

Page 1	Page 2
<p>1 October 7, 2004  2 (Time: 9:37 a.m.)  3 CHAIRMAN:  4 Q. Good morning. I believe, counsel, we have  5 some preliminary matters this morning.  6 GREENE, Q.C.:  7 Q. Yes, Mr. Chair, there's two; one is the  8 schedule for today and tomorrow and the second  9 thing is responses to undertakings that were  10 provided yesterday. With respect to the  11 schedule, in speaking with counsel yesterday  12 afternoon, there was general consensus that  13 counsel will be prepared to sit today from  14 9:30 to 4:30, as well if necessary, tomorrow,  15 and I understand from Board counsel that that  16 issue has been put before the Panel.  17 CHAIRMAN:  18 Q. Yes, it has. I think in that regard, at least  19 with regard to today, I wouldn't want to speak  20 to tomorrow's schedule at least at this  21 particular point in time, but for today, I  22 thought that we would go till--break at 12:30  23 for lunch and reconvene at 1:30. We'll be  24 taking a break this morning around 10:45 and a  25 break this afternoon around 3:00 and that</p>	<p>1 might be a bit flexible as well. And then go  2 till 4:30 this afternoon. So, other than  3 that, I believe there's some undertakings to  4 be filed from yesterday.  5 GREENE, Q.C.:  6 Q. Thank you, Mr. Chair. What our practice has  7 been during Capital Budget hearings and during  8 the General Rate Application is to provide  9 generally the following day, the responses to  10 undertakings that we have available and then  11 that way--for example, in this particular  12 case, counsel for the Industrial Customers can  13 still follow up in cross-examination if they  14 deem that necessary with the members of the  15 Panel. So at this particular time we are  16 ready to respond to five of the seven  17 undertakings that were given yesterday. And  18 as usual, the number of undertakings and the  19 page numbers are not necessarily the same as  20 what's shown in the transcript, because  21 sometimes the transcriber misses where we  22 have--we don't use the word undertaking, but  23 we do give a commitment to give an answer. So  24 there are actually seven undertakings from  25 yesterday.</p>
Page 3	Page 4
<p>1 The first undertaking, and actually I  2 should say we have a combination, I have  3 written answers to provide to some and for  4 two, I will ask Mr. Martin to indicate  5 verbally what the answers are. The first  6 undertaking was found on page 126 of the  7 transcript yesterday. It relates to the cost  8 benefit analysis that was provided for the  9 Roddickton Mini Hydro dam. And the first  10 question with respect to that was, why is the  11 cost for operators shown in the retire plant  12 alternative in the analysis on page 2 of the  13 response that was provided to an information  14 request. And the information request was IC-  15 18. So, I have distributed to the clerk, the  16 written response to that, which indicates that  17 the assumption is that the Roddickton Mini  18 Hydro will be in operation for all of 2005 as  19 we will have to apply to the Board for  20 approval to decommission it and also apply for  21 environmental approval with respect to the  22 decommissioning of the site. And for that,  23 it's there for all of 2005 and if you look in  24 that alternative, there is no alternative  25 energy required from Holyrood because we're</p>	<p>1 assuming the plant will be there for the full  2 year. So that one has been distributed and I  3 guess it should be marked U-Hydro No. 1.  4 CHAIRMAN:  5 Q. Very good.  6 GREENE, Q.C.:  7 Q. The second undertaking that was given  8 yesterday was with respect to the same cost  9 benefit analysis that was filed in response to  10 IC-18, and it related to the explanation of  11 the capacity number of \$13,113 shown on IC-18,  12 again, in the retire plant alternative. That  13 has been distributed in writing which points  14 out that the Roddickton Mini Hydro is part of  15 the overall capacity and energy capability of  16 the system. It is taken into account when we  17 do the loss of load criteria for system  18 planning purposes. If the plant is to be  19 removed, we will have 400 less kilowatts  20 available to meet the system requirements. So  21 in looking at when our next source of capacity  22 is required, it is 2011. The \$13,113 is the  23 levelized annual cost for that particular  24 capacity which Hydro will have to provide for.  25 In addition to meeting new forecast low growth</p>

Page 5	Page 6
<p>1 GREENE, Q.C.:  2 in 2011, we will be short the 400 kilowatts  3 that Roddickton does provide to us. So that  4 answer has been distributed in writing and it  5 should be marked U-Hydro No. 2.  6 CHAIRMAN:  7 Q. Very well. So marked.  8 GREENE, Q.C.:  9 Q. The next undertaking is found on page 134 of  10 the transcript and it related to the budget  11 proposal in B-103 where there was work to be  12 done at Baie Verte, Sop's Arm and Bay D'Espoir  13 for line depots and sheds. We were asked for  14 the type of work that was being done with a  15 breakdown. What we have provided in written  16 form is a breakdown for each of the three  17 areas. For example, you will see under Baie  18 Verte we have a new storage shed for 29. 9  19 thousand. For the line depot, there is new  20 siding, new roof, new steel door, new windows.  21 The building is already fully depreciated and  22 this work extends the life of that building  23 and that's 24,000 for a total of 54,000. At  24 Sop's Arm we have a similar situation as Baie  25 Verte. We have the new storage shed for 16. 8</p>	<p>1 thousand; upgrading of the line depot. Again,  2 it's new siding, new windows, replace with a  3 steel door, a concrete pad. The existing  4 building is already fully depreciated and this  5 work extends the life of the building for 19.9  6 or a total of 36.7 thousand for Sop's Arm.  7 And in Baie D'Espoir there is an actual  8 extension to an existing building for 60,000  9 for the total of 151,000.  10 The next undertaking given yesterday is  11 found on page 148 of the transcript and it  12 related to the criteria for light duty mobile  13 equipment.  14 CHAIRMAN:  15 Q. What was the page number again, Ms. -  16 GREENE, Q.C.:  17 Q. 148 and it's shown there on line 21 on page  18 148. You really have to read above that to  19 get the sense of what the undertaking is. We  20 were asked to provide the criteria for light  21 duty mobile equipment. And in this particular  22 case, Mr. Martin is now in a position this  23 morning to advise what our criteria is for the  24 replacement of light duty mobile equipment.  25 Mr. Martin, please.</p>
Page 7	Page 8
<p>1 (Time: 9:45 a.m.)  2 MR. MARTIN:  3 A. Yes, thank you, Ms. Greene. As I mentioned  4 yesterday, there are some general guidelines  5 that we use for the light mobile equipment.  6 For snowmobiles it's basically an age  7 consideration. All of these are age  8 considerations; five to seven years for  9 snowmobiles; five to seven years for ATV's.  10 For light trailers associated with both ski-  11 doos or snowmobiles and ATV's, 10 to 12 years.  12 Heavy trailers for poles, reels of conductor,  13 muskegs and so on, 10 to 12 years. And  14 backhoe attachments which are again less than  15 \$50,000, again 10 to 12 years. I'd like to  16 just confirm what I said yesterday. These are  17 again only triggers to have a further review  18 of those items and in the end it's the  19 ultimate condition and maintenance cost and so  20 on which will determine whether or not those  21 are actually replaced.  22 CHAIRMAN:  23 Q. I don't know if you indicated, Ms. Green, the  24 third written response, that was marked Hydro  25 3, I presume.</p>	<p>1 GREENE, Q.C.:  2 Q. Thank you. I may have forgotten. That one  3 with respect to the line depots in B- 103  4 should be marked U-Hydro No. 3.  5 The next undertaking also related to  6 mobile equipment and it's found on page 150  7 which is undertaking number five. And the  8 undertaking there is shown on line seven and  9 it related to whether the proposal for 2005,  10 there were any new light duty mobile equipment  11 being purchased other--a totally new item  12 versus a replacement and whether going to be  13 in any new locations. Are you in a position  14 to respond to that, Mr. Martin?  15 MR. MARTIN:  16 A. Yes, I am. We do have one additional item  17 that is new to our fleet being added to a new  18 location and that's--we have \$10,000 in the  19 total of, I believe it's \$260,000 for a light  20 motorized carrier to be used at the Holyrood  21 generating station. Again, it's estimated at  22 \$10,000. This is a small motorized vehicle  23 that would be used in and outside the plant to  24 transport heavy equipment and items such as  25 pumps, any heavy tools and equipment around</p>

Page 9	Page 10
<p>1 MR. MARTIN:</p> <p>2 the site and including inside the plant at the</p> <p>3 Holyrood generating station. That's the only</p> <p>4 additional item proposed in next year's</p> <p>5 budget.</p> <p>6 Q. And the others will be replacement of existing</p> <p>7 pieces of light duty mobile equipment, is that</p> <p>8 correct?</p> <p>9 MR. MARTIN:</p> <p>10 A. At existing sites, that's correct.</p> <p>11 Q. That completes the responses to five</p> <p>12 undertakings. There are two remaining; one is</p> <p>13 on page 180, number 6 undertaking which</p> <p>14 relates, I call it the reconciliation of B-83</p> <p>15 from last year with B-147 from this year,</p> <p>16 relating to vehicles and the average age of</p> <p>17 the vehicles being replaced and the average</p> <p>18 kilometers for the vehicles being replaced.</p> <p>19 And the other is undertaking number seven</p> <p>20 which is found on page 190 of the transcript</p> <p>21 relating to the transmission line work being</p> <p>22 done for 2005 under the wood pile management</p> <p>23 program. We believe we will be in a position</p> <p>24 to respond to them after the break this</p> <p>25 morning, but certainly, today.</p>	<p>1 CHAIRMAN:</p> <p>2 Q. Thank you.</p> <p>3 GREENE, Q.C.:</p> <p>4 Q. Thank you, Mr. Chair, that concludes the</p> <p>5 preliminary comments.</p> <p>6 CHAIRMAN:</p> <p>7 Q. Thank you, Ms. Greene. Mr. Coxworthy.</p> <p>8 HUTCHINGS, Q.C.:</p> <p>9 Q. Mr. Chair, just in response to what my friend</p> <p>10 has presented and specifically with respect to</p> <p>11 U-Hydro 2 where we had asked for the</p> <p>12 explanation of the capacity charge in</p> <p>13 connection with the retirement, potential</p> <p>14 retirement of the Roddickton Mini Hydro plant</p> <p>15 or that scenario in the analysis, I had hoped</p> <p>16 for some explanation of the calculation of</p> <p>17 that \$13,113 amount rather than simply a</p> <p>18 statement that it was the levelized annual</p> <p>19 cost of that particular capacity and just so</p> <p>20 we're on the same page with this, in</p> <p>21 connection with the Snook's Arm penstock</p> <p>22 replacement project, there's a report at Tab</p> <p>23 G, Section G, Tab 2, that does a similar type</p> <p>24 of economic analysis in respect of the</p> <p>25 replacement or retirement of the Snook's Arm</p>
Page 11	Page 12
<p>1 facility. And that shows what I think should</p> <p>2 be a similar figure or similar--figure derived</p> <p>3 in a similar fashion for capacity charges, and</p> <p>4 that relates to 590 kilowatts and the number</p> <p>5 is \$45,895. So if we could get some</p> <p>6 explanation of the \$13,113 which would allow</p> <p>7 us to reconcile that with the \$45,895 -</p> <p>8 MR. COXWORTHY:</p> <p>9 Q. Appendix 1, I believe, Mr. Hutchings.</p> <p>10 HUTCHINGS, Q.C.:</p> <p>11 Q. Appendix 1, yes, of -</p> <p>12 MR. COXWORTHY:</p> <p>13 Q. Section G.</p> <p>14 HUTCHINGS, Q.C.:</p> <p>15 Q. Section G, Tab 2. No, it's appendix C, I'm</p> <p>16 sorry, "Detailed Economic Analysis", second</p> <p>17 page has a similar type of economic analysis</p> <p>18 as was produced in IC-18. And I can't</p> <p>19 reconcile the two numbers and I was looking</p> <p>20 for the calculation of at least one so we</p> <p>21 could see if we can get those two together and</p> <p>22 understand exactly what the charges -</p> <p>23 CHAIRMAN:</p> <p>24 Q. You're trying to reconcile the numbers with</p> <p>25 what? I mean -</p>	<p>1 HUTCHINGS, Q.C.:</p> <p>2 Q. To reconcile the number in IC-18 with the</p> <p>3 number in Section G, Tab 2, the "Detailed</p> <p>4 Economic Analysis" in appendix C of the report</p> <p>5 on Snook's Arm wood stave penstock.</p> <p>6 GREENE, Q.C.:</p> <p>7 Q. Mr. Chair, I think we're in a position to</p> <p>8 respond to the \$13,000 if he wants that level</p> <p>9 of detail for that actual calculation. Mr.</p> <p>10 Haynes will be speaking with respect to</p> <p>11 Snook's Arm and will be in a position to</p> <p>12 explain the number for Snook's Arm. The</p> <p>13 \$13,000 is the annual cost associated with the</p> <p>14 capital for the 400 kilowatts. It's the</p> <p>15 interest in the depreciation on an annual</p> <p>16 basis for that particular amount of capacity.</p> <p>17 In fact, we had a discussion that we could</p> <p>18 have used the total amount of the capital cost</p> <p>19 rather than just the annual carrying cost with</p> <p>20 respect to it, which would have made, of</p> <p>21 course, the cost benefit analysis look better.</p> <p>22 And I believe Mr. Martin would be in a</p> <p>23 position to explain the calculation of the</p> <p>24 \$13,000 now, as well as what I just said if</p> <p>25 that is Mr. Hutchings' desire. And Mr. Haynes</p>

Page 13

Page 14

1 GREENE, Q.C.:  
 2 will speak to the calculation for Snook's Arm.  
 3 CHAIRMAN:  
 4 Q. All right. That should suffice, I think, Mr.  
 5 Hutchings.  
 6 HUTCHINGS, Q.C.:  
 7 Q. I think that will be helpful, yes.  
 8 CHAIRMAN:  
 9 Q. Mr. Martin.  
 10 MR. MARTIN:  
 11 A. As I understand it, the \$13,113 is as was  
 12 expressed in the response filed this morning.  
 13 The levelized cost associated with 400  
 14 kilowatts of the 50,000 kilowatt capacity for  
 15 the 50 megawatt gas turbine, combustion  
 16 turbine that we would have to install in 2011  
 17 to meet new capacity requirements, it's just a  
 18 percentage, a ratio of the 400 kilowatts to  
 19 the 50,000 kilowatts for that new gas turbine.  
 20 That's my understanding of it.  
 21 Again, the capacity that was used in the  
 22 analysis for Snook's Arm no doubt was the  
 23 capacity of that plant and I think it was 5 to  
 24 6 hundred kilowatts against whatever  
 25 replacement, I assume again it was a 50

1 megawatt gas turbine which would account for  
 2 the difference in the numbers. I hope that  
 3 helps, Mr. Chair.  
 4 HUTCHINGS, Q.C.:  
 5 Q. Perhaps it will be better for me to have that  
 6 explored with Mr. Haynes because, you know, if  
 7 it is in fact intended to be proportional, the  
 8 numbers don't work.  
 9 CHAIRMAN:  
 10 Q. All right. Well you can file that with Mr.  
 11 Haynes later.  
 12 HUTCHINGS, Q.C.:  
 13 Q. Yes.  
 14 CHAIRMAN:  
 15 Q. Mr. Coxworthy.  
 16 MR. COXWORTHY:  
 17 Q. Thank you, Mr. Chairman. Good morning, Mr.  
 18 Holden, Mr. Martin. I had the opportunity to  
 19 review the transcript with respect to where we  
 20 ended off with the fall arrest equipment B-77  
 21 and I'm prepared to move on from that project  
 22 having reviewed that transcript, to the next  
 23 project, B-101, the air conditioning at  
 24 Whitbourne and Stephenville.  
 25 And I'd like to first make reference to

Page 15

Page 16

1 the response that was made to RFI IC-21 in  
 2 relation to that project. In IC-21 there was  
 3 requested particulars with respect to recorded  
 4 temperatures which apparently, according to  
 5 IC-21 were not formally documented. There are  
 6 ranges of temperatures provided in IC-21 and  
 7 it wasn't clear to me whether those were 2004  
 8 or 2003 temperatures. Are you able to clarify  
 9 that?  
 10 MR. MARTIN:  
 11 A. Yes. These were all recorded in 2004.  
 12 Q. Thank you. Would it be expected or normal  
 13 practice if this was a matter of concern at  
 14 this particular site, the temperatures,  
 15 humidity, to have some sort of formal means of  
 16 recording that, whether it would be filing  
 17 some sort of problem report in respect of  
 18 that, would that be a normal practice within  
 19 Hydro?  
 20 MR. MARTIN:  
 21 A. I think your reference to it not being  
 22 formally documented is in response to the  
 23 first sentence in the answer. And that is in  
 24 direct relationship to the complaints that we  
 25 had actually received. We had set up

1 recording devices out there and there were  
 2 hourly readings taken at both of those  
 3 locations, both temperature and humidity  
 4 throughout the summer of 2004, and all of  
 5 those temperatures are documented and  
 6 recorded.  
 7 Q. Thank you.  
 8 MR. MARTIN:  
 9 A. You're welcome.  
 10 Q. So does Hydro know how many days then in 2004,  
 11 to use that example, that temperatures and  
 12 humidity exceeded the ASHRAE standards that  
 13 are referred to in IC-21 in the last paragraph  
 14 of IC-21. Do we know that information?  
 15 MR. MARTIN:  
 16 A. I'm reluctant to say that we have it on a  
 17 daily basis although from the answer to this  
 18 question here, we obviously did record them on  
 19 a daily basis. If you're referring to the  
 20 ASHRAE standards down below of 20 to 22  
 21 degrees, 45 to 55 percent humidity, I am  
 22 fairly confident that we should be able to  
 23 provide that level of detail should you so  
 24 desire.  
 25 Q. Are the ASHRAE standards, do you know,

Page 17

Page 18

1 MR. COXWORTHY:

2 guidelines as opposed to--and when I say  
3 guidelines, where there is some range of  
4 (unintelligible) which is understood that can  
5 be followed, that there is margins outside of  
6 the temperatures and humidity ranges that are  
7 given there that are acceptable in certain  
8 circumstances or are they a strict standard,  
9 where all work places of this type, office  
10 work type places, have to be within those  
11 strict ranges?

12 MR. MARTIN:

13 A. I think in responding to that it's necessary  
14 to understand this is not a regulation, this  
15 does not have to be done by law or any  
16 regulatory arena. This is an engineering  
17 standard that's set up to guide engineers and  
18 others, architects and so on, in the design of  
19 facilities. And my understanding of the  
20 ASHRAE standard is that the recommended  
21 temperature and relative humidity levels in an  
22 office environment are those as stated in the  
23 response to the RFI and that again are 20 to  
24 22 degrees Celsius with a relative humidity  
25 between 45 and 55 percent.

Page 19

Page 20

1 have air conditioning systems at our Hydro  
2 place offices here in St. John's. We've, in  
3 the past upgraded our facilities at Bishop's  
4 Falls and Port Saunders to include air  
5 conditioning where it's become obvious that  
6 the working conditions there are not  
7 acceptable. Whether I can say that all of our  
8 facilities are up to standard, these two  
9 obviously aren't. These would certainly  
10 complete the major office areas that we have  
11 on our system. All the others would have been  
12 done.

13 Q. So, all your other major office spaces have  
14 been air conditioned, other than these two?

15 MR. MARTIN:

16 A. The only one that comes to my mind that I'm  
17 not completely sure of would be the Happy  
18 Valley office and I'm not sure if we have air  
19 conditioning up there or not to be quite frank  
20 with you. It hasn't been an issue that I'm  
21 aware of. So, we either have it or it's not  
22 an issue.

23 Q. I think you've just described both the  
24 Whitbourne and Stephenville as being major  
25 office spaces?

1 Q. Do we know how many--like, if there wasn't  
2 formal documentation, there is a reference to  
3 there being numerous complaints, are you able  
4 to give us any indication, does that mean two  
5 complaints per site, ten complaints, more than  
6 ten?

7 MR. MARTIN:

8 A. Again, I can't quantify them. I can tell you  
9 that there have been complaints for both of  
10 these areas for a number of years now and I  
11 would suggest some of these probably date back  
12 15 years or more. I can tell you that I was  
13 out at the Whitbourne office on July 31st of  
14 this year. The temperature in the office  
15 building then where our people were trying to  
16 work was 30 degrees Celsius. It was extremely  
17 uncomfortable. I was sweating profusely just  
18 stood up in the middle of the office about ten  
19 feet from a fan. These are intolerable  
20 working conditions and they have to be  
21 corrected.

22 Q. Are all Hydro facilities in conformance with  
23 ASHRAE standards?

24 MR. MARTIN:

25 A. I can't say that they all are. We certainly

1 MR. MARTIN:

2 A. Yes.

3 Q. Okay. To what extent are those office spaces  
4 used during the day, are there staff that are  
5 in there for their whole work day working in  
6 that space most days?

7 MR. MARTIN:

8 A. Yes, we have office staff out there that are  
9 there on an eight hour a day basis, five days  
10 a week. Many of our supervisors out there  
11 work out of their offices on a daily basis.  
12 We also have crews out there. There's meeting  
13 rooms out there for safety meetings, group  
14 meetings and so on. The facilities at  
15 Whitbourne and Stephenville are used by  
16 numerous people on a daily basis.

17 Q. The crews obviously would be in and out. How  
18 many of the staff though at these two offices  
19 are there, not crews, not personnel that are  
20 typically in and out on a frequent basis but  
21 are using the office space as their primary  
22 work space, day in, day out?

23 MR. MARTIN:

24 A. I would estimate, and again I'm estimating, I  
25 can get a more exact figure if you need.

Page 21	Page 22
<p>1 MR. MARTIN:</p> <p>2 We're talking something in the order of a half</p> <p>3 dozen people at least at each of these sites.</p> <p>4 Q. In each of them?</p> <p>5 MR. MARTIN:</p> <p>6 A. That use--obviously they're permanent office</p> <p>7 fixtures on a daily basis.</p> <p>8 Q. The lack of air conditioning has been</p> <p>9 tolerated, it certainly has been existing</p> <p>10 since 1974, is that correct, in both of these</p> <p>11 spaces?</p> <p>12 MR. MARTIN:</p> <p>13 A. That's correct.</p> <p>14 Q. Is there any reason why this has become an</p> <p>15 essential capital expenditure for 2005?</p> <p>16 (Time: 10:00 a.m.)</p> <p>17 MR. MARTIN:</p> <p>18 A. Only in the fact I think that it's my</p> <p>19 understanding at least, that the number of</p> <p>20 complaints have been increasing and I</p> <p>21 experienced it firsthand to be quite frank</p> <p>22 with you. Now that's not the overriding</p> <p>23 factor but I was really surprised to go out</p> <p>24 there in the middle of or at the end of July</p> <p>25 and see what kind of working conditions those</p>	<p>1 folks had to put with it. It probably and</p> <p>2 should have been done before. It wasn't.</p> <p>3 That doesn't make it right. And what we're</p> <p>4 trying to do is correct a problem that needs</p> <p>5 to be corrected.</p> <p>6 Q. Is it anticipated that both the Whitbourne and</p> <p>7 Stephenville sites will continue to be used as</p> <p>8 major office space for the foreseeable future?</p> <p>9 MR. MARTIN:</p> <p>10 A. Yes, it is.</p> <p>11 Q. Has there been any consideration given in</p> <p>12 respect to either of those sites to whether</p> <p>13 there is some more costly means of achieving</p> <p>14 some relief to the environmental conditions</p> <p>15 out there, whether it's insulation of windows</p> <p>16 or something short of the expense of an air</p> <p>17 conditioning system?</p> <p>18 MR. MARTIN:</p> <p>19 A. We had our engineering people look at that.</p> <p>20 As a matter of fact, I believe in the</p> <p>21 Whitbourne office we actually tried one of</p> <p>22 these window-mounted air conditioning units.</p> <p>23 It didn't work. It didn't cool the office.</p> <p>24 It was noisy. Our people had to turn it off</p> <p>25 to be able to converse on the phone. They</p>
Page 23	Page 24
<p>1 just were not workable solutions. Our</p> <p>2 engineering people are convinced that the only</p> <p>3 way to address this problem once and for all</p> <p>4 is to put in a central air conditioning system</p> <p>5 that completes the job, if you will, and does</p> <p>6 the necessary conditioning of the air at those</p> <p>7 facilities to bring it to a reasonable level</p> <p>8 of comfort.</p> <p>9 Q. Thank you, Mr. Martin. Mr. Chair, if I may</p> <p>10 move on now to Project B-109 which is the</p> <p>11 replacement of the Nodwell heavy duty vehicle</p> <p>12 and boom.</p> <p>13 Further to the project justification that</p> <p>14 appears on B-109, it's stated that both of</p> <p>15 these units, both the Nodwell and the boom</p> <p>16 have reached the end of their useful life.</p> <p>17 Are they still operational, are they still</p> <p>18 being utilized?</p> <p>19 MR. MARTIN:</p> <p>20 A. No, they are not.</p> <p>21 Q. Okay. They've been retired out of service?</p> <p>22 MR. MARTIN:</p> <p>23 A. Yes, they both have.</p> <p>24 Q. As of when?</p> <p>25 MR. MARTIN:</p>	<p>1 A. As of last year. I should point out -</p> <p>2 Q. So what has--I'm sorry.</p> <p>3 MR. MARTIN:</p> <p>4 A. No, I think it would be interesting to the</p> <p>5 Board to understand that the last two times we</p> <p>6 tried to get this piece of equipment to a job</p> <p>7 site we failed. And it's bad enough if you're</p> <p>8 using it to go out and do routine maintenance</p> <p>9 but if you want to respond to a major outage</p> <p>10 or a critical situation out there to take this</p> <p>11 type of equipment out, only to have it</p> <p>12 unavailable, it just acerbates the problem.</p> <p>13 It--these are very important pieces of</p> <p>14 equipment that we need to maintain the system</p> <p>15 reliability that our customers demand. And we</p> <p>16 had no choice but to replace them.</p> <p>17 Q. Does Hydro have, at either this site or any</p> <p>18 other sites, any equivalent pieces of</p> <p>19 equipment?</p> <p>20 MR. MARTIN:</p> <p>21 A. Do you mean with the 100 foot boom, the</p> <p>22 Nodwell with the 100 foot boom?</p> <p>23 Q. A Nodwell with a boom of 57 feet or longer.</p>

Page 25	Page 26
<p>1 MR. MARTIN:</p> <p>2 A. No, we have one Nodwell with a 47 foot boom</p> <p>3 and a 10 foot jib on it which gives us a 57</p> <p>4 foot reach, vertically. We have two other</p> <p>5 Nodwells with 47 foot booms. A lot of our</p> <p>6 steel structures are between 60 and 85 feet</p> <p>7 high. They cannot be accessed with those</p> <p>8 pieces of equipment and this becomes extremely</p> <p>9 important when we have failures of structures,</p> <p>10 the structures are iced up and our line</p> <p>11 workers do not climb them. This is when this</p> <p>12 piece of equipment will really kick in and pay</p> <p>13 for itself in no time flat.</p> <p>14 I have a couple of pictures here if the</p> <p>15 Board would indulge me, of some of the things</p> <p>16 we--our linemen encounter out on the field at</p> <p>17 various times. This is a 230 kV structure on</p> <p>18 our transmission line TL-228 where obviously</p> <p>19 the bridge on the top of the structure has</p> <p>20 collapsed under icing conditions. It's</p> <p>21 difficult to see from this photo but this</p> <p>22 tower is encased in glaze ice, perhaps an inch</p> <p>23 or a half inch of glaze ice making the tower</p> <p>24 impossible to climb. A 47 foot boom or a 57</p> <p>25 foot boom will not get anybody up there. The</p>	<p>1 only answer to try and repair this tower is</p> <p>2 either wait until the ice melts and falls off</p> <p>3 allowing our crews to climb, or bring in a</p> <p>4 piece of equipment that will allow us to boom</p> <p>5 them up there to try and effect repairs. This</p> <p>6 is basically what we're looking for this</p> <p>7 particular item for. It will be critical if</p> <p>8 we ever get into these types of situations</p> <p>9 again. I actually believe on this particular</p> <p>10 case and I stand to be corrected on this</p> <p>11 stuff, but I think we were out for four or</p> <p>12 five days in trying to get this structure</p> <p>13 repaired because we just couldn't get up there</p> <p>14 to effect the work.</p> <p>15 Q. And this is a structure that can only be</p> <p>16 repaired with a 100 foot boom equipped</p> <p>17 Nodwell?</p> <p>18 MR. MARTIN:</p> <p>19 A. I'm not saying it could only be repaired with</p> <p>20 that. There is no piece of equipment on the</p> <p>21 island that I know of we could go and source</p> <p>22 or rent. Most of the cranes as you'll</p> <p>23 appreciate are for on-road or, you know,</p> <p>24 they're retired vehicles and so on. And our</p> <p>25 47 foot booms, 57 foot booms just wouldn't cut</p>
Page 27	Page 28
<p>1 it.</p> <p>2 Q. So at present, Hydro doesn't have any Nodwell</p> <p>3 with 100 foot boom, is that correct?</p> <p>4 MR. MARTIN:</p> <p>5 A. That's correct.</p> <p>6 Q. So how have you been addressing these types of</p> <p>7 issues then for however many years it will</p> <p>8 have been when they do occur? I mean do you</p> <p>9 always wait then until the summer months to</p> <p>10 deal with these issues?</p> <p>11 MR. MARTIN:</p> <p>12 A. No, we don't necessarily have to wait till the</p> <p>13 summer months. If we got into a situation</p> <p>14 like this in the middle of the winter or early</p> <p>15 spring, we would typically have to wait until</p> <p>16 the ice melted off the tower and go and fix</p> <p>17 it. And we have done that. On one occasion I</p> <p>18 do remember up behind Oxen Pond terminal</p> <p>19 station here in St. John's we had a similar</p> <p>20 occurrence where a tower failed at the bridge</p> <p>21 like this. Our own equipment was inadequate.</p> <p>22 We were fortunate enough that the tower was</p> <p>23 very close to the terminal station and we were</p> <p>24 able to source a piece of rental equipment</p> <p>25 from a local crane company that allowed us to</p>	<p>1 get up and repair the structure. But had it</p> <p>2 been further away from the road and</p> <p>3 inaccessible, we would have again had to wait</p> <p>4 until either the ice cleared until we could</p> <p>5 get up there and fix it.</p> <p>6 Q. So you have made inquiries and up to present</p> <p>7 time there's no opportunity to rent or lease</p> <p>8 this type of equipment, heavy duty track</p> <p>9 equipment with 100 foot boom?</p> <p>10 MR. MARTIN:</p> <p>11 A. That's correct.</p> <p>12 Q. You've said that this particular piece of</p> <p>13 equipment to be replaced has been retired</p> <p>14 since 2003, so has it been a question of Hydro</p> <p>15 then making do with the remaining equipment</p> <p>16 that you described that you do have, the other</p> <p>17 Nodwells?</p> <p>18 MR. MARTIN:</p> <p>19 A. That's correct.</p> <p>20 Q. The photograph you're showing us here of the</p> <p>21 damaged tower, do you know when that was, when</p> <p>22 that was taken?</p> <p>23 MR. MARTIN:</p> <p>24 A. I believe that was 1984, but again, I stand to</p> <p>25 be corrected on that.</p>

Page 29	Page 30
<p>1 MR. COXWORTHY:</p> <p>2 Q. Is that a spectacular or unusual failure even</p> <p>3 that we're seeing there or is that a common</p> <p>4 one?</p> <p>5 MR. MARTIN:</p> <p>6 A. It's not common, thank heavens. We typically</p> <p>7 have seen these. This is part of the reason</p> <p>8 why we did the Avalon upgrade in early 2000.</p> <p>9 This is most prevalent or has been most</p> <p>10 prevalent on the Avalon peninsula where it's</p> <p>11 been--I guess we've seen incidents like this</p> <p>12 on an average of every eight years. We've</p> <p>13 seen it on--again, this is TL-228 on the west</p> <p>14 coast of the province and we've seen</p> <p>15 occurrences of this nature on the Buchans</p> <p>16 plateau and other places. It's not rare,</p> <p>17 thank heavens it's not frequent. It's--we see</p> <p>18 it, it's on an infrequent basis but when we do</p> <p>19 see it, I think it's somewhat spectacular.</p> <p>20 The consequences of this--if I could just take</p> <p>21 Mr. O'Rielly--could you take me to the front</p> <p>22 page of that presentation. I just want to--</p> <p>23 this picture here, we've seen it several times</p> <p>24 I guess throughout the hearing. If you look</p> <p>25 on the left hand side, this is a 138 kV</p>	<p>1 structure on the west coast on TL-214 that we</p> <p>2 were upgrading this summer. And you'll see</p> <p>3 that the two line workers, and I'm sure you'll</p> <p>4 appreciate this is why these guys are the</p> <p>5 heroes of our business. They're up about 70</p> <p>6 or 75 feet replacing insulators on that</p> <p>7 particular structure. If you put those</p> <p>8 gentlemen out in the field under conditions</p> <p>9 that we just saw in that structure on TL-228,</p> <p>10 there was no way they can get up there to do</p> <p>11 any work, it's just impossible. This is a</p> <p>12 radial line that feeds the southwest coast of</p> <p>13 the province. If we get into a situation like</p> <p>14 this in the middle of the winter or early</p> <p>15 spring where we get these towers iced up and</p> <p>16 fail, we're out of business until the ice</p> <p>17 melts, without this piece of equipment. It</p> <p>18 could mean the difference of several hours in</p> <p>19 getting it repaired, to several days. That's</p> <p>20 the reason we want this particular item.</p> <p>21 Q. And really, the important thing is to have the</p> <p>22 100 foot boom on a reliable carrier, is that</p> <p>23 fair?</p> <p>24 MR. MARTIN:</p> <p>25 A. A reliable carrier that can get you in over</p>
Page 31	Page 32
<p>1 bog and harsh ground, yes.</p> <p>2 Q. With the other Nodwells that remain in the</p> <p>3 Hydro fleet, is there any means of</p> <p>4 retrofitting those to fit them with 100 foot</p> <p>5 boom?</p> <p>6 MR. MARTIN:</p> <p>7 A. My understanding is if we tried to do that we</p> <p>8 would have to perhaps re-engineer and re-</p> <p>9 manufacture the chassis. You're talking about</p> <p>10 a significant difference in the boom going</p> <p>11 from 47 feet to 100 feet. We're not even sure</p> <p>12 that that can be done, we're not sure of the</p> <p>13 cost of that. The most practical solution to</p> <p>14 all of this is to go out and get the Nodwell</p> <p>15 we're replacing which is still a piece of work</p> <p>16 equipment, it's 31 years old, the boom was 36</p> <p>17 years old--from our perspective it only makes</p> <p>18 sense to go out and buy a completely new piece</p> <p>19 of equipment that can handle this type of</p> <p>20 situation for at least hopefully another 30</p> <p>21 years or more.</p> <p>22 Q. Do you know what the difference in cost is</p> <p>23 between buying a new Nodwell with the 57 foot</p> <p>24 boom which this one had, the difference in</p> <p>25 price between that and what's being proposed</p>	<p>1 which is the Nodwell with the 100 boom?</p> <p>2 MR. MARTIN:</p> <p>3 A. The extra extension on the boom from the 57</p> <p>4 feet to 100 feet is in the order of \$150,000.</p> <p>5 Q. So there's no difference then in the carrier.</p> <p>6 If you were to buy a new carrier, a new heavy</p> <p>7 duty off-road vehicle today for a 57 foot</p> <p>8 boom, there'd be no difference in the price of</p> <p>9 that carrier and the carrier that you would be</p> <p>10 purchasing for 100 foot boom?</p> <p>11 MR. MARTIN:</p> <p>12 A. I don't think I'm qualified to answer that</p> <p>13 question.</p> <p>14 Q. You don't know.</p> <p>15 MR. MARTIN:</p> <p>16 A. I don't know.</p> <p>17 Q. The only additional cost here you're certain</p> <p>18 of is the \$150,000 associated with the longer</p> <p>19 boom?</p> <p>20 MR. MARTIN:</p> <p>21 A. That's correct.</p> <p>22 Q. Mr. Chair, if we may move on then to B- 110</p> <p>23 which is the purchase of the Mobile Oil</p> <p>24 Reclamation Unit. And if I may make reference</p> <p>25 then as well to the response to RFI, IC-76.</p>



Page 33	Page 34
<p>1 MR. COXWORTHY:</p> <p>2 And we were--we asked by IC-76 whether a cost</p> <p>3 benefit analysis had been completed in respect</p> <p>4 of this project and the response was that</p> <p>5 there was no formal cost benefit analysis done</p> <p>6 for proposal. One of the savings that is</p> <p>7 identified is that the purchase will reduce a</p> <p>8 labour requirement from having three workers</p> <p>9 to two workers. But has that cost benefit of</p> <p>10 that saving been measured against a \$530,000</p> <p>11 capital expenditure plus the future operating</p> <p>12 and replacement cost of this particular piece</p> <p>13 of equipment?</p> <p>14 MR. HOLDEN:</p> <p>15 A. If I could answer that question. The cost</p> <p>16 component associated with the fewer people on</p> <p>17 site is not the major issue here related to</p> <p>18 the cost benefits to buying this equipment</p> <p>19 over renting it. The big benefits here are as</p> <p>20 we pointed out in our explanation, is the</p> <p>21 benefits of the cost per unit for the unit to</p> <p>22 process the transformers related to what we</p> <p>23 would have to pay if we had to rent those</p> <p>24 services. That's the big benefit. And as you</p> <p>25 see in our explanation when you just looked at</p>	<p>1 those costs by themselves, it's something in</p> <p>2 the order of--what was the pay back period</p> <p>3 that we quoted there, eight to ten years at</p> <p>4 least, if we were able to do four or five</p> <p>5 units a year. But with our own equipment we</p> <p>6 expect to be able to do more than four or five</p> <p>7 units per year and of course the cost benefit</p> <p>8 then of owning our own equipment as opposed to</p> <p>9 buying the services is much greater than that.</p> <p>10 And so that's the main component in the cost</p> <p>11 benefit, it's just a straight comparison of</p> <p>12 dollars. The added benefits then are in</p> <p>13 relation to the number of workers that we have</p> <p>14 required to perform the operation. We still</p> <p>15 have to have one man on site to hold the</p> <p>16 safety permits and everything while the</p> <p>17 equipment is in service and then there's only</p> <p>18 another man then, another employee from Hydro</p> <p>19 to help operate the equipment. So you have</p> <p>20 the--the lesser labour cost is a minor</p> <p>21 component. The big advantage is the dollars</p> <p>22 per unit for processing and also the</p> <p>23 flexibility and availability of it. And with</p> <p>24 respect to flexibility and availability,</p> <p>25 there's no one on the island of Newfoundland</p>
Page 35	Page 36
<p>1 or in the province of Newfoundland and</p> <p>2 Labrador that has this piece of equipment.</p> <p>3 You have to rent this and it gets brought in</p> <p>4 from central Canada mostly. And those</p> <p>5 contractors then have to schedule our services</p> <p>6 against all the other services they have to</p> <p>7 provide elsewhere in the country, and</p> <p>8 particularly I guess they operate from west to</p> <p>9 east. So, there you have restrictions then on</p> <p>10 when the equipment is available to you and in</p> <p>11 the last couple of years when we were doing</p> <p>12 this, our schedules for when we could get the</p> <p>13 services were quite strict. And strict in the</p> <p>14 sense that we can only do it in the first two</p> <p>15 weeks of August. Shut down your plants, do</p> <p>16 what you have to, that's the only time this</p> <p>17 piece of equipment is available. So we're</p> <p>18 really restricted in the number of</p> <p>19 transformers that we could process. So that's</p> <p>20 one of the other big benefits to owning the</p> <p>21 equipment ourselves rather than buying the</p> <p>22 services.</p> <p>23 Q. Thank you, Mr. Holden. As you've pointed out,</p> <p>24 in the operating experience for this project,</p> <p>25 you've indicated that there was a recent</p>	<p>1 service contract for oil regeneration in</p> <p>2 respect of Bay D'Espoir where there was a cost</p> <p>3 of \$150,000 with an average cost of \$50,000</p> <p>4 per transformer. I believe those are the</p> <p>5 numbers you're referring to in comparing the</p> <p>6 relative cost and pay back periods for</p> <p>7 continuing with that out sourcing as opposed</p> <p>8 to doing it yourselves.</p> <p>9 MR. HOLDEN:</p> <p>10 A. Yes, those are the costs that we use to make</p> <p>11 the analysis or make the comparison.</p> <p>12 Q. That example that's given, of the \$150,000 for</p> <p>13 the recent work in Bay D'Espoir, is that</p> <p>14 representative of how much it would cost to do</p> <p>15 this oil regeneration work for any transformer</p> <p>16 or was there something particular to that</p> <p>17 project that resulted in the cost being higher</p> <p>18 than it might otherwise?</p> <p>19 MR. HOLDEN:</p> <p>20 A. That cost there of \$50,000 per transformer is</p> <p>21 representative of the cost that we had to pay</p> <p>22 in the last couple of years. It's a very low</p> <p>23 price when you consider that the service</p> <p>24 contractors are getting more and more business</p> <p>25 all the time from other utilities in the</p>

Page 37	Page 38
<p>1 MR. HOLDEN:</p> <p>2 country because their transformers are aging</p> <p>3 as well and this business is coming up and</p> <p>4 these costs are going to go up, just on basic</p> <p>5 demand and also on availability. So these</p> <p>6 contractors who are providing this service</p> <p>7 now, they're operating out of Ontario and</p> <p>8 Quebec and there's much more business there in</p> <p>9 Ontario and Quebec for them to provide the</p> <p>10 service. And their costs to come down here</p> <p>11 are higher than what they would be to provide</p> <p>12 those same services in Ontario and Quebec. So</p> <p>13 these costs here, in our opinion, are lower</p> <p>14 than what we would see in the future. We</p> <p>15 would see much higher prices than this in the</p> <p>16 future because of the increased demand on the</p> <p>17 equipment and the increasing progression of</p> <p>18 age by utility equipment and other utilities.</p> <p>19 Q. Thank you, Mr. Holden. Mr. Holden, do you</p> <p>20 know whether the cost for the Bay D'Espoir</p> <p>21 project, the \$150,000, whether that was less</p> <p>22 expensive per unit, per transformer because</p> <p>23 more than one transformer was being done at</p> <p>24 one time, would it have been a higher per</p> <p>25 transformer cost if only one or two</p>	<p>1 transformers were being worked on?</p> <p>2 MR. HOLDEN:</p> <p>3 A. Yes, it certainly would have been because the</p> <p>4 contractor would have to trade off his costs</p> <p>5 against the number of units that he was</p> <p>6 processing because he has to pay for the</p> <p>7 mobilization from Ontario to Bay D'Espoir. So</p> <p>8 what we were trying to do here and it's as</p> <p>9 much as we could do because of the very strict</p> <p>10 outage requirements, it's as much as we could</p> <p>11 do to stretch out to get three units to keep</p> <p>12 the cost per unit down. And we couldn't</p> <p>13 tolerate any more because we couldn't take the</p> <p>14 transformers out of service in that short time</p> <p>15 period because the contractor would come down,</p> <p>16 mobilize, come down and do one, two, three</p> <p>17 transformers right in a row and then get out</p> <p>18 of town as fast as they could. So we can't</p> <p>19 take the whole plant, Bay D'Espoir plant off</p> <p>20 service and process all the transformers on</p> <p>21 one mobilization. However, if we had our own</p> <p>22 piece of equipment, we have much more</p> <p>23 flexibility in doing that and we'd be able to</p> <p>24 stage these processes now over the whole year</p> <p>25 and probably on the off season coordinate the</p>
Page 39	Page 40
<p>1 outages on the units with the load profile on</p> <p>2 the system and take advantage of the outages</p> <p>3 that we couldn't by purchasing the services</p> <p>4 from a contractor.</p> <p>5 Q. Mr. Holden, even with that additional</p> <p>6 flexibility that you would have with owning</p> <p>7 your own unit, I think you're anticipating</p> <p>8 still only being able to do four to five</p> <p>9 transformer units per year?</p> <p>10 MR. HOLDEN:</p> <p>11 A. No. We're anticipating that we should be able</p> <p>12 to do more than four or five. And again, that</p> <p>13 depends on the outage availabilities that we</p> <p>14 have. But we can coordinate that much better</p> <p>15 now and we could see more transformers being</p> <p>16 processed here on a yearly basis.</p> <p>17 Q. Okay. Well, the project justification speaks</p> <p>18 of a regeneration program of four to five</p> <p>19 units per year. How many more than that are</p> <p>20 you anticipating may be able to be done per</p> <p>21 year if you have your own unit?</p> <p>22 MR. HOLDEN:</p> <p>23 A. If we have our own unit, we can increase that</p> <p>24 number, by how much it's difficult to quantify</p> <p>25 because you would have to look at the outage</p>	<p>1 availabilities on the system and plan out your</p> <p>2 work. But, you could conceivably double that</p> <p>3 number in one year.</p> <p>4 Q. Has there been consideration given by Hydro to</p> <p>5 making a request for proposals to the private</p> <p>6 sector to determine, you know, on the basis</p> <p>7 that the intention of Hydro is, as I</p> <p>8 understand the project justification, to</p> <p>9 eventually conduct this regeneration program</p> <p>10 on all its power transformers, all 161, on</p> <p>11 that basis had there been a request for</p> <p>12 proposal sent out to private sector for that</p> <p>13 piece of work to see whether that might</p> <p>14 attract, whether it's the businesses you</p> <p>15 identified in Ontario or Quebec or perhaps</p> <p>16 other contractors who might enter this area if</p> <p>17 they knew that that piece of work of that</p> <p>18 magnitude would be available?</p> <p>19 MR. HOLDEN:</p> <p>20 A. No, we didn't entertain that idea.</p> <p>21 Q. May I ask why not?</p> <p>22 MR. HOLDEN:</p> <p>23 A. Because we saw this here as the best idea of</p> <p>24 owning your own equipment. You have control</p> <p>25 over that equipment and you have complete</p>

Page 41

1 MR. HOLDEN:  
 2 control with respect to how and when you use  
 3 it and how you coordinate it with your  
 4 outages. If you thought about a contractor in  
 5 Newfoundland having a piece of equipment here,  
 6 you would not have that flexibility. That  
 7 contractor if they were solely relying on  
 8 Newfoundland Hydro's business, they would have  
 9 to be at the beck and call to Newfoundland  
 10 Hydro all the time. But they wouldn't do  
 11 that. They'd only be able to quote on our  
 12 business and then they'd also be looking for  
 13 other business as well. And of course, then  
 14 you'd get into the problem of availability and  
 15 flexibility.

16 MR. MARTIN:

17 A. I think also it would be rather difficult to  
 18 put together an RFP for a proposal on that  
 19 that would cover 20 years, and again, not  
 20 knowing or having the uncertainty of the  
 21 outages windows that we could see for the  
 22 various units, 161 units throughout that time  
 23 line. I don't really think, Mr. Coxworthy,  
 24 that it would be practical to go out with an  
 25 RFP to cover a service for all 161

Page 43

1 be appearing, we will do more frequent  
 2 inspections. That information is available in  
 3 our maintenance databases, but I can't answer  
 4 to any specifics here this morning.  
 5 Q. At a rate of regeneration that was being  
 6 proposed, at least by the project  
 7 justification of four or five units per year,  
 8 obviously it's anticipated that many of these  
 9 67 units, the ones that have already been  
 10 identified as being outside the parameters,  
 11 will continue to be in that condition for some  
 12 period of time, is that correct?

13 MR. HOLDEN:

14 A. For some period of time, yes, that is correct.  
 15 And it depends on the criticality. They're  
 16 not all outside the acceptable ranges by the  
 17 same amount. It's a matter of the same thing  
 18 as we look after the wood poles, we're looking  
 19 at the age of the piece of equipment and the  
 20 criticality of it on the system and we'll  
 21 focus on the most serious cases first and work  
 22 our way towards the less serious cases.

23 MR. MARTIN:

24 A. It might help just to point out that in our  
 25 operating experience we identified 17

Page 42

1 transformers. I think that would be very  
 2 difficult for us to put together and even more  
 3 difficult for a contractor out there to be  
 4 able to bid on.

5 Q. But I believe, Mr. Martin, as Mr. Holden said,  
 6 it wasn't in fact even looked at whether it  
 7 would be practical or not, is that correct?

8 MR. MARTIN:

9 A. No more than what I've just described a few  
 10 minutes ago.

11 Q. The transformers that have been described in  
 12 the project experience is 67 of 161 that are  
 13 showing parameters outside the guideline  
 14 limits, does Hydro know for how long they've  
 15 been outside of those guideline limits?

16 MR. HOLDEN:

17 A. Hydro knows how long that is. We don't know  
 18 here on the stand now. But that's contained  
 19 in our maintenance records. We do maintenance  
 20 inspections and gas and oil analysis on our  
 21 transformers on a regular basis. And  
 22 sometimes I think the basic is annual testing  
 23 and inspection and monthly testing, monthly  
 24 and annual testing, depending on what you're  
 25 doing. And then if trouble situations seem to

Page 44

1 transformers of those 67 that were considered  
 2 a high priority and that would have to undergo  
 3 this regeneration process within the next  
 4 five years. If we take a \$50,000 average for  
 5 those, and again, that might be light,  
 6 depending on when we can get the outage  
 7 windows and so on, we're looking at something  
 8 close to a million dollars to regenerate the  
 9 oil in those 17 units over the next five  
 10 years. And what we're looking at here is a  
 11 capital expenditure of \$530,000 to do the same  
 12 work. I mean, I guess what we're saying is  
 13 from our perspective this project is  
 14 economically feasible and in the best  
 15 interests of the ratepayers and our customers  
 16 even in the short term. We don't need to go  
 17 out 15, 20 years. We can pay for this thing  
 18 very, very quickly to the benefit of our  
 19 customers. I hope that helps somewhat.

20 Q. Yes, thank you, Mr. Martin. If the intention  
 21 is to eventually do all 161 power  
 22 transformers, and even if you increase the  
 23 rate of, the yearly rate of regeneration to  
 24 four or five units per year, this will be a  
 25 long-term project, I think 20 years has been

Page 45	Page 46
<p>1 MR. COXWORTHY:</p> <p>2 mentioned, and I presume that that's what you</p> <p>3 anticipate that it may take, 20 years, to get</p> <p>4 to all 161 of those power transformers, is</p> <p>5 that correct?</p> <p>6 MR. HOLDEN:</p> <p>7 A. It will take that time. But you have to</p> <p>8 realize that this is a piece of maintenance</p> <p>9 equipment, it's a regular piece of maintenance</p> <p>10 equipment that we have to buy to maintain the</p> <p>11 transformers and as the transformers--the</p> <p>12 older transformers are going to be processed</p> <p>13 first and you work your way down to the ones</p> <p>14 that are not so old and less critical and less</p> <p>15 serious. Well, yes, if you wanted to do a</p> <p>16 straight number calculation and divide 161</p> <p>17 transformers by another number, you'd get a</p> <p>18 rate. But, I don't think you can look at it</p> <p>19 that way. You have to look at it and from the</p> <p>20 point of view of the condition of the</p> <p>21 transformers and what ones have to be done</p> <p>22 first and then define your rate and define</p> <p>23 which ones you're doing based on the condition</p> <p>24 of each unit. That's how the program will</p> <p>25 work.</p>	<p>1 Q. But quite apart them from the condition of the</p> <p>2 transformers there's also the other limitation</p> <p>3 that you can only take so many of these</p> <p>4 transformers down at any one time, is that</p> <p>5 correct? That's also a limitation on how many</p> <p>6 you can do per year?</p> <p>7 MR. HOLDEN:</p> <p>8 A. That's also a limitation of how many we can do</p> <p>9 a year, yes, it's how many we can take out of</p> <p>10 service at any one time.</p> <p>11 Q. Further to the response that was given to RFI</p> <p>12 IC-28, the depreciable service life for this</p> <p>13 particular piece of oil reformation equipment</p> <p>14 that's being proposed to purchase would be ten</p> <p>15 years. And I do acknowledge that the RFI</p> <p>16 response also says that the actual operational</p> <p>17 service life is expected to be considerably</p> <p>18 longer. Is it possible, though, that within</p> <p>19 the context of what may very well be a 20 year</p> <p>20 program that there will be a need to purchase</p> <p>21 by Hydro a second oil reformation piece of</p> <p>22 equipment, a new one before that program can</p> <p>23 be completed?</p> <p>24 MR. HOLDEN:</p> <p>25 A. No, we don't anticipate that.</p>
Page 47	Page 48
<p>1 Q. You anticipate you'll get to at least the 20</p> <p>2 years or whatever it takes to get to all 161</p> <p>3 transformers?</p> <p>4 MR. HOLDEN:</p> <p>5 A. We anticipate we should be able to get a</p> <p>6 service life of this piece of equipment much</p> <p>7 longer than ten years. And we will maintain</p> <p>8 this piece of equipment and use it to maintain</p> <p>9 the power transformers on the system and we'll</p> <p>10 try to extend the life of it as much as we can</p> <p>11 until it gets to a point where it's no longer</p> <p>12 feasible or economical to operate it, just</p> <p>13 like the Nodwell and we'll have to replace it</p> <p>14 and buy another one. And we see that time</p> <p>15 frame as being considerably longer than the</p> <p>16 ten years.</p> <p>17 Q. Has Hydro had any prior experience with</p> <p>18 operating this type of equipment, the oil</p> <p>19 reformation equipment?</p> <p>20 MR. HOLDEN:</p> <p>21 A. We have a similar piece of equipment now, it's</p> <p>22 called a degassifier equipment, and what that</p> <p>23 does is it takes gas out of the transformer</p> <p>24 oil. We've had that piece of equipment since</p> <p>25 the late 60s when we first started and we're</p>	<p>1 still operating that piece of equipment. So</p> <p>2 we do have experience with this type of</p> <p>3 equipment, we do know how to maintain and</p> <p>4 operate it and we do know how to make it last</p> <p>5 as long as we can.</p> <p>6 Q. Thank you, Mr. Holden. Mr. Chair, if we may</p> <p>7 move on then to project B-112, which is the</p> <p>8 replacement of the Doble F2000 Relay Test</p> <p>9 Equipment? Thanks. Mr. Martin, Mr. Holden,</p> <p>10 the original project justification for this</p> <p>11 project as given at B-112 was that the current</p> <p>12 equipment manufacturer wouldn't be extending</p> <p>13 support for the current equipment beyond 2004.</p> <p>14 And of course as was learned pursuant to the</p> <p>15 response to RFI IC-30, it's now been</p> <p>16 determined that the manufacturer support will</p> <p>17 continue until the end of 2006, so for another</p> <p>18 two years beyond what was originally</p> <p>19 contemplated when this project justification</p> <p>20 was put forward. Is there any reason, given</p> <p>21 that, why this project therefore can't be</p> <p>22 deferred at least to the 2006 capital budget?</p> <p>23 (Time: 10:30 a.m.)</p>

Page 49

1 MR. MARTIN:

2 A. Yes, we believe there is. In response to IC-  
 3 29, if I can refer you to that, the response  
 4 to IC-29, this lays out the reasoning for  
 5 wanting to replace the existing test  
 6 equipment, not only from its retirement  
 7 perspective and manufacturer support, but it's  
 8 a much better piece of equipment and will  
 9 enable us to do much more extensive testing  
 10 and better testing of all of this new  
 11 equipment that we've come to own over the last  
 12 number of years, digital type equipment, not  
 13 only relaying equipment, but exciters,  
 14 governors and so on. If I can refer you to  
 15 the last sentence in that particular response,  
 16 we say "Most of this generating equipment such  
 17 as exciters is critical, making the  
 18 requirement for this test equipment imperative  
 19 and readily accessible." We do appreciate the  
 20 fact that the Board could defer this  
 21 replacement for another two years, but we  
 22 think in the best interests of being able to  
 23 do effective testing over generation plants in  
 24 our protection and control equipment in our  
 25 terminal stations and so on we would be much

Page 51

1 addition, the new technology test equipment is  
 2 more compatible with the new computerized  
 3 relays and metering units that are being used  
 4 by Hydro and will allow more comprehensive and  
 5 efficient testing of the new relay." And it's  
 6 not only the relaying, it's the exciters, the  
 7 governors and all of the other digital  
 8 equipment we have at our generating plants and  
 9 other facilities.

10 Q. Is that equipment not being tested now with  
 11 the current test equipment?

12 MR. MARTIN:

13 A. It is.

14 Q. Okay.

15 MR. MARTIN:

16 A. But not, again, as comprehensively and as  
 17 efficiently and as effectively as it would be,  
 18 obviously, with the new test sets.

19 Q. Have any problems been encountered using the  
 20 current test equipment in testing the new  
 21 digital equipment?

22 MR. MARTIN:

23 A. I can't talk to any specifics in that regard.

24 Q. When you say more comprehensive, yes, it might  
 25 be nice to have a more comprehensive testing,

Page 50

1 better prepared to do that and more effective  
 2 if we were to replace that equipment next  
 3 year.

4 Q. Thank you, Mr. Martin. In the original  
 5 project justification beyond the concern that  
 6 at that time the belief being that the  
 7 manufacturer support was going to end beyond  
 8 2004, the only additional comment that was  
 9 made in the project justification is that the  
 10 new technology test equipment would be more  
 11 compatible with the other new digital  
 12 equipment that have been purchased by Hydro  
 13 over the years. Yes, IC-29 proposes that a  
 14 new state of the art, and that's the term  
 15 that's used in IC-29, digital signal  
 16 processing equipment, it goes further to say  
 17 would be more compatible, and it actually  
 18 suggests that it's needed to test and to  
 19 maintain other new digital equipment. Is that  
 20 the case or is it a question simply of the new  
 21 digital test equipment being more compatible?

22 MR. MARTIN:

23 A. I think if I can take you back to B-112 again,  
 24 you may have only read the first part of the  
 25 sentence in the justification. It says, "In

Page 52

1 but has there been any problems that have  
 2 arisen because of the current testing  
 3 equipment being used?

4 MR. MARTIN:

5 A. Again, I can't provide you any details that  
 6 our field technicians may run into with  
 7 regards to problems with the current test  
 8 equipment.

9 MR. HOLDEN:

10 A. If I could add to that, the problems are  
 11 associated with the limitations in the old  
 12 equipment to be able to test the new more  
 13 modern digital equipment that we have. And so  
 14 the old Doble test that could bring you up to  
 15 a certain level of technology and test the  
 16 relays and controls and the exciters and that  
 17 to a certain level. But if we replace new  
 18 equipment, there's more sophisticated  
 19 technology, this old equipment here will not  
 20 be able to fully test it. We can test it to a  
 21 certain level, but we can't fully test it as  
 22 comprehensively as is necessary. The newer  
 23 Doble equipment will allow you to bring your--  
 24 will bring your test equipment up to the same  
 25 level as your operating equipment.

Page 53

1 MR. COXWORTHY:

2 Q. Is all of your operating equipment, Mr.  
3 Holden, up to this new higher digital level  
4 that needs the new Doble relay system, the new  
5 state-of-the-art system to comprehensively  
6 test it?

7 MR. HOLDEN:

8 A. No, not all of our equipment is up to that  
9 level, but newer equipment is. The Doble  
10 equipment that we have can be used to test  
11 some of the older equipment, but as we move  
12 forward, a lot of new systems are being  
13 installed. The technology is more  
14 sophisticated and the older test equipment  
15 becomes more and more unsuitable as time goes  
16 on. This is why the equipment--and  
17 particularly in Bay D'Espoir where the--in  
18 this project here, the unit for Bay D'Espoir  
19 is a new piece of equipment that they don't  
20 have at that site now, and so that's required  
21 down there because of the new exciters and new  
22 equipment that was installed over the last few  
23 years and then the other sites in the  
24 transmission system, the other three units are  
25 required to upgrade the tool set for the

Page 55

1 the poles with Boron, I think you indicated?

2 MR. MARTIN:

3 A. That's correct.

4 Q. And I'm wondering is that a common practice in  
5 the industry used elsewhere?

6 MR. MARTIN:

7 A. The other utilities that I'm aware of that are  
8 involved in a program similar to this include  
9 B.C. Hydro, Manitoba Hydro, Hydro Quebec. I  
10 believe Hydro One, the transmission arm of the  
11 old Ontario Hydro are involved in this type of  
12 program as well as, I do believe New Brunswick  
13 Power as well. Whether they--and I think most  
14 of them do retreat. They all certainly do  
15 inspections. They do testing; they do coring;  
16 they do retention levels and so on, retention  
17 level testing. And some of them do treat, and  
18 I believe some of them do use Boron. They may  
19 not exclusively use Boron or some other  
20 chemical, but some of those utilities are  
21 involved in retreating their poles, yes.

22 Q. Curious, you've indicated in your report and  
23 as I think you spoke to during cross-  
24 examination by counsel for the Industrial  
25 Customers that you're postulating a extension

Page 54

1 equipment to the degree of sophistication that  
2 the operating equipment is at today.

3 Q. Mr. Holden, just to be clear, is there any  
4 current operating equipment being used by  
5 Hydro that is not being tested or is not able  
6 to be tested because you don't have this new  
7 state-of-the-art Doble relay test system?

8 MR. HOLDEN:

9 A. As I said, the degree of comprehensiveness of  
10 the testing that we can perform with the old  
11 equipment is not as much as it should be. We  
12 can only test the new digital equipment to a  
13 certain level with the old test equipment.

14 Q. Thank you, Mr. Holden and Mr. Martin. I  
15 believe those are all the questions I have for  
16 the TRO panel. Thank you. Thank you, Mr.  
17 Chair.

18 CHAIRMAN:

19 Q. Thank you, Mr. Coxworthy. Mr. Kennedy.

20 MR. KENNEDY:

21 Q. Chair, thank you. I just have a couple of  
22 questions, Chair and members of the panel.  
23 Mr. Holden and Mr. Martin, one quick question  
24 on the Wood Pole Management Program. You were  
25 referring to the treatment process, treating

Page 56

1 in the serviceable life of these wood poles as  
2 a result of your inspection program and in  
3 part your treatment of some of those poles  
4 with this Boron treatment process, correct?

5 MR. MARTIN:

6 A. Yes, that's correct.

7 Q. And I'm wondering, and in turn your net  
8 present value calculation, if you will,  
9 supporting the project is based on that  
10 assumption that postulation of the extension  
11 in the service life of the wood poles?

12 MR. MARTIN:

13 A. Yes, only as regards to the benefits from  
14 treatment. The four and a half million  
15 dollars we quote do not include, does not  
16 include the extra benefit we will get through  
17 the analysis and extending the life of these  
18 poles by not replacing prematurely. That's  
19 where the red line goes up that we really  
20 can't quantify at this point in time.

21 Q. Right, that's what I was wondering is the  
22 track record, if there is one, of other  
23 utilities using this type of treatment  
24 process, does that track record support the  
25 postulated extension in the service life?

<p style="text-align: right;">Page 57</p> <p>1 MR. MARTIN:</p> <p>2 A. I can't say for sure that it has. I think</p> <p>3 some of the utilities are not much more ahead</p> <p>4 of the game than we are, with regards to</p> <p>5 looking at treatment programs and so on.</p> <p>6 Obviously some of the information that's</p> <p>7 available in the literature that we've used</p> <p>8 before, the IOWA curves and so on, would</p> <p>9 certainly indicate, to our satisfaction at</p> <p>10 least, that the treatment of the poles is</p> <p>11 certainly going to have significant benefit,</p> <p>12 and we quite frankly believe that what we're</p> <p>13 proposing in here is the minimum we're going</p> <p>14 to get out of this program. We actually think</p> <p>15 it will be better than that. I think the</p> <p>16 other thing, Mr. Kennedy and Board, that's</p> <p>17 worth repeating is that the \$36 million we're</p> <p>18 proposing here is not all new money. Most of</p> <p>19 the money that we're proposing to spend in</p> <p>20 this program, we're already spending through</p> <p>21 inspection, testing and so on. The materials</p> <p>22 that we actually use to treat each pole costs</p> <p>23 approximately \$30. So we're looking at</p> <p>24 treating with materials that cost \$30 a pole</p> <p>25 that to replace would cost us \$7,000.</p>	<p style="text-align: right;">Page 58</p> <p>1 Q. So the incremental cost of treating the poles,</p> <p>2 as part of your Wood Management Program, is</p> <p>3 minimal? Is that -</p> <p>4 MR. MARTIN:</p> <p>5 A. It is. The treatment part is a very small</p> <p>6 part of it, extremely small part.</p> <p>7 Q. I wonder if we could just turn to B-57,</p> <p>8 please? And gentlemen, this is just a</p> <p>9 project--if we could go back to page one,</p> <p>10 please? Yes. Upgrading a distribution system</p> <p>11 in your L'Anse au Loup setup, if you will, and</p> <p>12 the question I had related to--just give</p> <p>13 people just a moment just to skim that, and</p> <p>14 the witnesses in turn. And it's clearly</p> <p>15 indicated there what the project consists up,</p> <p>16 general upgrading of your distribution system</p> <p>17 in that area. If you could just turn to page</p> <p>18 two. Part of your project justification is</p> <p>19 "these pole and insulator replacements provide</p> <p>20 the potential to reduce the SAIFI to 24.61 and</p> <p>21 the SAIDI to 19.99" and the question I had</p> <p>22 was, I wonder if you could explain how you</p> <p>23 came up with that analysis or the result?</p> <p>24 What analysis did you conduct in order to come</p> <p>25 up with these projected SAIFI and SAIDI</p>
<p style="text-align: right;">Page 59</p> <p>1 statistics once the upgrade had been</p> <p>2 completed?</p> <p>3 MR. MARTIN:</p> <p>4 A. Yes. What we did is called a what-if</p> <p>5 analysis, and basically we went back over the</p> <p>6 last five years of outage records for that</p> <p>7 particular system, tried to identify the</p> <p>8 outages that were related to things that we</p> <p>9 were going to correct under this program, such</p> <p>10 as the replacement of these pin type</p> <p>11 insulators and so on. Extracted those</p> <p>12 incidents from the database and then</p> <p>13 recalculated the SAIDI and SAIFI numbers with</p> <p>14 those items extracted, and that's where we</p> <p>15 came up with the numbers. I think it's</p> <p>16 important in this one to point out that you</p> <p>17 may not see a significant increase over the</p> <p>18 current indices as a result. We don't only</p> <p>19 replace and upgrade when we get a significant</p> <p>20 problem with regards to the statistics. If we</p> <p>21 see something that's going to even make those</p> <p>22 statistics worse, if the system condition is</p> <p>23 worsening and we know that the numbers are</p> <p>24 going to degrade even further, then we are</p> <p>25 proactive and we go in and do this type of</p>	<p style="text-align: right;">Page 60</p> <p>1 upgrade before the statistics get even worse</p> <p>2 than what they are at the current time.</p> <p>3 Q. So generally, does the company have a target</p> <p>4 then that it attempts to achieve when</p> <p>5 determining, you know, how much to replace in</p> <p>6 a particular distribution upgrade project?</p> <p>7 MR. MARTIN:</p> <p>8 A. We have an overall target for our rural</p> <p>9 systems, and I can quote you those numbers if</p> <p>10 you're interested?</p> <p>11 Q. Yes, please.</p> <p>12 MR. MARTIN:</p> <p>13 A. The SAIDI on distribution for 2004 is targeted</p> <p>14 at 11.2; that's the overall Hydro average.</p> <p>15 And the SAIFI is 7.2.</p> <p>16 Q. Okay. You said rural systems, and so they're</p> <p>17 the SAIFI and SAIDI statistics specific to the</p> <p>18 rural systems?</p> <p>19 MR. MARTIN:</p> <p>20 A. For all the distribution systems -</p> <p>21 Q. All your distribution systems?</p> <p>22 MR. MARTIN:</p> <p>23 A. - that Hydro owns and operates, that's right,</p> <p>24 whether they be isolated or interconnected.</p> <p>25 Q. Okay. So it's the Hydro, okay. The next</p>

Page 61	Page 62
<p>1 MR. KENNEDY:</p> <p>2 question I had was related to your Powerpoint</p> <p>3 presentation actually at the beginning, the</p> <p>4 Information No. 1, and I think it was page</p> <p>5 ten, yes, page ten. Here we go. And you</p> <p>6 were--this was a page that, I believe,</p> <p>7 gentlemen, you brought up during your direct</p> <p>8 examination and I think you may have been</p> <p>9 brought back to it during your cross. And the</p> <p>10 question I had is just a click off the back of</p> <p>11 the envelope calculation of taking your</p> <p>12 numbers for 1998 and your numbers for 2000 and</p> <p>13 working out how much it cost to replace the</p> <p>14 poles on a per pole basis. So for instance,</p> <p>15 in 1998, it worked out to \$7,595 a pole, so 79</p> <p>16 poles at 600,000.</p> <p>17 MR. MARTIN:</p> <p>18 A. Um-hm.</p> <p>19 Q. And then the same number for 2000, you fixed</p> <p>20 82 poles--or sorry, replaced 82 poles for</p> <p>21 420,000 and then that worked out to \$5,122 a</p> <p>22 pole.</p> <p>23 MR. MARTIN:</p> <p>24 A. Right.</p> <p>25 Q. And I'm wondering if you can comment on the</p>	<p>1 utility, excuse the pun, but the usefulness of</p> <p>2 that type of analysis, doing a unit cost</p> <p>3 analysis on the replacement of poles?</p> <p>4 (Time: 10:45 a.m.)</p> <p>5 MR. MARTIN:</p> <p>6 A. You really can't compare the two numbers, if</p> <p>7 that's your point in this example, and there's</p> <p>8 a couple of reasons why I think the average</p> <p>9 cost on the Avalon were higher than in</p> <p>10 Central. One thing that obviously affects the</p> <p>11 cost of replacing transmission line poles is</p> <p>12 where they are and access. So access to the</p> <p>13 location for the particular structure is a</p> <p>14 significant impact on the cost. Another one</p> <p>15 that I think perhaps had more impact on these</p> <p>16 particular numbers is that on the Avalon they</p> <p>17 would have all been 230 kV structures, larger</p> <p>18 poles, larger structures and higher costs for</p> <p>19 the poles themselves, whereas in Central, we</p> <p>20 no doubt perhaps had some 230 kV, no doubt 138</p> <p>21 kV and 69 kV structures included in that. So</p> <p>22 you're really not comparing apples to apples.</p> <p>23 It's -</p> <p>24 Q. Okay. So not all poles are created equal.</p> <p>25 MR. MARTIN:</p>
Page 63	Page 64
<p>1 A. - apples to oranges. Not all poles are</p> <p>2 created equal, no.</p> <p>3 Q. And so I wonder if we could just flip then to</p> <p>4 B-48 as an example of another area where this</p> <p>5 type of analysis could be conducted, and am I</p> <p>6 correct in understanding this would be Hydro's</p> <p>7 total budget for new service extensions or</p> <p>8 replacement of obsolete service extensions to</p> <p>9 its customer base? Is that right?</p> <p>10 MR. MARTIN:</p> <p>11 A. This is basically for new customers.</p> <p>12 Q. New customers?</p> <p>13 MR. MARTIN:</p> <p>14 A. That's right.</p> <p>15 Q. And I assume I could, if I asked, or you could</p> <p>16 if asked, provide a unit cost of how much it</p> <p>17 was costing per new customer for Hydro to hook</p> <p>18 up its new customers?</p> <p>19 MR. MARTIN:</p> <p>20 A. Only by taking the actual numbers and dividing</p> <p>21 them by the number of customers that we</p> <p>22 actually hooked up.</p> <p>23 Q. Sure. It wouldn't be a particularly</p> <p>24 complicated calculation then?</p> <p>25 MR. MARTIN:</p>	<p>1 A. No, it wouldn't. It wouldn't do you a whole</p> <p>2 lot of benefit either, I think, because it</p> <p>3 obviously different costs to hook up different</p> <p>4 customers.</p> <p>5 Q. That's what I was going to ask you. As a</p> <p>6 simple average then, on that basis, if you</p> <p>7 could comment on the usefulness of that type</p> <p>8 of analysis?</p> <p>9 MR. MARTIN:</p> <p>10 A. These particular budgets here, I'm sure you'll</p> <p>11 appreciate, as we have put in the project</p> <p>12 description here, are based on the average of</p> <p>13 the last five years of Hydro's costs for new</p> <p>14 customers. Again, if there's anything</p> <p>15 extraordinary that we know of, that a new</p> <p>16 subdivision is coming along or something, the</p> <p>17 numbers could potentially be adjusted for</p> <p>18 that. But generally speaking, these are</p> <p>19 numbers based on the average of the last five</p> <p>20 years. You could hook up a customer with a</p> <p>21 simple drop from an existing distribution line</p> <p>22 and transformer that's going to cost you very</p> <p>23 few dollars. Another customer, you might have</p> <p>24 to install a couple of poles with conductor or</p> <p>25 drops and transformers that cost you a lot</p>



1 MR. MARTIN:  
 2 more dollars. So again, you're really not  
 3 comparing apples to apples, if I understand  
 4 your point, Mr. Kennedy.  
 5 Q. I think so. I think we might be missing one  
 6 small -  
 7 MR. MARTIN:  
 8 A. Okay. That wouldn't be unusual, I'm sure.  
 9 Q. - micro-adjustment there. You seem to be  
 10 indicating that if we had a unit cost that was  
 11 comparing how much did it cost Hydro to hook  
 12 up a specific customer A versus how much it  
 13 cost to hook up a specific customer B, that  
 14 that may vary and that would be driven by what  
 15 the physical circumstances were in each case?  
 16 MR. MARTIN:  
 17 A. Absolutely.  
 18 Q. Okay. But if we take an overall average of  
 19 your unit costs for all your customer groups,  
 20 unless there was a change in the growth  
 21 dynamic, one customer group grew faster than  
 22 another customer group -  
 23 MR. MARTIN:  
 24 A. Right.  
 25 Q. - that was in the Hydro group of customers -

1 overspend and we may significantly overspend  
 2 in a particular area. That doesn't  
 3 necessarily mean we change the rationale for  
 4 the next year's budget. We would again go  
 5 back to the five-year average, knowing that  
 6 long term, this is the way that things are  
 7 going to work out from a budget and an actual  
 8 cost perspective.  
 9 Q. Okay. And what's been Hydro's experience to  
 10 date with your unit cost for new customers?  
 11 Has it been increasing, decreasing, staying  
 12 relatively stable?  
 13 MR. MARTIN:  
 14 A. You mean the cost per customer?  
 15 Q. On a year-by-year basis.  
 16 MR. MARTIN:  
 17 A. I think the costs have been gradually  
 18 escalating over the years, yes.  
 19 Q. Okay.  
 20 MR. MARTIN:  
 21 A. And there have been some years, like I said  
 22 before, when you might get into a new  
 23 subdivision in Happy Valley-Goose Bay that you  
 24 see a spike that you probably wouldn't see in  
 25 subsequent years. But again, over time, these

1 MR. MARTIN:  
 2 A. Yes.  
 3 Q. - your average should make sense year over  
 4 year, shouldn't it?  
 5 MR. MARTIN:  
 6 A. It should make sense year over year, and  
 7 that's the rationale for doing the budget in  
 8 this particular way.  
 9 Q. Right. And so that's what I'm asking you, if  
 10 you could--I respect your comments concerning  
 11 individual customers. I wonder if you could  
 12 comment on the usefulness of conducting  
 13 analysis that uses that overall company  
 14 average on a unit-cost basis for hooking up  
 15 new customers?  
 16 MR. MARTIN:  
 17 A. You mean do I think it makes sense to do that?  
 18 Q. Correct.  
 19 MR. MARTIN:  
 20 A. Yes, I certainly do. I mean, again, this is  
 21 the way this particular budget was prepared.  
 22 It's been prepared like this for the last  
 23 number of years. You may see in any  
 24 particular year, with regards to service  
 25 extensions or distribution upgrades, that we

1 per unit costs, we think are the best way to  
 2 budget these particular items.  
 3 Q. So really you're using a rolling average,  
 4 right?  
 5 MR. MARTIN:  
 6 A. That's correct.  
 7 Q. Yes. Okay. Speaking of averages and trends,  
 8 I wonder if we could just speak then to a line  
 9 of questioning that counsel for the Industrial  
 10 Customers pursued concerning the growth in the  
 11 TRO side of your capital budget, and if I  
 12 copied it down right, I believe counsel for  
 13 the Industrials indicated that your budget--  
 14 and he looked at your last two capital budgets  
 15 and pulled it out of, I think it was Schedule  
 16 F, out of your filings.  
 17 MR. MARTIN:  
 18 A. Right.  
 19 Q. That your budget had gone in 2003 from 10.3  
 20 million increased to 12.2 million in 2004 and  
 21 then it was 19.1 million in 2005. I've  
 22 rounded them off. And in response to those  
 23 questions concerning the growth in that TRO  
 24 budget, you indicated, and I'm going to  
 25 paraphrase it, as I scratched it down while

Page 69	Page 70
<p>1 MR. KENNEDY:  2 you were talking, that you said the budget  3 ebbs and flows depending on the work that  4 needs to be done.  5 MR. MARTIN:  6 A. That's correct.  7 Q. Right. And so, I'm not trying to be  8 facetious, but there's no actual ebb there.  9 It seems to be mostly flow. So I was  10 wondering--I wonder if you could comment on  11 what an appropriate period would be to achieve  12 that kind of budget smoothing, if you will?  13 What would be an appropriate review period to  14 calculate annual average expenditures in your  15 TRO budget specifically? And then, what would  16 be, in your opinion, related to that, a  17 reasonable plus or minus off of that average?  18 GREENE, Q.C.:  19 Q. Just for the record, Mr. Martin, in his reply,  20 had indicated that in earlier years the TRO  21 budget had in fact been higher because of the  22 Avalon upgrades. So there was -  23 MR. MARTIN:  24 A. The budget does -  25 Q. - there was a bit of ebbing as well.</p>	<p>1 MR. MARTIN:  2 A. - believe it or not, the budget does ebb and  3 flow. It -  4 MR. KENNEDY:  5 Q. Sure, yes, and I -  6 MR. MARTIN:  7 A. You will see ups and downs in the budget over  8 the last ten years, I'm sure. And to be quite  9 frank, I don't think I can answer your  10 question.  11 Q. Okay.  12 MR. MARTIN:  13 A. You know, you could have a given year when we  14 require a new diesel plant somewhere, a  15 transmission line upgrade where the budget is  16 going to spike up. I really don't think you  17 can establish a ceiling, if you will, and then  18 work off an escalator to try and come to some  19 reasonable number. I personally don't believe  20 you can do that. Maybe the economists and the  21 accountants and others, people in the  22 financial circles, can offer a better  23 explanation. As an engineer, I really don't  24 think you're going to be able to do that with  25 any certainty.</p>
Page 71	Page 72
<p>1 Q. Okay. That's all the questions I have, Chair,  2 members of the Panel. Thank you, gentlemen.  3 CHAIRMAN:  4 Q. Thank you, Mr. Kennedy. I think we'll take a  5 break at this particular point in time, before  6 the Board comes back with any questions. So  7 we'll take a 15-minute break. Thank you.  8 (Time: BREAK - 10:52 a.m.)  9 (Time: RESUME - 11:12 a.m.)  10 GREENE, Q.C.:  11 Q. Mr. Chair, the preliminary matter, we are in a  12 position to respond to the other two  13 undertakings, and I'll leave it to the panel  14 as to whether you'd like to do this now or  15 after. We probably should do it while Mr.  16 Martin and Mr. Holden are available if there's  17 any questions arising from the responses, but  18 -  19 CHAIRMAN:  20 Q. Fine, carry on.  21 GREENE, Q.C.:  22 Q. Okay. As indicated this morning, we had two  23 undertakings that we didn't answer at that  24 time, and in addition, there was a third item  25 relating to the value of the La Scie depot on</p>	<p>1 page 136 of the transcript. It wasn't  2 actually in the form of an undertaking, but  3 the question was "what was the value remaining  4 on the books of the La Scie depot which had  5 been disposed of?" and we would like to  6 provide that information for the panel, and  7 the answer is there was no value left on the  8 books of Hydro. It had been fully  9 depreciated. So the La Scie depot which has  10 been removed from service was fully  11 depreciated with no remaining value.  12 The other two actual undertakings, we had  13 two which was undertaking number six, found on  14 page 180, which related to the difference in  15 the age and kilometre criteria used in B-83  16 last year relating to vehicles and B-147 this  17 year relating to vehicles. So perhaps if we  18 could see, Mr. O'Rielly, first the one from  19 this year, B-147.  20 Now, Mr. Martin, have you had the  21 opportunity to review the criteria at the  22 bottom of the page there first?  23 MR. MARTIN:  24 A. Yes, I have.  25 Q. Okay. And now if we can go to B-83 from last</p>

Page 73	Page 74
<p>1 GREENE, Q.C.:  2 year, Mr. O'Rielly, and the question was why  3 is the criteria shown different--why is there  4 a difference between the two? There we go.  5 You can see the bottom of that page, please,  6 Mr. O'Rielly, okay. Mr. Martin, could you  7 please explain or provide an answer to that  8 question, please?  9 MR. MARTIN:  10 A. Yes. In point of fact, the text at the bottom  11 of 147, that's this year's proposal, is in  12 error. Obviously with the change in the  13 vehicles proposed last year versus what we are  14 actually looking at replacing after our fleet  15 review, the number of vehicles has changed and  16 the actual numbers that should appear at the  17 bottom of B-47 are as follows.  18 Q. That's B-147.  19 MR. MARTIN:  20 A. B-147, I'm sorry. Are as follows: the  21 category 1000 and 2000 vehicles have an  22 average life or average age, I should say, of  23 six years and 167,000 kilometres.  24 Q. So what's shown on B-147, at the bottom there,  25 the six years is correct, but it's the</p>	<p>1 kilometres is incorrect? Is that -  2 MR. MARTIN:  3 A. That is correct. It should be 167 versus 150.  4 The category 3000 have an average age of seven  5 years and 218,000 kilometres, and the category  6 4000 vehicles have an average age of eight  7 years and 208,000 kilometres.  8 Q. So those represent the average age and the  9 kilometres for the vehicles that are proposed  10 to be replaced now, under B-147, for this  11 year? Is that correct?  12 MR. MARTIN:  13 A. That is correct.  14 Q. Now they're still not the same as what was  15 shown in B-83 last year. Why is that?  16 MR. MARTIN:  17 A. Because again, the number and types of  18 vehicles have changed as a result of the fleet  19 review and the reduction of \$500,000 in the  20 overall budget.  21 Q. So that the actual vehicles used for the  22 averaging is different in 2005 budget than the  23 2004 budget? Is that correct?  24 MR. MARTIN:  25 A. Yes, that is correct.</p>
Page 75	Page 76
<p>1 Q. Okay. Which is part of the explanation  2 provided yesterday. You're taking an average  3 of a different group of vehicles this year  4 versus last year. But in addition to that,  5 there was an error, as you've just corrected  6 there on the bottom of page B-147? Is that  7 correct?  8 MR. MARTIN:  9 A. Yes, and I'd like to apologize for the Board  10 for that. Perfection is something we only  11 strive for. Obviously we rarely attain it.  12 Q. The last undertaking is undertaking number  13 seven found on page 190 of the transcript, and  14 it related, on the bottom part of page 190,  15 and it related to the transmission lines that  16 Hydro plans to undertake in the 2005 Wood Pole  17 Management Program. Are you in a position to  18 respond to that now, Mr. Martin?  19 MR. MARTIN:  20 A. Yes, I am. The poles that are in the plan for  21 next year, under the Wood Pole Management  22 Program, are TL210. That's a 138 kV line from  23 our Stoney Brook terminal station east to  24 Cobb's Pond near Gander. That line was built  25 in 1969. TL226 is a 66 kV line on the</p>	<p>1 Northern Peninsula which was built in 1970.  2 TL227, another 66 kV line on the Northern  3 Peninsula built in 1970. TL243, which is the  4 line connecting the Hind's Lake generating  5 station to the Howley terminal station, that's  6 the one we're proposing to replace all the COB  7 insulators on as well. We would be inspecting  8 100 percent of the poles on that line next  9 year, again as part of the economics or  10 efficiencies, if you will, of doing all this  11 work at one time. That line was built in  12 1978. And TL218, which is a 230 kV line from  13 Holyrood to our Oxen Pond terminal station  14 here on the Avalon. That was built in 1983,  15 and again, that has been identified as a  16 critical line. It was looked at or reviewed,  17 if you will, as part of our upgrade program  18 back when we did the steel transmission line  19 upgrade. Were we going to upgrade that to the  20 new ice loading and so on? The answer was no,  21 but we do want to get out, inspect and test  22 and treat the poles on that particular line,  23 and that line was built in 1983.  24 Q. Thank you, Mr. Martin.</p>

Page 77

1 MR. MARTIN:

2 A. Again, I think it's worthwhile to identify  
3 that's the plan of today. As the information  
4 is collected from this year's program and  
5 other information becomes available, the  
6 program will, in my mind, no doubt change.  
7 But right now, that's the plan that we have on  
8 the books right now for next year.

9 Q. Thank you, Mr. Martin. Mr. Chair, that  
10 completes all of the undertakings that have  
11 been provided by this panel.

12 CHAIRMAN:

13 Q. Thank you, Ms. Greene. We just have a few  
14 questions. Commissioner Powell will go first.

15 COMMISSIONER POWELL:

16 Q. Thank you, Chair. First, I'd like to  
17 compliment the panel on a very good  
18 presentation. I think the information is  
19 quite clear. I enjoyed going through it. I  
20 don't have any real detail questions, it's  
21 just a little bit of what I would call  
22 housecleaning. You described a bit of the  
23 process of how the budget is put together from  
24 the ground up. I'd just like to, for lack of  
25 a better word, see how it gets finished, and

Page 79

1 consideration, but it's certainly not the  
2 prime consideration in determining what  
3 capital budget we bring forward to the Board  
4 in any particular year.

5 Q. No. No, I appreciate that. So it does get  
6 finished off, in the sense you started at the  
7 bottom, in terms of people submitting it,  
8 processed right up to the top and you're--you  
9 finish the loop in terms of saying okay, go  
10 ahead, we know--we appreciate this. So my  
11 next question is: given that, and at the  
12 discussion level that, again the capital  
13 budget require \$1.7 million and is there then  
14 the message sort of taken saying that if this  
15 in capital requires us to produce \$1.7  
16 million, on operations, we should be looking  
17 to save our portion of that. So in the scheme  
18 of things, when we present a operational  
19 budget, one would balance out the other?

20 MR. MARTIN:

21 A. No, I can't say it's done in that context, at  
22 least from my perspective.

23 Q. You don't feel any pressure then that you  
24 should--okay--any more than usual.

25 MR. MARTIN:

Page 78

1 to indicate where I'm coming from, maybe Mr.  
2 O'Rielly can bring up page six of Mr. Roberts'  
3 testimony. Yes. Mr. Roberts, through his  
4 planning, which we'll deal with probably when  
5 he gets on the stand, he goes through the  
6 process and makes the assumptions that if  
7 nothing else changed that if this budget was  
8 accepted in total that it would mean  
9 approximately \$1.7 million in new revenue,  
10 which is, if you did some simple calculations,  
11 it means that there's total revenue of roughly  
12 half of one percent. I'm just wondering, the  
13 process, when you put the budget together,  
14 you're part of the process, are you aware that  
15 this budget that you presented as part of the  
16 total that would require Hydro to seek more  
17 revenue from its customers, all else being  
18 equal?

19 MR. MARTIN:

20 A. Yes. Part of the discussions that we have at  
21 the executive level obviously centre around  
22 the total of the capital budget we're  
23 proposing, how it lines up against other  
24 years, the new revenue requirements that the  
25 budget would require, and that is a

Page 80

1 A. Mr. Powell, every single day I go to work,  
2 there's pressure on the operational budget, I  
3 can assure you of that, and I think that's in  
4 the context I would respond to your question,  
5 that it doesn't necessarily flow from the  
6 capital budget. If we identify an opportunity  
7 for savings in any of these capital items or  
8 anything else that we can come up with regards  
9 to a new process that would be acceptable and  
10 also result in reducing our operating  
11 expenditures, then we certainly move forward  
12 on that and implement it. I can't say from a  
13 personal perspective that it's tied directly  
14 to the requirement for an additional \$1. 7  
15 million in revenue as a result of the 2005  
16 Capital Budget.

17 Q. So when you sit around at the corporate level,  
18 top level, and deciding these things, there's  
19 no employed pressure saying that we'll accept  
20 this as the minimum capital budget this year,  
21 but there should be some sort of savings worth  
22 the system, whether it's a productivity type  
23 showing that sure, we'll spend this \$40 odd  
24 million, your portion of it, that there should  
25 be a corresponding productivity results. So

Page 81

1 COMMISSIONER POWELL:  
 2 therefore, when we go to another rate hearing,  
 3 it would wash out?  
 4 MR. MARTIN:  
 5 A. No, I can't say there is in that context.  
 6 Like I say, there are pressures on our  
 7 operating budget every single day.  
 8 Q. I appreciate that.  
 9 MR. MARTIN:  
 10 A. I'm sure you'll appreciate that, yes.  
 11 Q. Can I ask then, Mr. O'Rielly, if he would  
 12 bring up the schedule on the application,  
 13 Schedule D, page E-1. No, Schedule E, excuse  
 14 me. There's only one. This is the capital  
 15 expenditure budget 99 to 2008, and looking  
 16 here at the 2005 and it shows that the \$42  
 17 million and it shows at 2006 it's roughly the  
 18 same. 2007 it's going to be backed off a bit,  
 19 and in 2008, it looks like it's going to be a  
 20 fairly soft year from a capital expenditure,  
 21 and I realize these are projections and I  
 22 realize that everything from Mother Nature on  
 23 can change that. And when I go back and look  
 24 at Mr. Roberts' testimony saying that the 2005  
 25 would mean an increase of 1.7, you can almost

Page 83

1 softer. 2008, if I can be quite frank with  
 2 you, we start to fall off the end of the earth  
 3 with regards to the accuracy of these  
 4 estimates in all the items that we've been  
 5 able to identify out that far. So personally  
 6 I wouldn't put a whole lot of stock in the  
 7 \$7.8 million for TRO.  
 8 I think your other point with regards to  
 9 are we concerned about this and do we look at  
 10 deferring things, the answer to that is yes.  
 11 As these budget proposals come from the  
 12 regions and are reviewed at the various  
 13 levels, there are numerous proposals that,  
 14 first of all, are decided well, they're not  
 15 really capital items. They should be put in  
 16 our operating account and then they show up in  
 17 future years as operating projects. There are  
 18 lots of other projects that are deferred, that  
 19 we either don't think they're justified at  
 20 this particular point in time or that they can  
 21 be deferred. There's not a significant risk  
 22 to the customer or so on, and they are pushed  
 23 off to 2006, 2007 and perhaps even some to  
 24 2008. So that process happens, but it doesn't  
 25 happen under--or I think in the way that

Page 82

1 assume that 2006 would be roughly the same and  
 2 2007 would be something less. But 2008 would  
 3 seem to be, you're going to have a lot of room  
 4 for manoeuvring. So I'm just wondering when  
 5 you did this planning out and the budget  
 6 indicated that maybe over the next two years,  
 7 with this 1.7, 1.3, .4, you're looking at  
 8 roughly \$5 million that any thought given to  
 9 massaging this so it--and loading more of it  
 10 in 2008, so it wouldn't be there?  
 11 MR. MARTIN:  
 12 A. I think there's--I'd like to respond with two  
 13 points on that. First of all, I think you  
 14 have to be very, very careful about the 2008  
 15 number, at least personally. The TRO budget  
 16 of that component of that particular estimate  
 17 is \$7.8 million, and I have to be quite frank  
 18 with you that I wouldn't put a whole lot of  
 19 stock in the accuracy of that number. The  
 20 further we get out in time, the less we know  
 21 about what we're going to have to budget for.  
 22 You know, the numbers in 2005 obviously are  
 23 accurate based upon detailed cost estimates  
 24 and so on. 2006, probably close to the same  
 25 thing. 2007, as you suggested, a little

Page 84

1 you've described it, that we just looked at  
 2 the 2005 budget, saw that it was \$42 million,  
 3 that we perhaps got some softer areas out in  
 4 '07 and '08 and based on that alone, moved  
 5 them out. The proposal that we brought before  
 6 you this particular week are ones that we are  
 7 convinced need to be done in the best  
 8 interests of the customers in 2005.  
 9 Q. Is it fair to say a lot of the items in this  
 10 budget, my first--when I read it without  
 11 reading any of the testimony, I looked at the  
 12 budget, except for a couple of projects,  
 13 Rencontre East is one that comes to mind, but  
 14 a lot of them are maintenance driven, trying  
 15 to rehabilitate the system or just maintaining  
 16 the system, and if you don't spend them now as  
 17 a capital item, they may have to be spent  
 18 tomorrow morning because things may happen.  
 19 So it's just a question of timing and best--I  
 20 wouldn't want to use the word estimate--best  
 21 experience saying it should be done this year?  
 22 (Time: 11:30 a.m.)  
 23 MR. MARTIN:  
 24 A. I like to use the expression engineering  
 25 judgment.

Page 85	Page 86
<p>1 COMMISSIONER POWELL:</p> <p>2 Q. Yes, okay.</p> <p>3 MR. MARTIN:</p> <p>4 A. People in other disciplines sometimes don't</p> <p>5 like that particular phrase, but it's one we</p> <p>6 use all the time.</p> <p>7 Q. Yes. So really it's not a question whether</p> <p>8 this money is going to spent. It will be</p> <p>9 spent whether it's 2005 or 2008 or '09, let's</p> <p>10 say.</p> <p>11 MR. MARTIN:</p> <p>12 A. Or tomorrow morning.</p> <p>13 Q. Or tomorrow morning.</p> <p>14 MR. MARTIN:</p> <p>15 A. That's correct.</p> <p>16 Q. And it may be spent plus additional money, if</p> <p>17 it's not spent in 2005, in 2008 because of -</p> <p>18 MR. MARTIN:</p> <p>19 A. Yes, we could be doing ongoing replacement of</p> <p>20 insulators, for argument sake, and spending</p> <p>21 dollars going back and going back and going</p> <p>22 back replacing onesies and twosies and</p> <p>23 threesies and all of a sudden next year now we</p> <p>24 get into a catastrophe and we got to go and</p> <p>25 replace them all. So what we're doing here is</p>	<p>1 we're looking at the risk involved. We're</p> <p>2 looking at the results of inspections. We're</p> <p>3 looking at the results of tests that we</p> <p>4 conducted, and again, based upon our</p> <p>5 experience and knowledge and engineering</p> <p>6 judgment, we are recommending to the Board</p> <p>7 that these projects be done based on the</p> <p>8 schedule that we've brought forward.</p> <p>9 Q. One other item that was referenced by your</p> <p>10 legal counsel, the method of--the Board</p> <p>11 outlined some guidelines for putting together</p> <p>12 budgets in P.U. 7, Schedule 3, and one of the</p> <p>13 conditions, condition nine, and we asked the</p> <p>14 Corporation to provide a description and</p> <p>15 related documentation outlining the results of</p> <p>16 any discussion of the project that have taken</p> <p>17 place between utilities in an effort to reduce</p> <p>18 expenditure, providing duplication of service</p> <p>19 or increased sharing of resources and</p> <p>20 expenses. Are anything in the transmission</p> <p>21 and rural operations that would have come</p> <p>22 under that category? And if so, are there -</p> <p>23 MR. MARTIN:</p> <p>24 A. There are a couple of items in the budget that</p> <p>25 we've had at least preliminary discussions</p>
Page 87	Page 88
<p>1 with Newfoundland Power on. Most</p> <p>2 particularly, I guess, we not only talked to</p> <p>3 them, but we gave them a presentation on our</p> <p>4 proposed Wood Pole Management Program. My</p> <p>5 recollection of their response is that they</p> <p>6 were supportive of what we were proposing to</p> <p>7 do. They were going to help us in any way</p> <p>8 they could with regards to providing test</p> <p>9 results and information related to their own</p> <p>10 wood pole experiences out in the field, and</p> <p>11 depending upon the success of our program, as</p> <p>12 we move forward and report back to the Board</p> <p>13 and they see the results of the program, they</p> <p>14 may or may not be interested in either joining</p> <p>15 it or coming up with their own program or</p> <p>16 something similar to that. So that's one</p> <p>17 instance, I think, where we've shown some</p> <p>18 coordination.</p> <p>19 I've also talked to one of the executives</p> <p>20 at Newfoundland Power with regards to our</p> <p>21 intention to buy this oil reclamation unit and</p> <p>22 Newfoundland Power had numerous power</p> <p>23 transformers on their system and many of them</p> <p>24 as old or older than ours, and we think it</p> <p>25 would be beneficial for them as well, once we</p>	<p>1 get this piece of equipment in our own hands,</p> <p>2 that they could potentially use it to reclaim</p> <p>3 the oil in their power transformers, extend</p> <p>4 the life of their units as well. So that's</p> <p>5 just two examples that come to my mind where</p> <p>6 in this particular application there are</p> <p>7 proposals that we talked to Newfoundland Power</p> <p>8 with and hope to deal with them again in the</p> <p>9 future. Again, the idea being to try and keep</p> <p>10 the costs to the rate payer as little as</p> <p>11 possible.</p> <p>12 Q. Good, thank you. That was one of the points</p> <p>13 of having the--in part of the order, so I'm</p> <p>14 glad to see that that's active, alive and</p> <p>15 well. One other little thing, when we were--I</p> <p>16 sat in on Newfoundland Power Capital Budget,</p> <p>17 you referred to as your sister utility, and</p> <p>18 one of the requests they wanted, I'm probably</p> <p>19 winging the words here, but essentially, the</p> <p>20 concept that when they sent somebody up a pole</p> <p>21 to do a job, something would have broke, had</p> <p>22 broken, and while they're up the pole, they</p> <p>23 may have done three or four other things that</p> <p>24 may not necessarily fit in their plan, but the</p> <p>25 cost of getting the equipment to the pole and</p>

Page 89

Page 90

1 COMMISSIONER POWELL:

2 getting somebody to get up the pole, whether  
3 it's a lightning arrestor or insulator or  
4 whatever, they did the other three or four  
5 things at that particular point in time. And  
6 they had a budget request for--I can't  
7 remember exactly what it was, but again, I use  
8 my words, and that's not the way to describe  
9 it, as a contingency to cover off putting  
10 those extra lightning arrestors or whatever it  
11 was, because they knew the probability things  
12 would happen. They had that actually in their  
13 capital budget, and they had the documentation  
14 proving that it was the least cost, efficient  
15 way of doing it. Is that a policy of Hydro,  
16 that once you go up a pole to fix something,  
17 if there's other things up there that in the  
18 scheme of things you may be planning to fix it  
19 in 2007, but since I got somebody up that  
20 pole, do it now?

21 MR. MARTIN:

22 A. Yes. I mean, generally speaking that is the  
23 policy of Hydro. If we go to fix a particular  
24 item and we find something else that's amiss  
25 or needs to be adjusted or even replaced,

1 obviously it depends upon whether or not  
2 you've got the equipment and the materials  
3 available to carry out that particular repair,  
4 but assuming that we do, then we would  
5 obviously, in the interest of efficiency, do  
6 that particular piece of work at that time,  
7 certainly.

8 Q. I was thinking more so not that if something  
9 broke. I gather, reading what Newfoundland  
10 Power is doing, that you have all these  
11 insulators out there, you know that you're  
12 going to replace them all eventually.

13 MR. MARTIN:

14 A. Right.

15 Q. But there's a line down in southwest  
16 Newfoundland, to use the expression, something  
17 happens that you have to go in and fix it, and  
18 it may be something not related to the  
19 insulator. You can go up and fix that one  
20 thing, but since you're up on the pole, the  
21 insulator is going to go in a couple of years  
22 time, you might as well take that off and put  
23 one there now? I mean, is that--when you go  
24 to that pole -

25 MR. MARTIN:

Page 91

Page 92

1 A. No, if I read you correctly, I don't think we  
2 would do that. I'm not saying one is right or  
3 wrong, but if we go up a pole to fix a problem  
4 and there's a COB insulator there, for  
5 argument sake, and during the inspection of  
6 that pole, the insulator hasn't failed, it's  
7 still in tact, it doesn't show any of the  
8 signs of the radial cracks we see, you know,  
9 leading to a defective situation on that  
10 particular insulator, then normally we would  
11 not fix it. The insulator is still there.  
12 It's performing its function, and I don't  
13 think we would replace it. Now I stand to be  
14 corrected on that, but that's my impression of  
15 what we would do. Obviously if we saw the  
16 cracks and whatever in the insulator, if it  
17 was sufficiently developed, that it caused our  
18 line workers or whatever, our supervisor, a  
19 concern, then we would obviously replace it at  
20 that time. But if the insulator was good, the  
21 inspection looked good, if it tested well,  
22 then just because it's a COB insulator that we  
23 may be looking at replacing in 2008 or 2007 in  
24 the program, would we replace it at that time?  
25 No, my feeling is that we would not. I hope

1 that answers your -

2 Q. Yes. That was what I asked and you answered  
3 it. That's all the questions I have. Thank  
4 you very much.

5 MR. MARTIN:

6 A. You're welcome.

7 CHAIRMAN:

8 Q. Thank you. Commissioner Martin.

9 COMMISSIONER MARTIN, Q.C.:

10 Q. I think the questions I had coming in have  
11 pretty well been canvassed, but there is one  
12 fact that occurred to me, with respect to the  
13 price of oil these days and the way it seems  
14 to be trending up, has any thought been given  
15 to your Isolated Diesel Systems in terms of  
16 whether or not because of the change in  
17 economic conditions now, it would be viable to  
18 look at an off-oil program and perhaps connect  
19 some or all of these Isolated Diesels to the  
20 grid? Can you tell me if there's any thought  
21 given to that?

22 MR. MARTIN:

23 A. Yes, I'm sure, Commissioner Martin, there's  
24 been thought given to that. One of the  
25 functions of our system planning department is

Page 93	Page 94
<p>1 MR. MARTIN:</p> <p>2 to continually review this, on an ongoing</p> <p>3 basis, to see whether or not there is</p> <p>4 justification for interconnecting any of these</p> <p>5 isolated rural communities to our system.</p> <p>6 Obviously the rising price of oil would be one</p> <p>7 of the impacts that they would be looking at</p> <p>8 on an ongoing basis. The particular project</p> <p>9 at Rencontre East, and I'm sure you're aware</p> <p>10 of this, is driven by the fact that we had an</p> <p>11 opportunity there to do something. The plant</p> <p>12 was destroyed. We could put the money either</p> <p>13 into an interconnection or a new plant, and</p> <p>14 that was, for us, a bit of a no brainer, if</p> <p>15 you will, but I take your point, and yes, our</p> <p>16 system planning department, which Mr. Haynes</p> <p>17 can perhaps discuss with you in more detail,</p> <p>18 they are always looking at ways and means that</p> <p>19 we could interconnect some of these</p> <p>20 communities and get them off diesel fuel.</p> <p>21 Q. That was the only question I had.</p> <p>22 CHAIRMAN:</p> <p>23 Q. Mr. Martin, I wonder if you could just clarify</p> <p>24 for me, in relation to the Wood Pole Program</p> <p>25 on B-28, there's a couple of other projects,</p>	<p>1 and I'm not quite sure, such as B-50 and B-66,</p> <p>2 B-50 relating to upgrading distribution</p> <p>3 systems, and that involves replacement of</p> <p>4 deteriorated poles, although I'm not quite</p> <p>5 sure what percentage of that particular</p> <p>6 project would relate to deteriorated poles,</p> <p>7 and I appreciate the B-66 project, the English</p> <p>8 Harbour West system, only involves 35 poles.</p> <p>9 But I'm just wondering, can you clarify how</p> <p>10 that deteriorated pole replacement relates to</p> <p>11 the project in B-28, the overall program?</p> <p>12 MR. MARTIN:</p> <p>13 A. Yes. The program that we're proposing under</p> <p>14 replace wood poles transmission on B-28 only</p> <p>15 refers to the poles on our high-voltage</p> <p>16 transmission system, the 69 kV, 138 kV and 230</p> <p>17 kV transmission lines. So that's where we're</p> <p>18 focusing our attention initially. It has the</p> <p>19 biggest impact on the system with regards to</p> <p>20 reliability of the total system. So we're</p> <p>21 only, at this point in time, looking at the</p> <p>22 26,000 wood poles on the transmission network.</p> <p>23 The project referred to under B-66 is the</p> <p>24 replacement of deteriorated poles on the</p> <p>25 English Harbour West distribution system.</p>
Page 95	Page 96
<p>1 They, no doubt, are on a 25 kV or 12 1/2 kV</p> <p>2 system and do not come under--they're part of</p> <p>3 the 75,000 wood poles I mentioned in our</p> <p>4 presentation that are on the distribution</p> <p>5 system, and they're not covered by our</p> <p>6 proposed Wood Pole Management Program.</p> <p>7 Q. Does that apply to the upgrade distribution</p> <p>8 system? Obviously it does.</p> <p>9 MR. MARTIN:</p> <p>10 A. Yes. Yes, that's correct.</p> <p>11 Q. Okay. With regard to the project outlined on</p> <p>12 B-54, upgrade distribution line L7 St. Anthony</p> <p>13 to Cook's Harbour, in the justification there,</p> <p>14 you conclude that "replacement of this section</p> <p>15 of line is expected to result in reducing the</p> <p>16 SAIFI and SAIDI indices for this system to a</p> <p>17 level closer to the Hydro average." When you</p> <p>18 say to a level closer to the Hydro average,</p> <p>19 marginally closer, moderately closer,</p> <p>20 substantially closer?</p> <p>21 MR. MARTIN:</p> <p>22 A. Again, it's--doing these what-if analysis,</p> <p>23 that we call them, it's extremely difficult to</p> <p>24 accurately quantify the expected improvements.</p> <p>25 Q. So there was a what-if analysis done here, was</p>	<p>1 there?</p> <p>2 MR. MARTIN:</p> <p>3 A. No, there wasn't. There are numerous problems</p> <p>4 on that line. We're looking at the phase</p> <p>5 spacing on the line. We're looking at</p> <p>6 installing mid-span poles, changing cross arms</p> <p>7 and so on. So typically where there's a</p> <p>8 multiple number of problems that we've</p> <p>9 identified as root causes for outages, it's</p> <p>10 really not practical or even sensible to go</p> <p>11 back and try to predict how much of an</p> <p>12 improvement you're going to see. Another</p> <p>13 important factor to remember about this line</p> <p>14 is our statistics as quoted only refer to what</p> <p>15 we call sustained outages. They are one</p> <p>16 minute or longer, and I think we did mention</p> <p>17 here in the justification that one of the</p> <p>18 problems we've seen on that particular</p> <p>19 distribution circuit is momentary outages,</p> <p>20 with regard to line slaps and so on. That is</p> <p>21 another important issue that we're going to</p> <p>22 correct by this problem that won't necessarily</p> <p>23 show up in the statistics at the end of the</p> <p>24 day, but the numbers, as you'll see,</p> <p>25 particularly with regards to the duration of</p>



Page 97

Page 98

1 MR. MARTIN:  
 2 the outages, the SAIDI at 30.13 on the top of  
 3 page B-55, comparing that with the Hydro  
 4 average of 11.9 or say 12, it's two and a half  
 5 times the Hydro average. There is no doubt  
 6 that these upgrades will significantly improve  
 7 those numbers, but to what degree, we can't  
 8 accurately predict.  
 9 Q. The final question I had, Mr. Martin, related  
 10 to the air-conditioning systems in Whitbourne  
 11 and Stephenville, and I have to confess, you  
 12 know, I'd like to have some elaboration as to,  
 13 you know, why your alternative methods of  
 14 looking at correcting that system were not  
 15 deemed to be appropriate, you know, in  
 16 particular with regard to using the window-  
 17 type air-conditioners or wall-mounted air-  
 18 conditioners you might see? You know, they  
 19 appear to be, you know, so common to see in  
 20 office buildings anywhere around St. John's or  
 21 the province, and I'm particularly interested  
 22 as to why they were not appropriate or would  
 23 not work in Stephenville or -  
 24 MR. MARTIN:  
 25 A. Well, as I understand it, I'm certainly not an

1 expert in air-conditioning systems, so I'm  
 2 speaking just from information I've gathered  
 3 from others. As I mentioned before, we did  
 4 try those in one or two of the offices out  
 5 there. In the estimation of our engineering  
 6 people, they were totally inaccurate. The  
 7 people there still had to leave the room  
 8 because of the heat. At times, the noise was  
 9 unbearable. Out in the larger office areas,  
 10 like where our clerks and our office  
 11 administration people sit, out in the general  
 12 office area, as I understand it, you cannot  
 13 cover off the air-conditioning in an area like  
 14 that through a window-type unit.  
 15 Q. How many square feet are you talking about  
 16 there?  
 17 MR. MARTIN:  
 18 A. I believe we have that in the response to an  
 19 RFI.  
 20 MR. HOLDEN:  
 21 A. IC-21.  
 22 MR. O'RIELLY:  
 23 Q. Could you repeat that?  
 24 MR. MARTIN:  
 25 A. IC-21.

Page 99

Page 100

1 GREENE, Q.C.:  
 2 Q. Yes. No, it's not there. It's IC-20.  
 3 MR. MARTIN:  
 4 A. 20, is it? The general office area in  
 5 Whitbourne is roughly 650 square feet. We  
 6 also have a boardroom there of 344 square  
 7 feet. In Stephenville, if I'm reading this  
 8 correctly, the general office area is roughly  
 9 300 square feet, with a foray and corridor  
 10 area and they are connecting into that, so  
 11 that particular area is roughly close to 600  
 12 square feet.  
 13 CHAIRMAN:  
 14 Q. Okay, and I guess, are you indicating it's  
 15 because of the configuration internally of the  
 16 room that these outside air conditioners  
 17 wouldn't be appropriate?  
 18 MR. MARTIN:  
 19 A. That's my understanding, yes.  
 20 Q. I have no further questions. Ms. Greene,  
 21 anything arising?  
 22 GREENE, Q.C.:  
 23 Q. I have no redirect, Mr. Chair.  
 24 CHAIRMAN:  
 25 Q. Mr. Hayes?

1 MR. HAYES:  
 2 Q. No, Mr. Chair.  
 3 CHAIRMAN:  
 4 Q. Mr. Hutchings?  
 5 HUTCHINGS, Q.C.:  
 6 Q. Nothing arising.  
 7 CHAIRMAN:  
 8 Q. Anything?  
 9 MR. COXWORTHY:  
 10 Q. Nothing, Chair, thank you.  
 11 CHAIRMAN:  
 12 Q. Okay. Fine, thank you, gentlemen.  
 13 MR. MARTIN:  
 14 A. Thank you.  
 15 MR. HOLDEN:  
 16 A. Thank you.  
 17 GREENE, Q.C.:  
 18 Q. Mr. Chair, our next witness is Mr. Haynes, the  
 19 vice-president of production, who will speak  
 20 to, at this time, to the Hydro plants and  
 21 thermal plant projects. It'll only take a  
 22 moment for him to get set up. Thank you very  
 23 much, Mr. Martin and Holden. At this time, we  
 24 do have a copy of a presentation that Mr.  
 25 Haynes, or some slides that Mr. Haynes will be

Page 101	Page 102
<p>1 GREENE, Q.C.:  2 speaking to as we do his direct evidence.  3 (Time: 11:48 a.m.)  4 MR. JAMES HAYNES, SWORN  5 CHAIRMAN:  6 Q. State your full name for the record, please.  7 A. James Haynes.  8 GREENE, Q.C.:  9 Q. Mr. Haynes, what is your current position at  10 Hydro and what are the responsibilities of  11 that position?  12 A. I'm currently the vice-president of  13 production, and the production division is  14 responsible for six areas of Hydro. First of  15 all, we look after the planning of any new  16 generation, transmission or distribution  17 systems through the system planning  18 department. We also look after the operation  19 and maintenance of the Hydro plant, which is--  20 I'm sorry, I should go back. With respect to  21 the hydro generation, we look after Bay  22 D'Espoir plant, Cat Arm plant and so on. We  23 also look after the thermal facility operation  24 and maintenance at Holyrood, and the energy  25 control centre looks after the economic</p>	<p>1 dispatch on a 24-7 basis of the main system  2 grid, and the dispatch of the hydro and  3 thermal generating plants. Also, the  4 production division looks after the  5 information systems and telecommunications  6 department and they provide computing services  7 to basically all of Hydro, hardware and  8 software.  9 Q. Mr. Haynes, could you please identify what the  10 pictures that have come up on the screen?  11 A. Sorry?  12 Q. The pictures, could you please point out what  13 -  14 A. Oh, I'm sorry. The picture in the top left-  15 hand corner is the hydro facility at Bay  16 D'Espoir. That's the largest hydro facility  17 that we have on the island, containing two  18 power houses. In the bottom right-hand corner  19 is the thermal plant at Holyrood, which is  20 three generators and 466 megawatts. And I  21 guess the other thing that's shown in that  22 particular slide is just a typical microwave  23 tower that we use in our cross-island  24 communication system, and would likely be the  25 host to some of the VHF radial systems as</p>
Page 103	Page 104
<p>1 well.  2 Q. Those pictures just give a general indication  3 of some of your areas of responsibility for  4 Hydro?  5 A. That's correct.  6 Q. How long have you been with Hydro?  7 A. I've been with Hydro for 27 and a half years.  8 Q. How long in your current position as vice-  9 president of production?  10 A. About three and a half years in this position.  11 Q. What were the positions you held prior to your  12 current position?  13 A. Since joining Hydro in 1977 I've been in  14 various positions in the operations,  15 engineering and planning division sections of  16 Hydro. Most recently--also at Churchill Falls  17 for several years. And when I left, I was the  18 general manager of that facility. And prior  19 to that I was the director of plant operations  20 and maintenance. Prior to going to Churchill  21 Falls I was a manager of transition planning  22 in the planning division, and prior to that a  23 planning engineer, I worked in engineering  24 operations and I worked for a little over two  25 years on the construction of Holyrood unit No.</p>	<p>1 3 in the late 70s, early 80s.  2 Q. And in your role with respect to Churchill  3 Falls, I understand from your answer that you  4 were responsible for the hydroelectric plant  5 that's there?  6 A. The hydroelectric plant, that's a pretty broad  7 job, actually. It's the hydro plant, the  8 transmission lines, the terminal stations,  9 transportation, airport, pretty well  10 everything there, actually.  11 Q. And how large is the Churchill Falls plant?  12 A. That's a 5428 megawatt facility.  13 Q. It's one of the largest underground  14 powerhouses in the world, is that correct?  15 A. It is the largest underground powerhouse in  16 the world.  17 Q. Now, looking to the 2005 Capital Budget,  18 looking here now at page A-1. What projects  19 are you responsible in speaking at this  20 hearing?  21 A. I will be speaking to the generation items  22 under generation for 2005, as well, the--with  23 the exception of the gas turbines at Happy  24 Valley, Stephenville and Hardwoods which come  25 under TRO. As well, I'll be speaking to the</p>

Page 105	Page 106
<p>1 MR. HAYNES:</p> <p>2 IS and T sections of the general properties,</p> <p>3 they also come under the production division.</p> <p>4 Q. Okay. Before we get into the specific</p> <p>5 projects, I wonder if you could please just</p> <p>6 describe, as Mr. Martin did for his system,</p> <p>7 take the Commissioners through the system that</p> <p>8 you are responsible for?</p> <p>9 A. Okay. This slide is just basically a repeat,</p> <p>10 I guess. We were referring to the hydro</p> <p>11 plants that come under the production</p> <p>12 division. As I've mentioned before, it's Bay</p> <p>13 D'Espoir. There are several others which I'll</p> <p>14 describe shortly. And the thermal facility</p> <p>15 which obviously the primary one that I look</p> <p>16 after is the facility at Holyrood which is a</p> <p>17 fairly big piece of our generation portfolio</p> <p>18 and a very critical one, I might add, and as</p> <p>19 well as the communications and the corporate</p> <p>20 communications and computing facilities also</p> <p>21 come under production division. So, with</p> <p>22 respect to the system map, just got to get</p> <p>23 this cursor to work. Excuse me. There it is.</p> <p>24 Basically with respect to the transmission</p> <p>25 grid, the transmission system basically we</p>	<p>1 have hydro plants at Bay D'Espoir, which is</p> <p>2 580 megawatts and 2635 gigawatt hours. We</p> <p>3 have Upper Salmon, which is 84 megawatts and</p> <p>4 541 gigawatt hours. And we have Cat Arm,</p> <p>5 which is 127 megawatts and 735 gigawatt hours.</p> <p>6 Hynes Lake, which is connected to the 138 grid</p> <p>7 that Mr. Martin was describing is 75</p> <p>8 megawatts, 340 gigawatt hours. And our newest</p> <p>9 hydro plant, of course, is Granite Canal,</p> <p>10 which is in service and operating well now at</p> <p>11 40 megawatts and 224 gigawatt hours. That's</p> <p>12 the hydro plants. We have some smaller ones</p> <p>13 at Paradise River and Snooks and Venans. And,</p> <p>14 of course, Holyrood, which is on the Avalon</p> <p>15 Peninsula, which is the biggest generating</p> <p>16 source on the Avalon is 466 megawatts and we</p> <p>17 plan for 2996 gigawatt hours per year. With</p> <p>18 the exception of Granite Canal, which is a new</p> <p>19 one, most of this equipment is in excess of 25</p> <p>20 years of age. And we must invest capital to</p> <p>21 insure it remains reliable and at the most</p> <p>22 reasonable cost to serve our customers' needs</p> <p>23 and to ensure reliability is--that we are</p> <p>24 dependable in our delivery of power and</p> <p>25 energy. As well for the energy control</p>
Page 107	Page 108
<p>1 centre, which is slipped in there in the slide</p> <p>2 presentation, that is the arena where on a 24</p> <p>3 hour basis the generation is turned on and off</p> <p>4 or scheduled from the point of view of how</p> <p>5 many megawatts comes from where. It also</p> <p>6 looks after the voltage regulation on the</p> <p>7 system and dispatches transmission lines,</p> <p>8 responds to customer outages or equipment</p> <p>9 outages and facilitates the planned outages of</p> <p>10 lines and plants to ensure maintenance is done</p> <p>11 and also to ensure that there's a minimum</p> <p>12 interruption or disruption to our customers.</p> <p>13 Lastly, I guess, across the island, which we</p> <p>14 have not indicated, there is a communications</p> <p>15 system. The backbone communication system is</p> <p>16 a microwave radio system and of course we</p> <p>17 maintain the VHF radio system so we can</p> <p>18 communicate with our workers and the plants or</p> <p>19 field crews doing the various maintenance,</p> <p>20 both routine and emergency that basically</p> <p>21 happen on a daily basis.</p> <p>22 Q. Mr. O'Rielly, could you bring up, please, page</p> <p>23 A-4? Here, Mr. Haynes, beginning on page A- 4</p> <p>24 of the application we see the breakdown of the</p> <p>25 projects under Hydro plants. That's where the</p>	<p>1 listing starts. And could we go to page A-5,</p> <p>2 Mr. O'Rielly? Here on page A-5 we see the</p> <p>3 similar listing of projects for the thermal</p> <p>4 plant which is Holyrood. Were the project</p> <p>5 descriptions that are contained in Schedule B</p> <p>6 for each of these projects that are over</p> <p>7 \$50,000 prepared under your direction?</p> <p>8 A. Yes, they were.</p> <p>9 Q. Do you accept them as your evidence for the</p> <p>10 purpose of this hearing?</p> <p>11 A. Yes, I do.</p> <p>12 Q. Evidence was pre-filed on August 10th for</p> <p>13 production. Do you wish to make any changes</p> <p>14 to the evidence at this time?</p> <p>15 A. Yes. There were two minor corrections I would</p> <p>16 like to make in the pre-filed evidence.</p> <p>17 Firstly, on page 2.</p> <p>18 Q. Page?</p> <p>19 A. Page 2 if I could first, I'm sorry. On page</p> <p>20 in the table it indicates that the</p> <p>21 Stephenville gas turbine is 25 megawatts</p> <p>22 installed capacity. It's, in fact, 54</p> <p>23 megawatts. I apologize.</p> <p>24 Q. So that was just a simple typo or anyway, it</p> <p>25 was a mistake?</p>

Page 109	Page 110
<p>1 MR. HAYNES</p> <p>2 A. Yes.</p> <p>3 Q. The 25 shown for Stephenville for installed</p> <p>4 megawatts should be 54, is that correct?</p> <p>5 A. That's correct. And the second correction is</p> <p>6 on page 7, line 27. And at line 27 it</p> <p>7 indicates that the expenditures during 2004</p> <p>8 were \$3.1 million. That is, in fact, the</p> <p>9 expenses up to the end of 2004. There was</p> <p>10 approximately \$387,000 spent on that approved</p> <p>11 project, I'm sorry, in 2003. So it's just</p> <p>12 replace the word "during" with "up to".</p> <p>13 Q. So that's on line 27, replace the word</p> <p>14 "during" with "up to", is that correct?</p> <p>15 A. That's correct.</p> <p>16 Q. With those two minor amendments, do you accept</p> <p>17 your August 10th evidence as just amended as</p> <p>18 your evidence for the purpose of this hearing?</p> <p>19 A. Yes, I do.</p> <p>20 CHAIRMAN:</p> <p>21 Q. So replace the word "during" on line 27?</p> <p>22 GREENE, Q.C.:</p> <p>23 Q. Yes. With "up to".</p> <p>24 A. Yes, "up to". It's up to the end of 2004 we</p> <p>25 would anticipate.</p>	<p>1 CHAIRMAN:</p> <p>2 Q. I see. Sure, yes.</p> <p>3 GREENE, Q.C.:</p> <p>4 Q. The money wasn't all spent during the year,</p> <p>5 it's been spent prior to and during.</p> <p>6 CHAIRMAN:</p> <p>7 Q. Okay. Thank you.</p> <p>8 GREENE, Q.C.:</p> <p>9 Q. Mr. Haynes, you were present when Mr. Martin</p> <p>10 testified and explained his role as vice-</p> <p>11 president at Hydro in the Capital Budget</p> <p>12 process. Is that a similar role to your role</p> <p>13 as vice-president of production?</p> <p>14 A. Yes, that basic process is pretty consistent</p> <p>15 throughout Hydro.</p> <p>16 Q. Mr. O'Rielly, now could we go to page A-4,</p> <p>17 please? And which we're going to start</p> <p>18 looking at the specific 2005 capital projects,</p> <p>19 work production under the heading here of</p> <p>20 "Generation". The first heading is "Hydro</p> <p>21 Plants". What type of projects are in this</p> <p>22 category?</p> <p>23 A. For the construction project grouping there,</p> <p>24 with the exception of the fuel tank</p> <p>25 replacement, they are projects directly</p>
Page 111	Page 112
<p>1 related to the age of facilities and they're</p> <p>2 intended to ensure continued availability to</p> <p>3 meet our customers' needs reliably and cost</p> <p>4 effectively. The fuel tank proposal is a</p> <p>5 regulatory requirement which will bring these</p> <p>6 fuel systems up to compliance with legislation</p> <p>7 so we can get the necessary approvals and</p> <p>8 registrations in place from the provincial</p> <p>9 regulator.</p> <p>10 (Time: 12:00 p.m.)</p> <p>11 Q. Now, there are two significant projects there</p> <p>12 under that heading of "Construction Projects"</p> <p>13 under "Hydro Plants" that I'd like to talk--or</p> <p>14 you to give evidence with respect to. The</p> <p>15 first is the Slope Stabilization Project for</p> <p>16 Upper Salmon. Could you please describe that</p> <p>17 project, Mr. Haynes?</p> <p>18 A. Yes. I'll just use the slide. This</p> <p>19 particular picture on the screen right now is</p> <p>20 a picture of the Upper Salmon development.</p> <p>21 And over in the top right-hand corner where</p> <p>22 the cursor is right now is a general area of</p> <p>23 concern that we have, and it's basically a</p> <p>24 slope stability issue with the power canal.</p> <p>25 This canal is used to direct water to the</p>	<p>1 plant from Cold Spring Pond. This structure</p> <p>2 is approximately 21 years old. And there were</p> <p>3 issues during construction with respect to</p> <p>4 that slope and there's been a fair bit of time</p> <p>5 and effort spent looking at it, doing some</p> <p>6 small operating remedial work in the sense of</p> <p>7 berms and so on. And it's been a growing</p> <p>8 concern with our Dyke Board, who are a group</p> <p>9 of national consultants, basically, who come</p> <p>10 in once a year to oversee our dyke safety and</p> <p>11 maintenance program to give us suggestions, to</p> <p>12 give us advice on how to properly ensure that</p> <p>13 they remain safe, intact and do their job in</p> <p>14 the long term. The particular project was</p> <p>15 approved in 2004 and the 2004 work is</p> <p>16 basically to do an engineering review to come</p> <p>17 up with a permanent long-term, long-lasting</p> <p>18 solution. The particular issue and more, I</p> <p>19 guess, this particular--this is the item of</p> <p>20 concern, it's about 400 feet along this</p> <p>21 particular canal and this is a fairly steep</p> <p>22 slope. It's 40 meters--excuse me. It's</p> <p>23 approximately 40 meters higher than the water,</p> <p>24 although it doesn't quite look like it on the</p> <p>25 screen, but that is the actual height. It's</p>

Page 113	Page 114
<p>1 MR. HAYNES:</p> <p>2 fairly wet. And what happens is that there</p> <p>3 are issues with respect to the slope</p> <p>4 stability. And the fear is that eventually</p> <p>5 that this particular slope will slide into the</p> <p>6 canal, block it off, possibly undermine the</p> <p>7 other bank which would cause a loss for a</p> <p>8 considerable of time. This is a more specific</p> <p>9 shot just looking at the actual slope. And</p> <p>10 you can see these particular lines here where</p> <p>11 there's some shifting or the geotechnical term</p> <p>12 may not be sliding, but sort of sliding or</p> <p>13 sloping of the dyke material into the canal.</p> <p>14 So this particular project is in our view very</p> <p>15 important to retain the integrity of the dyke</p> <p>16 in the long term, to prevent a failure and as</p> <p>17 I said, the Dyke Board has been particularly</p> <p>18 engaged in the last number of years. In fact,</p> <p>19 they've mentioned it in their reviews on</p> <p>20 several occasions in the past, some, quite a</p> <p>21 number of occasions. And I guess this last</p> <p>22 review I guess we have concluded that we</p> <p>23 really need to take a hard look at this and to</p> <p>24 remediate the particular work. The situation</p> <p>25 with Upper Salmon, I should add, is that it is</p>	<p>1 a sort of run of the river plant, it's behind</p> <p>2 Bay D'Espoir. Most of the water that gets</p> <p>3 turbined at Bay D'Espoir goes through Upper</p> <p>4 Salmon. If that plant is rendered unavailable</p> <p>5 because we have a slope failure, we would have</p> <p>6 to spill around Upper Salmon plant, so--and</p> <p>7 when we spill around, we won't lose the water</p> <p>8 from Bay D'Espoir, but we won't have the</p> <p>9 opportunity to generate that particular</p> <p>10 turbine, that water. And that particular</p> <p>11 plant average in a year displaces</p> <p>12 approximately 850,000 barrels of oil. If the</p> <p>13 outage was for six months, then basically it</p> <p>14 would be, you know, 400,000 barrels of oil</p> <p>15 which obviously is a considerable cost factor</p> <p>16 to Hydro. So, what we propose to do, and this</p> <p>17 work is ongoing as we speak, is to define the</p> <p>18 solution. The estimate that we put forth in</p> <p>19 the Capital Budget was as phrased is a</p> <p>20 preliminary one. It's under review as we</p> <p>21 speak, again. And what we want to do is do a</p> <p>22 planned methodical repair and not be pushed</p> <p>23 into the corner and have to do an emergency</p> <p>24 repair in the middle of the winter, which</p> <p>25 would be not a very opportune time to do this</p>
Page 115	Page 116
<p>1 kind of work, and quite possibly impossible to</p> <p>2 do it at that time of the year, which would</p> <p>3 extend the outage. So that's that particular</p> <p>4 slope stabilization project.</p> <p>5 Q. Now, Mr. O'Rielly, could you return to page A-</p> <p>6 4, please? The second significant project</p> <p>7 that's there under the heading of</p> <p>8 "Construction Projects" is the--that I'd like</p> <p>9 to speak about at this time is the replacement</p> <p>10 of the Penstock for Snook's Arm where there is</p> <p>11 a proposed capital expenditure of 115,000 in</p> <p>12 2005 with 1.8 million in future years. Could</p> <p>13 you describe that project for the Panel, Mr.</p> <p>14 Haynes?</p> <p>15 A. Yes. The Snook's Arm plant was acquired by</p> <p>16 Hydro in 1967 or '68, I believe. It's a small</p> <p>17 590 kilowatt plant, it's still used and</p> <p>18 useful, it does displace oil. The plant is</p> <p>19 located in approximately this area right here.</p> <p>20 The actual reservoir is up here and a penstock</p> <p>21 more or less follows this road down through</p> <p>22 this housing area and so on. So the plant</p> <p>23 itself is approximately 50 years old, and as I</p> <p>24 mentioned, it's still economic and does</p> <p>25 justify the work planned, in our view. The</p>	<p>1 wood stave penstock, it's leaking, it's very</p> <p>2 deteriorated, runs through the community,</p> <p>3 which poses obviously some safety aspects</p> <p>4 which we are very cognisant of. Continuing to</p> <p>5 operate the plant as it is right now is not an</p> <p>6 option. And the \$1.9 million that we have</p> <p>7 budgeted for the whole project is a two-year</p> <p>8 project. In 2005 we want to do a--we plan to</p> <p>9 do an engineering review and to define the</p> <p>10 scope of work and to bring this basically to a</p> <p>11 point where we can move on in the most cost</p> <p>12 effective way. The penstock itself, this is</p> <p>13 just a collage of pictures of the penstock.</p> <p>14 It's a typical, I won't necessarily say old</p> <p>15 fashioned, but it's typical wood stock</p> <p>16 penstock that's been around the system for</p> <p>17 years. This is called brooming. These steel</p> <p>18 bands basically kept the wood staves together.</p> <p>19 It's I think a two by four inch Douglas fir is</p> <p>20 the material. It is 50 years old, so this is</p> <p>21 not an uncommon--you see the brooming. On</p> <p>22 this picture right here you can see there are</p> <p>23 metal plates pushed in various places and</p> <p>24 under--for instance, right here is one here</p> <p>25 that are pushed under the steel band to secure</p>

Page 117	Page 118
<p>1 MR. HAYNES:</p> <p>2 a leak, to keep the wood in, to keep it, I</p> <p>3 guess for lack of a better word, to keep it</p> <p>4 together. In the lower right-hand corner you</p> <p>5 can see some of the novel repair techniques</p> <p>6 that some fellows use when they're desperate.</p> <p>7 It's basically they've driven nails in. That's</p> <p>8 not a great way to do it, but I guess at the</p> <p>9 time, this has been done for a number of years</p> <p>10 by various people, I guess, and so on. But</p> <p>11 that is not an appropriate way to do it.</p> <p>12 There is really no appropriate way unless you</p> <p>13 take it apart. You see the deterioration of</p> <p>14 the wood here as well. And obviously in the</p> <p>15 far right there is a fairly significant leak.</p> <p>16 In the wintertime these things ice up as well,</p> <p>17 which cause other issues, and some stresses,</p> <p>18 if you will, on the penstock. If it ices up</p> <p>19 too much, there's a tendency to tear it apart.</p> <p>20 The centre photograph, I just wanted to, just</p> <p>21 to indicate the location of the penstock with</p> <p>22 respect to some of the houses. So while it's</p> <p>23 not a major concern to be adjacent to that</p> <p>24 houses, per se, it certainly is a major issue</p> <p>25 for us with the deteriorated condition of the</p>	<p>1 penstock. If there were a leak to happen, it</p> <p>2 would cause property damage and obviously</p> <p>3 safety issues with the local residents. So,</p> <p>4 we have looked at the option to, you know, to</p> <p>5 retire the plant in our study which was</p> <p>6 provided in the tab G, I believe, and the</p> <p>7 least cost alternative is to basically replace</p> <p>8 the penstock and the levelized cost that we've</p> <p>9 calculated over the long term is approximately</p> <p>10 six cents a kilowatt hour and the alternative</p> <p>11 is approximately 7.6. So it's basically based</p> <p>12 on economics that it's still a used and useful</p> <p>13 plant and it's prudent to replace the penstock</p> <p>14 and continue this operation. And there are</p> <p>15 obviously environmental benefits as well, it's</p> <p>16 less oil, albeit a small amount compared to</p> <p>17 what we'd normally burn.</p> <p>18 Q. Mr. Haynes, you mentioned the alternative of</p> <p>19 not replacing the penstock and taking Snook's</p> <p>20 Arm out of commissioning. The alternative was</p> <p>21 7.6 cents per kilowatt?</p> <p>22 A. Yes, that's correct.</p> <p>23 Q. What did this alternative include?</p> <p>24 A. That includes basically replacement energy</p> <p>25 from the Holyrood facility which is in excess</p>
Page 119	Page 120
<p>1 of about 5000 barrels a year. It also</p> <p>2 includes a capacity item, because while it's</p> <p>3 590 kilowatts, it is part of our portfolio, it</p> <p>4 is used in the calculation of our system, you</p> <p>5 know, reliability criteria for generation,</p> <p>6 which is loss of load expectation which is</p> <p>7 discussed often times during our general rate</p> <p>8 applications as well as the retirement costs</p> <p>9 of the Snook's Arm plant. We just can't walk</p> <p>10 away from a facility. If we retire any plant</p> <p>11 or any physical facility, we have to</p> <p>12 demobilize the site, we have to also get</p> <p>13 permission from the Public Utilities Board, of</p> <p>14 course, but in addition to that we have to get</p> <p>15 approval from the Environment Department</p> <p>16 because there is a powerhouse, there's a</p> <p>17 penstock, there's also a dyke and dam that</p> <p>18 would have to be retired from service and I</p> <p>19 guess the Department of Environment would</p> <p>20 dictate what we have to do. So we have</p> <p>21 allocated monies that in our estimate would</p> <p>22 cover off that in the, I'm sorry, the -</p> <p>23 Q. Retirement option?</p> <p>24 A. The retirement alternative. Thank you.</p> <p>25 Q. Mr. O'Rielly, I wonder could you go, please,</p>	<p>1 to page A-5? Here we see the breakdown of the</p> <p>2 projects that are under "Thermal Plant". What</p> <p>3 types of projects are listed here under</p> <p>4 "Thermal Plant", Mr. Haynes?</p> <p>5 A. In the thermal plant section there are two</p> <p>6 capital intensive projects and they are age</p> <p>7 related. One is the continuation of the</p> <p>8 control system upgrade, which is actually in</p> <p>9 progress as we speak. The other projects</p> <p>10 which we are proposing to start on in 2005 is</p> <p>11 the upgrade of civil structures, which</p> <p>12 basically is a--similar to the job that we did</p> <p>13 last year, which is basically to replace the</p> <p>14 liner in the chimney or the stack and the</p> <p>15 steel works and gradings in the cooling water</p> <p>16 structure which basically is the salt water</p> <p>17 intake for cooling water. The other project</p> <p>18 that's there, a significant project of</p> <p>19 \$750,000 is an anti-fouling system for the</p> <p>20 cooling water system. And that particular</p> <p>21 system will prevent the accumulation of</p> <p>22 muscles in the condenser and the cooling water</p> <p>23 system which cause us efficiency losses, cause</p> <p>24 us to derate the unit over the winter over</p> <p>25 periods of time until we can backwash and</p>

Page 121	Page 122
<p>1 MR. HAYNES:</p> <p>2 occasionally get in and actually shovel it</p> <p>3 out, although that is a little bit rare during</p> <p>4 the winter, but it is possible. So this</p> <p>5 particular system is based on economics. It's</p> <p>6 a new system that we do not have now. And</p> <p>7 this plant is, as I mentioned in the previous,</p> <p>8 some previous words, it's a very critical part</p> <p>9 of our portfolio and we're striving to make</p> <p>10 sure it's most efficient as we can and</p> <p>11 reliable as we can. So this is a--and the</p> <p>12 economics basically justify this project as</p> <p>13 well.</p> <p>14 Q. Now, that was a brief overview of the types of</p> <p>15 projects. I wanted to look at three of those</p> <p>16 in a little bit more detail. The first is the</p> <p>17 control system that's indicated there. Could</p> <p>18 you please describe that project which is a</p> <p>19 multi year project that we're more than</p> <p>20 halfway through, is that correct?</p> <p>21 A. That's correct.</p> <p>22 Q. Okay. Can you please describe that project?</p> <p>23 A. That particular project, maybe I can just go</p> <p>24 to the next slide? This doesn't have a lot to</p> <p>25 say to the control system. But the Holyrood</p>	<p>1 facility which you see there is a pretty</p> <p>2 complex creature to operate. And I know that</p> <p>3 we've had some of the Board members out there</p> <p>4 previously and Board staff to view that</p> <p>5 particular facility. The control system is</p> <p>6 basically what allows the operators to operate</p> <p>7 that plant on a 24 hour basis. And the</p> <p>8 control system was approved last year and is</p> <p>9 well under way. The Units No. 1 is operating</p> <p>10 as we speak with the new control system. Now,</p> <p>11 they are still doing some tuning of that</p> <p>12 system. Unit No. 2 will be completed by, I</p> <p>13 believe it's the first week of November or the</p> <p>14 second week of November. And during 2004 we</p> <p>15 will spend approximately \$1.6 million of the</p> <p>16 roughly \$2.6 million budget, and for 2005 it's</p> <p>17 a continuation to do the same thing for Unit</p> <p>18 No. 3. And basically it's a critical</p> <p>19 component, it was forced--we were forced to</p> <p>20 change that out because of obsolescence of the</p> <p>21 old equipment. And if we want to continue to</p> <p>22 reliably operate that plant with less failures</p> <p>23 and unplanned interruptions, then we must</p> <p>24 continue to replace that particular piece of</p> <p>25 equipment. And I guess as I mentioned, by the</p>
Page 123	Page 124
<p>1 end of this year when No. 2 is completed,</p> <p>2 which will be November and all the things are</p> <p>3 issued, we will have spent the \$1.6 million of</p> <p>4 the 2004 budget approval.</p> <p>5 Q. The second significant project for the</p> <p>6 Holyrood thermal plant you referred to</p> <p>7 already, it's the anti-fouling system for the</p> <p>8 cooling water system at the Holyrood plant.</p> <p>9 Could you please describe for the</p> <p>10 Commissioners this particular project?</p> <p>11 A. Yes. I mentioned a few minutes ago, it's</p> <p>12 based on economics. But I guess I'll just--a</p> <p>13 couple of pictures of the specific issue. Our</p> <p>14 cooling water intake, if I go back to--if I go</p> <p>15 back to this slide right here and I can get my</p> <p>16 cursor back, the cooling water intakes are</p> <p>17 right here. This is the intake for Units No.</p> <p>18 1 and 2. And this over here is the intake for</p> <p>19 No. 3. And while you don't see it, this is</p> <p>20 Indian Pond, which is connected to the ocean</p> <p>21 to a trestle just right here. So we basically</p> <p>22 take sea water in and run it through the</p> <p>23 condenser and then basically we discharge the</p> <p>24 water up through here. This particular</p> <p>25 picture is you got the intake and it goes on</p>	<p>1 through the condenser system is that we get,</p> <p>2 particularly at certain times of the year, an</p> <p>3 extreme accumulation of muscles. This is the</p> <p>4 walls of the pipe at the cooling intake. That</p> <p>5 goes on through and the muscles actually are,</p> <p>6 you know, our delicacy in some people's eyes,</p> <p>7 anyway, sticks to this thing. It affects the</p> <p>8 efficiency of the condensing process. And it</p> <p>9 jeopardizes reliability in a sense that--or</p> <p>10 availability, I should say, in a sense that we</p> <p>11 have to derate. In fact, I think in--I</p> <p>12 shouldn't say I think. In 2003, for example,</p> <p>13 we would actually have gone in during the</p> <p>14 operating season 73 times and done backwashes</p> <p>15 on the condenser. When we do a backwash, we</p> <p>16 have to run back on load. So that has to be</p> <p>17 coordinated with the energy control centre,</p> <p>18 other hydro generation has to be on, and all</p> <p>19 these things affect our kilowatt hours per</p> <p>20 barrel, which I guess is our measure at</p> <p>21 Holyrood.</p> <p>22 (Time: 12:15 p.m.)</p> <p>23 So this particular project is approximately</p> <p>24 \$700,000 and the payback is less than ten</p> <p>25 years and what the copper ion injection will</p>

Page 125	Page 126
<p>1 MR. HAYNES:</p> <p>2 do is prevent the accumulation and the growth</p> <p>3 of these muscles, so we should maintain a</p> <p>4 higher efficiency. It doesn't mean we won't</p> <p>5 have to backwash, but it should not be 75</p> <p>6 times, it should be considerably less. And</p> <p>7 basically it will maintain the condenser</p> <p>8 efficiency which maintains the vacuum on the</p> <p>9 turbine and allows us to do a more efficient</p> <p>10 process. And these particular slide, by the</p> <p>11 way, are from Holyrood, they're not--muscles</p> <p>12 are often a problem in many other utility</p> <p>13 seawater intakes and this is not an uncommon</p> <p>14 problem. And the particular system that we're</p> <p>15 proposing is a, you know, five years ago it</p> <p>16 was a new system, or ten years ago it was a</p> <p>17 new system, but it's being adopted by</p> <p>18 utilities fairly often now and we think will</p> <p>19 pay for itself very quickly.</p> <p>20 Q. The last project in this category for the</p> <p>21 thermal plant I wanted to address in direct</p> <p>22 evidence is the upgrade of the civil</p> <p>23 structures at the plant. Could you please</p> <p>24 describe that project?</p> <p>25 A. Yes. That particular project we have there is</p>	<p>1 the replacement of the stack liner and the</p> <p>2 cooling water intake screen structure at the</p> <p>3 Holyrood Unit No. 2. During 2003--I guess in</p> <p>4 2002 we did the preliminary engineering on how</p> <p>5 we're going to approach this particular</p> <p>6 problem. And we did actually carry out that</p> <p>7 work in 2003. And what we have here, just to</p> <p>8 demonstrate, is the actual screen structure</p> <p>9 that we did have. These are just basically</p> <p>10 holes that are burned through the steel where</p> <p>11 the steel is eroded. Similarly, right here</p> <p>12 this particular piece is a section that was</p> <p>13 removed and laid down. It's just the long</p> <p>14 section is rusted, deteriorated. And these</p> <p>15 holes and weak spots, it used to be a quarter</p> <p>16 inch steel plate and these particular, not all</p> <p>17 necessary punctures because we have over the</p> <p>18 years gone back several times and done, many</p> <p>19 times and done repairs. We would put in a,</p> <p>20 weld in a new piece of steel, but after 34</p> <p>21 years of operation it's been deteriorated to</p> <p>22 the point where we had to go. In fact, the</p> <p>23 actual condition of the liner in No. 1 was</p> <p>24 worse than we anticipated, because we had</p> <p>25 anticipated actually reusing a part of the</p>
Page 127	Page 128
<p>1 upper part, which was stainless steel, and in</p> <p>2 fact, we had to replace it all. And so this</p> <p>3 is basically it's a continuation to ensure the</p> <p>4 reliability for that in the coming future. In</p> <p>5 the bottom left just to indicate how we did</p> <p>6 it, which may not be the way we're going to do</p> <p>7 it next time, because this particular crane is</p> <p>8 apparently, we understand no longer available</p> <p>9 in the province, this is a pretty high stack.</p> <p>10 I can't quote the number offhand, I forget.</p> <p>11 But basically we removed the old section up</p> <p>12 through the top and we installed it down</p> <p>13 through. That normally in most--where a crane</p> <p>14 is not available you actually do it from the</p> <p>15 inside. But that will be determined over the</p> <p>16 course of time as we tender the project and</p> <p>17 see what the vendors actually come up with.</p> <p>18 The issue with not doing it, I guess, it's a</p> <p>19 safety issue, obviously it's a reliability</p> <p>20 issue and safety issue. If the internal steel</p> <p>21 column were to collapse during operation, the</p> <p>22 exit gas has to go somewhere. Obviously if</p> <p>23 this thing falls down inside, there's lots of</p> <p>24 safety issues, but if the boiler is going, the</p> <p>25 gas has to escape. The boiler will shut down</p>	<p>1 automatically when the boiler pressure goes</p> <p>2 up, but there's still exit gas in the fireball</p> <p>3 that has to be looked after and there is a</p> <p>4 possibility it could jeopardize the</p> <p>5 availability of the whole plant, not just that</p> <p>6 particular unit. And one of these units, No.</p> <p>7 2, is 175 megawatts of our winter capability</p> <p>8 and it's critical that we make sure it's</p> <p>9 available for our customers' needs.</p> <p>10 Q. So the pictures on the screen that we have</p> <p>11 there before us are pictures of the liner that</p> <p>12 was removed from the unit that has been done,</p> <p>13 is that correct?</p> <p>14 A. These two on the top are and the lower right-</p> <p>15 hand corner are the liner that was removed.</p> <p>16 On the lower, right-hand corner these are the</p> <p>17 replacement sections. That's, I think, it's</p> <p>18 insulation and this, you can't see it very</p> <p>19 well but that one there would have the</p> <p>20 insulation around it as well. This is</p> <p>21 insulation. This is insulation that's up here</p> <p>22 which has also been deteriorated in certain</p> <p>23 places.</p> <p>24 Q. And I believe you've indicated the condition</p> <p>25 of the liner that was removed from the other</p>



Page 129	Page 130
<p>1 GREENE, Q.C.:  2 unit was actually worse than had been  3 originally thought, is that correct?  4 A. Yes, it was, worse than we'd anticipated when  5 we actually sought approval to replace the  6 stack. And it's 34 years old, operating in a  7 salt environment with hot exit gases which  8 are, you know, do have obviously, you know,  9 acids and so on.  10 Q. Do you have any reason to believe that the  11 condition of the No. 2 liner would be any  12 better condition than the other unit?  13 A. No. They were built at the same time and they  14 have roughly the same operating experience.  15 We would anticipate no significant difference  16 in the conditions.  17 Q. Is it fair to say that an in service failure  18 of that liner would be considered to be a  19 major serious event affecting the reliability  20 of the Holyrood thermal plant?  21 A. Certainly. As I mentioned, it's a safety  22 issue. If it does collapse, you cannot--you  23 know, we would not consider continuing use of  24 the unit with out the steel liner. It would  25 deteriorate the concrete section of the stack</p>	<p>1 and the replacement costs would be  2 considerably more. It would also render the  3 unit unavailable for an extended period of  4 time. You know, we are trying to be proactive  5 and to propose these, you know, significant  6 capital replacement projects to ensure  7 availability. And any failure of 175 megawatt  8 unit, you know, that would be, put this  9 machine out of service for months. And in the  10 winter that would be a considerable nuisance  11 to all our customers.  12 Q. I think it would be more than a nuisance,  13 would it, Mr. Haynes?  14 A. It would be, you know, outages and -  15 Q. Speaking as one of those customers.  16 A. Trying to be--there would be outages and maybe  17 some--we would not be able to meet peak load  18 very well or reliably because, you know, we  19 plan the system, as I mentioned on this, a  20 loss of load expectation. So all these things  21 are a part of our portfolio. We have assumed  22 failure rates and so on which all go into the--  23 or availability rates, they all go into the  24 calculation of our ability to meet the load.  25 And if we were to pull 175 megawatts out of</p>
Page 131	Page 132
<p>1 our system and that were gone tomorrow, we  2 would be back here the day after tomorrow  3 seeking approval to come in and do something,  4 replace it with other generation, because we  5 would be well outside of our planning  6 criteria.  7 Q. Thank you, Mr Haynes. That concludes the  8 direct evidence for Mr. Haynes at this time.  9 And you will recall in the opening statement  10 yesterday morning I indicated our plan is to  11 deal with the hydro and thermal plant projects  12 that are shown on pages A-4 and A-5 at this  13 time. And then we would follow that with a  14 panel where Mr. Downton and Mr. Dunphy would  15 join Mr. Haynes only for the radio project.  16 So the intent at this time is to do all of the  17 hydro and thermal plant projects and that's  18 what was spoken to in the direct evidence so  19 far. Thank you. That concludes the direct  20 evidence portion of this part of the -  21 CHAIRMAN:  22 Q. Fine. Thank you, Ms. Green. Mr. Hayes, I  23 guess with respect to cross-examination we'll  24 wait until after lunch.  25 MR. HAYES:</p>	<p>1 Q. Mine is going to be brief but it's probably  2 just as well.  3 CHAIRMAN:  4 Q. I think so. Even if it will be brief, I think  5 we'll wait until after lunch. So we'll--just  6 an hour break and reconvene at 1:30. Thank  7 you.  8 (Time: BREAK - 12:23 p.m. )  9 (Time: RESUME - 1:35 p.m. )  10 CHAIRMAN:  11 Q. I think, Mr. Hayes, when we adjourned, you had  12 one question, I think you indicated you had?  13 MR. KENNEDY:  14 Q. Chair, if I could just jump in for just a  15 second. There was two pieces of information  16 we just needed to enter in on the record.  17 CHAIRMAN:  18 Q. Very good.  19 MR. KENNEDY:  20 Q. And one is the power point presentation that  21 Mr. Haynes was using in his direct testimony  22 earlier today. And this needs to be entered  23 in as an exhibit and it would be Exhibit JH  24 No. 1.</p>

Page 133	Page 134
<p>1 CHAIRMAN:</p> <p>2 Q. JH 1?</p> <p>3 MR. KENNEDY:</p> <p>4 Q. Yes, correct JH No. 1. And the second item,</p> <p>5 Chair, is a letter from Grant Thornton, the</p> <p>6 Board's financial advisors. It is</p> <p>7 confirmation of them conducting a review of</p> <p>8 the calculations involved in the determination</p> <p>9 of Hydro's rate base. And the letter is self-</p> <p>10 explanatory. Copies have been distributed to</p> <p>11 all counsel for the parties. And that would</p> <p>12 be entered as Information No. 1, Chair.</p> <p>13 CHAIRMAN:</p> <p>14 Q. Thank you, Mr. Kennedy.</p> <p>15 MR. KENNEDY:</p> <p>16 Q. Thank you. That's all I have, Chair. I</p> <p>17 believe Ms. Greene has a document to enter as</p> <p>18 well.</p> <p>19 GREENE, Q.C.:</p> <p>20 Q. Yes, Mr. Chair, I do. This morning Mr.</p> <p>21 Hutchings asked for the reconciliation between</p> <p>22 the cost benefit analysis for the Roddickton</p> <p>23 mini hydro plant and the Snook's Arm plant.</p> <p>24 And we have the actual formula here for the</p> <p>25 calculation with the explanation of the</p>	<p>1 difference which relates to the difference in</p> <p>2 the size capacity of the two and the capacity</p> <p>3 factor for each of those. So this is the</p> <p>4 formula for each of them. And Mr. Haynes is</p> <p>5 prepared to answer any questions if there are</p> <p>6 additional questions arising after this</p> <p>7 document is filed.</p> <p>8 CHAIRMAN:</p> <p>9 Q. Thank you.</p> <p>10 GREENE, Q.C.:</p> <p>11 Q. We've titled it as a response to an</p> <p>12 undertaking.</p> <p>13 CHAIRMAN:</p> <p>14 Q. I take it that was No. 7 then if it was formed</p> <p>15 in that fashion, is it, or 8, is it?</p> <p>16 GREENE, Q.C.:</p> <p>17 Q. It would be No. 8.</p> <p>18 CHAIRMAN:</p> <p>19 Q. No. 8.</p> <p>20 GREENE, Q.C.:</p> <p>21 Q. There was 7 from yesterday.</p> <p>22 CHAIRMAN:</p> <p>23 Q. Right.</p> <p>24 GREENE, Q.C.:</p> <p>25 Q. And some of them are verbal and some of them</p>
Page 135	Page 136
<p>1 are written, so there won't be a piece of</p> <p>2 paper for each undertaking, but this is</p> <p>3 actually the eighth undertaking.</p> <p>4 CHAIRMAN:</p> <p>5 Q. It's going to be Hydro 8, is it? Mr.</p> <p>6 Hutchings, did you have any follow-up question</p> <p>7 arising out of this particular filing?</p> <p>8 HUTCHINGS, Q.C.:</p> <p>9 Q. I'll have to take some time to look at that,</p> <p>10 Mr. Chair, and we'll let you know then.</p> <p>11 CHAIRMAN:</p> <p>12 Q. Right. Mr. Hayes?</p> <p>13 MR. HAYES:</p> <p>14 Q. Thank you, Mr. Chair. Good afternoon, Mr.</p> <p>15 Haynes. Mr. O'Rielly, perhaps I could ask if</p> <p>16 you'd bring request for information NP-01 NLH</p> <p>17 on the screen? Mr. Haynes, Newfoundland</p> <p>18 Power's question, this refers to the Snook's</p> <p>19 Arm project, the replacement of the penstock.</p> <p>20 And Newfoundland Power's question in NP-01</p> <p>21 asks for the levelized cost of production at</p> <p>22 the plant. And you've provided an estimated</p> <p>23 levelized cost of six centre per kilowatt</p> <p>24 hour. We also asked that you include in your</p> <p>25 analysis any material costs associated with</p>	<p>1 the refurbishment or replacement of facilities</p> <p>2 or structures over the next 10 to 15 years.</p> <p>3 Hydro's response didn't provide any detail on</p> <p>4 the timing of future expenditures of capital</p> <p>5 expenditure other than the proposed penstock</p> <p>6 replacement?</p> <p>7 A. No, we did not.</p> <p>8 Q. And the only other expenditure specifically</p> <p>9 mentioned in the response are runner</p> <p>10 maintenance costs and O &amp; M costs, presumably</p> <p>11 those are the only other costs that would have</p> <p>12 figured in your calculation of six cents per</p> <p>13 kilowatt hour, is that correct?</p> <p>14 A. That's correct.</p> <p>15 Q. So is it then Hydro's engineering judgment</p> <p>16 that there are no other significant capital</p> <p>17 expenditures on the Snook's Arm plant foreseen</p> <p>18 in your study period?</p> <p>19 A. We don't have any capital costs in the</p> <p>20 foreseeable future for the Snook's Arm plant.</p> <p>21 The question was asked and basically the</p> <p>22 equipment is in pretty good condition even</p> <p>23 though it's old, parts are still available for</p> <p>24 most components.</p> <p>25 Q. Thank you. Those are all my questions on the</p>

1 MR. HAYES:  
 2 production projects, Mr. Chair.  
 3 CHAIRMAN:  
 4 Q. Thank you, Mr. Hayes. Mr. Hutchings?  
 5 HUTCHINGS, Q.C.:  
 6 Q. Mr. Coxworthy will be proceeding firstly with  
 7 this witness.  
 8 MR. COXWORTHY:  
 9 Q. Thank you, Mr. Chair. Mr. Chair, if we could  
 10 start with project B-5, the slope stability at  
 11 Upper Salmon power canal? Good afternoon, Mr.  
 12 Haynes. The project description for this had  
 13 indicated in the last paragraph on B-5 that  
 14 the Acres International report engineering  
 15 study had been expected to be completed by  
 16 late August of 2004. Has it been completed?  
 17 A. No, it has not.  
 18 Q. This is part of, I think you mentioned this  
 19 morning, you're still in the process of  
 20 defining the solution?  
 21 A. Yes.  
 22 Q. Is there an expected receipt date now for that  
 23 report?  
 24 A. We're expecting it, well, we'll certainly have  
 25 it before the year end, but we expect it in

1 November at the latest.  
 2 Q. Had it been anticipated originally that that  
 3 report would have been available for  
 4 presentation to the Board for part of these  
 5 filings for the approval of the second phase  
 6 of the project?  
 7 A. It would have been--we did anticipate when we  
 8 wrote the budget proposal B-5 it would have  
 9 been available. There's a fair bit of  
 10 discussion on the go. You know, there's a  
 11 fair bit of geotechnical evaluation involved  
 12 and it took longer than expected.  
 13 Q. What evidence is there before the Board to  
 14 support the approval of the one million dollar  
 15 expenditure in 2005 even as a preliminary  
 16 estimate?  
 17 A. I guess well, the evidence before the Board  
 18 basically is contained in pages B-5 to B-8,  
 19 which basically summarize the discussions and  
 20 the concerns the Dyke Board, which are a group  
 21 of experts in dyke and hydraulic plant design,  
 22 and they've expressed concern on, I believe,  
 23 on 14 different occasions over the last number  
 24 of years with respect to the slope stability  
 25 and increasing concern the last couple of

1 years which has basically initiated action on  
 2 our part to settle this issue, to solve the  
 3 problem, I should say.  
 4 Q. Has the Dyke Board either proposed or  
 5 suggested what the solution might be let alone  
 6 an estimate of the costs for that?  
 7 A. One of the solutions or the solution proposed  
 8 by the Dyke Board is contained in the  
 9 justification for B-7, and that obviously is  
 10 being considered by Acres and Hydro and the  
 11 Dyke Board from the point of view of what the  
 12 appropriate design solution is.  
 13 Q. And the second part of the question that's  
 14 been--have there been any estimate, even  
 15 preliminary estimate by the Dyke Board of  
 16 costs for that?  
 17 A. The Dyke Board typically would not provide  
 18 estimates. They provide technical guidance to  
 19 Hydro, they raise concerns about different  
 20 things that we're doing with respect to our  
 21 dykes and basically the estimates are Hydro's  
 22 estimates at this point in time. The report  
 23 that will be completed by Acres will include  
 24 more definitive number estimates and  
 25 construction techniques for this job.

1 Q. Has there been any Acres input into that  
 2 million dollar estimate?  
 3 A. No, there has not.  
 4 Q. If we could turn then to the response to RFI  
 5 IC-50, which is the Agra Monenco 1999 report  
 6 that is referred to by the Dyke Board in the  
 7 project justification excerpt that you were  
 8 just referring to? And if we could turn  
 9 within that document to page 2? Sorry, if we  
 10 could start with page 1?  
 11 MR. ALTEEN:  
 12 Q. I don't believe it's available in electronic.  
 13 MR. COXWORTHY:  
 14 Q. Okay. The document, I'm not sure if it's been  
 15 made available to the Board in hard copy, but  
 16 it is a report that is attached as part of the  
 17 response to IC-50. In the first part of the  
 18 report there's a table of contents, a first  
 19 page introduction and methodology. And then  
 20 moving on to the second page under the  
 21 "Results and Discussion" area. Do you have  
 22 that before you, Mr. Haynes?  
 23 A. Yes, I do.  
 24 Q. Looking at the last paragraph of that Results  
 25 and Discussion section indicates, "These

Page 141	Page 142
<p>1 MR. COXWORTHY:</p> <p>2 results indicate that for the assumed</p> <p>3 conditions and geometry the lower slope of the</p> <p>4 left side of the canal may be prone to shallow</p> <p>5 failure as the ground water table approaches</p> <p>6 the surface. During the normal operations it</p> <p>7 is estimated that on average 70 percent of the</p> <p>8 slope is submerged. Similarly for the assumed</p> <p>9 conditions in geometry a larger failure</p> <p>10 involving an upper slope of the left-sided</p> <p>11 canal appears unlikely unless the ground water</p> <p>12 table approaches the surface." And then it</p> <p>13 goes on to say, "The piezometric data</p> <p>14 collected to date suggests that the ground</p> <p>15 water levels up the slope of the left dyke</p> <p>16 remain below the surface." Although, at that</p> <p>17 time anyway there was only one piezometer in</p> <p>18 the area. Has there been any subsequent</p> <p>19 evidence gathered since 1999 or whenever this</p> <p>20 data that supports this report was gathered</p> <p>21 that would refute the assessment of Agra</p> <p>22 Monenco that a larger failure involving the</p> <p>23 upper slope is unlikely and continues to be</p> <p>24 unlikely?</p> <p>25 A. There have been additional piezometers</p>	<p>1 installed at the site and there have been, I</p> <p>2 don't think I can refer to here, there have</p> <p>3 been water levels actually above the level of</p> <p>4 the canal levels recorded in that particular</p> <p>5 area. The other thing that we should remember</p> <p>6 is that the dyke's concern is that any change</p> <p>7 in the sloping of the dyke will undermine the</p> <p>8 core material in the dyke and may cause a</p> <p>9 rupture or failure of the north side, which</p> <p>10 would be catastrophic from the point of view</p> <p>11 of the plant.</p> <p>12 Q. The type of catastrophic failure that you had</p> <p>13 described indeed in your presentation where</p> <p>14 you might have a large amount of material</p> <p>15 actually enter into the canal and perhaps even</p> <p>16 undermine the other side of the canal,</p> <p>17 wouldn't that be a failure that would involve</p> <p>18 failure of the upper slope as well as the</p> <p>19 lower slope?</p> <p>20 A. Possibly. But any failure, even on the lower</p> <p>21 slope, would actually expose the core material</p> <p>22 of the dyke, which would be basically a muck</p> <p>23 at that time, would wash away when the dyke--</p> <p>24 when the canal is in operation and possibly</p> <p>25 erode or cascade to the other side.</p>
Page 143	Page 144
<p>1 Q. There's a reference in that paragraph I just</p> <p>2 read from the Agra Monenco report to what they</p> <p>3 call shallow failure. And they identify at</p> <p>4 least in '99 that is perhaps a more likely</p> <p>5 risk at that time than was the failure of the</p> <p>6 upper slope, and this would be shallow</p> <p>7 failure, as I understand it, in the lower</p> <p>8 slope. Are you able to give us some sense of</p> <p>9 the consequences of a shallow failure in the</p> <p>10 lower slope and how that ought to be weighed</p> <p>11 as a relative risk as opposed to what appears</p> <p>12 to be the less likely failure of the upper</p> <p>13 slope?</p> <p>14 A. I'm not exactly sure the distinction between a</p> <p>15 shallow failure. I'd have to go back to the</p> <p>16 expressions of concern expressed by the Dyke</p> <p>17 Board, who have been quite adamant that we</p> <p>18 need to act on this particular dyke to ensure</p> <p>19 that it remains useable and safe to operate.</p> <p>20 Their concerns are with any failure of the</p> <p>21 dyke because they can cascade very easily to</p> <p>22 other--to the north side or impair the</p> <p>23 operation of the power canal itself.</p> <p>24 Q. Just ending off the questioning then with</p> <p>25 respect to that "Results and Discussion"</p>	<p>1 section and that particular paragraph which I</p> <p>2 read in. Is there any reason to think the</p> <p>3 situation has changed since 1999 from what is</p> <p>4 described in that third paragraph under</p> <p>5 "Results and Discussion"?</p> <p>6 A. I guess in the opinion of the Dyke Board in</p> <p>7 what we've put in the actual justification,</p> <p>8 they are very concerned. I should add that in</p> <p>9 the report, the review that's being done now</p> <p>10 the total failure mechanics and cost to</p> <p>11 remediate is being reviewed by the Dyke Board</p> <p>12 and by--well, by Acres initially.</p> <p>13 Q. Has the Dyke Board relied on any information</p> <p>14 or opinion apart from the Agra Monenco report,</p> <p>15 the 1991--1999, I'm sorry, report that we're</p> <p>16 referring to here?</p> <p>17 A. I should--the Dyke Board itself is comprised</p> <p>18 of four technical people who are involved in</p> <p>19 dyke and dam hydraulic structure construction</p> <p>20 for many number of years with many years of</p> <p>21 experience. They visit, I will not say that</p> <p>22 the visit Upper Salmon power canal each and</p> <p>23 every year, but I would suggest that they've</p> <p>24 visited usually, occasional we get weathered</p> <p>25 out because of wind or rain or whatever. But</p>

Page 145	Page 146
<p>1 MR. HAYNES:</p> <p>2 they have visited the site on numerous</p> <p>3 occasions, 14 times in the last, I don't</p> <p>4 recall the number of years, but they have</p> <p>5 mentioned the concerns with the stability of</p> <p>6 this particular slope. Last year they</p> <p>7 elevated to a much higher level of concern and</p> <p>8 we respect their concern and that's why we've</p> <p>9 undertaken this particular proposal.</p> <p>10 Q. Moving on them in the 1999 Agra Monenco report</p> <p>11 under the "Recommendation" section which is at</p> <p>12 the bottom of page 2. It's the same page from</p> <p>13 which I just read the passage under "Results</p> <p>14 and Discussion". There are a number of</p> <p>15 recommendation that were made by Agra Monenco</p> <p>16 there which continue on into the next page</p> <p>17 which appear to be primarily for the purposes</p> <p>18 of gathering additional data, presumably that</p> <p>19 would be useful then in deciding what sort of</p> <p>20 solution should be affected. Have all of</p> <p>21 those recommendations been followed?</p> <p>22 A. The additional piezometers have been</p> <p>23 installed. I cannot specifically say 100</p> <p>24 percent, but I would suggest that most of</p> <p>25 these have been undertaken. And the Dyke</p>	<p>1 Board, usually these things are written up by</p> <p>2 the Dyke Board and they review these on an</p> <p>3 annual basis to look at the changes in the</p> <p>4 slope. And as the slides indicated this</p> <p>5 morning, there is some shift in the cracking</p> <p>6 that you saw on the top side of the particular</p> <p>7 dyke.</p> <p>8 Q. You said this data would have been provided</p> <p>9 directly to the Dyke Board?</p> <p>10 A. The Dyke Board review all the information with</p> <p>11 respect to the operation of our dykes and</p> <p>12 dams.</p> <p>13 Q. Is there any reference to their having, and I</p> <p>14 don't know if it's in the excerpt you</p> <p>15 provided, if it is, perhaps you could point it</p> <p>16 out to us, but is there any reference in the</p> <p>17 dyke report to their analysis of this</p> <p>18 additional data, data that's additional to</p> <p>19 what Agra Monenco had the opportunity to look</p> <p>20 at in '99?</p> <p>21 A. It's not in the justification, but they make</p> <p>22 an annual visit to our dykes and dams, so it</p> <p>23 would have been done.</p> <p>24 Q. The justification, is that just an excerpt</p> <p>25 from a larger report that the Dyke Board would</p>
Page 147	Page 148
<p>1 have prepared with respect to the Upper</p> <p>2 Salmon?</p> <p>3 A. The Dyke Board prepare a report on basically</p> <p>4 all our dykes and dams more or less on an</p> <p>5 annual basis for all the major dykes and dams,</p> <p>6 and this is an excerpt with respect to this</p> <p>7 specific problem.</p> <p>8 Q. And it is the whole of the excerpt with</p> <p>9 respect to Upper Salmon from the most recent</p> <p>10 report from the Dyke Board?</p> <p>11 A. I cannot say that, I have not reviewed that</p> <p>12 report since last fall, but I would suggest</p> <p>13 it's most of the essential justification for</p> <p>14 the work.</p> <p>15 Q. So my question is, is there the possibility</p> <p>16 that there is some section of the Dyke Board</p> <p>17 report which would make reference to data</p> <p>18 that's been collected since the Agra report of</p> <p>19 '99 that we haven't been provided with here?</p> <p>20 A. It's possible, but I don't think so.</p> <p>21 Q. The data that has been gathered since 1999</p> <p>22 pursuant to these Agra recommendations, would</p> <p>23 that information--is that part of the</p> <p>24 information that would be being considered by</p> <p>25 Acres in preparing their engineering study?</p>	<p>1 A. Yes, it would. Any information that's</p> <p>2 available on the dykes would be made available</p> <p>3 to Acres who are reviewing the particular</p> <p>4 repair means.</p> <p>5 Q. Thank you, Mr. Haynes. Mr. Chair, if we could</p> <p>6 move on now to project B-9, which is the</p> <p>7 replacement of the underground fuel tanks at</p> <p>8 Upper Salmon generating facility? And there</p> <p>9 is a response to an RFI, IC-2. Perhaps if</p> <p>10 that could be brought up? And the question</p> <p>11 was, "Do the existing regulations require</p> <p>12 replacement of these tanks in 2005?" And the</p> <p>13 response was that the existing regulations do</p> <p>14 require the tanks to be complaint with the</p> <p>15 regulations. And Hydro does not have a</p> <p>16 certificate of approval for the current tanks.</p> <p>17 The lack of a certificate of approval at this</p> <p>18 time, is that because the tanks are non-</p> <p>19 compliant with the regulations in a way that</p> <p>20 can only be addressed by way of complete</p> <p>21 replacement as is being proposed?</p> <p>22 A. Complete replacement is the most expedient way</p> <p>23 to fix--to attain approval of these particular</p> <p>24 tanks.</p> <p>25 Q. When you say expedient, that means that would</p>

Page 149	Page 150
<p>1 MR. COXWORTHY:</p> <p>2 be fastest to achieve that compliance?</p> <p>3 A. No. It's the most cost effective way. The</p> <p>4 existing tanks are buried. We have to go and</p> <p>5 excavate it. There's a high level of risk</p> <p>6 with a leak from the point of view of the 21</p> <p>7 year old tanks that are there. And a</p> <p>8 significant portion of the cost to actually</p> <p>9 reinstall underground tanks is obviously</p> <p>10 backfilling and the care and caution that has</p> <p>11 to be taken with sand, etcetera. So, above</p> <p>12 ground tanks have been our, have been our</p> <p>13 standard for replacing all underground tanks,</p> <p>14 essentially.</p> <p>15 Q. So it would be possible, perhaps not</p> <p>16 expedient, but possible to bring yourself into</p> <p>17 compliance with the regulations without</p> <p>18 performing a complete replacement of these</p> <p>19 tanks?</p> <p>20 A. Not in our opinion.</p> <p>21 Q. Has there been consideration given of the</p> <p>22 alternatives?</p> <p>23 A. This was reviewed by the engineering</p> <p>24 department when they go down through and</p> <p>25 looked at the options for remediating the</p>	<p>1 particular situation. And the underground</p> <p>2 tanks, in their view, in their engineering</p> <p>3 opinion, the most cost effective and practical</p> <p>4 thing to do is just to dig up the tanks and</p> <p>5 replace them, they are 20 plus years old, with</p> <p>6 an above ground tank that has secondary</p> <p>7 containment and as well bring it into</p> <p>8 compliance for the metering and reconciliation</p> <p>9 purposes.</p> <p>10 Q. Going back then to the project justification</p> <p>11 itself at page B-9. The project justification</p> <p>12 raises three specific issues, as I read it,</p> <p>13 with respect to non-compliance of the</p> <p>14 regulations. You've mentioned, I believe, at</p> <p>15 least two of them, the no secondary</p> <p>16 containment and the lack of leak detection</p> <p>17 measures. And a third one is given that</p> <p>18 there's no means of quantifying fuel use for</p> <p>19 reconciliation purposes. Could something less</p> <p>20 than complete replacement address any one of</p> <p>21 those three?</p> <p>22 A. It would not be, in our opinion it would not</p> <p>23 be cost effective to go in and cherry pick</p> <p>24 certain things. We have to have all these</p> <p>25 things to be compliant with the legislation</p>
Page 151	Page 152
<p>1 and to get our, you know, to get these things</p> <p>2 registered. The reconciliation, you know, you</p> <p>3 could put meters on there and actually do some</p> <p>4 of that there, but still, it would not have</p> <p>5 addressed the single walled underground tank.</p> <p>6 So, when you go in and do these projects, we</p> <p>7 would like to go in and basically fix the</p> <p>8 whole. We will not get an approval unless we</p> <p>9 do it all.</p> <p>10 Q. Would it be fair to say then that it is really</p> <p>11 the no secondary containment issue which is</p> <p>12 really the driving force to going to</p> <p>13 replacement as opposed to some less</p> <p>14 comprehensive means of dealing with this?</p> <p>15 A. No, I think there are two major things there.</p> <p>16 One is the leak, second leak containment. The</p> <p>17 other issue is the reconciliation. Under the</p> <p>18 GAP regulations we do have to reconcile fuel</p> <p>19 usage, which basically is a calculation or a</p> <p>20 dipping of the tank and so on. Most of these</p> <p>21 sites, in fact, all of these sites are</p> <p>22 essentially unmanned for most of the time.</p> <p>23 And, you know, if you go in and do a daily</p> <p>24 dipping, then you may not need to do a</p> <p>25 reconciliation the same way. It depends on</p>	<p>1 what you have. But we don't have people there</p> <p>2 all the time. So this is the logical way to</p> <p>3 do this.</p> <p>4 Q. And if you could expand on why replacement</p> <p>5 will make it easier to quantify fuel use for</p> <p>6 reconciliation purposes as opposed to some</p> <p>7 other means of trying, attempting to do that?</p> <p>8 A. This particular project is, I'll say</p> <p>9 comprehensive in the sense that it will</p> <p>10 replace the tanks, it will look after</p> <p>11 secondary containment, it will install the</p> <p>12 appropriate meters and equipment to actually</p> <p>13 monitor fuel usage so we can do proper</p> <p>14 reconciliation to fuel usage, which is a</p> <p>15 calculation done essentially to determine</p> <p>16 whether you have a leak.</p> <p>17 Q. These tanks have been non-compliant with the</p> <p>18 regulations. How long has that been the case?</p> <p>19 A. I'm not--I think they're--I can't quote when</p> <p>20 the regulations, when the GAP regulations came</p> <p>21 in. I believe, I stand to be corrected, it</p> <p>22 was 1992, and certainly since then it would</p> <p>23 have been non-compliant.</p> <p>24 Q. So you would not have had a certificate of</p> <p>25 approval for these tanks since 1992, not a</p>

Page 153

Page 154

1 MR. COXWORTHY:

2 current one?

3 A. That's correct.

4 Q. In the "Operating Experience" section, Mr.  
5 Haynes, for this project, it's identified that  
6 one of the tanks, the west Salmon tank is a  
7 1987 tank, the other two are '82 structures or  
8 installations. Could it be said that there is  
9 greater urgency to a replacement to the '82  
10 tanks as opposed to the '87 given the  
11 difference in the age of those installations?

12 (Time: 2:00 p.m.)

13 A. Not in our opinion. What we are striving to  
14 do is to be compliant with the current  
15 legislation and to be compliant with the  
16 legislation we need to attend to all these  
17 tanks.

18 Q. They're all equivalently--they're all non-  
19 compliant to the same extent?

20 A. Yes.

21 Q. Thank you, Mr. Haynes. If we could move on  
22 then to project B-11, Mr. Chair, which is the  
23 upgrade controls spherical value No. 6 at Bay  
24 D'Espoir? And if we could bring up the  
25 response to RFI IC-4, which was a costing of

1 the four previous replacements for other  
2 spherical valves at Bay D'Espoir. And there's  
3 been a fairly wide range over a fairly short  
4 period of time, both in the budgeted amounts  
5 and in the actual expenditures, Mr. Haynes.  
6 Can you give us some perspective on why that's  
7 been the case?

8 A. The variation specifically I think I recall in  
9 2003 we actually purchased some spares for  
10 these particular new valves. The other  
11 variations are basically depending on the  
12 timing, the degree of difficulty getting any  
13 equipment out or if there was some setback or  
14 some particular issue in, you know, with  
15 respect to the condition of the equipment as  
16 found. But the big and only, you know, the  
17 primarily, I guess, in 2003, I believe we  
18 actually purchased additional some spare parts  
19 to ensure that we can maintain the other  
20 systems.

21 Q. So the spares in 2003 weren't purchased for  
22 Unit No. 1, they were purchased with respect  
23 to the other two, I guess at that time three  
24 valves that had not yet been upgraded?

25 A. The spares were purchased in--at the end of

Page 155

Page 156

1 2003 or during that process we would have had  
2 three of the four identical units done and we  
3 purchased the spares at that particular time.

4 Q. And the spares though were for what purpose,  
5 spares for which, for all six of the units?

6 A. Oh, yes. No, for--well, for the three that  
7 had been replaced to date. In 2003 there were  
8 only three replaced.

9 Q. Okay. So the spares would have been spares  
10 for the new upgraded versions as opposed to  
11 spares for the remaining old valves?

12 A. That's correct.

13 Q. There are two valves that remain to be  
14 upgraded, and I think the plan is to upgrade  
15 both of them, is that correct, Mr. Haynes?

16 A. We plan to upgrade one in 2005 and the other  
17 we are proposing eventually we'll see next  
18 year for 2006.

19 Q. Would it be more cost effective to upgrade  
20 both valves in one year, would there be  
21 saving, for instance, in labour mobilization  
22 costs or in other costs in doing two valves in  
23 one year?

24 A. In this particular case we don't think so. We  
25 also look at the availability of the machines

1 for services, so, you know, it would be an  
2 extended outage on unavailability of the  
3 equipment. This work is, the materials are  
4 required, which is fairly straightforward, but  
5 the labour is actually internal labour, so  
6 there's no, there's no quote, unquote,  
7 "significant" mobilization, demobilization of  
8 contractors. It's at Bay D'Espoir where our  
9 crews are, the home base, if you will, of the  
10 crews.

11 Q. If we could turn then back to page B-11 and  
12 the "Operating Experience"? And in the  
13 "Operating Experience" it's stated that this  
14 generating unit, the generating unit in  
15 respect of this particular spherical valve, I  
16 would understand, operates 5500 hours in a  
17 year. There are, I believe, 8760 hours in a  
18 year, approximately. So you're talking about  
19 approximately 60 percent of the time in any  
20 given year the generating unit is in  
21 operation. Further to your evidence in last  
22 year's budget hearing for the 2000 budget in  
23 respect of the upgrade at that time of  
24 spherical valve No. 3 you indicated that this  
25 reflected the 5500 hour figure. That's still

Page 157	Page 158
<p>1 MR. COXWORTHY:</p> <p>2 reflected that you could have stopping and</p> <p>3 starting of the unit as much as two or three</p> <p>4 times in a day and also this would reflect</p> <p>5 there would be greater use generally in</p> <p>6 wintertime than there would be in summertime.</p> <p>7 Is that--does that remain the case?</p> <p>8 A. That remains the case. When the unit's</p> <p>9 available for operation, it does not mean that</p> <p>10 it's actually generating, so you're correct.</p> <p>11 Q. Are all six of these spherical valves, and I</p> <p>12 believe they're all in respect of powerhouse</p> <p>13 No. 1, is that correct?</p> <p>14 A. They're in powerhouse No. 1, yes.</p> <p>15 Q. Are they ever simultaneously in operation, all</p> <p>16 six?</p> <p>17 A. Yes. Often.</p> <p>18 Q. Often?</p> <p>19 A. Particularly in the winter or even in the</p> <p>20 summer if the--well, not necessarily in the</p> <p>21 summer, but in the shoulder (phonetic) months</p> <p>22 of the spring and fall when the system load is</p> <p>23 down or Holyrood may be shut down, they would</p> <p>24 be sometime during the day all six units would</p> <p>25 be often running.</p>	<p>1 Q. So could it be said that on most days, there</p> <p>2 are times when all six valves are in</p> <p>3 operation, most days in a year?</p> <p>4 A. I wouldn't be able to say that, but it would</p> <p>5 be a significance--it would be very much the</p> <p>6 majority of days that they would be in</p> <p>7 operation some time during the day, as we</p> <p>8 follow the shape of the daily load.</p> <p>9 Q. So there's no allowance made for the</p> <p>10 possibility that you could have a problem with</p> <p>11 a valve during a peak period? There's no</p> <p>12 excess capacity? When you're at peak, you</p> <p>13 need to have all six valves in operation?</p> <p>14 A. Our generation planning criteria covers off</p> <p>15 the probability of all units being available</p> <p>16 or unavailable, so that kind of comes out in</p> <p>17 what we referred to this morning as the loss</p> <p>18 of load expectation. So it is considered in a</p> <p>19 probabilistic basis, but that's not a plant</p> <p>20 issue, that's a planning issue.</p> <p>21 Q. Can peak power output, or close to, be</p> <p>22 maintained with just five spherical valves in</p> <p>23 operation?</p> <p>24 A. Not for that particular plant.</p> <p>25 Q. Are there means of achieving that?</p>
Page 159	Page 160
<p>1 A. If, as an example, I guess, if we were at peak</p> <p>2 load in the middle of winter and most</p> <p>3 generation was on and we had a failure at Bay</p> <p>4 D'Espoir, the likely scenario would be that we</p> <p>5 would actually activate a gas turbine and burn</p> <p>6 diesel fuel to cover off that particular load.</p> <p>7 Q. So that would be the backup in that</p> <p>8 circumstance?</p> <p>9 A. That would be the backup, but all those--all</p> <p>10 that generation is a factor in the calculation</p> <p>11 of the LOLE.</p> <p>12 Q. If the generating unit to which valve number</p> <p>13 six pertains to operates 5500 hours in a year</p> <p>14 or approximately 60 percent of the time over</p> <p>15 the whole year, is that true of all the other</p> <p>16 generating units as well?</p> <p>17 A. For units one to six at Bay D'Espoir that</p> <p>18 would likely be the case because they're all</p> <p>19 similar machines with similar efficiencies.</p> <p>20 Q. For example, is there greater usage being</p> <p>21 placed on the valves that have been replaced</p> <p>22 because they're newer? Is that -</p> <p>23 A. I wouldn't think, no.</p> <p>24 Q. If we could move on then into the project</p> <p>25 justification section, with respect to this</p>	<p>1 project, and there are three, I guess, failure</p> <p>2 scenarios that are outlined there as part of</p> <p>3 the project justification as to why these</p> <p>4 valves should continue to be upgraded. Has</p> <p>5 there been a failure at Bay D'Espoir that's</p> <p>6 triggered any of those events, A, B or C, to</p> <p>7 date?</p> <p>8 A. For B and C, we have not, to my knowledge, had</p> <p>9 those events happen. Certainly for A, we</p> <p>10 have. We've had--you know, as we explained in</p> <p>11 IC-51, there had been a fair number of</p> <p>12 maintenance interventions on these valves and</p> <p>13 when they do require work, the unit is</p> <p>14 essentially unavailable.</p> <p>15 Q. And is that a circumstance then whereas we</p> <p>16 talked about the backup generation of Power's</p> <p>17 (phonetic) exercise to deal with that</p> <p>18 circumstance?</p> <p>19 A. Only if it's an absolute must. If there's</p> <p>20 other generation available or if we're not at</p> <p>21 peak load, we would do what the most economic</p> <p>22 thing dictates us to do.</p> <p>23 Q. The other two failure scenarios, B and C, you</p> <p>24 gave some evidence, Mr. Haynes, with respect</p> <p>25 to the 2004 budget that these are events that,</p>



Page 161	Page 162
<p>1 MR. COXWORTHY:</p> <p>2 I guess, that had never occurred, at least to</p> <p>3 your knowledge or experience in respect of Bay</p> <p>4 D'Espoir?</p> <p>5 A. We have had problems with the seals and so on,</p> <p>6 but we have not had a flooding of the</p> <p>7 powerhouse, to my knowledge, because of a</p> <p>8 spherical valve, and as far as I know, not</p> <p>9 certainly in my three and a half years. I'm</p> <p>10 not aware, and I'm not aware of anybody</p> <p>11 actually telling me that we've had this event</p> <p>12 before. It is a possible and potential</p> <p>13 outcome, if we do not bring these things up to</p> <p>14 scratch.</p> <p>15 Q. Possible, but how likely in your judgment are</p> <p>16 one of those scenarios? If for instance valve</p> <p>17 number six was not replaced in 2005?</p> <p>18 A. I cannot say with certainty it would or would</p> <p>19 not happen in 2005. The issue is that the</p> <p>20 piping and the valve controls are</p> <p>21 deteriorating. They're not maintainable, you</p> <p>22 know. The carbon steel piping is rusted away</p> <p>23 and if there was a failure and the valve did</p> <p>24 not operate, we would subject ourselves to a</p> <p>25 high degree of risk.</p>	<p>1 Q. Are there considerable periods at Bay D'Espoir</p> <p>2 when only four or less than four of the</p> <p>3 spherical valves would be in operation?</p> <p>4 A. I'd have to go back and, I don't want to be</p> <p>5 long winded, but the spherical valves are only</p> <p>6 used at Bay D'Espoir, primarily at Bay</p> <p>7 D'Espoir because we have two units on one</p> <p>8 penstock and the economic dispatch of the</p> <p>9 plant, if we only need three machines and all</p> <p>10 six machines are available, we will run--and I</p> <p>11 may have the numbers wrong, but we will run,</p> <p>12 say, number one, three and five. We'll have</p> <p>13 one machine on each penstock because it gives</p> <p>14 us less penstock losses, more efficiency and</p> <p>15 allows us to burn, in theory--not in theory,</p> <p>16 in fact, less oil. So the staging of</p> <p>17 generation would typically, as long as they're</p> <p>18 available, you know, be one, three, five and</p> <p>19 then the other units as required. So you</p> <p>20 know, these valves are--if we have--unit one</p> <p>21 and two are on one penstock and they have two</p> <p>22 spherical valves. If we are using unit number</p> <p>23 one, spherical valve number two is closed. So</p> <p>24 they kind of operate in pairs.</p> <p>25 Q. I understand. I think what you're saying is</p>
Page 163	Page 164
<p>1 there's no means of avoiding or lessening the</p> <p>2 use on the last two unupgraded valves, in your</p> <p>3 estimation? There's no way of attempting to</p> <p>4 minimize their usage, given the configuration?</p> <p>5 A. Not reasonably, there's no way.</p> <p>6 Q. I think you've already said there's no cost</p> <p>7 advantage to having two valve replacements in</p> <p>8 one year. Would there be any disadvantage,</p> <p>9 from a cost point of view, in doing two in one</p> <p>10 year?</p> <p>11 A. The disadvantage would likely be just a</p> <p>12 slightly longer outage possibly for the</p> <p>13 equipment, and depending on the load and the</p> <p>14 status of thermal plant, it can be done, yes.</p> <p>15 Q. You could find a time of year where perhaps it</p> <p>16 would be technically feasible to do that</p> <p>17 without -</p> <p>18 A. We would plan it and plan the other generation</p> <p>19 and the outages accordingly.</p> <p>20 Q. Thank you, Mr. Haynes. If we could move on</p> <p>21 then to project B-13, which is the replacement</p> <p>22 of the six-arm penstock. The 2005 project</p> <p>23 design phase, which is what the Board is being</p> <p>24 asked to approve in these hearings, will that</p> <p>25 design phase only consider full replacement</p>	<p>1 per the recommendation or will it also have</p> <p>2 consideration of the Phased Replacement</p> <p>3 option, which was also considered at one point</p> <p>4 by Hydro?</p> <p>5 A. It is our intention to only consider the full</p> <p>6 replacement of the penstock.</p> <p>7 Q. Can you give any indication of what the</p> <p>8 additional cost would be if phased replacement</p> <p>9 were also to be considered as an alternative</p> <p>10 with full replacement as part of the project</p> <p>11 design phase in 2005?</p> <p>12 A. I'm sorry, the cost of the engineering or the</p> <p>13 cost of the works?</p> <p>14 Q. The cost of the engineering, I'm sorry.</p> <p>15 A. I think we would need a few more dollars than</p> <p>16 what is right there, but in our view, the</p> <p>17 stage replacement, it is a 50-year penstock.</p> <p>18 The deteriorated condition justifies that we</p> <p>19 replace the whole thing. While we did look at</p> <p>20 a phased replacement in the economic analysis,</p> <p>21 in the long term, the wholesale replacement</p> <p>22 was the optimum thing to do.</p> <p>23 Q. If we could turn to the response to RFI IC-53,</p> <p>24 and at that response, there were two reports</p> <p>25 prepared by Canbar Inc. Again, I don't know</p>

Page 165	Page 166
<p>1 MR. COXWORTHY:</p> <p>2 if perhaps these are examples of documents</p> <p>3 that aren't available electronically to the</p> <p>4 Board. The report that I wanted to focus on</p> <p>5 was on the more recent one, which is found</p> <p>6 later on in that tab, which is a inspection</p> <p>7 report based on an August 15-16th inspection,</p> <p>8 and there is a November 8th, 2000 reporting</p> <p>9 letter from Canbar Inc. that's associated with</p> <p>10 that report.</p> <p>11 (Time: 2:15 P.M.)</p> <p>12 A. The one dated August 15-16th, 2000?</p> <p>13 Q. That's correct.</p> <p>14 A. Okay.</p> <p>15 Q. Mr. Haynes, you have that before you?</p> <p>16 A. Yes, I do.</p> <p>17 Q. And referring to the first page of that</p> <p>18 report, second paragraph, the opinion of</p> <p>19 Canbar at that point that "the Snook's Arm</p> <p>20 wood stave penstock is in fair/poor condition,</p> <p>21 but is still expected to be capable of</p> <p>22 providing several more years of service," and</p> <p>23 as of that date, in 2000, it would have been</p> <p>24 44 years old? Is that correct?</p> <p>25 A. That's correct.</p>	<p>1 Q. "Provided repairs are completed and</p> <p>2 maintenance practices are still observed," and</p> <p>3 then they go on to talk about what some of the</p> <p>4 main issues would be in that regard. Then</p> <p>5 they go on to identify, in the third</p> <p>6 paragraph, I guess, a concern with respect to</p> <p>7 the fact that "although the leaking in itself</p> <p>8 would not usually lead to catastrophic</p> <p>9 failure, in their view, the leakage here is a</p> <p>10 serious concern for the local residents of</p> <p>11 Snook's Arm during winter months due to ice</p> <p>12 problems." And then they go on to say "should</p> <p>13 icing up become unmanageable or a potential</p> <p>14 liability, become significant, due</p> <p>15 consideration should be given to replacement</p> <p>16 of all or part of this pipe prior to the end</p> <p>17 of the pipe's otherwise practical, safe</p> <p>18 service life." Is there a particular section</p> <p>19 of the pipe from which these icing concerns</p> <p>20 arise, leaks from a particular section of the</p> <p>21 pipe?</p> <p>22 A. The icing happens anywhere there's an active</p> <p>23 leak in the winter, and the lower part of the</p> <p>24 penstock is under higher pressure because of</p> <p>25 the natural head. So you know, but it's a</p>
Page 167	Page 168
<p>1 problem across the whole of the penstock.</p> <p>2 Q. But from a liability point of view, in terms</p> <p>3 of that ice creating liability for persons,</p> <p>4 for the community of Snook's Arm and the</p> <p>5 people who are travelling in it, through it,</p> <p>6 what part of the pipe where ice might manifest</p> <p>7 itself, what part of the pipe are we talking</p> <p>8 about there that creates that specific</p> <p>9 concern?</p> <p>10 A. As I said, I think the concern is over the</p> <p>11 whole length of the penstock. Obviously there</p> <p>12 will be a greater concern by the residents in</p> <p>13 the location where the houses are and also</p> <p>14 road crossings and such.</p> <p>15 Q. And what segment of the pipe is that?</p> <p>16 A. The housing section is in the lower section</p> <p>17 and the roads -</p> <p>18 Q. Lower section of the penstock.</p> <p>19 A. - and the roads are in two or three places</p> <p>20 along the whole of the section.</p> <p>21 Q. Also the lower section?</p> <p>22 A. No, they're in the upper section as well. If</p> <p>23 you refer to the report, in Section G, there's</p> <p>24 a couple of 17-inch pages folded up there, to</p> <p>25 the back, and you'll see that the road,</p>	<p>1 there's a couple of road crossings. Sheet one</p> <p>2 of two, Snook's Arm Penstock topo map, and</p> <p>3 there's a road crossing at two locations, just</p> <p>4 down from the dam itself, and if you go to the</p> <p>5 next 11 1/2 by 17 sheet, there are actually</p> <p>6 three road crossings.</p> <p>7 Q. The concern with respect to the road crossings</p> <p>8 and where they pass by or underneath the</p> <p>9 penstock, from my reading of the report, my</p> <p>10 understanding was the concern was the</p> <p>11 unsupervised breaking of the ice by persons</p> <p>12 using those roadways?</p> <p>13 A. That would be one issue, yes.</p> <p>14 Q. And the concern would be that that might cause</p> <p>15 additional damage to the penstock?</p> <p>16 A. It could very well, yes, if it's frozen on</p> <p>17 them. When it falls away, it can take a piece</p> <p>18 of the penstock with it.</p> <p>19 Q. Any other concerns arising from unsupervised -</p> <p>20 A. Just the safety of the individuals themselves</p> <p>21 at it.</p> <p>22 Q. Have there been any liability claims,</p> <p>23 potential liability claims that you're aware</p> <p>24 of that have arisen from icing conditions?</p> <p>25 A. Not to my knowledge.</p>

Page 169	Page 170
<p>1 MR. COXWORTHY:</p> <p>2 Q. For how long have icing conditions been a</p> <p>3 problem or for how long have icing conditions</p> <p>4 manifested themselves along the penstock at</p> <p>5 Snook's Arm?</p> <p>6 A. I can't speak to the exact time frame, but I</p> <p>7 would suggest that for many years there have</p> <p>8 been some icing conditions, but it's been</p> <p>9 aggravated by the increasing number of leaks</p> <p>10 and the general condition of the penstock. It</p> <p>11 is, after all, 50 years old.</p> <p>12 Q. Going back to IC-53, Mr. Haynes, and the</p> <p>13 report that was prepared by Canbar in respect</p> <p>14 of the August 2000 inspection and following on</p> <p>15 from there, November 8th, 2000, a two-page</p> <p>16 letter report, there's then, I guess, a</p> <p>17 further more detailed report, which</p> <p>18 unfortunately is not page numbered. I've</p> <p>19 numbered it myself, or at least my copy here</p> <p>20 is not page numbered, I should say. And there</p> <p>21 are some certain recommendations that Canbar</p> <p>22 makes at the eighth page, page eight, and then</p> <p>23 continuing on to page nine, headed</p> <p>24 recommendations. Do you know whether these</p> <p>25 recommendations have been followed since 2000</p>	<p>1 in respect of this penstock?</p> <p>2 A. We have done many of these. I can't</p> <p>3 specifically say whether we've done them all</p> <p>4 or we've done some of that. We have removed</p> <p>5 rocks. We have reenforced. We have put in</p> <p>6 new bands here and there over the years. But</p> <p>7 essentially, the condition of the penstock is</p> <p>8 such that it's--the real solution is to go</p> <p>9 back and replace the thing in whole. But we</p> <p>10 have done many of these things over the years,</p> <p>11 improved drainage here and there. We've</p> <p>12 addressed vegetation; it comes back. Part of</p> <p>13 the penstock is buried, which we cannot assess</p> <p>14 the condition of the buried penstock except</p> <p>15 that we are quite concerned that it's in a</p> <p>16 moist, you know, fungi environment and that it</p> <p>17 may be worse than we even think.</p> <p>18 Q. Looking through those recommendations which</p> <p>19 continue on onto the next page, page nine, are</p> <p>20 there any that you can say haven't been done?</p> <p>21 A. I can't say that none have been done. I</p> <p>22 would--I know that were there are some</p> <p>23 culverts there, we have not been able to get</p> <p>24 inside because of the--we've not been able to</p> <p>25 get in and do a decent inspection inside the</p>
Page 171	Page 172
<p>1 culvert because there's no room. Other than</p> <p>2 that, I don't--I think most of these have been</p> <p>3 addressed, in part or in whole over the years.</p> <p>4 Q. \$20,000, this is pursuant to Hydro's response</p> <p>5 to RFI IC-56. Hydro has indicated that the</p> <p>6 annual operating maintenance cost is now</p> <p>7 \$20,000 for this penstock. Does that include</p> <p>8 the cost of carrying out the Canbar</p> <p>9 recommendations which we've just reviewed at</p> <p>10 page eight and nine?</p> <p>11 A. The ones that have been done over the years,</p> <p>12 yes, they would have considered. Any--on all</p> <p>13 these plants here, if anybody goes from Bay</p> <p>14 D'Espeir to do work, it's all recorded against</p> <p>15 that particular asset. So that would be our</p> <p>16 average cost that we've incurred.</p> <p>17 Q. It shouldn't cost then more than \$20,000 a</p> <p>18 year to carry out those recommendations?</p> <p>19 A. The issue though is the general condition of</p> <p>20 the penstock. That report was done six years</p> <p>21 ago and in our opinion the penstock should be</p> <p>22 replaced to maintain its safety and</p> <p>23 availability to meet our load.</p> <p>24 Q. Six years ago? Four years ago?</p> <p>25 A. I'm sorry. It'll be six years when it's</p>	<p>1 complete, thank you. It's 2006 this job will</p> <p>2 be done. The recommendation was done in the</p> <p>3 year 2000.</p> <p>4 Q. Thank you, Mr. Haynes. If we could then turn</p> <p>5 now to Section G of the 2005 budget</p> <p>6 submission, Appendix 1, and page 12 in</p> <p>7 particular, and I guess I should just</p> <p>8 introduce that I would understand that this is</p> <p>9 an internal Hydro report prepared by Hydro</p> <p>10 generation and engineering?</p> <p>11 A. Yes, that's correct.</p> <p>12 Q. Would this have been prepared under your</p> <p>13 supervision or your instruction?</p> <p>14 A. The director of generation and engineering</p> <p>15 would be specifically there, but certainly it</p> <p>16 still falls to my lap from an accountability</p> <p>17 point of view.</p> <p>18 Q. And at page 12, there's a reference there to</p> <p>19 the four alternatives, as identified by this</p> <p>20 report: do nothing, retire plant, replace</p> <p>21 penstock, and phased replacement of penstock.</p> <p>22 And under the phased replacement penstock, the</p> <p>23 paragraph where that's further expanded upon,</p> <p>24 the second sentence speaks to this option that</p> <p>25 "this would reduce the higher potential</p>

Page 173	Page 174
<p>1 MR. COXWORTHY:</p> <p>2 liability to Hydro caused by failure in the</p> <p>3 high pressure section." Is this the section</p> <p>4 where most of the residences in Snook's Arm</p> <p>5 are in proximity to the penstock?</p> <p>6 A. Yes. Maybe, Mr. O'Rielly, if you could go</p> <p>7 back to the presentation this morning with the</p> <p>8 picture of that overview of the particular</p> <p>9 plant? Number four, go back one. Thank you.</p> <p>10 And if you--the penstock starts up here, just</p> <p>11 down from the dam, and basically comes down</p> <p>12 through. So the higher pressure section is</p> <p>13 obviously in the lower section where the</p> <p>14 houses are. So yes, that's correct.</p> <p>15 Q. So from Hydro's report here, a phased</p> <p>16 replacement would address the liability issues</p> <p>17 in respect of that lower portion, the high</p> <p>18 pressure portion?</p> <p>19 A. Yes, it would.</p> <p>20 Q. The next sentence under that section goes on</p> <p>21 to say "the design of the phased replacement</p> <p>22 of the penstock would consider methods to</p> <p>23 reduce the impact to the community in the</p> <p>24 event of a break in the upper portion of the</p> <p>25 penstock, the remainder of the penstock." Is</p>	<p>1 that included in the estimate of the cost for</p> <p>2 a phased replacement of the penstock that's</p> <p>3 been provided in this report? Have they</p> <p>4 included in that the estimated cost of</p> <p>5 measures to reduce the impact of a break, even</p> <p>6 in the unreplaced portion of the penstock?</p> <p>7 And the cost estimate appears at page 14 for</p> <p>8 phased replacement, in a table under cost</p> <p>9 estimates.</p> <p>10 A. I am not sure if that considers that</p> <p>11 particular amount or not. That would be</p> <p>12 actually would be more. It would be a</p> <p>13 negative to the--it would actually cost, the</p> <p>14 phased replacement, more. I'm not sure if</p> <p>15 it's included or not, and if it was, I would</p> <p>16 suggest it would have been more or less a</p> <p>17 ballpark estimate, from the point of view of</p> <p>18 putting in a berm or something to redirect the</p> <p>19 water.</p> <p>20 Q. Is it any more or less a ballpark estimate</p> <p>21 than the estimate for replacing the entire</p> <p>22 penstock?</p> <p>23 A. No, I think the actual estimates for replacing</p> <p>24 the works that are there, I think are quite</p> <p>25 good. They're based on steel. Obviously that</p>
Page 175	Page 176
<p>1 would be optimized and reviewed when we</p> <p>2 proceed with the work. The issue is what</p> <p>3 exactly you would do with respect to deferring</p> <p>4 the water. The probability of failure is</p> <p>5 still there in the upper part of the penstock.</p> <p>6 Q. But it's been identified that there are likely</p> <p>7 means to at least reduce the impact of that?</p> <p>8 A. At a cost, yes.</p> <p>9 Q. At a cost, and we don't know whether that cost</p> <p>10 is included in the 2.1 million estimated cost</p> <p>11 or not?</p> <p>12 A. I don't have that information at hand.</p> <p>13 Q. Would you think that it was, given that this</p> <p>14 is--that this estimate appears in the same</p> <p>15 report and is identified as the direct capital</p> <p>16 cost estimate for each alternative?</p> <p>17 A. Yes, there should be some allocation, but it</p> <p>18 may not have been--there should be some</p> <p>19 allocation of costs, but it would be</p> <p>20 preliminary, I would suggest.</p> <p>21 Q. There's reference in this report to other</p> <p>22 additional costs, or whether they're other or</p> <p>23 not, I guess is the question, to upgrade the</p> <p>24 part of the penstock which would not be</p> <p>25 replaced in 2006 under a phased replacement</p>	<p>1 option, and this is per Hydro's response to</p> <p>2 RFI IC-55. And the question was, with</p> <p>3 reference to page 17, Section 8 of the report,</p> <p>4 this is the report at Section G, Appendix 1,</p> <p>5 and this is where the stated disadvantages of</p> <p>6 phased replacement appear. One of the stated</p> <p>7 disadvantages are additional costs associated</p> <p>8 with the upgrade of the existing penstock in</p> <p>9 2006. And our question was: is that included</p> <p>10 in the costing of the phased replacement?</p> <p>11 A. Yes, it is.</p> <p>12 Q. Okay. So that's not an additional cost over</p> <p>13 and above the \$2.1 million estimate?</p> <p>14 A. No, the--just one second.</p> <p>15 Q. Other than the maintenance costs, I presume,</p> <p>16 of 20,000 which appears at the bottom?</p> <p>17 A. Yes. The bulkhead gate, the moisture control,</p> <p>18 the cut off of that dam would be things that</p> <p>19 we would have to do there. What you have to</p> <p>20 do is you have to cut off a section of the</p> <p>21 penstock. We want to keep the penstock full</p> <p>22 of water, which is the bulkhead gate issue,</p> <p>23 and keep it wet. Otherwise, it dries up and</p> <p>24 we only exacerbate the leaking issue in the</p> <p>25 upper part.</p>

Page 177	Page 178
<p>1 (Time: 2:30 P.M.)</p> <p>2 MR. COXWORTHY:</p> <p>3 Q. And I guess to be clear, the first three items</p> <p>4 there, the bulkhead gate, moisture control of</p> <p>5 the wood, cut off dam, those expenditures are</p> <p>6 included in the \$2.1 million cost estimate for</p> <p>7 phased replacement?</p> <p>8 A. Yes, and I should go back and correct your</p> <p>9 line of questioning a few minutes ago. The</p> <p>10 cut off dam would be the thing that we would</p> <p>11 have to do to look after any leak upstream,</p> <p>12 which I forgot, I guess.</p> <p>13 Q. So that's the additional measure that'd be</p> <p>14 taken. Thank you for that, Mr. Haynes. If we</p> <p>15 could move on then, going back then to Section</p> <p>16 G, Appendix 1 and the Hydro report. I'd like</p> <p>17 to turn now to page 15 and 16 of that report,</p> <p>18 where the economic analysis of the cumulative</p> <p>19 present worth of these various scenarios was</p> <p>20 looked at, and as I read or understand the</p> <p>21 table that's provided there, it's my</p> <p>22 understanding, Mr. Haynes, that under the base</p> <p>23 case, the payback period for either full</p> <p>24 replacement or phased replacement is the same,</p> <p>25 the 13 years? Is that correct?</p>	<p>1 A. Yes, that is. In the long term, that's</p> <p>2 correct. In the short term, the phased</p> <p>3 replacement, you know, the curves as you go</p> <p>4 through the charts, they bounce back and forth</p> <p>5 a bit. But in the long term, they are near</p> <p>6 equivalent.</p> <p>7 Q. And that the payback period is only more</p> <p>8 favourable for full replacement in what's been</p> <p>9 called the sensitivity case, which is</p> <p>10 contingent on, as I understand it, on</p> <p>11 legislation being enacted that would raise</p> <p>12 that sensitivity case, and then over and above</p> <p>13 that, even if there was such legislation, that</p> <p>14 the economic value in respect of that emission</p> <p>15 legislation, whether that value would accrue</p> <p>16 to Hydro and its customers, as opposed to</p> <p>17 accrue to the Provincial Government. So there</p> <p>18 are two contingencies, I would put to you,</p> <p>19 that operate in respect of the sensitivity</p> <p>20 case that may or may not occur and that really</p> <p>21 are not within the control of Hydro? Is that</p> <p>22 fair?</p> <p>23 A. I would suggest that the emission issue will</p> <p>24 be resolved eventually, and I'm sure that it's</p> <p>25 going to cost the rate payer money, and if we</p>
Page 179	Page 180
<p>1 have to generate more thermal energy to</p> <p>2 replace it, that we will be paying whatever</p> <p>3 dollars per ton. Now, because this is</p> <p>4 actually removing a renewable source from our</p> <p>5 portfolio, if you will. So I think it would</p> <p>6 be fair to say that, while we don't know what</p> <p>7 the government will do obviously, that the</p> <p>8 rate payer will pay emission penalties, if you</p> <p>9 will, eventually.</p> <p>10 Q. Does Hydro view this case, the case for full</p> <p>11 replacement being better than or more cost</p> <p>12 effective than phased replacement? Is that</p> <p>13 assessment based only on the possibility of</p> <p>14 the sensitivity case -</p> <p>15 A. No, I think -</p> <p>16 Q. - coming to fruition?</p> <p>17 A. I think there were also some unquantified</p> <p>18 risk. If you go with a phased replacement,</p> <p>19 you still have the risk of a failure of the</p> <p>20 upper portion. You still have leaks to</p> <p>21 contend with, a lot more leaks than you would</p> <p>22 on a renewed section. Those things were not</p> <p>23 costed from that point of view, in a sense.</p> <p>24 So it's our judgment and our recommendation</p> <p>25 that we would proceed with the full</p>	<p>1 replacement of the penstock and -</p> <p>2 Q. In terms of economic analysis alone though, is</p> <p>3 full replacement only a more favourable option</p> <p>4 if one presumes that the sensitivity case may</p> <p>5 come to fruition?</p> <p>6 A. If you look at the table on page seven, I</p> <p>7 guess, full replacement versus the phase,</p> <p>8 there is an \$8,000 difference in the</p> <p>9 cumulative present worth difference on, you</p> <p>10 know, approximately \$600,000.</p> <p>11 Q. I'm sorry, table on page seven?</p> <p>12 A. The table that you referred to on -</p> <p>13 Q. I'm sorry, on page -</p> <p>14 A. I'm sorry, table 7-1 on page 15.</p> <p>15 Q. Thank you.</p> <p>16 A. The cumulative present worth of the full</p> <p>17 replacement is \$585,923 of the full</p> <p>18 replacement. The cumulative present worth of</p> <p>19 the phased replacement is less than \$10,000</p> <p>20 different. So there's a very small</p> <p>21 difference. It's less mobilization. It's a</p> <p>22 lot less risk to replace the whole, and in our</p> <p>23 judgment, that the right thing to do is to</p> <p>24 replace the whole of the penstock by 2006.</p> <p>25 Q. But would it be fair to say that in the base</p>

Page 181	Page 182
<p>1 MR. COXWORTHY:</p> <p>2 case scenario, looked at as an economic</p> <p>3 analysis, there really isn't no difference</p> <p>4 between either full replacement or phased?</p> <p>5 A. Without considering the risks, et cetera,</p> <p>6 based on the numbers that are there, yes.</p> <p>7 Q. If we could move on then to page 17 in this</p> <p>8 same report, at Appendix--or Section G,</p> <p>9 Appendix 1. The top paragraph under results,</p> <p>10 "the results of the economic analysis</p> <p>11 indicated that the phased replacement of the</p> <p>12 penstock could provide the greatest net</p> <p>13 positive result." Would you agree with that?</p> <p>14 A. By less than \$10,000 in the previous table,</p> <p>15 yes.</p> <p>16 Q. And then the results then go on to say that</p> <p>17 "there are several disadvantages associated</p> <p>18 with the phased alternative. These include:</p> <p>19 the upper section of the penstock, ie. the</p> <p>20 part that would not be replaced, will be</p> <p>21 approximately 20 years beyond its design life.</p> <p>22 Therefore the upper portion of the penstock</p> <p>23 will remain a potential liability." But isn't</p> <p>24 it the case, and this is going back to the</p> <p>25 reference at page 12, that there would be</p>	<p>1 steps taken to at least reduce the potential</p> <p>2 for liability to Hydro from the upper portion,</p> <p>3 even in the phased replacement scenario? That</p> <p>4 there would be a reduction of potential</p> <p>5 liability even in respect of the upper</p> <p>6 portion?</p> <p>7 A. There would be. There would, as the report</p> <p>8 says, yes, there would, but you are still</p> <p>9 operating a 60-year-old wood stave penstock</p> <p>10 which will still--you will not eliminate all</p> <p>11 risk.</p> <p>12 Q. Not eliminating, but you are reducing the</p> <p>13 risks that's there, even under phased</p> <p>14 replacement?</p> <p>15 A. Yes, we would reduce the risk to some degree,</p> <p>16 yes.</p> <p>17 Q. The next disadvantage then, "that phased</p> <p>18 replacement of the penstock would require the</p> <p>19 entire penstock to be dewatered" and then goes</p> <p>20 on, certainly there's been plenty of</p> <p>21 explanation in here as to the disadvantages of</p> <p>22 dewatering, in terms of you do that and then</p> <p>23 you turn the water back on and you've got more</p> <p>24 leaks to contend with. But they do speak to</p> <p>25 "some method would have to be implemented to</p>
Page 183	Page 184
<p>1 ensure the wood staves in the upper portion of</p> <p>2 the penstock do not dry out." Are there means</p> <p>3 of minimizing the adverse effects of</p> <p>4 dewatering that haven't been used to date that</p> <p>5 could be used if the phased replacement option</p> <p>6 was taken?</p> <p>7 A. The means that are being considered by the</p> <p>8 engineering to do that would be you still have</p> <p>9 to drain the penstock to install a bulkhead or</p> <p>10 to stop it. During that period of time, you</p> <p>11 would basically set up sprinklers, if you</p> <p>12 will, and you would keep it wet, you know, so</p> <p>13 that you would do that. But that's--to my</p> <p>14 knowledge, that's as far as we've gone with</p> <p>15 other options to reduce the leakage while</p> <p>16 we're putting in the bulkhead. When you put</p> <p>17 in the bulkhead, you fill it up with water to</p> <p>18 plem it up again.</p> <p>19 Q. So there are means of minimizing the adverse</p> <p>20 impact of dewatering on the unreplaced portion</p> <p>21 of the penstock?</p> <p>22 A. Yes, there are means to do it, and our</p> <p>23 maintenance tactics over the last number of</p> <p>24 years have changed a little bit, quite a bit</p> <p>25 actually to do that. We have had that</p>	<p>1 penstock unwatered and for, you know, a period</p> <p>2 of a day or two or whatever, and we've had</p> <p>3 lots of trouble bringing it back online</p> <p>4 because of leaks, because it dried out. What</p> <p>5 we do now when we go in there and do work, we</p> <p>6 basically shorten that time to the absolute</p> <p>7 minimum possible to mitigate that issue.</p> <p>8 Q. Going on then with respect to the stated</p> <p>9 disadvantages with respect to the phased</p> <p>10 replacement, the third one, "this alternative</p> <p>11 would also include the construction of a dam</p> <p>12 or similar structure near the joint between</p> <p>13 the new and existing penstocks to allow any</p> <p>14 water from the failure or rupture of the</p> <p>15 penstock to be diverted away from the</p> <p>16 community." Again, is that, construction of a</p> <p>17 dam or similar structure included in the \$2.1</p> <p>18 million cost estimate?</p> <p>19 A. Yes, that's the reference to cut off dam in</p> <p>20 IC-55.</p> <p>21 Q. So in terms of economic analysis, that cost</p> <p>22 has been taken into account?</p> <p>23 A. Yes.</p> <p>24 Q. And then the fourth disadvantage that's stated</p> <p>25 is that "there would be additional costs</p>

<p style="text-align: right;">Page 185</p> <p>1 MR. COXWORTHY:</p> <p>2 associated with the upgrade of the existing</p> <p>3 penstock in 2006 to assure an additional ten</p> <p>4 years of service life." Again, is that</p> <p>5 already taken into account in the \$2.1 million</p> <p>6 cost estimate for phased replacement?</p> <p>7 A. Yes, it is.</p> <p>8 Q. So, from an economic analysis point of view,</p> <p>9 and it's already been identified that phased</p> <p>10 replacement is the greatest net positive</p> <p>11 result, how are items 3 and 4 disadvantages,</p> <p>12 if they've been included within the costing</p> <p>13 and within the economic analysis and even with</p> <p>14 their inclusion, you still come up with a net</p> <p>15 positive result in relation to the phased</p> <p>16 replacement. How are 3 and 4 disadvantages to</p> <p>17 phased replacement?</p> <p>18 A. Additional work that would be undertaken to do</p> <p>19 the phased replacement. The costs are</p> <p>20 included in that particular exercise as they</p> <p>21 should be. At the end of the day, the net</p> <p>22 present value or difference between the two is</p> <p>23 less than ten thousand dollars. In our view,</p> <p>24 the right thing to do is to go in and do the</p>	<p style="text-align: right;">Page 186</p> <p>1 job right from the beginning which is to</p> <p>2 replace the whole of the penstock. Ten</p> <p>3 thousand dollars, net present value on six</p> <p>4 hundred thousand dollars is fairly</p> <p>5 insignificant. However, in a theoretical</p> <p>6 point of view, you're right, it is the lowest</p> <p>7 cumulative present worth as we presented in</p> <p>8 the report.</p> <p>9 Q. Going on then to look at what's stated to be</p> <p>10 the advantages of going with the full</p> <p>11 replacement which is the continuation there on</p> <p>12 page 17. And there are five advantages to</p> <p>13 full replacement identified there.</p> <p>14 Substantial reduction in potential liability</p> <p>15 to Hydro for potential failure or rupture of</p> <p>16 the wood stave penstock. Would one also</p> <p>17 achieve a substantial reduction of potential</p> <p>18 liability by way of phased replacement?</p> <p>19 A. Not to the same degree.</p> <p>20 Q. But you would achieve a substantial reduction?</p> <p>21 A. There would be a substantial reduction in the</p> <p>22 lower part and a reduction in the upper part,</p> <p>23 but they are not equal.</p> <p>24 Q. Would phased replacement increase the</p> <p>25 liability of the penstock?</p>
<p style="text-align: right;">Page 187</p> <p>1 A. No, it would--not as reliable as a full scale</p> <p>2 replacement.</p> <p>3 Q. But increase it over what it is today?</p> <p>4 A. Yes.</p> <p>5 Q. Would phased decrease the energy losses such</p> <p>6 as water loss from wood stave penstock and</p> <p>7 head loss friction.</p> <p>8 A. From the lower section, there would be a</p> <p>9 decrease in water loss; from the upper</p> <p>10 section, probably minimal.</p> <p>11 Q. Has there been any quantification of that</p> <p>12 given that the lower part is high pressures?</p> <p>13 Is there more water loss from the lower as</p> <p>14 opposed to the upper or do we know that?</p> <p>15 A. Likely, yes, but I have not--that would make</p> <p>16 logical sense, but I -</p> <p>17 Q. Make sense if there's more water loss from the</p> <p>18 lower portion?</p> <p>19 A. It's the same condition and higher pressure,</p> <p>20 yes.</p> <p>21 Q. That would be the part that would be replaced</p> <p>22 first under phased replacement?</p> <p>23 A. Yes.</p> <p>24 Q. Use of a renewable resource. Well, that's</p> <p>25 occurring whether it's phased replacement or</p>	<p style="text-align: right;">Page 188</p> <p>1 full replacement, wouldn't you agree?</p> <p>2 A. Well, yes, however if you phased replacement,</p> <p>3 you'll have two extended outages versus one</p> <p>4 and so on. So, I would suspect that there</p> <p>5 would be some increase in the non utilization</p> <p>6 of water by phased replacement.</p> <p>7 Q. When you said, in terms of the time period to</p> <p>8 complete all of the work -</p> <p>9 A. To complete the work, yes.</p> <p>10 Q. - the time that the system is down and not</p> <p>11 contributing capacity to -</p> <p>12 A. That's correct.</p> <p>13 Q. How much difference do you think we're talking</p> <p>14 about between full and phased replacement in</p> <p>15 terms of down time for that plant?</p> <p>16 A. I can't quantify that, I don't know off hand.</p> <p>17 Q. Is it days?</p> <p>18 A. I would suggest it's weeks, if not a--at least</p> <p>19 weeks, possibly a month or two, but I -</p> <p>20 Q. And that's over this whole period of getting</p> <p>21 to replacement.</p> <p>22 A. Yes.</p> <p>23 Q. Which would be over, to the second phase would</p> <p>24 be completed in 2011, is that correct?</p> <p>25 A. I think 2016 was what was used in the</p>

Page 189	Page 190
<p>1 MR. HAYNES: 2 analysis. 3 Q. 2016, I'm sorry. So, you're talking about a 4 loss of weeks by phased replacement over that 5 period between 2005 and 2016 - 6 A. I'd suspect, yes. 7 Q. - as being the loss of use. 8 A. Yes. 9 Q. And a design life in excess of 30 years from 10 the new penstock, you will have that with 11 respect to phased replacement as well, won't 12 you, once the phased replacement is completed. 13 Is that correct? 14 A. Yes, the upper penstock will be 60 years old 15 when it's replaced which is an exceptionally 16 long time for a wood stave penstock. 17 Q. But you will have--I believe the disadvantage 18 is being stated as an advantage of what you 19 have when you're completed is a new penstock 20 that would last you for another 30 years, is 21 that correct? 22 A. And hopefully trouble free, yes. 23 Q. And you would have that advantage, I should 24 say, whether you went with phased replacement? 25 A. After 2016, yes.</p>	<p>1 Q. Has there been any consideration given to 30 2 years out even from 2006, whether, in fact, 3 this is likely that this particular plant 4 which has already been identified as 5 relatively low capacity plant, is likely to 6 still be in use? 7 (Time: 2:45 p.m.) 8 A. We have looked at that particular plant, the 9 equipment in it and we're quite comfortable 10 that we can maintain that for long term. And 11 if it's economically viable, and we think it 12 will be, we should continue. It is a half a 13 megawatt, 590 kilowatts, it does contribute 14 three and a half million kilowatt hours which 15 is basically almost 56 hundred barrels of oil 16 a year. So, we see no reason why in the 17 ongoing emission, you know, the emission 18 credits or cost in the future would not be 19 economic. 20 Q. So, your best judgment would be that it's 21 likely that this Snook's Arm plant will still 22 be in operation in 2036? 23 A. There are many hydro plants in the world a 24 hundred years old that are still in operation, 25 so yes.</p>
Page 191	Page 192
<p>1 Q. If I could ask you to please turn to the 2 response to Newfoundland Power's RFI NP-1. 3 These are referred to by Mr. Haynes in some 4 early questioning with respect to the 5 levelized incremental costs. And the 6 levelized incremental cost of replacement 7 where, at 5, 6 cents per kilowatt hour. And 8 this is full replacement, is that correct, is 9 that what that figure applies to? 10 A. Yes, that's correct. 11 Q. As opposed to 7.6 cents for a retirement of 12 plant scenario. Do we know what the levelized 13 incremental costs would be with respect to a 14 phased replacement? 15 A. We didn't calculate that number, but it would 16 be only marginally higher than 6 cents a 17 kilowatt hour. 18 Q. So, it would be higher than the six, do we 19 know that? 20 A. Yes, but very, very small amount. 21 Q. So, not an amount that would be relevant in 22 determining the economic advantage to one over 23 the other option? 24 A. It would never approach 7.6 cents. 25 Q. If I could refer you now, Mr. Haynes, to IC-</p>	<p>1 54, the response to RFI IC-54 and it was 2 confirmed by that response that the only 3 estimate of cost that provided was with 4 respect to replacement by steel penstock, even 5 though the Hydro report identifies that there 6 are other options that could and presumably 7 perhaps should be looked at which are 8 fibreglass or high density plastic products. 9 Why did Hydro choose to only estimate, at 10 least at this stage, only replacement by 11 steel? 12 A. The engineering section, the generation 13 engineering division looked at that, they 14 reviewed those things and they think, subject 15 obviously to further studying refinement, that 16 that would be the conclusion at the end of the 17 day. It will be reviewed during the design 18 review and we will do what's most cost 19 effective. 20 Q. Are you aware of any developments in terms of 21 international markets for steel and the 22 effects on steel costs on whether it's likely 23 that the cost of steel penstock will be higher 24 than your initial estimate? 25 A. We know that there is some upheaval in the</p>



Page 193	Page 194
<p>1 MR. HAYNES:</p> <p>2 market in steel. However, when we do the</p> <p>3 evaluation, we will use the most current</p> <p>4 numbers available and those numbers move</p> <p>5 around.</p> <p>6 Q. Do you know when, as of what date, that</p> <p>7 estimate in terms of steel cost is based on</p> <p>8 for steel?</p> <p>9 A. That would have been done during, prior to</p> <p>10 budget submissions, that report was dated</p> <p>11 January of this year.</p> <p>12 Q. January 2004?</p> <p>13 A. Yes.</p> <p>14 Q. So, that would reflect January 2004 prices at</p> <p>15 the most recent -</p> <p>16 A. That would reflect the current engineering</p> <p>17 prices that they're using for steel, yes.</p> <p>18 Q. Do you have any sense yourself as to whether</p> <p>19 the fibreglass or high density plastic product</p> <p>20 options would be less or more expensive than</p> <p>21 steel? Do you have any information about</p> <p>22 that?</p> <p>23 A. No, I don't, but that will be reviewed prior</p> <p>24 to final design criteria being selected for</p> <p>25 this plant.</p>	<p>1 Q. Does Hydro perceive that there's any</p> <p>2 advantages to steel, that even if steel were</p> <p>3 to prove to be the high cost option from those</p> <p>4 three, that Hydro might still choose to go</p> <p>5 with steel?</p> <p>6 A. I would say that if Hydro were to review the</p> <p>7 available technologies or the available</p> <p>8 materials to do that and steel was preferred</p> <p>9 because of other considerations we didn't</p> <p>10 quantify, that the difference in cost would</p> <p>11 have to be very, very small to actually go to</p> <p>12 a more expensive option.</p> <p>13 Q. So, there would be a very strong bias for its</p> <p>14 going towards the low cost option. There's</p> <p>15 nothing about steel in terms of, for instance,</p> <p>16 familiarity on the part of Hydro with</p> <p>17 structures that use that material that might -</p> <p>18 A. No, that would be thrust from management's</p> <p>19 perspective, our objective is to go with the</p> <p>20 least cost, least reasonable cost to do this</p> <p>21 work.</p> <p>22 Q. Mr. Haynes, can you comment on why a</p> <p>23 replacement of the penstock might not be done</p> <p>24 with the material that is being used presented</p> <p>25 with the wood replacement?</p>
Page 195	Page 196
<p>1 A. I don't think that we ruled that out. I mean,</p> <p>2 Canbar is still in existence. We have not</p> <p>3 ruled out any specific material.</p> <p>4 Q. So, wood is in consideration. Do you know</p> <p>5 whether it's under active consideration? Will</p> <p>6 there be an estimate prepared as with</p> <p>7 fibreglass and plastic for wood replacement?</p> <p>8 A. I'm not sure if it's under active</p> <p>9 consideration, but basically we will look at</p> <p>10 the penstock replacement and review any</p> <p>11 material that's suitable for the job.</p> <p>12 Q. Are you aware of any reason why wood would not</p> <p>13 be suitable?</p> <p>14 A. It's a higher maintenance issue in the long</p> <p>15 run because of the problems that we see now</p> <p>16 versus steel or poly or whatever.</p> <p>17 Q. But there appear to have been some problems</p> <p>18 even on the initial installation of this</p> <p>19 particular wood penstock. There's some</p> <p>20 identification in the reports that the initial</p> <p>21 components were damaged even before</p> <p>22 installation. So, that may have comprised,</p> <p>23 perhaps from the very beginning, the integrity</p> <p>24 of the wood structure.</p> <p>25 A. Yes, but that particular--that had to do with</p>	<p>1 the ends, the butts of the wood and there was</p> <p>2 a, I think, a steel spline or something put</p> <p>3 there to remediate that and I think when you</p> <p>4 look at the pictures in the report, many of</p> <p>5 the leaks are not actually at the ends,</p> <p>6 they're actually in the running lengths. So,</p> <p>7 I'm not quite sure if that's a key factor or</p> <p>8 not. There was a field fix obviously done for</p> <p>9 the -</p> <p>10 Q. All I'm saying is, based on the past</p> <p>11 experience that Hydro has had with this wood</p> <p>12 stock, is it necessarily a wood penstock, is</p> <p>13 it necessarily a predictor that you would have</p> <p>14 the same types of problems with a future</p> <p>15 penstock if it was also constructed from wood?</p> <p>16 A. We may not, no, that's correct.</p> <p>17 Q. Thank you, Mr. Haynes. Chair, if we could</p> <p>18 move onto the next project, B-19, the Anti-</p> <p>19 Fouling system for the Holyrood mussels, for</p> <p>20 the Holyrood plant. And if I could refer to</p> <p>21 the response, RFI IC-60. And by that</p> <p>22 response, the question was asked as to what</p> <p>23 reduction in staff compliment a retirement of</p> <p>24 equipment would result from implementation of</p> <p>25 this project. And it's identified by that,</p>

Page 197	Page 198
<p>1 MR. COXWORTHY:</p> <p>2 that there will not be any savings of that</p> <p>3 sort. The only additional savings will be in</p> <p>4 respect of a cost of hiring diving and vacuum</p> <p>5 truck contractors.</p> <p>6 A. Yes, that's correct.</p> <p>7 Q. What is that annual cost of hiring diving and</p> <p>8 vacuum truck contractors?</p> <p>9 A. The diving cost for the last two years</p> <p>10 averaged approximately \$21,000.00 a year. And</p> <p>11 the vacuum truck was basically used to dispose</p> <p>12 of, haul away the mussels, etcetera, is</p> <p>13 approximately \$9,000.00 a year.</p> <p>14 Q. So, \$30,000.00 a year, do that remain</p> <p>15 consistent over a period of time or -</p> <p>16 A. Oh, we only looked at two years in this</p> <p>17 particular exercise, but there's no--it's a</p> <p>18 typical number and these contractor services</p> <p>19 are pretty well the same, escalating, of</p> <p>20 course.</p> <p>21 Q. You're not aware of any reason why that would</p> <p>22 increase precipitously in coming years if you</p> <p>23 were to use the same level of service, the</p> <p>24 once a year.</p> <p>25 A. The only way it would increase is if we were</p>	<p>1 to get, you know, more mussel accumulation</p> <p>2 which is, you know, depends on the water</p> <p>3 temperatures and the use of the plant.</p> <p>4 Q. There's identified for this project a</p> <p>5 \$185,000.00 a year cost savings and I'm</p> <p>6 referring to the project justification in that</p> <p>7 regard at page 19. And what it says,</p> <p>8 additionally, the yearly cost associated with</p> <p>9 lower generation efficiency and the manual</p> <p>10 cleaning and removal of the mussel infestation</p> <p>11 for the three units amounts to \$185,000.00.</p> <p>12 So, within that figure, does that include the</p> <p>13 \$30,000.00 for the diving contractors?</p> <p>14 A. Yes, it would.</p> <p>15 Q. And the remainder then is Hydro's estimate of</p> <p>16 the lower generation, the cost of the lower</p> <p>17 generation efficiency caused by the mussel</p> <p>18 infestation not being cleared up as quickly as</p> <p>19 it might otherwise be.</p> <p>20 A. The actual total cost of doing it manually is</p> <p>21 approximately about fifty two or fifty three</p> <p>22 thousand dollars a year. It's the diving</p> <p>23 contractor, the vacuum truck and also our own</p> <p>24 internal labour and materials that we use.</p> <p>25 So, the operating cost is indicated in IC-59</p>
Page 199	Page 200
<p>1 and our operational costs are pretty well</p> <p>2 awash. The significant savings are in the</p> <p>3 efficiency improvement which we anticipate to</p> <p>4 be--well, depending on the price of oil you</p> <p>5 use, of course, in the one hundred and</p> <p>6 seventy, hundred and eighty thousand dollars a</p> <p>7 year, depending on the price of fuel.</p> <p>8 Q. I think that's identified, in fairness to you,</p> <p>9 Mr. Haynes, but perhaps the Board should be</p> <p>10 referred to this in the response to RFI IC-81.</p> <p>11 And this is the production evidence with</p> <p>12 respect to which of the capital budget items</p> <p>13 will improve efficiency. And there is</p> <p>14 reference to the B-19 and to this efficiency</p> <p>15 factor being estimated with respect to</p> <p>16 improved efficiency and reduction in oil</p> <p>17 costs. That estimate in terms of improved</p> <p>18 efficiency, how was that arrived at in terms</p> <p>19 of how did you determine that this anti-</p> <p>20 fouling system would achieve such</p> <p>21 efficiencies?</p> <p>22 A. That particular numbers, they're average over,</p> <p>23 I believe, a four year period. The actual</p> <p>24 analysis was done by the plant staff, the</p> <p>25 plant engineering and maintenance staff who</p>	<p>1 actually looked at--they went over the last</p> <p>2 two or three years or the last four years, I</p> <p>3 believe and looked at the number of times they</p> <p>4 had to derate the unit, the number of times</p> <p>5 that we could not meet plant output and</p> <p>6 assigned a value on a fuel. So, it's an</p> <p>7 average of, I believe, it's four years and</p> <p>8 they anticipate that by removing the mussels</p> <p>9 and not having that loss of efficiency that we</p> <p>10 would actually improve to that tune.</p> <p>11 Q. Has there been any measuring that you have to</p> <p>12 reach a certain critical mass of the mussel</p> <p>13 infestation within the intakes before it</p> <p>14 starts impairing efficiency?</p> <p>15 A. I think the biggest factor in actually the</p> <p>16 mussel accumulation is the water temperature</p> <p>17 if I recall correctly from the studies and the</p> <p>18 use of the plant obviously. If we're not</p> <p>19 using the plant in summer and the water is not</p> <p>20 going through, there likely would not be any</p> <p>21 condenser build-up, but basically our history</p> <p>22 in the last X number of years that we are</p> <p>23 using this plant in the prime whatever season</p> <p>24 that these mussels actually start to have</p> <p>25 little mussels. I'm sorry, I don't know the</p>

Page 201	Page 202
<p>1 MR. HAYNES:</p> <p>2 right biological term, but there are times of</p> <p>3 the years when they grow a lot and there are</p> <p>4 other times when they're fairly dormant</p> <p>5 depending on the water temperature and we do</p> <p>6 use the plant when they are active, for lack</p> <p>7 of a better word.</p> <p>8 Q. It's not just any mussels presumably in the</p> <p>9 system or any number of mussels that causes</p> <p>10 the problem, but you do have to reach a</p> <p>11 certain critical level or mass of mussel</p> <p>12 infestation before you have an efficiency</p> <p>13 problem?</p> <p>14 A. Oh yes, and I think the photograph that came</p> <p>15 from the Holyrood plant that we put up this</p> <p>16 morning is indicative of the issue itself and</p> <p>17 that's all over the cooling system.</p> <p>18 Q. But it's not like that 365 days a year, those</p> <p>19 pictures you've shown us, is the mussel</p> <p>20 infestation at that level -</p> <p>21 A. Once they're there, they generally stay there</p> <p>22 because they are--unless they migrate, I'm not</p> <p>23 sure -</p> <p>24 Q. Until you have your one-year annual -</p> <p>25 A. And then we go out and shovel it out, if you</p>	<p>1 will.</p> <p>2 Q. How long does it take to build back up again</p> <p>3 to the level that we see in this photograph</p> <p>4 after they're been removed?</p> <p>5 A. I don't think it takes very long because they</p> <p>6 start off as small and they grow. Once</p> <p>7 they're attached to the walls and the</p> <p>8 condenser tube, they stay there. The other</p> <p>9 issue is when they get inside the system, the</p> <p>10 cooling water itself get flushed through</p> <p>11 hundreds and hundreds of tubes and if they get</p> <p>12 big enough, they can't go through the tube,</p> <p>13 then basically they block the tube. That's</p> <p>14 part of the efficiency by not having them</p> <p>15 there in the first place.</p> <p>16 Q. If it does cause that degree of impairment in</p> <p>17 efficiency and other problems, has Hydro ever</p> <p>18 considered having the diving contractors come</p> <p>19 in twice a year to clean these out?</p> <p>20 (Time: 3:00 p.m.)</p> <p>21 A. This requires a shut down, this requires to</p> <p>22 shut down the plant, that particular unit to</p> <p>23 unwater the cooling water intake. It's a</p> <p>24 fairly significant amount of work.</p> <p>25 Q. How long is that shut down per diving</p>
Page 203	Page 204
<p>1 inspection and cleaning?</p> <p>2 A. For this particular work, I'm not quite sure,</p> <p>3 I think it's two or three weeks to actually do</p> <p>4 that, but I'm--a couple of weeks I would</p> <p>5 suggest.</p> <p>6 Q. So the plant is down for a couple of weeks?</p> <p>7 A. No, the plant is down more than that.</p> <p>8 Q. During the clean up operations?</p> <p>9 A. Yes, but there's a lot of other work on the go</p> <p>10 at the same time.</p> <p>11 Q. Okay, so it's co-ordinated with plant shut</p> <p>12 downs for other purposes.</p> <p>13 A. Yes, absolutely.</p> <p>14 Q. So, the plant hasn't been shut down solely for</p> <p>15 the purpose of cleaning the mussels out of</p> <p>16 these intake valves.</p> <p>17 A. We do run back on load and we have shut down</p> <p>18 half the condenser to go in and remediate some</p> <p>19 of these problems if it gets acute.</p> <p>20 Q. The anti-fouling system that Hydro is choosing</p> <p>21 here, has there been any track record,</p> <p>22 experience with it, by other utilities that</p> <p>23 Hydro is aware of?</p> <p>24 A. My understanding is it's quite common in a lot</p> <p>25 of areas and much more common in utility</p>	<p>1 environment that it was, say, 15 years ago.</p> <p>2 It is a newer technology, if you will; one</p> <p>3 that has been proved successful and other</p> <p>4 utilities do use it, but I can't cite the</p> <p>5 utilities off hand.</p> <p>6 Q. Have you actually contacted any of those other</p> <p>7 utilities to see whether, in fact, the anti-</p> <p>8 fouling system has proven to be as affective</p> <p>9 as the manual removal of mussels?</p> <p>10 A. I believe we did contact other utilities or</p> <p>11 other users and our question would not be on</p> <p>12 the effectiveness, the question would be, does</p> <p>13 it work or can they confirm that this is as</p> <p>14 the biologist and so tell us, this is a good</p> <p>15 way to remediate the problem. The economics</p> <p>16 would be our own situation, our labour costs,</p> <p>17 cost of the equipment and so on. That would</p> <p>18 be an analysis that we would do.</p> <p>19 Q. And the feedback you've gotten then from</p> <p>20 contacting other utilities as to whether it</p> <p>21 works, have you gotten positive feedback?</p> <p>22 A. Yes, it does work.</p> <p>23 Q. In similar context to what you're dealing with</p> <p>24 here, when I say that, salt water as opposed</p> <p>25 to perhaps a plant on the Great Lakes that</p>

Page 205

Page 206

1 MR. COXWORTHY:  
 2 might have other types of mussel infestation.  
 3 A. I would not have asked that specific question  
 4 if it was a tide water plant, but I can't  
 5 imagine it would not. I'm sure that they did  
 6 actually ask those questions.  
 7 Q. The system, the anti-fouling system, uses  
 8 chemicals to -  
 9 A. It actually uses a copper, it's an electrical  
 10 chemical reaction that actually basically  
 11 creates copper ions and actually injects it  
 12 into the cooling water intake and seven to ten  
 13 parts per billion, I believe is enough to  
 14 mitigate the mussels from growing.  
 15 Q. Is it anticipated that this system will remove  
 16 entirely the need for manual inspection of  
 17 the, by diving contractors, of these intakes?  
 18 A. For the purposes of mussels, we do not  
 19 anticipate having to go in and get a diver to  
 20 go in and do that. We still use divers, we  
 21 still have to inspect. So, it would greatly  
 22 reduce the amount of time that somebody is in  
 23 there cleaning up. We still have to obviously  
 24 take it down, walk through and do an  
 25 inspection to ensure there's nothing else on

1 the go.  
 2 Q. So, that \$21,000.00 a year expenditure that  
 3 you have us before as the diving expenditure  
 4 per year, how much of that will actually be  
 5 eliminated by the anti-fouling system?  
 6 A. That amount of money was specific to this  
 7 issue.  
 8 Q. So, any additional diving work is additional  
 9 monies over and above it?  
 10 A. Yes, for the cooling water, for the screens or  
 11 whatever. There's lots of other work out  
 12 there that we use divers for, not lots, but a  
 13 fair amount.  
 14 Q. And is it anticipated the anti-fouling system  
 15 will remove entirely the need for manual  
 16 removal of mussels from the -  
 17 A. Yes, it is, that's our understanding and if  
 18 it's not, it will be very minor.  
 19 Q. Thank you, Mr. Haynes.  
 20 CHAIRMAN:  
 21 Q. I think we'll take a break, Mr. Coxworthy.  
 22 MR. COXWORTHY:  
 23 Q. Thank you, Mr. Chair.  
 24 CHAIRMAN:  
 25 Q. We'll take a 15-minute break.

Page 207

Page 208

1 (Time: BREAK - 3:04 P.M. )  
 2 (Time: RESUME - 3:42 P.M. )  
 3 CHAIRMAN:  
 4 Q. Carry on, Mr. Coxworthy.  
 5 MR. COXWORTHY:  
 6 Q. Thank you, Mr. Chair. If we may move on now  
 7 to project B-20, which is the installation of  
 8 the fire protection system for the microwave  
 9 radio room in Holyrood, and Mr. Haynes, if I  
 10 could refer you to RFI IC-61, the response.  
 11 And the response referred to "to guarantee  
 12 this high availability of the  
 13 telecommunications network, the majority of  
 14 the telecommunications network is owned and  
 15 maintained by the company with alternate  
 16 routing leased from Aliant Communications."  
 17 And my question, Mr. Haynes, is why should we  
 18 accept that there is a higher guarantee of  
 19 high availability with a Hydro-owned and  
 20 maintained system, as opposed to one that's  
 21 been obtained through the private sector?  
 22 A. The communications system, it's already in  
 23 place with respect to the microwave system,  
 24 which basically backhauls all our traffic and  
 25 so on, and the lease rates from Newfoundland

1 Telephone are high. They are a common carrier  
 2 who are dedicated to providing service to  
 3 everybody. We have priority on our own  
 4 network obviously, for our telecommunications  
 5 needs, our data, energy control centre  
 6 communications to the various areas that we  
 7 deal with.  
 8 Q. The alternate routing that you referred to, is  
 9 that in use regularly, the alternate routing  
 10 through Aliant?  
 11 A. I think in some low priority areas, there may  
 12 be some leased lines from Aliant, but Mr.  
 13 Downton could probably confirm that when he's  
 14 on the stand.  
 15 Q. So the alternate routing isn't in respect of  
 16 communications at Holyrood?  
 17 A. Not specific for Holyrood, no. Holyrood, I  
 18 think, is directly connected to our  
 19 communications infrastructure.  
 20 Q. You don't presently have an alternate routing  
 21 through Aliant for Holyrood?  
 22 A. To my understanding, no.  
 23 Q. Would that be a potential backup solution to  
 24 what the problem is here, which is that if the  
 25 sprinkler system was engaged that it could

Page 209	Page 210
<p>1 MR. COXWORTHY:  2 damage the microwave system? Instead of  3 dealing with that, could an alternate solution  4 be to have alternate routing through Aliant?  5 A. In our opinion, no. There is other equipment  6 in the particular room besides the microwave  7 equipment. There's servers. There's a  8 telephone switch. There's Aid Pro computer  9 software, which allows up to optimize the  10 plant. So it's not solely--it's called the  11 microwave room, but there's other electronic  12 equipment inside that particular room that  13 this system would protect.  14 Q. Thank you, Mr. Haynes. If we could move on  15 then to project B-21, which is the Stack liner  16 for stack #2. And if I may make brief  17 reference back to the 2004 budget, and I don't  18 know if we need to bring it up on the screen,  19 but if it's available, Section G, Appendix 3,  20 and the replace steel liner option at that  21 time, identified as a March 2003 estimate, the  22 cost to replace stack liner #2, the one that's  23 presently before the Board, the March 2003  24 estimate at that time was \$1.2 million.  25 What's now being proposed to the Board for</p>	<p>1 2005 Capital Budget is, and one would need to  2 look at RFI IC-9 in the response of this year  3 to determine this, but the cost for the stack  4 liner #2 now has gone from 1.2 projected  5 estimate to 1.85. Can you explain to us the  6 increase in cost over that period in that  7 estimate?  8 A. Can I see the one from the previous?  9 Q. The Section G, Appendix 3 of the 2004 budget,  10 page three, and it's in Section 2.3 there, and  11 I believe that was the estimate in respect of  12 stack liner #2 being projected at that time.  13 A. The total liner estimate for the last job that  14 we had done was estimated--I understand from  15 what's presented, the 1.2 may have been the  16 material cost, because in the last job that we  17 had done, the actual estimate for the complete  18 job, which include the overheads, escalation,  19 et cetera, the estimate was \$1.776 million.  20 That would have been the all-up number, if you  21 will, and the actual was actually very close  22 to that.  23 Q. So the 1.2 that appears at that part of the  24 report is not the complete figure, even at  25 that time for the estimate?</p>
Page 211	Page 212
<p>1 A. Based on what's presented there and what we  2 actually had in the budget, approved budget  3 last year, that would have been the materials  4 only, I would understand.  5 Q. Turning then briefly to stack liner #1, and of  6 course we've seen the estimate costs that were  7 estimated for that replacement, and we've  8 heard the evidence today that, in fact, once  9 that replacement was commenced, the stack  10 liner was actually in worse condition for #1  11 than had been thought. What was the final  12 cost for replacement of stack liner #1?  13 A. The stack liner was \$1.782 million.  14 Q. And why is it anticipated that the cost for  15 stack liner #2 replacement will be higher, the  16 1.85 million?  17 A. Well, there would be escalation obviously and  18 there would be escalation, higher wage rates  19 and so on. There's no specific single reason  20 why we have -  21 Q. It's just attributable to normal or expected  22 increases in various costs?  23 A. Material supply, labour contracts, et cetera.  24 Q. If we could move on then, Mr. Haynes, to  25 project B-24, which is the installation of the</p>	<p>1 main fuel lines at Hardwoods.  2 A. I will--the Hardwoods gas turbines and  3 Stephenville gas turbines are under TRO, but I  4 will attempt to answer as best I can.  5 Q. I apologize. My understanding was, from the  6 witness breakdown, that you would be answering  7 in respect of this, but -  8 A. I'll make every effort to answer the question.  9 Q. My question is with respect to the response  10 that was made to RFI IC-10 in relation to this  11 project, and the question was whether the  12 regulations in fact required the valve  13 replacement in this year, and the response was  14 that it was not required in 2005, but a  15 modification was required as a condition of a  16 Certificate for Approval. Does the  17 Certificate of Approval, and I recognize of  18 course that you may not know the answer to  19 this, given your earlier comment, does the  20 Certificate of Approval itself specify a time  21 frame within which this valve must be  22 replaced?  23 A. No, it doesn't specify a specific time frame,  24 but it was a condition of the Certificate  25 Approval. It should have been done.</p>

Page 213	Page 214
<p>1 MR. COXWORTHY:</p> <p>2 Q. But you won't be in violation of the</p> <p>3 Certificate of Approval if you don't replace</p> <p>4 in 2005, as opposed to 2006? There's nothing</p> <p>5 in the Certificate that puts a specific time</p> <p>6 frame on that?</p> <p>7 A. It's my understanding the Certificate of</p> <p>8 Approval requires the valves, so we would be</p> <p>9 in -</p> <p>10 Q. Let me put it another way. You will be no</p> <p>11 more in violation of the Certificate in 2005</p> <p>12 than you would be in 2006, if the replacement</p> <p>13 is deferred?</p> <p>14 A. No, we wouldn't be any more, but we could be</p> <p>15 subject to fines or whatever other remedies</p> <p>16 that the Department has.</p> <p>17 Q. How long as this Certificate of Approval</p> <p>18 requirement been outstanding?</p> <p>19 A. I do not know that, the year.</p> <p>20 Q. Has Hydro been subjected to any fines to date</p> <p>21 in respect of -</p> <p>22 A. No, but I think it's worthwhile to add that we</p> <p>23 have several areas in the fuel regulations</p> <p>24 where we are non-compliant and the regulator</p> <p>25 is aware that we are mediating all those</p>	<p>1 things over a period of time and they've been-</p> <p>2 -they have understanding, I guess, or they</p> <p>3 know that we're at this and they have not come</p> <p>4 down with the heavy hand from--the heavy hand,</p> <p>5 if you will. They know that we are working at</p> <p>6 these things and we will be meeting all these</p> <p>7 things over a period of time.</p> <p>8 Q. The next project I want to discuss, and I</p> <p>9 recognize, Mr. Haynes, that you may have the</p> <p>10 same response if this was intended to be</p> <p>11 triggered as a TRO matter or by the previous</p> <p>12 panel, but this is B-25, the installation of</p> <p>13 the Diesel Generating Set at Stephenville gas</p> <p>14 turbine. Are you in a position to respond to</p> <p>15 questions in respect of that project?</p> <p>16 A. I will certainly have a go at it, but if I</p> <p>17 fall short, I'll acknowledge that.</p> <p>18 Q. We'll understand why. Thank you, Mr. Haynes.</p> <p>19 Do you know whether it's possible to enhance</p> <p>20 the reliability of the existing battery system</p> <p>21 in Stephenville without incurring the full</p> <p>22 cost of a \$95,000 duplicate system? And I</p> <p>23 should say I'm making reference, and I</p> <p>24 apologize, to RFI IC-12 in that regard.</p> <p>25 Because a question was asked as to what would</p>
Page 215	Page 216
<p>1 be the cost of installing a duplicate battery</p> <p>2 system in Stephenville, and the response</p> <p>3 that's been given by Hydro is that, that would</p> <p>4 cost \$95,000. And I guess my question again</p> <p>5 is, is there any other way to enhance the</p> <p>6 reliability of the existing battery system</p> <p>7 without incurring the cost of a duplicate</p> <p>8 system and obviously without incurring the</p> <p>9 cost of purchasing this diesel?</p> <p>10 A. No, I don't think there is. What this project</p> <p>11 is intended to do is to ensure the reliability</p> <p>12 and the availability of that particular unit</p> <p>13 when we get in trouble in that area. The</p> <p>14 intent is to allow black start capability to</p> <p>15 provide air to the system, you know, so we can</p> <p>16 start the generator.</p> <p>17 Q. Stephenville is a gas turbine station. Does</p> <p>18 all of Hydro's gas turbine stations have the</p> <p>19 same sort of diesel generator backup to the</p> <p>20 battery system, all of them other than</p> <p>21 Stephenville?</p> <p>22 A. I do not know that answer specifically, but I</p> <p>23 think--when you look at this sort of system,</p> <p>24 you have to look at where it sits in the</p> <p>25 system, what the other sources of supply are.</p>	<p>1 Stephenville is on a radial--you know, it's</p> <p>2 not as robust in terms of multi-connections as</p> <p>3 say Hardwoods.</p> <p>4 Q. And that would be another situation where</p> <p>5 there is a gas turbine in operation. Do you</p> <p>6 know whether there's diesel backup at</p> <p>7 Hardwoods for the battery system?</p> <p>8 A. Yes, there is.</p> <p>9 GREENE, Q.C.:</p> <p>10 Q. If it's helpful for the record, we can confirm</p> <p>11 that the others do have the backup.</p> <p>12 MR. COXWORTHY:</p> <p>13 Q. Thank you. The operating experience example</p> <p>14 that's given in B-25 of March 4th, 2003, is</p> <p>15 that a worst-case scenario, Mr. Haynes, in</p> <p>16 terms of is that a rare event and one unlikely</p> <p>17 to be repeated?</p> <p>18 A. Just give me a second, please.</p> <p>19 Q. Certainly.</p> <p>20 A. I think, based on what's written here, and</p> <p>21 based on discussions that I've been party to,</p> <p>22 that the exposure is there often. We often</p> <p>23 run the machine as a synchronous condenser.</p> <p>24 When we shut it down, we do have to run the DC</p> <p>25 systems for a period of time to ensure the</p>

Page 217

Page 218

1 MR. HAYNES:

2 shaft--you know, lubrication on the machine  
3 and so on. It is rare, but very possible to  
4 occur at any point in time.

5 Q. If I could move on then to the response to IC-  
6 -RFI IC-11 in respect of this project. It  
7 appears from the response that this situation  
8 has been recognized at least by Hydro for the  
9 past five years that there has been a concern  
10 with respect to black start reliability. Is  
11 that the case, that that has been recognized  
12 as a concern, at least for the last five  
13 years? And I say five years, back to '99.

14 A. I can't say specifically, I'm sorry.

15 Q. Okay. Would you agree from the information  
16 that's provided by IC-11 that it appears that  
17 there's been an average of only one failed  
18 start per year in that time period since 1999?

19 A. Yes.

20 Q. Do you know whether any of those failed starts  
21 have resulted in any prolonged interruption of  
22 service or caused any significant damage to  
23 the gas turbine unit?

24 A. I'm not aware that it has, other than the  
25 March 4th event.

Page 219

1 project at page B-15, that's the Dry Ice  
2 Cleaning System, and in conjunction with that,  
3 we have the response to IC-57 which asked what  
4 other steps Hydro had taken to eliminate the  
5 problem of brake dust and oil mist on the  
6 rotors and stators. The figure that's quoted  
7 in IC-57 at line 12 talks about another  
8 solution to these problems, which involves an  
9 expenditure of \$100,000 per unit. I take it  
10 that is some other system which will prevent  
11 this dust or mist from attaching itself to  
12 these rotors?

13 A. Yes. That system would actually reduce  
14 specifically the carbon dust from the slip  
15 ring, from the brushes. It would actually  
16 contain and collect that particular dust. It  
17 doesn't necessarily mitigate oil contaminants  
18 and so on, but it does help reduce the overall  
19 contamination.

20 Q. As I understand from the answer, such a system  
21 is in place in the Granite Canal project?

22 A. Yes, that was designed in with the machine.

23 Q. And was the cost similar?

24 A. It would be my understanding that this, that  
25 it would be similar. However, I should add

1 Q. With that information in mind, is there any  
2 urgency to implementation of the diesel backup  
3 solution in 2005, as opposed to 2006, given  
4 the average of only one failed start per year  
5 and in that time period, there only having  
6 been one event, the March 4th 2003 event,  
7 that's caused significant damage or  
8 significant prolongation in interrupted  
9 service?

10 A. I feel it is urgent that we do this. It's an  
11 exposure to a gas turbine that's part of our  
12 portfolio of generation that is essential to  
13 meet the power energy needs and to reliably  
14 meet those needs. This is a proposal that  
15 will actually minimize that risk and one that  
16 we've employed at other gas turbine sites.

17 Q. Thank you, Mr. Haynes. Mr. Chair, those are  
18 all the questions I have for this panel.

19 Thank you, Mr. Haynes.

20 CHAIRMAN:

21 Q. Thank you, Mr. Coxworthy.

22 HUTCHINGS, Q.C.:

23 Q. I have just a couple of matters to deal with,  
24 with Mr. Haynes on this panel, Mr. Chair. Mr.  
25 Haynes, if we could look quickly at the

Page 220

1 that Granite Canal was not a retrofit to an  
2 existing unit, so it would have been a lot  
3 easier to implement and the cost may have been  
4 lower. When you go back and retrofit,  
5 typically the cost is more.

6 Q. No, I understand, but you know, to whatever  
7 extent somewhat up to \$100,000 we have paid at  
8 Granite Canal for this other system?

9 A. Yes, we have.

10 Q. Yes, okay. Now this Dry Ice Cleaning System  
11 that we're talking about here, I take it  
12 that's not a mobile system? That's affixed to  
13 the particular units that it's associated  
14 with, is it?

15 A. No, actually it is a mobile system. It's one  
16 system for all Bay D'Espoir or for Cat Arm or  
17 Hind's Lake or anywhere else that we can take  
18 it and use it. It's a portable device that we  
19 would use in any winding cleaning or on any  
20 generator.

21 Q. Okay. So if this were acquired and Granite  
22 Canal hadn't had that system built in, you  
23 could in fact have taken it to Granite Canal  
24 and used it there as well?

25 A. Yes, we could have.

Page 221	Page 222
<p>1 HUTCHINGS, Q.C.:</p> <p>2 Q. Okay. The reference to reduction of cleaning</p> <p>3 time by 50 to 60 percent, is this simply a</p> <p>4 reduction in your staff time that you're</p> <p>5 speaking about?</p> <p>6 A. Yes, it's basically labour.</p> <p>7 Q. Okay. But up until now, this service has been</p> <p>8 contracted out?</p> <p>9 A. Yes. Well, we have contracted it out. We've</p> <p>10 also done it by rags and chemical or cleaning</p> <p>11 solution. We've done it both ways, depending</p> <p>12 on the availability and the time of the year.</p> <p>13 (Time: 4:00 P.M.)</p> <p>14 Q. Okay. Is it anticipated that even with the</p> <p>15 system that's in place in Granite Canal, there</p> <p>16 may be other cleaning required?</p> <p>17 A. Sorry, you mentioned Granite Canal? I didn't</p> <p>18 understand.</p> <p>19 Q. Even with the system that's been built into</p> <p>20 the Granite Canal project, is there still</p> <p>21 going to be a requirement for cleaning?</p> <p>22 A. At Granite Canal?</p> <p>23 Q. Yes.</p> <p>24 A. Possibly, but I'm not--I can't be certain of</p> <p>25 that answer. This particular unit would be</p>	<p>1 used--the Granite Canal is a containment</p> <p>2 around the dust-generating mechanism. So it's</p> <p>3 not a portable thing. It's a part of the</p> <p>4 machine, if you will.</p> <p>5 Q. Right.</p> <p>6 A. And part of the standard design. This is a</p> <p>7 portable machine that would allow us to clean</p> <p>8 these windings. I think it's worth noting as</p> <p>9 well that these windings range in--number</p> <p>10 seven is 28 years old and units one to four</p> <p>11 are 38 years old, so all these things help</p> <p>12 prolong the life of the winding and to ensure</p> <p>13 that we keep it clean, and if we do have a</p> <p>14 failure, it won't be a big failure. It'll</p> <p>15 minimize the damage.</p> <p>16 Q. So the intent here is to displace the</p> <p>17 maintenance costs of this 15,000 per unit or</p> <p>18 whatever it may be with this new piece of</p> <p>19 equipment?</p> <p>20 A. Yes, and it does a better job than manual</p> <p>21 cleaning, the dry ice system.</p> <p>22 Q. Okay. All right. If we could look now to</p> <p>23 page B-16. This is the upgrade of the control</p> <p>24 system at Holyrood, and this project is well</p> <p>25 underway, I understand, having been approved</p>
Page 223	Page 224
<p>1 last year for about a million and a half</p> <p>2 dollars. Is that correct?</p> <p>3 A. Yes, 1.6 million for 2004.</p> <p>4 Q. '04, yes. In your presentation of last year,</p> <p>5 in respect to this project, there had been</p> <p>6 filed a report which was at Section G, Tab 2,</p> <p>7 which was the Distributed Control System</p> <p>8 Lifecycle Planning Report, which I think you</p> <p>9 and I discussed last year in connection with</p> <p>10 this, and it seemed fairly clear at that stage</p> <p>11 that there was really only one potential</p> <p>12 supplier who could accommodate the work that</p> <p>13 had to be done on anything like an economical</p> <p>14 basis. Is that a fair characterization?</p> <p>15 A. That was certainly our understanding at the</p> <p>16 time.</p> <p>17 Q. Yes, okay. And it now appears that in</p> <p>18 addition to Westinghouse which had all ready</p> <p>19 by that time, I think, been called Emerson</p> <p>20 Process Management, that there is this option</p> <p>21 to go with the Foxboro Company and that's what</p> <p>22 you're now recommending?</p> <p>23 A. That's what we've done.</p> <p>24 Q. Okay. When you say you've done, you did that</p> <p>25 in respect of the work in 2004?</p>	<p>1 A. Yes. It's a Foxboro System that is installed</p> <p>2 as we speak and being commissioned now.</p> <p>3 Q. Okay. So while this is a project spread over</p> <p>4 two years, it's not divisible in the sense</p> <p>5 that this is one unit or two units. It is all</p> <p>6 a single process which is taking place over a</p> <p>7 two-year period?</p> <p>8 A. Yes, that's correct.</p> <p>9 Q. Okay. All right. You note at page B-18 that,</p> <p>10 in item five there, that Foxboro have a</p> <p>11 superior history of long-term commitment</p> <p>12 through the backwoods compatibility and so on.</p> <p>13 You noted that recent clients of the migration</p> <p>14 processes were contacted and were pleased with</p> <p>15 their systems and so on. How is it that when</p> <p>16 you were before the Board last year, you were</p> <p>17 unaware of this great history that Foxboro had</p> <p>18 in terms of actually doing exactly the sort of</p> <p>19 work that you now have them doing?</p> <p>20 A. What we were unaware of, I mean, there are</p> <p>21 other companies who can replace that system</p> <p>22 besides Foxboro. The natural migration path</p> <p>23 that we proposed to the Board last year was</p> <p>24 based on a migration path that Emerson,</p> <p>25 Westinghouse Emerson had come up with to allow</p>



Page 225	Page 226
<p>1 MR. HAYNES:</p> <p>2 to reuse certain of their equipment and so on.</p> <p>3 Foxboro and--we were unaware, but we did</p> <p>4 become aware of it through contacts, through</p> <p>5 discussions and so on, that Foxboro actually</p> <p>6 does reuse certain components of the cabinets</p> <p>7 and the plug ins and so on, and it was</p> <p>8 actually through a WebEx conference, I</p> <p>9 believe, that we became aware of it and</p> <p>10 pursued it, and eventually came to the</p> <p>11 conclusion that Foxboro had a superior record</p> <p>12 and superior support even in the province,</p> <p>13 that was unavailable with Westinghouse, and</p> <p>14 the cost was basically similar.</p> <p>15 Q. Is it fair to say that had you made those</p> <p>16 inquiries prior to the hearing last year, you</p> <p>17 would have been able to provide this</p> <p>18 information to the Board at that time?</p> <p>19 A. That I don't know. Possibly. But we looked</p> <p>20 at the--what was looked at was the migration</p> <p>21 path from one Westinghouse version to another</p> <p>22 and it was a logical way to go, a logical</p> <p>23 route. You would reuse some of the equipment,</p> <p>24 the I/O card specifically, and in a Foxboro</p> <p>25 system, all that's been replaced, which will</p>	<p>1 give us a longer term and supportable life</p> <p>2 than the current system.</p> <p>3 Q. But you put to the Board last year in support</p> <p>4 of the \$1.5 million that you asked the Board</p> <p>5 to approve, and they did approve, the notion</p> <p>6 that Emerson was your only option, correct?</p> <p>7 A. That's correct.</p> <p>8 Q. I just need to cover now, Mr. Haynes, a couple</p> <p>9 of questions that arose out of the reply that</p> <p>10 we got this afternoon to the undertaking which</p> <p>11 is U-Hydro No. 8, I believe, and that goes to</p> <p>12 an attempt to explain the differences that</p> <p>13 were noted between the economic analysis with</p> <p>14 respect to the Roddickton mini hydro dam at</p> <p>15 IC-18 and the analysis at Tab--Section G, Tab</p> <p>16 1 in Appendix C with respect to the Snook's</p> <p>17 Arm project. Is it fair to say that</p> <p>18 essentially the difference, which doesn't</p> <p>19 appear on the face of the two documents that</p> <p>20 we previously had, is related to the capacity</p> <p>21 factor for the plants?</p> <p>22 A. Yes, that's correct.</p> <p>23 Q. And Snook's Arm is about a 68 percent capacity</p> <p>24 factor and Roddickton is only about 28, 29</p> <p>25 percent?</p>
Page 227	Page 228
<p>1 A. Yes.</p> <p>2 Q. Okay, all right. And that explains the</p> <p>3 difference between the 13,000 capacity charge</p> <p>4 with Roddickton Mini Hydro and the 45,000,</p> <p>5 almost 46,000 in respect to Snook's Arm?</p> <p>6 A. Yes.</p> <p>7 Q. So, the figure of \$100 per kilowatt hour per</p> <p>8 year, that's the all-in capital cost of the</p> <p>9 gas turbine, isn't it?</p> <p>10 A. That's a levelized cost for a gas turbine.</p> <p>11 Gas turbines typically would cost roughly</p> <p>12 \$1000 a kilowatt, so, obviously we would not</p> <p>13 impose--we would obviously not go out and buy a</p> <p>14 400 kilowatt gas turbine at the \$400,000 or</p> <p>15 whatever it is, so this is a prorated portion</p> <p>16 to, in theory, replace this particular</p> <p>17 capacity when we do need to bring on new</p> <p>18 system capacity.</p> <p>19 Q. Yes, but when you use \$100 per kilowatt per</p> <p>20 year, you're talking about going out and</p> <p>21 buying a 50 megawatt gas turbine and that</p> <p>22 would cost you \$100 per kilowatt that that 50</p> <p>23 megawatt turbine could produce, correct?</p> <p>24 A. Yes, more or less that's right, yes.</p> <p>25 Q. Okay, so I didn't understand your reference to</p>	<p>1 the \$1000.</p> <p>2 A. To go out and buy a 50 megawatt gas turbine</p> <p>3 would cost in the order of approximately \$1000</p> <p>4 a megawatt.</p> <p>5 Q. A \$1000 per megawatt?</p> <p>6 A. I'm sorry, per kilowatt, that would be the</p> <p>7 cost to go out and buy--it's approximately</p> <p>8 \$1000 a kilowatt to go out and buy gas</p> <p>9 turbines of that size.</p> <p>10 Q. So if you're talking about a 50 megawatt gas</p> <p>11 turbine at \$1000 per kilowatt, you're talking</p> <p>12 \$50,000,000?</p> <p>13 A. Yes.</p> <p>14 GREENE, Q.C.:</p> <p>15 Q. And may I again, for the record, that's the</p> <p>16 capital cost of the new gas turbine?</p> <p>17 A. Yes, I'm sorry, that's the capital cost, this</p> <p>18 is levelized.</p> <p>19 HUTCHINGS, Q.C.:</p> <p>20 Q. So what you refer to as the levelized cost is</p> <p>21 the annual carrying cost of the asset, is that</p> <p>22 what you're saying?</p> <p>23 A. I am not--I can't recall the specific</p> <p>24 calculation, but it's a number that we've used</p> <p>25 in previous studies and previous hearings.</p>

Page 229

Page 230

1 MR. HAYNES:

2 It's a number calculated by planning which is  
3 a fair representation of what a capacity  
4 installation only would cost Hydro on a  
5 levelized basis, annual.

6 Q. Okay--go ahead.

7 A. Annually, it's \$100 per kilowatt per year.

8 Q. Okay. Is it fair to say that the gas turbine  
9 is, as regards the mix of generation of  
10 capability available to Hydro, the high end of  
11 the scale in terms of the availability to  
12 provide capacity?

13 A. Actually for capacity it's the cheapest.  
14 Simple cycle combustion turbines are typically  
15 the cheapest capacity-only resource that we  
16 could put on for capacity only.

17 Q. Yes, but in terms of the energy that they  
18 produced, obviously it's very expensive  
19 energy?

20 A. But the energy in this particular analysis is  
21 costed to our marginal cost the cheapest one,  
22 which is Holyrood.

23 Q. Which is Holyrood, no, I understand that, yes,  
24 okay. In terms of your system planning for  
25 the year 2010, 2011 when new capacity--or new

1 plant is expected to be added, you will be  
2 needing to add both capacity and energy around  
3 the same time, will you not?

4 A. Hopefully, that's the opportune time to do it,  
5 yes. We have, obviously, as we presented I  
6 think in the GRA last year, we have some times  
7 of the year a difference between the two and  
8 we will review that and then make the best  
9 judgment as to what time to do it, but it's  
10 usually capacity and energy we add in this  
11 time frame.

12 Q. Your projection is for deficits in both energy  
13 and demand to occur around the same time at  
14 this point?

15 A. At this point in time, yes.

16 Q. And with that in mind, it is in fact unlikely  
17 that your solution in 2011 is going to be a  
18 gas turbine, is that not fair?

19 A. That's fair.

20 Q. Thank you, Mr. Haynes, that's all I have for  
21 this witness, Mr. Chair.

22 CHAIRMAN:

23 Q. Thank you, Mr. Hutchings. Mr. Kennedy?

24 MR. KENNEDY:

25 Q. Thank you, Chair. Mr. Haynes, I just have two

Page 231

Page 232

1 projects and two questions, one on each one.  
2 So the first one I want to look at was B-13  
3 which is the Snook's Arm project. And as I  
4 understand it what Hydro's applying for here  
5 in 2005 is \$115,000 to fund the capital costs  
6 associated with the detailed engineering that  
7 needs to be conducted in order for you to set  
8 this project up for actual, the conduct of the  
9 order in 2006, is that right?

10 A. That's correct, yes.

11 Q. And so at this point, the 1.815 million that  
12 is booked in there in B-13 for 2006, is  
13 Hydro's best estimate of what that project  
14 will cost, but it's subject to the results of  
15 that detailed engineering that you would  
16 conduct in 2005?

17 A. Oh yes, we would review the cost estimates and  
18 refine as appropriate.

19 Q. And, we don't really need to go there again,  
20 you were cross-examined about the net present  
21 value calculations that were afforded in  
22 support of that and it's in the Supplemental  
23 document, I think it was at Table 7.1, page  
24 15.

25 A. Yes.

1 Q. Which provided the range of net present values  
2 from a low, I think of 586 to high of 863?

3 A. Yes.

4 Q. And that's 863,000. So would it be Hydro's  
5 intention that if the scope of this project  
6 was to become materially impacted by the  
7 detailed engineering work that you do during  
8 2005, affecting the estimated cost of what  
9 this project would be for 2006, that you would  
10 revisit the issue?

11 A. Certainly if there was a significant change we  
12 would have to revisit the issue, that would be  
13 only prudent on our part, but I would add that  
14 if the cumulative present worth difference of  
15 approximately six hundred thousand dollars,  
16 there would have to be a significant change to  
17 actually affect the overall project economics.

18 (Time: 4:15 p.m.)

19 Q. Okay, so you, as any good witness, anticipated  
20 my question which was that's a relative factor  
21 then in your mind to the determination of when  
22 a project would, if it was to go outside of  
23 its intended scope, require a subsequent  
24 review when it goes outside of its net present  
25 value tolerance?

Page 233	Page 234
<p>1 MR. HAYNES:</p> <p>2 A. It would require a review certainly internally</p> <p>3 from the point of view if there was a change</p> <p>4 in the economics, the viability of a project,</p> <p>5 we would obviously consider that further and</p> <p>6 have a second look. There is a fair latitude</p> <p>7 for change in the capital cost or</p> <p>8 environmental remediation cost which would</p> <p>9 still make this particular project economic.</p> <p>10 Q. Okay, keeping that in mind, I wonder if we</p> <p>11 could just have a look at B-21 which is</p> <p>12 related to the Holyrood upgrading of the civil</p> <p>13 structures there.</p> <p>14 A. Yes.</p> <p>15 Q. And there was the boiler stack and then the</p> <p>16 screen structure and I was just interested in</p> <p>17 the boiler stack itself. And on, I think it</p> <p>18 was direct examination, I'm not sure, it may</p> <p>19 have been during your cross here today, there</p> <p>20 was some questions related to--you were</p> <p>21 showing up some pictures of the liner at the</p> <p>22 top of the crane being ready to be slipped</p> <p>23 down inside the stack, correct?</p> <p>24 A. That's correct.</p> <p>25 Q. And if I gathered you correctly, you indicated</p>	<p>1 there that you may not do the line of</p> <p>2 replacement in the same manner because that</p> <p>3 crane is not available, correct?</p> <p>4 A. That would, obviously, depend on the bids or</p> <p>5 the quotations that we have for the work. We</p> <p>6 did not anticipate that the crane would be</p> <p>7 available last time through, we thought, you</p> <p>8 know, typically they're installed internally.</p> <p>9 We reviewed that particular bid and concurred</p> <p>10 that it was doable and it was cheaper, so we</p> <p>11 did it and when we go out the tender this</p> <p>12 year--or next year, I should say, we will</p> <p>13 entertain any particular construction</p> <p>14 techniques as long as they're reliable and can</p> <p>15 do the job.</p> <p>16 Q. Okay. Mr. O'Rielly, do you have the 2004</p> <p>17 Budget Application there that you can pull up</p> <p>18 on the screen? Okay, could we go to B-22 from</p> <p>19 Hydro's 2004 Budget Application? And, Mr.</p> <p>20 Haynes, this was your application last year</p> <p>21 seeking budget funds for 2004 relating to this</p> <p>22 same project, as I understand it, right, stack</p> <p>23 #2?</p> <p>24 A. Yes.</p> <p>25 Q. Okay, and the civil structure. And what we</p>
Page 235	Page 236
<p>1 had was an amount for 2004 of \$78,500 and then</p> <p>2 an estimated budget of--in 2005 of two million</p> <p>3 one five.</p> <p>4 A. Yes.</p> <p>5 Q. Okay. So I wonder if we could just go back to</p> <p>6 B-21 now of the current application, if we</p> <p>7 could just scroll down. So did this project</p> <p>8 just get pushed out for a year, the 2004</p> <p>9 figure is \$78,500, so that would be in the</p> <p>10 detailed engineering work that you did this</p> <p>11 year?</p> <p>12 A. No, that's not completed at this point in</p> <p>13 time.</p> <p>14 Q. Okay, that's the explanation then of why the</p> <p>15 2005 figure would not have varied at all</p> <p>16 between last year's project application and</p> <p>17 this year's projection application?</p> <p>18 A. There's been no detailed review at this point</p> <p>19 in time, that's work that basically is in</p> <p>20 progress now and probably as we speak, but it</p> <p>21 will be done by the end of the year to do a</p> <p>22 review, you know, get bid documents in place</p> <p>23 and so on ready to go.</p> <p>24 Q. Okay, so the estimates, if you will, or the</p> <p>25 costing data that Hydro is providing here for</p>	<p>1 2005 is based on the, presumably the same</p> <p>2 information that you used to derive that</p> <p>3 identical number in 2003 when you were</p> <p>4 submitting your budget for 2004?</p> <p>5 A. Yes, and the last job basically was less than</p> <p>6 two million--was approximately a hundred</p> <p>7 thousand dollars less than this, so it's just</p> <p>8 a minor refinement for escalation; we</p> <p>9 anticipate similar costs.</p> <p>10 Q. Okay. So can I ask you, going forward here</p> <p>11 what would you--what would be your opinion on</p> <p>12 a reasonable tolerance around that estimated</p> <p>13 cost right now of two million one?</p> <p>14 A. Typically our estimates are, you know,</p> <p>15 obviously they vary but, you know, plus or</p> <p>16 minus ten percent is a number that we would</p> <p>17 use from a budgetary point of view, including</p> <p>18 the contingency. I would like to add that in</p> <p>19 the previous job, we came in approximately one</p> <p>20 percent under budget which I thought was</p> <p>21 pretty good and I have no reason to think at</p> <p>22 this particular time we would be significantly</p> <p>23 different on this particular job.</p> <p>24 Q. So if this one isn't--if I gather correctly an</p> <p>25 MPV driven product, if you will, it's an</p>

Page 237	Page 238
<p>1 MR. KENNEDY:</p> <p>2 obsolescence in safety driven project as</p> <p>3 argued by Hydro, correct?</p> <p>4 A. That's correct.</p> <p>5 Q. All right, and so we don't have that same, if</p> <p>6 you will, check like we would in a project we</p> <p>7 just looked at, Snook's Arm, where we have an</p> <p>8 MPV that may get affected in your project goes</p> <p>9 out of scope?</p> <p>10 A. No, this is basically justified because of the</p> <p>11 condition of the current stack and the safety</p> <p>12 aspects. It's a must do.</p> <p>13 Q. I'm sorry?</p> <p>14 A. It's a must do. We have to do this particular</p> <p>15 project.</p> <p>16 Q. Right, so in the first one, in Snook's Arm, if</p> <p>17 the project goes out of scope and ends up</p> <p>18 placing into doubt, if you will, the financial</p> <p>19 viability of the project by virtue of turning</p> <p>20 those positive net present values into</p> <p>21 negative ones, then that's a clear indication</p> <p>22 to Hydro that you would need to rethink the</p> <p>23 project, correct?</p> <p>24 A. Certainly.</p> <p>25 Q. Okay, in a case where we don't have a net</p>	<p>1 present value calculation, the project is not</p> <p>2 being justified on operating efficiency gains</p> <p>3 or just a spend money now, save it over the</p> <p>4 long term scenario, can we use a plus or minus</p> <p>5 ten percent figure as a reasonable tolerance</p> <p>6 for when a project starts to go out of scope,</p> <p>7 when a project has exceeded what your</p> <p>8 reasonable engineering judgment estimate is?</p> <p>9 A. I'm reluctant to agree with that because this</p> <p>10 particular project, as I say, is a must do and</p> <p>11 if it was two and a half million dollars, in</p> <p>12 my view, we'd still have to complete the job</p> <p>13 to ensure the availability and maintainability</p> <p>14 of the plant. So I think it's quite--you</p> <p>15 know, it's different from that point of view,</p> <p>16 I think projects that are justified based on</p> <p>17 this, they, you know, the estimates that we</p> <p>18 provided in the past have been reasonable. We</p> <p>19 had no reason to think that we're, you know,</p> <p>20 significantly off base with our cost</p> <p>21 estimates. As I mentioned, this one was one</p> <p>22 percent off in 2003 which I thought was pretty</p> <p>23 good.</p> <p>24 Q. No, excellent, and I think there might be a</p> <p>25 slight misunderstanding, it's not a question</p>
Page 239	Page 240
<p>1 aimed at determining when the project should</p> <p>2 be questioned in the sense of you put forward,</p> <p>3 if we just accept the assumption that it's a</p> <p>4 safety driven project, so that you have to</p> <p>5 have it done -</p> <p>6 A. Uh-hm.</p> <p>7 Q. And you're saying it's going to cost two</p> <p>8 million one and that's what this panel, for</p> <p>9 instance, if it were to approve that project,</p> <p>10 that's what its approval is based on, is that</p> <p>11 estimate of how much is it going to cost to</p> <p>12 fix this?</p> <p>13 A. Yes.</p> <p>14 Q. I'm trying to get a sense of from your</p> <p>15 engineering perspective when do you consider a</p> <p>16 project to have gone outside the original</p> <p>17 scope and keeping in mind that it's the panel</p> <p>18 here approving this project on the basis of</p> <p>19 the number that you've represented in B-21?</p> <p>20 A. I don't have a number.</p> <p>21 GREENE, Q.C.:</p> <p>22 Q. Although I would point out that the only thing</p> <p>23 Hydro is asking for is approval of the</p> <p>24 engineering study to be done and we will be</p> <p>25 back in 2006 with respect to the refined cost</p>	<p>1 estimate following the engineering study,</p> <p>2 which at that time we will be asking the Board</p> <p>3 to approve the capital cost for the actual</p> <p>4 work.</p> <p>5 HUTCHINGS, Q.C.:</p> <p>6 Q. I'm sorry, Mr. Chair, I didn't understand that</p> <p>7 intervention with respect to this project.</p> <p>8 MR. KENNEDY:</p> <p>9 Q. Yes, I was just going to ask for</p> <p>10 clarification. I thought Hydro is asking for,</p> <p>11 on this one, I believe counsel that Hydro is</p> <p>12 asking for approval of the full two million</p> <p>13 for 2005, not the engineering?</p> <p>14 GREENE, Q.C.:</p> <p>15 Q. Is that the right one on the screen?</p> <p>16 MR. KENNEDY:</p> <p>17 Q. Yes, this is your 2005 Capital Budget</p> <p>18 Application.</p> <p>19 GREENE, Q.C.:</p> <p>20 Q. Oh, sorry.</p> <p>21 MR. KENNEDY:</p> <p>22 Q. And it might have been my flipping back and</p> <p>23 forth because I was looking at the 2004 a</p> <p>24 minute ago.</p>

Page 241	Page 242
<p>1 GREENE, Q.C.:</p> <p>2 Q. Sorry, I thought you were talking about -</p> <p>3 MR. KENNEDY:</p> <p>4 Q. Right. So Hydro is looking for approval to go</p> <p>5 ahead with this actual project in 2005?</p> <p>6 A. Yes, at an estimated cost of two million</p> <p>7 dollars.</p> <p>8 Q. Right. You're conducting the detailed</p> <p>9 engineering study while we go through this,</p> <p>10 and you believe that your budget estimate here</p> <p>11 is accurate and that you should come in</p> <p>12 within, close to that figure once the project</p> <p>13 finishes in 2005?</p> <p>14 A. Yes, we should be reasonably close to that</p> <p>15 number.</p> <p>16 Q. Okay. And you expressed a figure of plus or</p> <p>17 minus ten percent as being, in your view, an</p> <p>18 acceptable range for a project of this size?</p> <p>19 A. From a budgetary point of view, that would be</p> <p>20 a typical number. I mean, we've obviously</p> <p>21 come in under or come in over on some</p> <p>22 projects, depending on the nature of the job</p> <p>23 or unknowns.</p> <p>24 Q. Is there anything significant from a</p> <p>25 procedural perspective, Mr. Haynes, inside of</p>	<p>1 Hydro that's triggered off by virtue of a</p> <p>2 project going over more than ten percent</p> <p>3 budget? Do you need to report back up to, for</p> <p>4 instance, your board of directors or the like?</p> <p>5 A. There is a sign off, if a capital budget</p> <p>6 that's in place exceeds a certain variance, it</p> <p>7 has to be signed off by the VP, depending on</p> <p>8 the amount and it goes from there. And</p> <p>9 there's also, I think, regular reporting to</p> <p>10 the Public Utilities Board on our capital</p> <p>11 program I think on a quarterly basis.</p> <p>12 Q. Sure, there's regular variance reports issued</p> <p>13 to the Board, sure.</p> <p>14 A. Yes, and that would be the vehicle to inform</p> <p>15 if there's a change.</p> <p>16 Q. Sure, I'm thinking more of the internal</p> <p>17 structure of Hydro, you said if a budget goes</p> <p>18 over ten percent, it requires further</p> <p>19 authorizations inside of Hydro or someone</p> <p>20 needs to sign off -</p> <p>21 A. Yes, I, as a VP, would have to sign off for</p> <p>22 any capital budget increases beyond the, I</p> <p>23 forget the number offhand, but I'd have to</p> <p>24 sign it off. And if it goes extraordinary,</p> <p>25 you know, significantly off, I would have to</p>
Page 243	Page 244
<p>1 go to my boss, obviously and seek further--and</p> <p>2 I believe there's probably provisions to go to</p> <p>3 our board of directors if it's a major</p> <p>4 difference in the cost that we anticipate.</p> <p>5 Q. Right, well it wouldn't be the first chain of</p> <p>6 command. In your chain of command, you use</p> <p>7 the ten percent figure, that's what triggers</p> <p>8 your requirement to sign off?</p> <p>9 A. No, what I meant was a ten percent change</p> <p>10 would be the, you know, the typical accuracy</p> <p>11 of a budget or estimate that we would</p> <p>12 anticipate that would be plus or minus ten</p> <p>13 percent. And I forget the actual percentage</p> <p>14 number where I would have to be, to actually</p> <p>15 sign a change order, I don't recall off the</p> <p>16 top of my head.</p> <p>17 Q. That's all the questions I have, Chair,</p> <p>18 members of the panel. Thank you.</p> <p>19 CHAIRMAN:</p> <p>20 Q. Thank you, Mr. Kennedy. Any re-direct Ms.</p> <p>21 Greene?</p> <p>22 GREENE, Q.C.:</p> <p>23 Q. Yes, I do have a couple. The first is with</p> <p>24 respect to the Upper Salmon Power Canal, which</p> <p>25 is B-5, and I don't think we need to go to it,</p>	<p>1 but in your discussion in response to</p> <p>2 questions, you referred to the Dyke Board. Is</p> <p>3 it correct that the Dyke Board is a group of</p> <p>4 national experts that are recognized</p> <p>5 internationally with respect to dams and</p> <p>6 dykes?</p> <p>7 A. Yes, they are all internationally recognized</p> <p>8 who work in all areas of the world on dykes</p> <p>9 and dams and hydro facilities.</p> <p>10 Q. How long has the Dyke Board been providing</p> <p>11 that external expertise for the dams and dykes</p> <p>12 for Hydro and for Churchill Falls?</p> <p>13 A. For Churchill Falls it's been there many, many</p> <p>14 years and for Hydro, I think it started in the</p> <p>15 early to mid eighties that we actually engaged</p> <p>16 the Dyke Board and we've maintained them ever</p> <p>17 since.</p> <p>18 Q. Mr. Coxworthy asked you questions with respect</p> <p>19 to whether there was new information further</p> <p>20 to the report that he referred you to dated</p> <p>21 1999. With respect to the Dyke Board, have</p> <p>22 they visually inspected the Upper Salmon Power</p> <p>23 Canal since 1999?</p> <p>24 A. Each year they inspect that particular canal</p> <p>25 because of their concern and they also review</p>

Page 245	Page 246
<p>1 MR. HAYNES:</p> <p>2 any data, piezometer data and so on at Bay</p> <p>3 d'Espoir. They actually do a one-week visit</p> <p>4 to the Hydro system and look at all those</p> <p>5 particular aspects.</p> <p>6 Q. So they review the information that would, on</p> <p>7 a subsequent to 1999, each year we may visit,</p> <p>8 is that correct?</p> <p>9 A. That's correct.</p> <p>10 Q. And they do a visual inspection and actually</p> <p>11 walk over the dam, is that correct?</p> <p>12 A. That is correct. I, unfortunately, have not</p> <p>13 accompanied the current Dyke Board at Hydro,</p> <p>14 but I have accompanied in CF(L)Co several</p> <p>15 times and I do literally walk and crawl all</p> <p>16 over the dyke doing what geotechnical people</p> <p>17 do.</p> <p>18 Q. Following the annual inspections from the Dyke</p> <p>19 Board, what is the Dyke Board's recommendation</p> <p>20 with respect to the requirement to do the</p> <p>21 stabilization work for the Upper Salmon Power</p> <p>22 Canal in 2005?</p> <p>23 A. They consider this to be urgently required and</p> <p>24 in fact is why we bought this capital budget</p> <p>25 forward to the Board last year or earlier this</p>	<p>1 year.</p> <p>2 Q. And after the review of the Dyke Board's</p> <p>3 recommendations by a Hydro engineering group</p> <p>4 who are specialists in dams and dykes, what</p> <p>5 was their recommendation?</p> <p>6 A. I'm sorry, can you repeat that?</p> <p>7 Q. The internal engineering staff at Hydro--</p> <p>8 first, do we have engineering staff who are</p> <p>9 viewed as experts in the maintenance and</p> <p>10 construction of dams and dykes?</p> <p>11 A. Yes, we have some engineers who are dedicated</p> <p>12 to dyke and dam work and their review of this</p> <p>13 particular thing, they concur that there is an</p> <p>14 issue that we have to address.</p> <p>15 Q. And again, they concur with the recommendation</p> <p>16 of the Dyke Board and brought it forward to</p> <p>17 executive management that it was critical to</p> <p>18 undertake this work in 2005?</p> <p>19 (Time: 4:30 p.m.)</p> <p>20 A. Yes, we have to--we're not necessarily</p> <p>21 absolutely certain that the suggestion of the</p> <p>22 Dyke Board may be the ultimate solution, but</p> <p>23 we do have to do something, Acres were</p> <p>24 retained, the Dyke Board are engaged and we</p> <p>25 will arrive at the appropriate remedy.</p>
Page 247	Page 248
<p>1 Q. The next area with respect to work be acquired</p> <p>2 for various fuel tanks to meet legislative</p> <p>3 requirements, with respect to the underground</p> <p>4 fuel tank, there are two in this particular</p> <p>5 budget. One is at B-9, the upper Salmon and</p> <p>6 the other is at Hydro Place. Does Hydro have</p> <p>7 any other underground fuel tanks that do not</p> <p>8 comply with current environmental</p> <p>9 requirements?</p> <p>10 A. Yes, we have one more underground fuel tank</p> <p>11 that will be in a future capital budget and</p> <p>12 that is at the Cat Arm facility.</p> <p>13 Q. You mentioned that Hydro has had discussions</p> <p>14 with the Department of Environment with</p> <p>15 respect to these items of non-compliance.</p> <p>16 First, when were the items of non-compliance</p> <p>17 actually know and determined and how did that</p> <p>18 occur?</p> <p>19 A. We do an environmental audit where we go</p> <p>20 through and look at our compliance with</p> <p>21 legislation and some of these particular</p> <p>22 issues were picked up in the audit process</p> <p>23 where we go through and look at all of our</p> <p>24 facilities and look at the environmental</p> <p>25 regulations and the approvals that we have in</p>	<p>1 place and to ensure that they are being done</p> <p>2 and that the appropriate testing etcetera is</p> <p>3 being carried out. And these were arrived at</p> <p>4 through this audit process.</p> <p>5 Q. And the determination of what tanks to be done</p> <p>6 to meet the current requirements was discussed</p> <p>7 with the Department of Environment and they're</p> <p>8 aware of Hydro seeking approval to have these</p> <p>9 done in this time frame?</p> <p>10 A. Yes, they're aware of our plans for tank</p> <p>11 remediation.</p> <p>12 Q. And that is one of the reasons that Hydro has</p> <p>13 not been charged with violations with respect</p> <p>14 to the current legislation because of its</p> <p>15 program to address the issues?</p> <p>16 A. That's correct.</p> <p>17 Q. The next and the last question for re-direct</p> <p>18 was with respect to the upgrade of the control</p> <p>19 system that Mr. Hutchings just referred you</p> <p>20 to, in B-16. And I wonder here if we could go</p> <p>21 to IC-58 please, and I could just refer you to</p> <p>22 line 16 and 17. For the record, Mr. Haynes,</p> <p>23 can you confirm that the Foxboro proposal</p> <p>24 actually was the lowest evaluated bid with</p> <p>25 respect to the supply of this system?</p>

Page 249	Page 250
<p>1 MR. HAYNES:</p> <p>2 A. Yes, it was.</p> <p>3 Q. So, it was a lower cost effective solution</p> <p>4 with a lower cost to the rate payers, is that</p> <p>5 correct?</p> <p>6 A. That's correct, the lower--it will be the</p> <p>7 lowest cost long term solution.</p> <p>8 Q. I'm sorry, the last question actually is with</p> <p>9 respect to Mr. Hutchings' questions with</p> <p>10 respect to the alternative that was done for</p> <p>11 Snook's Arm and the levelized cost for that.</p> <p>12 The analysis that we provided today in</p> <p>13 response to the undertaking number 8, you</p> <p>14 mentioned, in going through that, that the</p> <p>15 alternative we used was combustion gas</p> <p>16 turbine, is that correct, combustion turbine?</p> <p>17 A. For the capacity, yes.</p> <p>18 Q. Yes, for the capacity. Mr. Hutchings pursued</p> <p>19 with you that at the time we would replace, in</p> <p>20 2010 or 11, it looks like we will be replacing</p> <p>21 for capacity and energy, is that correct?</p> <p>22 A. That's correct.</p> <p>23 Q. The alternative to that would be used at that</p> <p>24 time, isn't it correct, Mr. Haynes that that</p> <p>25 would be more expensive than the gas turbine</p>	<p>1 that was used in this analysis?</p> <p>2 A. That is, more than likely, that is almost an</p> <p>3 absolute.</p> <p>4 Q. In fact, if that had been used, this would</p> <p>5 even look better for Snook's Arm, isn't that</p> <p>6 correct?</p> <p>7 A. Yes.</p> <p>8 Q. Thank you, those are the only questions I have</p> <p>9 on re-direct.</p> <p>10 CHAIRMAN:</p> <p>11 Q. Commissioner Powell, do you have any</p> <p>12 questions.</p> <p>13 COMMISSIONER POWELL:</p> <p>14 Q. No, I have no questions, thank you.</p> <p>15 CHAIRMAN:</p> <p>16 Q. Commissioner Martin?</p> <p>17 COMMISSIONER MARTIN, Q.C.:</p> <p>18 Q. I'd like to know what happens to the mussels,</p> <p>19 but -</p> <p>20 A. We contract with Crosbie's, I believe, to haul</p> <p>21 them away, I guess, he takes them to Robin</p> <p>22 Hood Bay.</p> <p>23 CHAIRMAN:</p> <p>24 Q. Once they go through the vacuum truck you</p> <p>25 don't want them. Well, that pretty well wraps</p>
Page 251	Page 252
<p>1 things for this evening. I guess the only</p> <p>2 thing we have to finalize now would be in</p> <p>3 terms of the, some comments to the parties</p> <p>4 with regard to where we might be headed from</p> <p>5 here in terms of the time frame. Mr. Kennedy,</p> <p>6 you've had some discussion with the parties,</p> <p>7 can you indicate where we might be in terms of</p> <p>8 finishing tomorrow as opposed to extending</p> <p>9 over.</p> <p>10 MR. KENNEDY:</p> <p>11 Q. It's difficult to get some visibility on it.</p> <p>12 In light of--we have the VHF project to</p> <p>13 proceed through tomorrow which is a special</p> <p>14 panel for, I understand from counsel for Hydro</p> <p>15 that that will take half an hour to 40 minutes</p> <p>16 to go through their presentation. We've got</p> <p>17 then also the IS &amp; T witnesses to answer</p> <p>18 specific question relating to that part of it.</p> <p>19 And then, of course, it's the chief financial</p> <p>20 officer for Hydro to be called last. In light</p> <p>21 of these speed at which we proceeded over the</p> <p>22 last two days, I would suggest that it's</p> <p>23 probably unlikely that we'll finish tomorrow</p> <p>24 in realistic terms. And therefore it may be</p> <p>25 necessary to or a good idea to canvas the</p>	<p>1 counsel to see what their availability is for</p> <p>2 next week in order to be able to continue the</p> <p>3 hearing and in order to finish it off. And</p> <p>4 I'd suggest we'd need one more day to ensure</p> <p>5 that you get it finished.</p> <p>6 CHAIRMAN:</p> <p>7 Q. Is one more day in realistic terms, is that</p> <p>8 something that would include argument of the</p> <p>9 parties or -</p> <p>10 MR. KENNEDY:</p> <p>11 Q. Typically, counsel like to have another break</p> <p>12 after the evidence before they actually are</p> <p>13 called upon to do submissions. I don't know</p> <p>14 if the Panel is looking for written</p> <p>15 submissions or that hasn't even broached yet</p> <p>16 as a specific topic or whether just oral</p> <p>17 presentations from counsel is what's required.</p> <p>18 If it was written submissions, for instance,</p> <p>19 you would avoid the necessity of having to try</p> <p>20 to find another day on which all counsel are</p> <p>21 available as well members of the Panel. That</p> <p>22 might be the way to address the submission</p> <p>23 issue.</p>

<p style="text-align: right;">Page 253</p> <p>1 CHAIRMAN:</p> <p>2 Q. Okay. Do any of the parties have any comment</p> <p>3 with regard to what Mr. Kennedy has put</p> <p>4 forward in terms of how many days would be</p> <p>5 necessary?</p> <p>6 GREENE, Q.C.:</p> <p>7 Q. Well, from Hydro's perspective, the 2005</p> <p>8 Capital Budget Approval obviously is a</p> <p>9 priority. Apart from concluding the hearing,</p> <p>10 we have argument and then we have the time it</p> <p>11 takes for the order. As we have indicated</p> <p>12 before and I believe Newfoundland Power has,</p> <p>13 it is helpful to the utilities to have</p> <p>14 approval earlier in the previous year than</p> <p>15 historically and we've moved with that to try</p> <p>16 to have the approvals early in order to make</p> <p>17 some orders, we can speed up and get the work</p> <p>18 done for the following year. So, our concern</p> <p>19 is being here--next week is the middle of</p> <p>20 October, we are very concerned with respect to</p> <p>21 a schedule. We obviously view it, from</p> <p>22 Hydro's perspective, as a priority. This is</p> <p>23 later than we've been here last year, October.</p> <p>24 And from our perspective, I can't, in terms of</p> <p>25 our time, I can indicate as Mr. Kennedy has,</p>	<p style="text-align: right;">Page 254</p> <p>1 for the Mobile Radio Panel, we do have direct</p> <p>2 evidence which would take in the vicinity of</p> <p>3 time that he has indicated with the remaining</p> <p>4 witness, the IS &amp; T Panel and then Mr.</p> <p>5 Roberts, we do not have very long direct</p> <p>6 evidence, nor no presentations for either one</p> <p>7 of those panels. So, from the time</p> <p>8 perspective, we will not be long with the</p> <p>9 other two areas.</p> <p>10 CHAIRMAN:</p> <p>11 Q. Mr. Hayes, do you concur, that from your</p> <p>12 perspective another day would be sufficient to</p> <p>13 conclude the -</p> <p>14 MR. HAYES:</p> <p>15 Q. I would think so, Mr. Chair. Newfoundland</p> <p>16 Power is cross-examination of the remaining</p> <p>17 projects won't contribute materially to the</p> <p>18 length of the hearing. Tomorrow I should be</p> <p>19 available and beyond tomorrow, my wife's</p> <p>20 maternity may remove me from the picture, but</p> <p>21 I understand Mr. Alteen will be available next</p> <p>22 week and I think one day should do it.</p> <p>23 CHAIRMAN:</p> <p>24 Q. Very well, Mr. Hutchings, do you have anything</p> <p>25 to add to that?</p>
<p style="text-align: right;">Page 255</p> <p>1 HUTCHINGS, Q.C.:</p> <p>2 Q. Yes, Mr. Chair, I think as Mr. Kennedy</p> <p>3 indicated, we would be probably a bit too</p> <p>4 optimistic to think that we might be able to</p> <p>5 finish all of this tomorrow. Certainly</p> <p>6 another day, I think would be sufficient to</p> <p>7 conclude it. I would have no difficulty with</p> <p>8 limiting the submissions to a written</p> <p>9 submission if that assists in the scheduling</p> <p>10 or the expeditious conclusion of the matter.</p> <p>11 The difficulty that I do have is that I am not</p> <p>12 available next week at all and Mr. Coxworthy,</p> <p>13 as the Board may know, is new to the process,</p> <p>14 and I don't think it would be realistic for us</p> <p>15 to expect that my involvement could be</p> <p>16 dispensed with given how far we are along with</p> <p>17 this now. And the fact that I'll be out of</p> <p>18 the picture next week, Mr. Coxworthy himself</p> <p>19 is unavailable for the early part of next</p> <p>20 week. So, we do see that another day would be</p> <p>21 quite sufficient, but unfortunately we're not</p> <p>22 available to do that next week.</p> <p>23 CHAIRMAN:</p> <p>24 Q. Okay. We're certainly cognisant of Hydro's</p> <p>25 position and the fact that they'd like to get</p>	<p style="text-align: right;">Page 256</p> <p>1 an early decision on the budget for obvious</p> <p>2 reasons. I think everybody appreciates that</p> <p>3 in terms of Hydro's scheme of things.</p> <p>4 Certainly from the Panel's perspective, we</p> <p>5 have problems with dates for various reasons,</p> <p>6 obligations of the Panel members, as well as</p> <p>7 scheduling here at the Board office itself in</p> <p>8 terms of other hearings that are coming before</p> <p>9 the Board. We do perhaps have a couple of</p> <p>10 dates in mind, but bearing in mind the</p> <p>11 comments of the parties here today and we'll</p> <p>12 take that under advisement tonight and we'll</p> <p>13 finalize perhaps a further schedule tomorrow.</p> <p>14 And with that we can adjourn now and reconvene</p> <p>15 tomorrow at 9:30.</p> <p>16 GREENE, Q.C.:</p> <p>17 Q. Excuse me, Mr. Chair, you had said earlier,</p> <p>18 the schedule for tomorrow, you hadn't</p> <p>19 committed to the timing for the schedule</p> <p>20 tomorrow. Are you in a position now? Will it</p> <p>21 be 9:30 to 4:30 tomorrow or -</p> <p>22 CHAIRMAN:</p> <p>23 Q. Bearing in mind the comments of the parties,</p> <p>24 that one more day would be sufficient to</p> <p>25 conclude the hearing, was that based on a 4,</p>



1 CHAIRMAN:  
2 4:30 session tomorrow?  
3 HUTCHINGS, Q.C.:  
4 Q. Even without going to 4:30 tomorrow, I think  
5 another day will finish it. I think we can be  
6 flexible about how late we go tomorrow.  
7 CHAIRMAN:  
8 Q. Okay, well, I think we'll tentatively, you  
9 know, heard towards tomorrow with an idea of  
10 concluding around 1:30, but we'll leave that  
11 flexible and we'll see how people feel about  
12 it tomorrow morning.  
13 MR. ALTEEN:  
14 Q. What's the start up time, Mr. Chairman.  
15 CHAIRMAN:  
16 Q. 9:30.  
17 MR. ALTEEN:  
18 Q. Thank you.  
19 Adjourned 4:42 p.m.

1 CERTIFICATE  
2 I, Judy Moss Lauzon, hereby certify that the  
3 foregoing is a true and correct transcript in the  
4 matter of Newfoundland and Labrador Hydro's 2005  
5 Capital Budget Application, heard on the 7th day of  
6 October, A.D., 2004 before the Board of  
7 Commissioners of Public Utilities, Prince Charles  
8 Building, St. John's, Newfoundland and Labrador and  
9 was transcribed by me to the best of my ability by  
10 means of a sound apparatus.  
11 Dated at St. John's, Newfoundland and Labrador  
12 this 7th day of October, A.D., 2004  
13 Judy Moss Lauzon