And that's our assumptions in the modelling that we have done.

MR. HYSLOP: Mr. Chairman, the redirect question to Mr. Marshall was an explanation of how the PROVIEW and the PROMOD models work. He is going into a complete description of the theory of New Brunswick Electric Power Corporation. I think it's a long way from the questions I was dealing yesterday that my colleague has brought up on re-direct. And I know this isn't a court, but if he wants to make a final argument I believe that's to be done on Monday. If he wants to briefly describe how the PROVIEW and PROVIEW models work, which by the way I think he did quite adequately yesterday during my cross-examination, I would ask him to restrict his answer to that.

CHAIRMAN: In think particularly in light of the time of day I will ask Mr. Morrison if he believes that the question that he posed has been answered. There have been other things answered as well.

MR. MORRISON: I think Mr. Marshall may be getting a little far afield in that, but I think the record should be clear -- because the suggestion was made, Mr. Chairman, that N.B. Power management produced these modelling results, took the scenario that is kicked out by the model and that became the basis of a decision, and I don't think that's a

fair representation of management decisions as they are made at N.B. Power.

CHAIRMAN: That is certainly not thE way I remember this panel's testimony, I can tell you that much. Certainly not. But if you want to ask --

MR. MORRISON: No, that's fine, Mr. Chairman. I will leave it there.

CHAIRMAN: So those are all your questions. How many people wish to address the Board? None tonight. Good idea.

I want to thank on behalf of the Board the panel for their testimony before us, the obvious effort that has gone into the preparation of all this documentation that you have filed with us and again to thank you and for your co-operation. And you are excused.

We will adjourn the hearing --

MR. HASHEY: Mr. Chairman --

CHAIRMAN: Sorry. What did I forget now.

MR. HASHEY: Big decision. Mr. MacPherson.

CHAIRMAN: Oh. Thank you, Mr. Hashey.

MR. HASHEY: Thank you.

CHAIRMAN: I don't hear any hue and cry for the return of Mr. MacPherson, or do I?

MR. HYSLOP: We do not require Mr. MacPherson back, Mr. Chairman.

CHAIRMAN: Anybody else require him? No. Okay.

MR. HASHEY: Thank you very much your indulgence in allowing us this panel change. I think it has worked fairly effectively and I appreciate your willingness to let this happen this way.

CHAIRMAN: Okay. We will adjourn now until 10:00 o'clock on Monday morning. Thank you.

(Adjourned)

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

Reporter