

LOWER CHURCHILL HYDROELECTRIC GENERATION PROJECT
JOINT REVIEW PANEL

PROJET DE CENTRALE DE PRODUCTION D'ÉNERGIE HYDROÉLECTRIQUE DANS
LA PARTIE INFÉRIEURE DU FLEUVE CHURCHILL
COMMISSION D'EXAMEN CONJOINT

CANADIAN ENVIRONMENTAL ASSESSMENT REGISTRY 07-05-26178
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382 Hamilton River Rd
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Volume 6

JOINT REVIEW PANEL

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1 Happy Valley Goose Bay, Labrador

2

3 --- Upon commencing on Tuesday, March 8, 2011

4 at 9:00 a.m./L'audience débute mardi, le 8

5 mars, 2011 à 9h00

6 CHAIRPERSON GRIFFITHS: Good

7 morning, ladies and gentlemen. We're pleased to

8 see you here. I'm sure we'll have a few more

9 people arriving as the day progresses.

10 This is Tuesday, and the second of

11 two sessions, topic-specific sessions in which we

12 focus on need, purpose and alternatives.

13 I'll just go over our agenda for

14 today as we know it now and then I'm going to turn

15 to the Proponent to ask for an update on the

16 undertakings.

17 So the agenda that we have before

18 us, we have three registered presentations this

19 morning from Grand Riverkeeper Labrador, Ms.

20 Benefiel, who has indicated that she is going to

21 replace her longer presentation with a shorter

22 statement; Robin Goodfellow-Baikie and then Sierra

23 Club Atlantic, Bruno Marcocchio.

24 So those are the three

25 presentations to fit in this morning.

1 And then this afternoon, we have
2 one presentation from Nalcor on alternatives which
3 is in response to an undertaking made earlier.

4 Then we will have time for extra
5 questioning for all participants.

6 So with that, I'll turn to the
7 Proponent. Good morning. And I'll ask if you
8 could perhaps tell us the status of the various
9 undertakings that we went through yesterday.

10 ---STATUS OF UNDERTAKINGS BY MR. GILBERT BENNETT

11 MR. G. BENNETT: Okay. Great.
12 Good morning, Madam Co-Chair.

13 So I have a list of 11. I'll just
14 run through them very quickly. The first question
15 was the cost per kilowatt/hour for Muskrat Falls
16 using our updated capital cost estimates. And I'll
17 just read that one into the record.

18 The cost per kilowatt/hour is 7.7
19 cents, and that's a LUEC starting in 2017.

20 The next undertaking was to look
21 at alternatives for Island demand, and that will be
22 our presentation this afternoon.

23 Item number three was the most
24 recent load forecast for our system, and that was
25 included in the Generation Planning Issues Report

1 that's contained in Table A2 of that report.

2 The next one, number four, was to
3 look at the cost of fuel, and we should have that
4 this afternoon.

5 Item number five, the operating
6 range for the turbines at Muskrat Falls was
7 actually contained in our response to JRP-149. So
8 those units can operate between 50 and 98 percent
9 loading. The same response has a loading range for
10 the Francis units at Gull Island, and that range is
11 between 70 and 98 percent.

12 There was a question asked about
13 the ramp rate of each unit, and now we're really
14 getting into some of the esoteric engineering
15 details. In response to that question, the ramp
16 rate is typically in the range of 3 megawatts per
17 second on each unit.

18 There was a question, number six,
19 the levelized unit cost for Muskrat Falls. That's
20 the same as our response to answer number one, so
21 7.7 cents per kilowatt/hour.

22 We're continuing to work on the
23 question with respect to cash flow. We should have
24 something on that this afternoon.

25 The next item was the water

1 management agreement, and we'll be of course
2 discussing that in the aquatic session.

3 There's a question on average
4 household consumption in the north coast
5 communities. That's been filed with the
6 Secretariat. I hope it has. Just to confirm that
7 maybe with the Secretariat.

8 We'll be talking about the project
9 cost and the allocation of that later this
10 afternoon as well, and I think the last one that we
11 had was the capacity for Ramea and we responded to
12 that yesterday afternoon.

13 So to the best of my knowledge,
14 those are the list of undertakings that we
15 currently have.

16 CHAIRPERSON GRIFFITHS: Thank you
17 very much, Mr. Bennett.

18 Could you, for my benefit, you did
19 warn us about the esoterics, so perhaps don't get
20 too esoteric on me; I won't be able to understand
21 it.

22 Could you just remind me about
23 this question regarding the ramp rate at the ---

24 MR. G. BENNETT: Right. I think
25 that was in the context of a wind discussion

1 yesterday afternoon or yesterday morning, rather.

2 And Mr. Raphals was wondering
3 about how quickly the generating units at the plant
4 could respond to a change in wind variation.

5 So it is a -- what that ramp rate
6 speaks to is how quickly per unit of time can we
7 change the output on each unit on the plant.

8 CHAIRPERSON GRIFFITHS: So every
9 second you can change it by 3 megawatts?

10 MR. G. BENNETT: That's right.
11 The units are capable of responding that quickly.

12 CHAIRPERSON GRIFFITHS: That
13 sounds quick.

14 MR. G. BENNETT: It is fairly
15 quick, I would agree.

16 CHAIRPERSON GRIFFITHS: Okay. I
17 just wanted to ---

18 MR. G. BENNETT: And I don't know
19 if it -- you know, it's probably not entirely
20 relevant in the context of the planning process
21 that we're in, but it was a question that was
22 posed. So we have no difficulty providing the
23 answer.

24 CHAIRPERSON GRIFFITHS: Okay.
25 Thank you very much, Mr. Bennett.

1 So unless there are any other
2 housekeeping items anyone needs addressed?

3 Now, I don't see Ms. Benefiel, so
4 she's not arrived yet. All right. Well, if she
5 comes, we'll try and fit her in when she does
6 arrive.

7 So I'm going to ask our next
8 presenter, Robin Goodfellow-Baikie, if he (sic)
9 would be willing to come forward and present?

10 --- PRESENTATION BY MS. ROBIN GOODFELLOW-BAIKIE:

11 MS. ROBIN GOODFELLOW-BAIKIE: Good
12 morning. Bonjour. My name is Robin Goodfellow-
13 Baikie. I am a citizen of the central region of
14 Labrador.

15 I've taken a longstanding interest
16 in and studied this Lower Churchill proposal. I've
17 read thousands of pages of description and attended
18 all available Nalcor consultations.

19 I researched and wrote about the
20 potential of wind power in Labrador for the
21 magazine Labrador Life.

22 As well, I've seen and read about
23 hydro projects across Canada. I have paddled the
24 length of Churchill River.

25 Additionally, I have a long

1 history in the area of community economic
2 development, both practically and academically,
3 with a Master's from St. FX.

4 As I mentioned, I attended all
5 Nalcor's so-called consultations offered. Every
6 time I mentioned alternatives, Nalcor people at
7 first said, "Wait for the Energy Plan." I did,
8 three years beyond its publication date.

9 With the Energy Plan, it was
10 apparent that the alternative power generation
11 subject was not taken seriously. The subject of
12 alternatives was clearly stated in the Government
13 of Canada and Government of Newfoundland and
14 Labrador Guidelines for the EIS July 2008.

15 I, with others, asked that the
16 alternatives be further explored as they had not
17 been in the actual EIS, but all I saw in response
18 were numbers for justification of the big payoff of
19 the Lower Churchill and no real work done as per
20 guidelines.

21 So how does the Lower Churchill
22 proposal stack up in the world context? In the
23 study, the World Commission on Dams 2000, large
24 hydro projects are not considered green due to
25 their large scale environmental destruction and

1 other factors such as greenhouse gases and local
2 unsustainable economic factors.

3 So in my mind, the proposed Lower
4 Churchill was beginning to look like an ill-
5 conceived project.

6 The Upper Churchill left
7 unrectified salination problems affecting our town
8 of Northwest River many miles away from Churchill
9 Falls.

10 As well, the trapping and tourism
11 potential of the Naskaupi River has been adversely
12 affected. I had heard that over the years from
13 local talk, plus recently the report of engineer
14 Ted Blake.

15 In the Canadian context, the Lower
16 Churchill Project is not at the forefront of hydro
17 projects, northern Quebec and Manitoba have many.
18 However, the weak voice of those communities that
19 lose hunting, fishing and culture is barely
20 acknowledged.

21 And how many wild rivers across
22 the country must be blocked. Some suggest that
23 northern areas should feel good about providing
24 power to distant southern consumers.

25 Are southern consumers going to

1 notice the sacrifice made if the Lower Churchill
2 proceeds?

3 I have seen, for example, around
4 Montreal and Winnipeg where all signs of natural
5 watercourses have been diverted into humming power
6 plants. Perhaps those city-dwellers accept that as
7 the price for their electricity but who says that
8 we in Labrador have to sacrifice for them?

9 Many of the large northern hydro
10 projects were started in the '70s. However, now,
11 when such projects are proposed people have learned
12 about their cost. A recent example of this is the
13 Northern British Columbia Kemano Hydro Project that
14 was successfully opposed and stopped by the people.

15 In a provincial context, the Lower
16 Churchill River, Grand River, is the heart of
17 central Labrador. This Nalcor proposal would
18 destroy seven to eight rivers, such as the
19 Menchion, Mininipi, Cache, Elizabeth, Wilson and
20 Travespine.

21 The Churchill River itself is one
22 magnificent canoeing river, I know. One of the
23 major economic engines for this region is tourism.
24 The newly created Mealy Mountain Park plus the
25 waterways and wildlife constitute that.

1 Would two dead reservoirs in the
2 waterways place be attractive?

3 Tennessee Valley Authority
4 eventually had to put aerators in the reservoirs
5 they created.

6 Nalcor's Gilbert Bennett recently
7 told Labrador municipalities that all hydro sites
8 are used up on the island except for those
9 environmentally sensitive ones. Is central
10 Labrador not environmentally sensitive?

11 Imagine my shock when I learned
12 that in fact Nalcor did indeed survey its small
13 hydro potential on the Island.

14 Professor Andy Fisher of Memorial
15 had those figures verified. It was Harris Centre
16 forum in -- it's available online, January 2009.

17 All the island really needs to
18 replace Holyrood oil is 350 megawatts, yet small
19 hydro could more than do that on the Island, as
20 verified by Fisher. Nalcor seemingly withheld that
21 information.

22 But let us return to better
23 planned and more modern ways to use the Lower
24 Churchill. The Ventus Energy Inc. Wind Energy
25 Proposal situated around Churchill Falls would cost

1 2.5 billion for 1,000 megawatts, would create 2,000
2 jobs during construction, 200 direct and indirect
3 ones after, of which 50-100 would be local skilled
4 well-paying jobs; compare this to the Lower
5 Churchill proposal.

6 Wind power is a good fit with
7 hydro power. If this alternative power supply were
8 developed then the technology could also be
9 marketed. Why not start with this? Imagine if
10 even a portion of those billions were to be spent
11 wisely on wind power development that would not
12 destroy the tourism potential of the Churchill
13 River.

14 Nalcor is aware of the principles
15 -- principle examples of good, stable, local,
16 industrial-related development and sees it in
17 action at its Bull Arm site. So why propose the
18 boom and bust scenario of the Lower Churchill?

19 But wind is not the only
20 alternative to small power generation, Rigolet has
21 an 11-knot current in their river that is open all
22 year round, yet they burn diesel. What a place to
23 develop tidal power technology.

24 And what about tidal power
25 technology for the small communities on the Island?

1 Run of the River projects on the
2 Lower Churchill may have good potential but Nalcor,
3 to date, has not publicly determined its potential.
4 And solar power in some regions of Labrador, such
5 as central, would compliment the present hydro
6 sources.

7 Developing these alternatives
8 would put the province at the forefront of
9 alternative technology.

10 Did anyone say that Nalcor had to
11 create a cash cow of the Lower Churchill as the oil
12 and gas seemingly is designed to do? Would the
13 Lower Churchill in fact be a cash cow, and for
14 whose benefit; 5 percent of the total provincial
15 population that lives in Labrador?

16 If the scheme was developed by the
17 Department of Profit, where were the provincial
18 departments of rural develop and environment?

19 I'm aware that the coastal
20 communities of the province are threatened by the
21 collapse of the inshore fishery. Is leaving all
22 the coastal communities to die a good strategy for
23 the province?

24 Formerly, this province was world-
25 renowned for its rural development skills. Is this

1 the way as in the Lower Churchill proposal to
2 create thousands of labour jobs for 10 years,
3 causing young people to leave their small
4 communities and then with these bulldozer operator
5 and so on, would they then have to commute to
6 Alberta post-Lower Churchill?

7 In contrast, small alternative
8 power projects can create a few good local jobs
9 plus the potential for transfer of technology of
10 developed alternatives to other places in the
11 world.

12 And what Labrador community does
13 not want their dependence on dirty diesel power
14 replaced by something cleaner?

15 The province's energy plan is
16 based on the risky offshore and gas, excessively
17 large hydro projects and uncomfortable feuding with
18 the Province of Quebec.

19 I'm originally from Quebec.

20 The Lower Churchill proposed
21 project lacks inspiration and imagination but by
22 focusing on green smaller power supply
23 alternatives, the province could be in the
24 forefront of green trends and technology in the
25 province and the world rather than repeating a same

1 old destructive dinosaur of a project.

2 CHAIRPERSON GRIFFITHS: Thank you
3 very much for your presentation, Ms. Goodfellow-
4 Baikie.

5 I'm going to turn now to
6 colleagues on the Panel for some questions from the
7 Panel.

8 --- QUESTION BY THE PANEL:

9 MEMBER IGLOLIORTE: Thank you very
10 much.

11 Given your experience in community
12 economic developments, where would you see -- and
13 you mentioned tourism as one potential -- the other
14 kinds of healthy, as you might call it, healthy
15 developments in supporting the development of rural
16 communities?

17 MS. GOODFELLOW-BAIKIE: Well, the
18 Ventus proposal is an example.

19 The manufacturing of the windmills
20 and the maintenance has to occur onsite and locally
21 and so that is an example of healthier community
22 development and better jobs, more skilled jobs.

23 CHAIRPERSON GRIFFITHS: Yes.

24 I just -- I have a couple of
25 questions. The first one is -- well, I'll give you

1 both questions.

2 The first one is; you made a
3 comment about the destruction of some of the
4 tributary -- the large tributary rivers flowing
5 into Lower Churchill.

6 And I just want to ask you if you
7 could expand a little bit on that; in what sense
8 are you worried that those rivers will be in fact
9 destroyed? In what way would they be destroyed?
10 How will they be changed and how does that concern
11 you? That's the first question.

12 And then the second question; I'll
13 ask you about the potential for tourism on the
14 river and what would be needed for that to really
15 come to fruition?

16 MS. GOODFELLOW-BAIKIE: Those
17 rivers would be flooded; people would have to move
18 their present cabins, but I think environmentally
19 the river, the sides of the river, would be
20 affected, too.

21 But, to me, more importantly, that
22 river is a magnificent canoeing river, nine days of
23 downstream canoeing, historic sites, magnificent
24 scenery. The Mininipi River just boils into the
25 Churchill River. It takes some skill, so it also

1 demands that local people act as guides.

2 I think it hasn't fulfilled its
3 potential as yet, but it has that potential because
4 the Nahanni, for instance -- which, actually, this
5 has -- the Lower Churchill has been compared as
6 perhaps even nicer than the Nahanni, but it's
7 accessible by road, so that's a big factor.

8 CHAIRPERSON GRIFFITHS: So on the
9 first question, your concern, the major effect will
10 be the effect on the confluence, in particular,
11 where those rivers meet the Churchill, the main
12 stem, the changes that will be caused. And we will
13 -- in the aquatic environment, there'll be ---

14 MS. GOODFELLOW-BAIKIE: Yes.
15 Yes.

16 CHAIRPERSON GRIFFITHS: --- a lot
17 more discussion about that, but the ---

18 MS. GOODFELLOW-BAIKIE: Yes.

19 CHAIRPERSON BAIKIE: --- point's
20 taken.

21 And do you see -- I think I know
22 the answer -- do you see any tourism potential in a
23 dammed river?

24 MS. GOODFELLOW-BAIKIE: No.

25 CHAIRPERSON GRIFFITHS: Do you see

1 if the projects were to be for a number of years,
2 and maybe for a very long number of years -- even
3 though I understand this is not the proposal of
4 Nalcor, but we've had a lot of discussion about a
5 project that might end up being for a while,
6 anyway, Muskrat Falls, only -- what is your sense
7 of the effect of that, where you would have a part
8 of the river, the lower part of -- or the middle
9 part of the river, I don't know how to describe it,
10 would be altered and would become a reservoir?

11 The upper part of the river below
12 Churchill Falls would be much less affected. Do
13 you think the presence of one dam on the river
14 would negate the attraction of the upper part of
15 the river?

16 MS. GOODFELLOW-BAIKIE: I don't
17 know the effects. And I'm not also understanding.
18 Is this a Muskrat proposal? Is this a larger
19 proposal? I'm not understanding that from what
20 I've heard.

21 CHAIRPERSON GRIFFITHS: Just to
22 give context to my question so I don't get myself
23 into trouble, but the -- when the sequencing --
24 when it was indicated to us -- we have a number of
25 sequences to look at, and one of them is -- as

1 alternatives, and one of them is Muskrat Falls
2 going ahead, with Gull Island to follow at an
3 unspecified time.

4 And so the Panel has indicated
5 that we need to explore the -- as a possible
6 contingency because, if Gull Island doesn't have a
7 fixed start time, there is always a potential for
8 unforeseen events or whatever that might prevent or
9 delay the -- significantly delay the start of Gull
10 Island. You know, 10 years down the road, minds
11 might change or something, so that you might -- the
12 project might end up being with only one facility.

13 So that was the context in which
14 I'm asking the question. And I know the Proponent
15 will say if I -- will say, "This is not the
16 proposal that we are currently suggesting. We are
17 putting on the table the two projects." But that
18 was the context in which I'm asking the question.

19 MS. GOODFELLOW-BAIKIE: And I
20 still think that even doing Muskrat takes away from
21 the whole concept of this region.

22 CHAIRPERSON GRIFFITHS: And my
23 final question is, though I understand I'm getting
24 out of need purpose, but you made a reference to
25 the unrectified salination problems at Northwest

1 River, so I just thought I would just ask you to
2 tell me what those are?

3 MS. GOODFELLOW-BAIKIE: The salt
4 water now is coming into Little Lake and Grand
5 Lake, and the salt water sinks to the bottom, and
6 so it affects the fish at the bottom and also the
7 regenerating at the bottom.

8 And I had heard people talking
9 about it, locally, and wondered why there was less
10 fish, less shells and so on. And then I read Ted
11 Blake's report and understood what that was about,
12 but also understood that there could be things done
13 to make that less.

14 Also, there've been people coming
15 from other places, to try to do again Minas
16 Hubbard's canoe trip, and the Naskaupi River has
17 become too shallow. But, again, Ted Blake
18 suggested that 30 percent of the water could be
19 returned through the dykes and rectify that.

20 And, also I hear, of course, it
21 makes it harder for anyone who does trap, because
22 people still do trap there, to navigate the
23 Naskaupi.

24 CHAIRPERSON GRIFFITHS: Thank you
25 very much for that explanation.

1 I'll go -- oh yes, I'll go to
2 Dr. Doelle and then to Mr. Igloliorte.

3 MEMBER DOELLE: Thank you.

4 Thank you for your presentation.

5 I want to explore the alternatives
6 that you've raised a bit more.

7 I understand that it is your
8 position that the Proponent should be providing
9 this information about alternative sources of
10 energy production, but I want to give you an
11 opportunity to give us a bit more information, if
12 you have it.

13 So I'm wondering whether you have
14 any views on, or any information on, the amount of
15 energy that can be produced from these various
16 sources, or the cost, technical issues about how
17 much can be integrated into the grid -- anything on
18 the various alternatives that you've identified,
19 whether they be tidal, wind, or other sources?

20 MS. GOODFELLOW-BAIKIE: Well, I
21 did quote the Ventus Energy proposal but Professor
22 Fisher has done all that. You'd find that on the
23 internet. And, yes, he has boiled it down to how
24 many megawatts and so on, and even what would the
25 income be, eventually, and how many of the small

1 hydro projects, between one and 20 megawatts each,
2 could be developed. And, strangely, he got his
3 initial information from Nalcor.

4 MEMBER DOELLE: Okay. Thank you.

5 MEMBER IGLOLIORTE: In your point
6 number 5, you talk about the relative benefits,
7 after the construction jobs, I guess, between
8 Ventus and this proposed project. And you say at
9 the end, "Compare the numbers for the Ventus
10 proposed project idea versus this proposed
11 project."

12 Are you talking about the number
13 of potential jobs that will be left behind, the
14 long-lasting jobs?

15 MS. GOODFELLOW-BAIKIE: Yes, I am.

16 MEMBER IGLOLIORTE: Okay. I just
17 needed to know that. Thank you.

18 MS. GOODFELLOW-BAIKIE: And, also,
19 I mean, how many night watchmen do you need? And,
20 yes, linesmen? But the power is controlled out of
21 St. John's.

22 CHAIRPERSON GRIFFITHS: I'll just
23 ask a follow-up question: I keep think maybe this
24 question is right bang-on the topic, because
25 topically-specific you're here, so I'm going to ask

1 you questions at this valuable opportunity.

2 I thought in your presentation,
3 you alluded to the fact that if local people, and
4 perhaps local people from coastal communities,
5 young people, were to -- I could find the reference
6 -- but were to get jobs on the project, that there
7 might, in fact, at the end of the project be -- not
8 only might they have no more employment, but -- you
9 talked about them having to leave in search of
10 employment?

11 I wonder if you could just say a
12 little bit more about that, in terms of, would you
13 anticipate that young local people, working on the
14 project, at the end of the project would drain away
15 from Labrador? Or what sort of a scenario do you
16 see?

17 MS. GOODFELLOW-BLAIKIE: Well,
18 they would be trained as labour-related and heavy
19 equipment, and so on. There's only so many
20 projects that can be sustained like that, so, yes;
21 then your options are to leave. It's your
22 training.

23 CHAIRPERSON GRIFFITHS: And has
24 there been a pattern of that occurring already, on
25 a small scale?

1 MS. GOODFELLOW-BAIKIE: Well, it's
2 occurring in that -- in fact, labour is a problem
3 here already. So I don't know.

4 The work force would probably come
5 from elsewhere because it seems, certainly in our
6 town, that no one there needs further work.
7 Everyone seems to be -- either they're working in
8 Voisey's Bay or they're -- you know, there's not a
9 great need.

10 CHAIRPERSON GRIFFITHS: Thank you.
11 And I'll stop going off in that direction because
12 that's setting a bad example. I know that.

13 Anyway. Thank you.

14 I will now ask if there are
15 questions from other people. I'll turn to the
16 Proponent first. Do you have some questions for
17 Ms. Goodfellow-Baikie?

18 --- QUESTIONS BY THE PROPONENT:

19 MR. G. BENNETT: Just -- just a
20 very couple of quick ones.

21 Good morning.

22 MS. GOODFELLOW-BAIKIE: Good
23 morning.

24 MR. G. BENNETT: I think maybe one
25 thing I should point out on the record, given that

1 you quoted me, I think it's important that I --
2 that I get that quotation maybe in more complete
3 context.

4 And what I've said about the
5 resources on the Island is that the remaining
6 potential alternatives are rather small, expensive,
7 environmentally sensitive or some combination of
8 all three.

9 And I think that message was
10 reinforced by Mr. Bown yesterday afternoon and I
11 guess -- I don't know if you had a chance to listen
12 to Mr. Bown from Natural Resources when he spoke
13 about the process that would be followed with
14 respect to some of the smaller developments on the
15 Island.

16 MS. GOODFELLOW-BAIKIE: No, I
17 haven't, but I had the chance to listen to
18 Professor Fisher.

19 MR. G. BENNETT: Actually, I know
20 him -- I know him quite well. And his analysis
21 stem from the same scoping document that Mr. Bown
22 talked about yesterday afternoon when we -- when
23 the province initiated that RFP process.

24 So there are -- you know, there
25 are issues with some of those potential sites and

1 with most of those potential sites and after that
2 RFP process, we -- the province finally boiled it
3 down to two alternatives that came out of that
4 entire list.

5 Now, I would agree that, you know,
6 the rivers are there. The potential is there under
7 certain circumstances, but the reservoir size, the
8 storage, the amount of energy that comes from those
9 and even the cost of energy would be dramatically
10 higher than we would see here with -- with the
11 Lower Churchill sites.

12 MS. GOODFELLOW-BAIKIE: I guess
13 I'm sometimes overcome by the amount of
14 environmental damage that the Lower Churchill would
15 create here.

16 MR. G. BENNETT: And I can
17 appreciate that concern. I ---

18 MS. GOODFELLOW-BAIKIE: Yeah.

19 MR. G. BENNETT: --- certainly
20 understand that point of view.

21 MS. GOODFELLOW-BAIKIE: Yeah.

22 MR. G. BENNETT: That was all I
23 had. Thanks.

24 CHAIRPERSON GRIFFITHS: Thank you.
25 Are there questions from other

1 people in the audience for Ms. Goodfellow-Baikie on
2 her presentation? Yes?

3 --- QUESTIONS BY THE PUBLIC:

4 MR. LEARNING: My name is Richard
5 Learning.

6 I don't have a question as of
7 such, but Robin was talking about the tourism
8 potential. I worked up in Churchill Falls when
9 they were first building the project up there
10 in '69.

11 A group of canoers came down from
12 -- actually they came up from Schefferville -- they
13 came up from Seven -- Sept-Îles, went up to
14 Schefferville, then paddled down through the
15 entrance of the Sangroats (phon.) and right on down
16 to the intake now up in Churchill Falls.

17 Matter of fact, they came down to
18 the building where I worked and a guy there asked
19 if I'd go up and move their canoe for them down to
20 the mouth of the river; down to the intake, the
21 spillway there. So I did. I took them down.

22 And on the way down I'm asking --
23 asked them, "Why did you come down this river, this
24 lake and down to this river and down -- going on
25 down to Goose Bay?" The guy says, "In a few years,

1 there's not going to be any lakes up here -- nice
2 lakes. It's all going to be gone. And all the
3 people that travelled up and down there over the
4 years was telling us about it so we had to do this
5 trip." He said, "Our canoe was a homemade canoe.
6 It was made by the Innu in Sept-Îles."

7 And when they got down they gave
8 the canoe to me and said, "You can have the canoe"
9 and then they just went on when they got down to
10 Goose Bay because I told them where to go where my
11 father lived.

12 But the sad thing is at my house
13 now I've got a map of Labrador and I got good --
14 over probably about 20 names of people or more who
15 stayed at the house, who paddled ever river in
16 Labrador, who snowshoed just about every river in
17 Labrador and most -- all these guys did the
18 Churchill Falls from Schefferville right down and
19 they were happy they did because now it's all
20 destroyed up above.

21 And as for -- like Robin was
22 saying, "Well, what's going to happen now when the
23 lake is flooded up above?" I'll tell you what's
24 going to happen. You got Shoal River there. You
25 go back about a good 5 or 600 metres and what do

1 you come to? A beautiful falls. That's going to
2 be gone.

3 When you get down across from
4 Cache River, you go in there about a half a mile on
5 the south side; a beautiful roaring falls, going to
6 be gone. And then we're going to lose our Muskrat
7 Falls, the only falls we have left.

8 That's all I have to say about
9 that.

10 CHAIRPERSON GRIFFITHS: Thank you
11 very much Mr. Learning.

12 Yes, Ms. Benefiel?

13 MS. BENEFIEL: I'm not sure --
14 sorry, Roberta Benefiel.

15 I'm not sure that Robin is -- has
16 copies of this information so I'll bring it up
17 because at one point in 2000, I believe it was --
18 yes, 2000 -- we asked the local development board
19 to do a revenue study or revenue review of what the
20 potential for tourism would be on the river.

21 And back then with six operators
22 operating, I think, two trips a year -- I'll have
23 to bring the studies and I will pass it on to you
24 -- the revenue potential was a million seven
25 hundred thousand per season and that was in 2000.

1 If you added another 25 percent to that. And that
2 was a -- they estimated it very low just -- just to
3 be on the safe side.

4 We know of tourism operators --
5 eco-tourism operators who are coming here from
6 Maine who were charging people from around the
7 world \$5,000 each to paddle this river. They had
8 to get to Maine or get to Goose Bay on their own.
9 The \$5,000 was the cost to paddle the river for 10
10 days. All these -- all this company provided was
11 the food and of course the food on the river was,
12 you know, very sparse; good stuff, but very sparse
13 and not expensive.

14 So the potential is there as Robin
15 said. And this potential has never ever been
16 promoted or marketed and for good reason. What
17 tourism operator in their good senses would promote
18 or try to open up a business on this river with the
19 potential since; what, 35 years ago, 38 years ago
20 of this river being dammed? You never know when
21 your business is going to go.

22 And this is one of the best rivers
23 in this part of the world to travel on a canoe
24 trip. Ten (10) days and you'll never see another
25 soul other than the people in your canoe party. So

1 there is a really strong potential, but it's never
2 been -- it's just never been studied enough.

3 Thank you.

4 CHAIRPERSON GRIFFITHS: Thank you
5 Ms. Benefiel.

6 Are there any other questions for
7 Ms. Goodfellow-Baikie?

8 Yes, Mr. Davis?

9 MR. DAVIS: My name is Eldred
10 Davis.

11 Unfortunately, I missed Ms.
12 Goodfellow-Baikie's comments and presentation, but
13 I know there was some type of Ventus and wind
14 energy. I wonder if she is aware -- and anybody
15 else might make a comment -- of the situation -- I
16 don't have any details I'm afraid, but I'd just
17 throw the idea out here and anybody want to comment
18 on it, it's fine.

19 Several years ago, I saw in the
20 news there was a community roughly in the center of
21 the Gaspé Peninsula, a mining community that had
22 expired the -- or taken all of the ore out of the
23 ground and the community was due to shut down
24 similar to Gagnonville, I guess, just west of here.

25 The community at Gagnonville had

1 been abandoned and there's nothing left now other
2 than a bit of paved sidewalk and stuff. Anyway,
3 this community was in dire straits. They had no
4 alternative offered by our government or anybody
5 else. And somebody suggested that they look into
6 windmill construction assembly and installation and
7 operation.

8 And as you know, Hydro Quebec is
9 going really strong in wind power now as is Ontario
10 Hydro producers and elsewhere in the civilized
11 world, let's say. And this community -- I can't
12 even remember their name, but they are flourishing
13 the last I heard. There was an article in Canadian
14 Geographic just a couple of years ago that
15 described this.

16 They're supplying windmills all
17 over the Gaspé Peninsula and other parts of the
18 Province of Quebec. And they are doing very well
19 and they're competing with a lot of other
20 communities and factories that are assembling
21 windmills and building the vanes and the generators
22 and everything else.

23 And yet, we are told -- one of the
24 reasons I recall why the Ventus Energy was in
25 collaboration with the Labrador Métis Nation at the

1 time was denied and I guess the reason -- this more
2 recent proposal to build a wind farm on their
3 island was that it's unproven technology.

4 To sum it up, that's what the
5 authorizing figures said, whoever denies them, the
6 environmental assessment even. He says it's
7 unproven technology, which is ludicrous really in
8 this day and age.

9 And I guess other forms of
10 alternate energy that are relatively in its infant
11 stage which could prove to be less expensive than
12 it is now are just rejected out of hand by the
13 Proponent of this particular project.

14 I have a feeling that by the time
15 they've spent the millions and billions of dollars
16 that they propose to do, and even if they get this
17 thing operating, which I certainly hope they don't,
18 it's going to be a dinosaur. It's planned that
19 way, I mean, even with modern technology the
20 undeniable fact is that this river has to be
21 sacrificed so they get their way.

22 I guess if anybody has any comment
23 on the possibilities that there are alternate
24 energy sources, some are in their early stages of
25 development.

1 I mean, the Government of Ontario,
2 they may not be as forward thinking as the
3 Government of Newfoundland which, you know, kind of
4 -- I don't necessarily agree with that, but they
5 are into alternate energy in a large scale.

6 They know it's not going to be
7 cheap and I know that a lot of people don't agree
8 with it. They don't realize that they're paying a
9 little bit more for their energy sources now, but
10 it is contributing to some degree to conservation.

11 They're not even sure if their
12 nuclear reactors are worth rebuilding. It's
13 prohibitively expensive and they're still --
14 they're not looking at forcing dams down the
15 throats of the people. They are looking at some
16 hydro energy, of course. You know, it's used in
17 combination.

18 While we, you know, we have over
19 5,000 megawatts that eventually will be available
20 here. So what's the rush to start damming rivers
21 now? I mean, are we in a rush here? Do we need
22 all that power? We don't need power; we need
23 distribution.

24 I mean, the opponent looks you
25 straight in the eye -- oh sorry, the Proponent

1 looks you in the eye and say, "There's no demand
2 for more power here. There's no demand for more
3 power on Labrador's coast." They say it as if they
4 believe it, you know. I don't know how they can do
5 that; personally, I can't.

6 But the fact is that ---

7 CHAIRPERSON GRIFFITHS: Mr. Davis,
8 could you sort of bring your statement to a
9 conclusion now. We were looking for questions
10 really, but ---

11 MR. DAVIS: Yes, I understand.

12 CHAIRPERSON GRIFFITHS: --- I
13 appreciate this.

14 MR. DAVIS: I could go on. This
15 is not characteristic of me, I have to say, but
16 this affects me.

17 Anyways, Ms. Goodfellow-Baikie, if
18 you're aware of that particular situation in Gaspé
19 or something similar -- you may have already
20 discussed this and I apologize I was shovelling
21 snow at 9 o'clock this morning, but I'd like
22 somebody who knows something more about it to at
23 least make a comment on it.

24 Thank you.

25 MS. GOODFELLOW-BAIKIE: Yes, I ---

1 CHAIRPERSON GRIFFITHS: Thank you,
2 Mr. Davis.

3 MS. GOODFELLOW-BAIKIE: Eldred, I
4 have heard tale of that. I have also been told
5 that our black spruce here, there's a type of
6 resiliency in the trunk of the tree that makes it
7 good base for windmill. That's just an example of
8 once you start on alternatives it can grow locally.

9 CHAIRPERSON GRIFFITHS: I hope
10 you'll -- Mr. Davis and others, that you be able to
11 stay today for the full conversation and there will
12 be a presentation -- other people will be talking
13 about alternatives obviously and there will a
14 presentation from Nalcor on alternatives and lots
15 of questions and opportunities for questions, I
16 think.

17 Yes, Ms. Jong?

18 MEMBER JONG: Just a final
19 question, Robin, on the learning experience that
20 you've had following this project and being focused
21 on alternatives and struggling to kind of feel that
22 being -- that focus being followed through in the
23 process and waiting for the Provincial Energy Plan
24 and not seeing the level of intensity on
25 alternatives that you'd like.

1 Do you have any suggestions in
2 terms of how our province can move further forward
3 on the alternatives? Is there a mechanism or a
4 process that you see that might be helpful in
5 trying to get that idea to move forward?

6 MS. GOODFELLOW-BAIKIE: Well,
7 first of all, the Energy Plan doesn't take it
8 seriously. There's a mention of one or two wind
9 power projects. But the Energy Plan, I think,
10 needs revamping for a start, and then there might
11 be more come from that.

12 MEMBER JONG: Is it your sense
13 that if there were more public participation
14 perhaps in the energy -- in planning for the Energy
15 Plan, would that make a difference or how would you
16 see that? How would you see it being revised to
17 take this into account?

18 MS. GOODFELLOW-BAIKIE: Well,
19 that's a good question. I don't know ---

20 MEMBER JONG: Okay.

21 MS. GOODFELLOW-BAIKIE: --- I may
22 not have the answer to this.

23 MEMBER JONG: Thank you.

24 CHAIRPERSON GRIFFITHS: Well,
25 thank you very much, Ms. Goodfellow-Baikie, for

1 your presentation and taking the time to come here.

2 Now, I would like to call upon Ms.

3 Benefiel. Is this an appropriate time? Sorry we

4 set off without you this morning, but I saw that

5 you came in only a few minutes later but -- and

6 also Ms. Rudkowski as well, obviously.

7 MS. BENEFIEL: Moral support ---

8 CHAIRPERSON GRIFFITHS: Moral

9 support, excellent, we all need that.

10 --- PRESENTATION FROM GRAND RIVERKEEPER LABRADOR BY

11 MS. ROBERTA BENEFIEL:

12 MS. BENEFIEL: So thank you so

13 much for the opportunity to present.

14 A few days back I forwarded some

15 PowerPoint slides for the presentation and we were

16 trying to piece together what we felt was the

17 Proponent's disregard for the directions in the

18 environmental impact statement guidelines on

19 alternatives to the project and the statement in

20 the *Environmental Assessment Act* on the same

21 subject.

22 We also forwarded a few slides on

23 our interpretation of sustainability and our

24 understanding of how the project could or should

25 relate to sustainability.

1 So due to time constraints and
2 being here every day and trying to get in as much
3 as we could with all the other presenters, we
4 haven't been able to fully expand on those slides.
5 I believe you still have them available and they
6 are -- they do remain relevant, confusing but
7 relevant.

8 Our statement on alternatives are
9 predicated upon our review of the following
10 sections of the Act and the Guidelines that are
11 quoted below. The Act says:

12 "Every assessment by a review
13 panel shall include
14 consideration of the
15 following factors ..."

16 There are several, EE states
17 alternatives to the project. The Guidelines state:

18 "The alternatives to a
19 project are defined as
20 functionally different ways
21 of addressing the need for
22 the project. The EIS shall
23 contain an analysis of
24 alternatives to the project
25 including the following ..."

1 And it goes down through the list:

2 "Management of electricity
3 demand through utility base,
4 energy efficiency..."

5 Et cetera. We heard them all yesterday:

6 "... alternative generation
7 sources..."

8 Which everyone spoke about at some point yesterday
9 and today:

10 "...combinations of alternative
11 generations sources ..."

12 And those were spoken about yesterday.

13 "...the addition by the
14 proponent of more capacity..."

15 And I believe the energy fellow from Newfoundland
16 and Labrador government spoke on that; and then:

17 "... the status quo or no
18 project."

19 So these items have been talked
20 about.

21 With each successive information
22 request by the panel we looked -- as a group, we
23 looked for more information from the Proponent that
24 would give us the ability to review both the
25 economic and environmental differences between

1 different ways of addressing the need for the
2 project including an examination of the dollar
3 value of ecosystem services provided by the river.

4 Dr. Murray Rudd presented a paper
5 on ecosystem services and how that should be
6 included actually, what the river gives back or
7 gives us over all these generations in sediment
8 transport and in various other services should be
9 -- should have a dollar value.

10 We should not exclude the dollar
11 value of that service from any costs and benefits
12 of this project.

13 So we've said, "Okay, where are
14 they?" None were forthcoming. It's been
15 frustrating, to say the least, to review the
16 Proponent's answers to the various requests and to
17 see consistently that the Proponent has really made
18 little effort to provide what we, as a group, were
19 looking for and what we believe the guidelines
20 required.

21 That was, as stated in the
22 rationale for IR JRP-26 and in the Guidelines:

23 "The Guidelines require the
24 analysis to clearly describe
25 comparison methods and

1 criteria and to provide
2 sufficient information for
3 the reader to understand the
4 reasons for selecting the
5 preferred alternatives and
6 rejecting others.”

7 Specifically, this should include
8 a description of the conditions or circumstances
9 that could affect or alter these choices such as
10 market conditions, regulatory changes and other
11 power developments, either prior to construction or
12 during the life of the project.

13 We believe that if the Proponent
14 were to seriously, and with conviction, go through
15 the exercise of detailing the economic costs and
16 benefits and the environmental costs and benefits
17 of two or three more scenarios, that this process
18 could, in all likelihood, provide alternatives to
19 all three of the stated project needs.

20 For example, future demand for
21 electricity in the province and extra electricity
22 for sale to third parties; that it could be shown
23 that there are cheaper ways to develop the power
24 needed to supply the province's needs with less
25 environmental damage and with more long-term, local

1 jobs.

2 And there are likely cheaper and
3 less environmentally damaging ways to provide extra
4 power for sale to others. Do we have to have the
5 most amount of power for sale to others or are we
6 just looking for an amount of power to sell to
7 others? There is no specific amount of power that
8 we need to sell to others.

9 We also believe the third stated
10 reason, the need for the project to develop the
11 province's natural resource assets for the benefit
12 of the province and the people, could be met
13 through other ways of developing energy with less
14 environmental damage, less social upheaval within
15 the Territory of Labrador.

16 However, to our minds, the proper
17 analysis of alternatives has not been accomplished
18 in this EIS. We would have liked to have seen
19 three, four scenarios laid out with clearly defined
20 economic benefits, clearly defined environmental
21 damage or environmental benefits. Something that
22 the average person could pick up the volumes and
23 volumes of texts that we've had to review and
24 clearly see this is better or that is better. This
25 has not happened in our view.

1 Nalcor Energy remains committed to
2 one project only. They refuse to consider any
3 other alternatives to this project. Oh yes, they
4 say they will look at alternative energy sources
5 once the project is built, but the guidelines in
6 the Act state they need to assess these
7 alternatives now, not after the fact.

8 In its statement on
9 sustainability, the *Canadian Environmental*
10 *Assessment Act* states:

11 "Whereas the Government of
12 Canada seeks to achieve
13 sustainable development by
14 conserving and enhancing
15 environmental quality and by
16 encouraging and promoting
17 economic development that
18 considers and enhances
19 environmental quality." (As
20 read)

21 Also, in section 2.4 of the EIS
22 Guidelines on Sustainable Development, it states:

23 "The objectives of
24 sustainable development are,
25 for example, the preservation

1 of ecosystem integrity,
2 including the capability of
3 natural systems to maintain
4 their structures and
5 functions and to support
6 biological diversity." (As
7 read)

8 In the opinion of Grand
9 Riverkeeper Labrador, this project severely damages
10 ecosystem integrity and changes the current
11 "natural" -- and I put that in quotation marks
12 because I realize the Proponent is going to say
13 this river is not in its natural state.

14 If you paddle that river from the
15 tailrace at Muskrat Falls down to -- the tailrace
16 at Churchill Falls, sorry -- down to Goose Bay,
17 portaging over Muskrat Falls, you will not know
18 that it's not in its natural state at this point.

19 It changes the current "natural"
20 system so it cannot possibly maintain the structure
21 and function that will support its former
22 biological diversity and, therefore, cannot be
23 considered sustainable.

24 We are also of the opinion that
25 the Proponent's methods for describing

1 "significance" is flawed and that many biological
2 systems along the reaches of the river will be
3 significantly affected.

4 We are of the opinion that the
5 extent, distribution and duration of social and
6 economic benefits from this project, also a stated
7 outcome of sustainable development listed in the
8 guidelines, have not and could not and cannot
9 currently be met.

10 We believe there are alternatives
11 to the project and alternative ways of addressing
12 the need for the project that could better provide
13 the sustainable qualities that are required under
14 the Act and in the guidelines, however, we have not
15 been provided with the information necessary to
16 help us make an informed decision.

17 Thank you.

18 CHAIRPERSON GRIFFITHS: Thank you
19 very much, Ms. Benefiel.

20 I'm going to ask the Panel for
21 questions for the presenter.

22 ---QUESTIONS BY THE PANEL:

23 MEMBER DOELLE: Yes, thank you for
24 your presentation.

25 You mention at the start of your

1 presentation the concept of ecosystem services, and
2 I'm wondering whether you have any further
3 information you can share with the Panel on that?
4 Has anyone quantified the ecosystem services that
5 this river provides; has anyone done analysis about
6 the extent to which those services will be lost as
7 a result of this project?

8 MS. BENEFIEL: I'm not sure if
9 anyone else has done quantification.

10 Dr. Murray Rudd did a paper for us
11 on how all of this should happen. A part of the
12 process for that project was to go across the
13 country with a survey to find out just exactly how
14 much Canadians were willing to pay -- and this is
15 how economics works -- how much Canadians were
16 willing to pay to maintain this river or any
17 natural river in its natural state.

18 The funding just wasn't there to
19 be able to pull that off.

20 Now, I could -- that project is
21 actually attached to the CEAA website. That was
22 submitted with our original submission.

23 If there are other projects, I
24 could find them, I'd try to find them and get them
25 to you. That actually -- I believe lately I've

1 seen other projects that actually put dollar values
2 on ecosystem services. I don't have a copy of them
3 now.

4 MEMBER DOELLE: Thank you.

5 CHAIRPERSON GRIFFITHS: Go ahead.

6 MS. BENEFIEL: Yes, let me mention
7 also that Dr. Murray Rudd is scheduled to be here
8 on April 1st, so that would be a good question for
9 him.

10 However, his father had a severe
11 stroke and he's now in Vancouver, so we haven't
12 heard from him in a couple of weeks. We're hoping
13 he'll be here though.

14 CHAIRPERSON GRIFFITHS: I guess
15 related to Meinhard's question would be -- I think,
16 Meinhard, your question was about -- "Do you know
17 of anyone who's done quantification for this
18 river".

19 But are there some studies and
20 some approaches of the ecosystem benefits of other
21 rivers that you're familiar with, that you would
22 like to sort of bring to the Panel's attention as
23 being a good model for approaching this?

24 MS. BENEFIEL: There are a few
25 that I've read over the past several weeks and I

1 can -- I will dig them up and bring them. I can't
2 quote them here and I did not bring them. I'm
3 happy to supply them.

4 CHAIRPERSON GRIFFITHS: You were
5 here yesterday ---

6 MS. BENEFIEL: Yes.

7 CHAIRPERSON GRIFFITHS: --- you
8 were able to here yesterday and you heard -- as you
9 know, there was a lot of focus on the Proponent's
10 outlining the rationale with respect to the need
11 for power on the island portion of the province and
12 the Proponent is going to talk in greater depth
13 about alternatives.

14 I just wondered if you have any --
15 based on what you heard yesterday, if you -- I
16 mean, we did hear about the Proponent's -- the
17 alternatives from the Proponent's perspective to
18 having the link, the high voltage link and the
19 going ahead with hydro development on the Churchill
20 River.

21 We've heard about that. We're
22 going to hear more in more detail but I just wonder
23 if you had any reflections on that, what you heard
24 yesterday, with respect to the alternative being
25 suggested which would be a continued dependence on

1 thermal generation and much higher cost?

2 MS. BENEFIEL: My view on that is
3 that the Proponent is again dealing or focusing
4 only on this project and is focusing on the
5 dirtiest aspect of what the other alternatives
6 could be.

7 Perhaps there are other
8 alternatives, and I go back again to the 850
9 megawatts that could be available -- well, Dr.
10 Fisher's statement on the -- at the Leslie Harris
11 Centre stated there were about a 160 small hydro
12 projects that might be good.

13 Yesterday, we heard that there
14 were only two of those that they felt were good.

15 It seems to me that their
16 statement that those are environmentally sensitive
17 incenses me because this river has more
18 environmentally sensitive areas in its 500 long
19 kilometres than -- you know, we can't even discuss
20 how many.

21 The volumes and volumes of studies
22 that have been done on the ecosystems that will be
23 affected prove that we have a very environmentally
24 sensitive river here, and this is a northern river.

25 It's a river that has deep glacial

1 valleys. There are biological things happening in
2 that river valley that will not happen anywhere
3 else in Labrador because the temperature in that
4 valley is normally about 10 degrees warmer than
5 anywhere else on the plateaus of Labrador.

6 So we've got ecosystems there that
7 don't occur anywhere else in Labrador. The trees -
8 - there are trees in that valley that I can't get
9 my arms around. You don't find those very often
10 anywhere else in Labrador, maybe some on the south
11 coast, but when you get up this far north, yeah.

12 We have an environmentally
13 sensitive river here as well. Not only that, it's
14 our only large river. It cuts through most of
15 Labrador.

16 So the statement that the
17 alternative for them is to live with their dirty
18 Holyrood plant, it holds no water with me. What if
19 they didn't have the Labrador River? What would
20 they do then? Maybe they should forget this river
21 exists for a little while and go back to the
22 drawing board and see what they can figure out from
23 there.

24 CHAIRPERSON GRIFFITHS: Thank you.

25 Any more questions from the Panel?

1 CHAIRPERSON CLARKE: Thank you.

2 Ms. Benefiel, I just wanted to
3 confirm my understanding of what you're saying
4 about alternatives instead of the -- you know, in
5 terms of the description and alternative ways of
6 doing the project, et cetera.

7 And as I understand it, you're
8 saying that -- well, maybe I'm putting words here,
9 but there may not be alternatives for producing the
10 full 3,000 megawatts or whatever, but do we need
11 that amount? In fact, we may need quite a lot less
12 than that, and if that is the case, then there are
13 alternatives to producing less than that.

14 And I just want to confirm that's
15 ---

16 MS. BENEFIEL: That is exactly
17 what I mean. Why do we have to have 3,000
18 megawatts? Why is that necessary?

19 CHAIRPERSON CLARKE: Okay. Thank
20 you.

21 CHAIRPERSON GRIFFITHS: I'll now
22 turn to the Proponent. Do you have any questions
23 for the presenter?

24 MR. G. BENNETT: No, we're fine.
25 Thank you.

1 CHAIRPERSON GRIFFITHS: Okay.

2 Yes, Ms. Rudkowski?

3 MS. BLAKE-RUDKOWSKI: I just want
4 to point out also in terms of the amount of
5 electricity they're proposing to produce, we heard
6 yesterday from the Proponent that possibly 40
7 percent of the production from Muskrat Falls will
8 be spilled. So that demonstrates right there
9 there's not a need for it.

10 MR. G. BENNETT: Now I do have a
11 question.

12 Just to clarify in what context we
13 said that we were planning to spill 40 percent of
14 the production from Muskrat Falls?

15 MS. BLAKE-RUDKOWSKI: Say that
16 again, please?

17 MR. G. BENNETT: I wonder if you
18 could clarify in what context we said that we
19 planned to spill 40 percent of the production from
20 Muskrat Falls?

21 MS. BLAKE-RUDKOWSKI: No, I can't
22 because I can't remember the rest of what you said.

23 MS. BENEFIEL: I think what you
24 said was if you couldn't sell the power to Emera,
25 that you would have to spill 40 percent. You

1 explain it. You explained it yesterday.

2 MR. G. BENNETT: No problem.

3 MS. BENEFIEL: Sorry.

4 MR. G. BENNETT: Okay. The
5 analysis that we had completed in the context of
6 our business case analysis compared to Holyrood
7 took a worst-case scenario where we said Muskrat
8 plus a transmission link, compared to the cost of
9 Holyrood, we look at the economics of that to say
10 let's meet the demand for the Island. We can
11 justify Muskrat Falls and the link on that basis.
12 Now, as a stated objective is to
13 maximize the value of the development on behalf of
14 all the people of the province -- so this is not a
15 "we-they" question; this is an all of us question -
16 - we have a role to maximize the value of that
17 resource beyond our domestic need.

18 We've identified export
19 alternatives, the Maritime link being one, our
20 capacity through Quebec being another as means to
21 monetize or derive value from that resource.

22 I think I said also that the last
23 thing that we would want to do as a hydro operator
24 would be to spill water.

25 CHAIRPERSON GRIFFITHS: Thank you

1 for the clarification.

2 Any other comments on that? Yes.

3 MS. BLAKE-RUDKOWSKI: I just want
4 to go back to -- Roberta was talking about the
5 values that are lost or will be lost as a result of
6 the project, and one of the things, of course, is
7 we can't lose sight of the historical significance
8 of this river.

9 And I think you heard from the
10 Innu, for instance, tracing back pre-glacial times,
11 which is 10,000 years, that they have occupied this
12 land.

13 This river has been historically a
14 highway, particularly for the Innu who travelled
15 all the north shore of Quebec, down to Sept-Iles,
16 down to Lac St-Jean, north to Ungava Bay, all over
17 the place. They travelled over the land, following
18 the animals to survive.

19 And in more recent times -- and I
20 mean in more recent times, 1800s and onwards -- we
21 had Métis populations who were encouraged by the
22 fur traders to go up that river to trap.

23 There are ancestral burial grounds
24 along the site and other archaeological sites. For
25 instance, the fur traders established posts at Sand

1 Banks, which is not too far west of Muskrat Falls.
2 They had established a post at Winnikapau, which
3 you saw in our video, and also further up around
4 Menihek. They had Fort Naskapi, for instance.

5 And all those things are
6 significant in our history and are all going to be
7 lost as a result of this project.

8 CHAIRPERSON GRIFFITHS: Thank you.
9 I'm sorry, yes?

10 MS. BENEFIEL: Can I just make one
11 more -- not a submission but a statement about an
12 alternative source that has come to our attention?

13 This is the feasibility of
14 bringing natural gas to the Island of Newfoundland,
15 and that was mentioned yesterday by Mr. Bown. I
16 keep wanting to call him Mr. Brown. I thought they
17 made an error when they typed his name. Sorry.

18 Anyway, you're going to get a
19 presentation from Claude Angers and Alan Ruffman, I
20 believe, on the 4th or 5th of April in St. John's.
21 The feasibility of bringing natural gas to the
22 Island of Newfoundland and the role of officials
23 Brook Salt Dome in western Newfoundland. This was
24 proposed two or three years ago. They sent their
25 report.

1 I have a copy of it at home that I
2 tried to find this morning and couldn't for the
3 time being. And it was totally ignored by the
4 Department of Natural Resources. It could be for
5 various reasons. I have no idea.

6 But you will hear from them in
7 April.

8 CHAIRPERSON GRIFFITHS: Thank you.

9 I'm now going to ask if there are
10 any questions of the presenter.

11 Yes, Ms. Goodfellow-Baikie.

12 --- QUESTIONS BY THE PUBLIC:

13 MS. GOODFELLOW-BAIKIE: Yes. Are
14 alternatives perhaps being given a bad rep?
15 Development-wise, they're on the beginning curve,
16 whereas dams have been built for over 100 years.

17 So yes, there's some R&D involved,
18 but yes, there's also potential to be a world
19 leader in that area if money is put into it and
20 effort.

21 But secondly, how are alternative
22 energy projects established? An example is the
23 Ventus Energy proposal that was, as I understand
24 it, turned down by the province.

25 CHAIRPERSON GRIFFITHS: Who would

1 you like to answer that question? Did you direct
2 it at -- you're directing it to the Proponent?

3 MS. GOODFELLOW-BAIKIE: Well, yes.
4 What was the reasoning behind turning down the
5 Ventus Energy proposal? Do you know?

6 MR. G. BENNETT: No, I can't say I
7 know what the issue was there. I mean, if we look
8 at our perspective on wind development I'd make a
9 couple observations.

10 As we talked about yesterday, wind
11 production is not firm so we don't know when we
12 receive it. We don't know when you're going to
13 sell it into the market. We don't know what value
14 we're doing to derive once you -- once you put that
15 production in place.

16 And, in general terms, wind is
17 more expensive than hydro. We have an attractive
18 hydro project that has all the technical attributes
19 that I looked at yesterday -- we talked about
20 yesterday.

21 And, you know, from our
22 perspective the hydro projects in general, with
23 storage, with firm capacity need to happen first
24 and then we integrate wind onto the system to the
25 extent that we can complement the hydro resource.

1 And that was a sentiment that was
2 echoed by the representative from the Canadian Wind
3 Energy Association that I quoted yesterday; that
4 generally speaking if you have the attributes in
5 the system, the firmness, the capacity of the
6 storage, the operational flexibility, then you can
7 volt the non-dispatchable renewables that are in
8 the rest of the portfolio onto the system later.

9 CHAIRPERSON GRIFFITHS: We have --
10 I might also put that -- see if Mr. Bown wants to
11 add anything to this; if he cares to respond.

12 He doesn't care to respond.

13 Ms. Goodfellow-Baikie, it was your
14 question, I'll let you speak to that and then go to
15 Ms. Benefiel.

16 MS. GOODFELLOW-BAIKIE: Well, I
17 just wanted to add that the Ventus proposal was in
18 Churchill Falls and it was associated with the
19 hydro project there already established.

20 MR. G. BENNETT: Well, I don't
21 know that Ventus had any relationship with CFL or
22 had any means of acquiring access to the Churchill
23 Falls facility or its storage.

24 I can't comment on that, I don't
25 know what they had done there. I'm not aware of

1 any arrangement there.

2 CHAIRPERSON GRIFFITHS: Well, I'm
3 puzzled, if the proposal was to sell energy to the
4 province, does the province not have some
5 connection and access to the Churchill Falls?

6 MR. G. BENNETT: I think their
7 intent was to export.

8 CHAIRPERSON GRIFFITHS: A total
9 export project?

10 MR. G. BENNETT: As I understand
11 it.

12 CHAIRPERSON GRIFFITHS: Oh.
13 Ms. Benefiel, do you wish to
14 follow-up?

15 MS. BENEFIEL: Just a statement
16 about that Ventus energy project. That I recall,
17 it was a private -- a private consortium, Ventus
18 and the Labrador Métis Nation at the time. Would
19 not have cost the province much, had fair benefits
20 in there, I thought, that would accrue to the
21 province and was proposed long before the power
22 lines were full, going out of Quebec.

23 And from what I remember reading,
24 they had in fact already been in contact with the
25 folks at Hydro Quebec and were, hopefully, they

1 thought, ready to do some transmission.

2 And it would have been connected
3 with Churchill Falls -- well, could have gone
4 through Nalcor. Now, I don't think Nalcor even
5 existed at that time. It could have gone through
6 Newfoundland Labrador Hydro, I believe, at the
7 time.

8 MS. BLAKE-RUDKOWSKI: Just to
9 follow-up on that.

10 The Ventus Energy project was to
11 be 100 percent privately funded. They weren't
12 asking for any money from the province or anybody
13 else.

14 And the other thing I wanted to
15 say was that -- is that wind energy is always being
16 touted as being a more expensive option when, in
17 fact, if you consider that wind energy does not
18 have access to subsidies, for instance, like the
19 oil industry, coal-fire plants and that sort of
20 thing, and therefore, they're at an unfair
21 disadvantage in terms of cost.

22 CHAIRPERSON GRIFFITHS: Thank you.

23 Are there other -- yes, other
24 questions?

25 I see Mr. Raphals. I see Mr.

1 Davis. I'll take Mr. Raphals first.

2 MR. RAPHALS: Good morning.

3 Philip Raphals for the Helios Centre.

4 I feel the need to respond to your

5 -- Mr. Gilbert. The comment you quoted yesterday

6 from Jean-François Nolet, I had no disagreement

7 yesterday with the way you quoted it but I think

8 this morning you may have -- at least from the

9 words that you quoted, taken it a little bit past

10 his intention.

11 I've known Jean-François for many

12 years from when he worked at Équiterre. And I know

13 and the position is very clear that wind is -- is a

14 wonderful -- is extremely complementary to

15 hydropower. When you have hydro power and adding

16 wind is clearly an interesting option.

17 I would be very surprised if he

18 meant to say that you need built hydropower before

19 you can build wind and you cannot integrate wind

20 into a thermal system which seemed to be the sense

21 and you were -- that you drew just now. I just

22 thought it was important to make that distinction.

23 MR. G. BENNETT: No, I think our

24 context of course is hydro wind. Our stated desire

25 is to eliminate our dependence on thermal

1 generation.

2 So that was meant in a hydro-wind
3 context.

4 MR. RAPHALS: I'd also like to add
5 just another thought about wind power. It's true
6 that it's less firm than hydro power. But there
7 have been a lot of studies and it's quite a
8 complicated issue as to how firm wind actually is
9 and one of the issues that that depends on is the
10 geographical diversity.

11 If you put up one wind turbine
12 obviously it will go on and off with the wind; but
13 if you put up 100 wind turbines and if you separate
14 them across a wide distance by the nature of
15 weather, that variability diminishes a great deal.

16 And I really don't mean to
17 diminish the technical challenges involved in
18 integrating wind but I think it has to be -- it's a
19 complicated issue and it shouldn't be dismissed,
20 it's just "Oh, it's just non-firm so it's not as
21 good."

22 As part of an integrated solution
23 with other resources, including the other hydro
24 resources you have on the Island and the thermal
25 resources -- well, as I think we heard yesterday

1 from the energy plan, the limit was assessed in
2 2007 as being 80 megawatts I think that could
3 feasibly integrated.

4 From what I've seen in other
5 places, usually those limits start at one point and
6 gradually get pushed up as implementation occurs
7 and as the industry leans a little bit. So I'd be
8 surprised if that were an absolute number. But
9 certainly there is room on the Newfoundland system
10 for additional wind.

11 MR. G. BENNETT: If I can respond.
12 I would agree, it is a complicated question. And I
13 think the -- as I mentioned earlier or yesterday
14 rather, one of the significant complications on the
15 Island of Newfoundland is that it is isolated and
16 therefore, you know, when we look at the situation
17 where the wind might not blow or we may get too
18 much wind and we may actually have to curtail
19 because of the other extreme of the spectrum.

20 We have nobody else to import
21 from. And that distinguishes our isolated system
22 on the Island very significantly from the rest of
23 the North American market where, if you did have a
24 shortfall, then you can import from somebody else.

25 So that's a unique problem but I

1 would agree, it is a complicated issue and our
2 system planning teams has put significant effort
3 and time into understanding what the limits are on
4 the particular system on the Island.

5 And that is one issue that would
6 disappear, to some extent, with greater connections
7 between the Island and either Labrador or the
8 Maritime provinces where other avenues of supply
9 could be available.

10 MR. RAPHALS: Thank you.

11 If I could just add one more word
12 to that? There are many island systems -- many
13 isolated systems that are developing wind power,
14 many of them smaller than Newfoundland, both
15 geographically in terms of load. In Hawaii wind
16 power is growing rapidly and ---

17 CHAIRPERSON GRIFFITHS: Excuse me,
18 Mr. Raphals.

19 MR. RAPHALS: Yes.

20 CHAIRPERSON GRIFFITHS: I don't
21 know whether the sound can be boosted in some way;
22 you can move a step forward.

23 MR. RAPHALS: I'm sorry.

24 CHAIRPERSON GRIFFITHS: I just
25 would like to hear everything you say and I'm

1 having a little trouble.

2 MR. RAPHALS: I'm sorry.

3 I just said that of course being
4 an isolated system imposes additional challenges.

5 The same challenges exist in many
6 other isolated systems, many of them far smaller,
7 both in terms of load and in terms of geography
8 compared to Newfoundland and that wind is being
9 aggressively developed in many such isolated
10 systems.

11 CHAIRPERSON GRIFFITHS: I have a
12 question; I'll put the question out there. And it
13 has to do with wind, purely for export.

14 If we're looking at alternatives
15 to the complete project with both components, both
16 Muskrat -- we've been putting a lot of attention on
17 the Muskrat Falls component and serving the needs
18 of the Island at the moment.

19 But given that the Gull Island
20 component is essentially an export proposal -- this
21 is something I don't know about wind, when you do
22 wind for exports do you have to -- does the body or
23 the jurisdiction that's selling that wind power, do
24 they have to provide the balancing power that would
25 come from hydro or from other sources or can you in

1 fact sell wind power into the market and other --
2 the market themselves will use -- can use -- can
3 take it if they've got the flexibility to do the
4 balancing; how does that work?

5 MR. RAPHALS: I'll start and you
6 can add.

7 It's obviously simpler to sell
8 wind power if you already have a balancing
9 resource. So from the point of view of the
10 commercial transaction, if you can offer 100
11 megawatts firm that's wind powered balanced by
12 something else, it's obviously easier to sell.

13 But, at the same time, in an
14 interconnected system there are, certainly in the
15 United States, wind developers who sell their
16 output directly into a market on a fluctuating
17 basis. And actually the FERC has been very
18 proactive in trying to modify the transmission
19 rules in order to make that easier and simpler to
20 happen.

21 The question gets more complicated
22 when you have to switch from desynchronized
23 regions. So if you're going through the Maritimes
24 and you're exporting directly into New England
25 where it's all synchronized then, indeed, I think

1 to the best of my knowledge, selling wind power on
2 a hourly basis is not inconceivable.

3 Going through Quebec it's more
4 complicated because you have to go through DC
5 converters to get into Quebec and then to get out
6 of Quebec, so that would be a considerably greater
7 commercial challenge.

8 CHAIRPERSON GRIFFITHS: So a
9 synchronized region is ---

10 MR. RAPHALS: Yes, okay, well,
11 alternating current ---

12 CHAIRPERSON GRIFFITHS: Yes.

13 MR. RAPHALS: --- you know, goes
14 up and down and in very broad regions they are
15 synchronized so at any instant -- in any instant
16 within a synchronized region, the AC is
17 synchronized.

18 In -- the Quebec system is not
19 synchronized with the rest of eastern North
20 America. So to transfer power into or out of
21 Quebec you actually have to convert alternating
22 current to direct current and then convert it back
23 to alternating current synchronized in the --
24 attunes, if you like, with the other system. So
25 all the exports from Quebec to the U.S. first have

1 to be converted to direct current.

2 Now Churchill Falls is
3 synchronized with Quebec, so if the hypothesis
4 you're looking at is wind power that is -- that's
5 exported to Quebec or through Quebec then
6 essentially it's starting out synchronized with
7 Quebec but would still have to be converted to DC
8 and reconverted to AC to get out of Quebec.

9 So selling wind power from the
10 Churchill Falls region in the U.S. via Quebec
11 without firming would be I think a somewhat
12 complicated enterprise.

13 CHAIRPERSON GRIFFITHS: Mr.
14 Bennett, did you want to confuse me still further?

15 MR. G. BENNETT: I'll try to
16 simplify this a little bit.

17 When one sells into the
18 electricity markets in general, you're expected to
19 tell the operator how much power you're going to
20 deliver for the next period of time.

21 So if we wanted to move 200
22 megawatts out of Churchill Falls through the system
23 or 200 megawatts over to Nova Scotia, we would say,
24 "Yes, we commit, we're going to deliver 200
25 megawatts for the next hour". And that's the way

1 that the industry is generally structured.

2 If you don't make that delivery,
3 then you pay a penalty and usually there's a fairly
4 significant penalty because the system operator
5 doesn't want you to miss your commitment because
6 they're looking at the total requirements on the
7 market and they're trying to balance supply and
8 demand. So they really want you to deliver what
9 you said you were going to deliver.

10 If you're a wind operator and the
11 wind stops blowing, you have a problem, and you
12 either have to pay the penalty or you have to
13 secure under some commercial term capacity from
14 somebody to make it up.

15 So that's a very simplified
16 explanation of how the market works.

17 And there is an expectation that
18 the delivery be made for the period that you
19 promised it for. And that is a challenge with wind
20 and that's one of the reasons why the industry as a
21 whole would like to see reforms in some of the
22 tariffs in order to reduce or minimize that
23 penalty. But that is the way that the electricity
24 system operates.

25 CHAIRPERSON GRIFFITHS: Thank you,

1 that makes sense.

2 But, Mr. Raphals, you also say
3 that in some markets the wind operators are finding
4 -- there is a way in which they can ---

5 MR. RAPHALS: Well, yes, and in
6 the FERC's current open access transmission tariff,
7 which is obligatory in the U.S., and which entities
8 outside like Quebec and apparently soon
9 Newfoundland and Labrador try to conform to, there
10 are specific provisions that exempt wind up --
11 intermittent generators from these penalties or
12 rather they limit the penalties to the very
13 smallest level for dispatchable generators.

14 There are indeed increasing
15 penalties, so the more you miss what you promised
16 the greater the penalty.

17 And the FERC has specifically said
18 this for intermittent generators, they're exempt
19 from those penalties but nevertheless required to
20 predict as well as possible what their output will
21 be in the ---

22 CHAIRPERSON GRIFFITHS: Thank you,
23 Mr. Raphals.

24 Mr. Davis, I believe -- and I
25 think often as today, this is in essence anyone

1 with a -- Mr. Hendriks with a pressing question. I
2 think I'll take -- Mr. Davis, Mr. Hendriks and I
3 think we'll take a break. Mr. Davis.

4 MR. DAVIS: Thank you, it's Eldred
5 Davis again.

6 I just heard a bit of discussion
7 about the Ventus proposal that -- I don't think it
8 was fully explored when it was available.
9 Obviously, the Environmental Impact Statement was
10 never made or never released so a lot of this is
11 second guessing.

12 But when I first heard about this
13 proposal, what came into my simple mind originally
14 was, what an ideal set-up for SIA Falco, a
15 complimentary wind farm in the same area on level
16 land that actually is just surviving above the
17 flood zone. I think we were told there's a 10-
18 metre drawdown at Churchill Falls.

19 The problem is that SIA Falco has
20 experienced in its several decades of operation is
21 a lack of water. The reservoir actually has been
22 drawn down too much at times and the -- a lot of
23 the flooded area are very shallow lakes and they
24 become meadows.

25 And eventually sufficient rain

1 falls, snow melts, and so on, those meadows, which
2 have terrestrial vegetation, are flooded and are --
3 you know, there's a cycle that when they're
4 flooded, all of a sudden there's aquatic vegetation
5 again.

6 So there's a constant cycle of
7 vegetation that are decomposing and so on and this
8 is a problem that's really not given any
9 consideration.

10 However, with the addition of a
11 wind farm in that vicinity, if it had been properly
12 adapted to fit the hydro project such as -- you
13 know, people are suggesting when the reservoir is
14 drawn down and it's at a time when there's a bit of
15 a -- a fairly large demand, like in the summer when
16 -- a relatively new phenomenon is a lot of draw
17 from this power plant for air conditioning, which I
18 don't think was even anticipated in the initial
19 planning stages for that project.

20 They thought it would be mostly
21 converting fuel heating in Quebec to electric
22 heating. And that did happen, so there was a big
23 draw in the winter time and water -- or reservoir
24 levels dropped.

25 However, with a source that would

1 provide electricity with no fuel other than wind,
2 hooked to large pumps to replenish the reservoir at
3 a time when there's a fair degree of drawdown, it -
4 - I can't imagine a better complement to the hydro
5 system.

6 Again, you know, to me it seemed
7 obvious, but obviously people who know these
8 systems a lot better than I do -- well, I shouldn't
9 say that people know better than I do. The hydro
10 operators probably knew more about it than I do,
11 but it was a political decision. It was turned off
12 or squashed before it got to the Environmental
13 Impact Statement stage, so what could have been
14 never did happen.

15 It could have worked well, but it
16 was never given a choice and, in my opinion, the
17 biggest reason was it's not complimentary to a
18 politician to have a name on a wind farm where it
19 is on a big concrete dam, and I don't think it goes
20 beyond that.

21 Thank you.

22 CHAIRPERSON GRIFFITHS: Thank you,
23 Mr. Davis. Mr. Hendriks?

24 MR. HENDRIKS: I had to step out
25 so -- you may have addressed my question, so I'll

1 speak directly to the presenters and if there's
2 anything else I'll bring it up.

3 CHAIRPERSON GRIFFITHS: Thank you.

4 Ms. Rudkowski, you just have a
5 quick ---

6 MS. RUDKOWSKI: Just as a matter
7 of clarification because I was quite involved with
8 the Ventus Energy Project and at the time that it
9 came forward, the province was in the midst of
10 developing their energy plan which this gentleman
11 probably presented yesterday.

12 And they -- Ventus Energy were
13 told that the province had not yet developed a
14 policy in terms of wind power and, therefore, they
15 were not -- they were even denied registration for
16 environmental assessment.

17 But the basis of denying that was
18 that at the time the province didn't have a policy
19 and they were developing their energy plan and,
20 therefore, they weren't going to look at it until
21 sometime in the future.

22 CHAIRPERSON GRIFFITHS: Thank you,
23 Ms. Rudkowski.

24 Any additional comment?

25 Yes, Mr. Raphals. And then we are

1 going to take a break.

2 MR. RAPHALS: Just in response to
3 Mr. Davis' comment. If we were talking about it's
4 the idea of -- the feasibility of exporting wind
5 from this Ventus proposal.

6 I'd just like to say it seems --
7 just use as a commercial question, it's hard to see
8 why CFLco would not eventually offer some kind of a
9 balancing agreement, the question is at what price?
10 Obviously they would want more and Ventus want to
11 pay less. But there's no -- there's no harm and
12 indeed there's potentially a benefit.

13 I wasn't aware of what Mr. Davis
14 mentioned about the reservoirs, parts of them
15 actually being uncovered and turning into meadows
16 but I would like to -- just to add another
17 completely different element to this reflection is
18 that the question of greenhouse gas emissions from
19 reservoirs is a very -- another very complicated
20 and not fully understood subject.

21 But one thing that seems pretty
22 clear is that that kind of condition that he just
23 described is an ideal one for promoting methane
24 production.

25 And the real interest in reducing

1 greenhouse gas emissions from reservoir is to --
2 the emissions, such as they are, be carbon dioxide
3 and not methane. And so maintaining reservoir
4 levels at a high enough level where you don't
5 actively promote methane production seems like a
6 desirable condition.

7 CHAIRPERSON GRIFFITHS: Thank you
8 very much.

9 I'd like to thank Grand
10 Riverkeeper for your presentation.

11 We are now going to take a 15-
12 minute break. So we'll come back at quarter to 11
13 and we'll proceed with Sierra Club's presentation.
14 --- Upon recessing at 10:30 a.m./

15 L'audience est suspendue à 10h30

16 --- Upon resuming at 10:46 a.m./

17 L'audience est reprise à 10h46

18 CHAIRPERSON GRIFFITHS: Well, the
19 Panel is back, the session is going to resume. So
20 I'm hoping that participants will come in and that
21 our next presenter will appear.

22 Our next presenter is Mr.
23 Marcocchio from Sierra Club.

24 So the plan for the balance of the
25 morning is obviously to hear Mr. Marcocchio's

1 presentation, to go through the questioning process
2 and then, providing there's time before the lunch
3 break, then the Panel is going to give the
4 Proponent a heads-up of some of the questions that
5 the Panel would like to have answered later on this
6 afternoon, not vis-à-vis the alternatives
7 presentation but the questions that were leftover
8 from yesterday and that we want to pursue.

9 So we thought we'd be generous and
10 ruin your lunch.

11 So our next presenter is Mr.
12 Marcocchio from Sierra Club Atlantic. You have 30
13 minutes.

14 --- PRESENTATION FROM SIERRA CLUB ATLANTIC BY MR.
15 BRUNO MARCOCCHIO:

16 MR. MARCOCCHIO: Thank you.

17 I'd like to start with a bit of a
18 question or clarification about the undertaking
19 from the Proponent yesterday about that graph.

20 I was a bit confused, perhaps you
21 were a bit confused by my request and I want to
22 ensure that we're both on the same page.

23 What I requested was that the cost
24 for thermal energy, that curve, be provided for a
25 high, medium and low scenario.

1 I think I may have heard you say
2 "taking oil out of that picture". I'd like that
3 curve represented, for instance, at oil at \$50 a
4 barrel, \$100 a barrel, 150, \$200 a barrel to cover
5 the range of what those thermal options might be
6 given the wide disparity in -- and volatility
7 acknowledged by the Proponent, in a price of oil.

8 CHAIRPERSON GRIFFITHS: Well,
9 first I'll ask Mr. Bennett what your understanding
10 of -- what your understanding of that undertaking
11 and what you're currently preparing to present?

12 MR. G. BENNETT: Our understanding
13 was that the Panel had requested that we do a
14 sensitivity analysis around our oil price forecast
15 so that we can show the impact of a price change,
16 either way -- on either side of that red curve.

17 MR. MARCOCCHIO: I'm not quite
18 sure I understand the sensitivity analysis.

19 What would be useful is redrawing
20 those curves at those targets, 50, 75, 100, 150,
21 200.

22 MR. G. BENNETT: I'll defer to the
23 Panel. What are the Panel's wishes on this?

24 CHAIRPERSON CLARKE: Well, my
25 understanding was that when you made the request

1 about desegregating the curve the Proponent
2 indicated that it was not able to do the
3 desegregation but that he would be able to do a --
4 we didn't use the word "sensitivity analysis"
5 yesterday -- but would be able to isolate out the
6 impact of the price of fuel on that curve and would
7 do it at a low, medium and high level.

8 MR. MARCOCCHIO: I don't quite
9 understand how that's different than what I
10 requested.

11 CHAIRPERSON CLARKE: Maybe it's
12 not.

13 And maybe it's no different that
14 what I understood that the Proponent is doing.

15 MR. MARCOCCHIO: Well, if we can
16 get the Proponent to concur that in fact we're all
17 talking about the same thing then there's no issue.

18 MR. G. BENNETT: I'll just simply
19 proceed with the directive from yesterday, that we
20 provide an analysis of a low, medium and high
21 scenario; that was our understanding.

22 CHAIRPERSON CLARKE: And when
23 would you be doing this?

24 MR. G. BENNETT: We should have
25 that this afternoon.

1 CHAIRPERSON GRIFFITHS: Maybe Mr.
2 Marcocchio, at that point we can look at it and if
3 you've still got questions perhaps we can find an
4 answer for them.

5 MR. MARCOCCHIO: Thank you very
6 much.

7 CHAIRPERSON GRIFFITHS: If you'd
8 like to begin with your presentation.

9 MR. MARCOCCHIO: Yes.

10 The Sierra Club Canada -- Atlantic
11 and Canada feel that Nalcor has failed to justify
12 the project in economic and energy terms.

13 In IR JRP 5 response on the Need
14 Purpose Rationale, the Proponent is undertaking
15 this project as an investment for its shareholder,
16 the Province of Newfoundland. It does not inform
17 the Panel or indeed seems to care that to justify
18 the need for the project; it needs to demonstrate
19 the financial viability of the entire project,
20 production, distribution and the eventual
21 decommissioning costs.

22 Neither of the two core objectives
23 of the Newfoundland and Labrador Energy Plan that
24 the Proponent claims define as the purpose, that is
25 environmental sustainability and economic self-

1 reliance have been satisfied by this proposal.

2 Wild rivers are not a renewable
3 resource. Once destroyed by conversion to a
4 lacustrine system, the river will not recover.

5 The Proponent has stated it does
6 not intend to decommission the dams. It has a
7 callous disregard for the natural environment. It
8 seems unaware that destroying all river systems in
9 Labrador is not sustainable development. These are
10 the actions of a rapacious colonial overlord
11 without any sensitivity to either the natural
12 environment or dependent natural systems, including
13 human cultures.

14 I guess I need to qualify that now
15 because the -- it appears the Proponent is somewhat
16 spatially blind, he's extremely sensitive to the
17 environmental implications of proposed small-scale
18 hydro development on the Island of Newfoundland and
19 completely unconcerned about the destruction of a
20 complete river ecosystem here in Labrador. The
21 colonial attitude is unacceptable.

22 Clearly an affront to all of the
23 residents here and clearly hypocritical and I hope
24 the Proponent can address the difference in their
25 sensitivity to environmental impacts on river

1 systems between Labrador and the Island of
2 Newfoundland.

3 Yeah, the insensitivity, obviously
4 the -- is extended and includes the human culture
5 that has for millennia been dependent on that river
6 and its resources for -- as a central -- both
7 transportation corridor, means of deriving
8 sustainable benefit and none of those values are
9 included in any of the analyses.

10 The energy plan goal of sustaining
11 economic development is not sustainable development
12 or environmental sustainability. The essence of
13 sustainable development is working within the
14 limits of natural systems to provide present
15 benefits without impeding future generations from
16 doing the same.

17 This proposal will overpower and
18 destroy a natural river system. It will rob future
19 generations of the benefits that the river has
20 provided for millennia to both the human
21 population, wildlife and the deltaic system. That
22 the Proponent continues to deny the impacts,
23 despite abundant evidence to the contrary speaks to
24 the Proponent's narrowly rapacious intent to
25 destroy the river for the short term profits it

1 will generate.

2 Melville Lake and estuary beyond,
3 will you continue, despite abundant evidence to the
4 contrary, documented from the United Nation World
5 Commission on dam and by respected and noted
6 academics about the profound impacts on those parts
7 of the river system.

8 You continue just to deny and deny
9 residents meaningful questions -- answers to
10 meaningful questions about the impacts there.

11 In fact, on the first day of this
12 hearing you were extremely arrogant to concerned
13 residents who have had generational links to that
14 water body, and it speaks to your insensitivity.

15 CHAIRPERSON GRIFFITHS: Mr.
16 Marcocchio, do you mind if I -- sorry to interrupt
17 you. I don't want to -- I just -- I have a feeling
18 that you weren't here on the morning when -- I
19 can't remember what day it was, but I did just
20 mention -- remind presenters that it's preferable
21 if you actually present to the panel rather than
22 present to the Proponent, even though I understand
23 that the angle of the tables kind of suggest that.

24 So if you wouldn't mind, I would -
25 --

1 MR. MARCOCCHIO: I must not have
2 been here the morning you changed that, because
3 that wasn't the direction on the first day.

4 CHAIRPERSON GRIFFITHS: No, I
5 think we were silent on that. It was just a
6 reminder, and I would prefer -- I think the panel
7 would definitely prefer -- and it is the nature of
8 the hearings that the presenters present to us.

9 Believe me, we're very eager to
10 hear what you have to say ---

11 MR. MARCOCCHIO: I understand.

12 CHAIRPERSON GRIFFITHS: --- rather
13 than -- yes, I'm sure you do.

14 MR. MARCOCCHIO: Yeah. But I
15 heard clear direction that -- I'm almost certain I
16 heard clear direction on the first day that you had
17 no objection to addressing the Proponent directly,
18 but that may change as things proceed.

19 CHAIRPERSON GRIFFITHS: That
20 refers to questioning. That was -- but when you're
21 presenting ---

22 MR. MARCOCCHIO: Okay.

23 CHAIRPERSON GRIFFITHS: Yes. I'm
24 sure you understand my point.

25 MR. MARCOCCHIO: Yes.

1 Jocelyne Beaudet, a panel member
2 of the Eastmain 1A and Rupert Diversion Project
3 wrote in the conclusion to her minority report:

4 "Given the irreversible
5 nature of all that would be
6 lost as a result of this
7 project, this type of river
8 should be included in the
9 category of species
10 designated as being at risk,
11 threatened or vulnerable and
12 considered as such in
13 Quebec's system of protected
14 areas."

15 She goes on to say:

16 "It's my opinion that this
17 project should not be carried
18 out."

19 We would urge the panel to
20 similarly consider the Grand or Mishtashipu a
21 threatened species and reject its destruction, that
22 in fact the river itself should be considered a
23 threatened species.

24 The forecast and expected
25 evolution of demand for power from IR JRP-3.3 is

1 deeply flawed. For Ontario, for example, despite
2 acknowledging a decline in demand, the Proponent
3 projects future growth of .6 percent per year. To
4 arrive at these exaggerated projections, the
5 Proponent has ignored the paradigm shift that's
6 transforming energy supply, demand and
7 distribution.

8 The rolling out of a smart grid
9 technology, these smart grids use sensors, meters,
10 digital control and analytic tools to automate,
11 monitor and control the two-way flow of energy
12 across operations from power plant to plug.

13 A power company can optimize grid
14 performance, prevent outages, restore outages
15 faster and allow consumers to manage energy usage
16 right down to the individual networked appliance.

17 Smart grids can also incorporate
18 new sustainable energy such as wind and solar
19 generation and interact locally with distributed
20 power sources or plug-in electric vehicles.

21 One of the results, as the article
22 on smart grids that I've, this morning, submitted
23 that the panel asked for on smart grids and
24 metering shows a decrease in the demand as well as
25 an increase in system stability.

1 I think the Proponent's claim that
2 electric plug-in vehicles really misses the whole
3 transformation and revolution that's occurring.
4 That's just a single example. We could have fuel
5 cells. We could have other means of generating
6 power in this new and emerging system.

7 It's reminiscent, his response
8 that these are unproven technologies -- I wonder if
9 a decade ago he would have been making similar
10 comments about the automobile and the plane.

11 We are in a transformative period
12 by -- not by choice but because we have no
13 alternative in redefining the way we consume, use,
14 distribute, redistribute and interact with energy.

15 These smart grids are the
16 equivalent of the transformation that happened in
17 the 1960s with the rollout of the interstate
18 highway system.

19 This is the energy superhighway
20 that's being rolled out and we're going to be left
21 back on the bumpy single two-lane hardtops unless
22 the Proponent understands that the paradigm has
23 changed and to be competitive and to serve the
24 needs of the residents of Newfoundland and
25 Labrador, as well as its corporate needs, it needs

1 to move into the present century.

2 Spending as much as 30 to 35
3 billion on these two dams, including
4 decommissioning and two transmission systems
5 producing energy mostly for exports in the markets
6 that do not accept large-scale hydro in their
7 renewable portfolio standards and into an energy
8 future with a declining demand in the target
9 markets is a recipe for financial disaster.

10 The circular argument that profit
11 to the corporation is the purpose but it cannot
12 demonstrate costs, including transmission and
13 decommissioning, cannot name firm receptive markets
14 or produce estimates of cost of energy delivered to
15 markets is unacceptable.

16 This surely undermines the
17 credibility of revenue projections that are
18 employing a shell game to obfuscate the viability
19 of the proposal to both the panel and the bearer of
20 the ultimate liability, the ratepayer.

21 The decision to proceed will be
22 made by the sole shareholder in the gated process
23 that removes from the panel any opportunity to make
24 a reasoned or informed decision of the Proponent's
25 stated purpose of returning a profit to the

1 shareholder.

2 Need for new capacity to displace
3 higher carbon intensity generation is similarly not
4 demonstrated.

5 Higher carbon intensity generation
6 will be displaced in target markets by sources that
7 meet renewable portfolio standards and aggressive
8 demand side management, including smart metering
9 and a smart grid rollout.

10 In fact, the Proponent has not
11 identified any firm markets apart from the
12 discounted power offered to Emera.

13 The project justification in
14 energy terms, section 3.4 on page 14, IR JRP-146,
15 is wildly exaggerated. It ignores the proposed
16 other new capacity between 2015 and 2030 in
17 prospective markets. It also ignores the impact of
18 the paradigm shift that smart grids with smart
19 metering is already having in target markets, as
20 evidenced by the Proponent's statements that demand
21 has declined in the last several years.

22 The modest projected need for
23 additional power in Newfoundland and Labrador by
24 2025 can be easily met by aggressive demand side
25 management, conservation and a lifting of the

1 moratorium on small-scale hydro that Newfoundland
2 and Labrador has put in place pending the outcome
3 of the Lower Churchill project deliberations.

4 A similar disinterest in zero
5 carbon wind and photovoltaic development shows
6 contempt for both either viable economic solutions
7 that would also reduce carbon emissions
8 significantly over this project's carbon footprint.

9 The Proponent repeatedly claims
10 that the carbon emissions are insignificant or non-
11 existent despite evidence to the contrary. The
12 greenhouse gas emissions from reservoirs and from
13 production are significant and are additive to
14 Canada's total and need to be considered.

15 The Proponent has failed to
16 demonstrate the ability to deliver the power to
17 existing markets with no apparent route or cost of
18 delivery to these markets. The cost estimates for
19 transmission are ridiculous and seem to only
20 reflect the cost of connecting to the existing
21 infrastructure.

22 The Government of Newfoundland and
23 Labrador continues inflammatory rhetoric that makes
24 Quebec unlikely to offer preferential access to
25 Newfoundland and Labrador or be willing to install

1 new capacity to would accommodate Nalcor.

2 The approximately \$2 billion cost
3 to construct transmission to Holyrood are yet again
4 ignored in this analysis of costs.

5 For the maritime or Anglo-Saxon
6 route, as the Proponent calls it, cost is not
7 presented even in order of magnitude. The costs
8 associated with this option will be in the order of
9 \$4 billion or more.

10 The wheeling fees from the
11 selected transmission route will total \$10 billion
12 for the first 50 years of operation, and that's
13 probably much exaggerated because you'll need to
14 pay wheeling fees not only to Nova Scotia but to
15 New Brunswick and other parts of New England.

16 The mid-range cost of
17 decommissioning, 4.4 to 6.6 billion is also missing
18 from the financial accounting. This leaves at
19 least \$20 to \$22 billion of costs ignored in the
20 analysis of the viability of this proposal.

21 With these essential costs
22 ignored, the financial analysis is deeply flawed.
23 Included, these costs render the project completely
24 uneconomic.

25 Furthermore, the ecosystem

1 services rendered by the river that will be lost by
2 the change from a riverine to a lacustrine
3 environment are excluded from the analysis.

4 These costs, in perpetuity, need
5 not be deducted from the expected return for an
6 adequate financial assessment.

7 Even if Nalcor will not
8 acknowledge that their power is not clean or green,
9 the market will speak and reject this power as an
10 alternative to thermal generation.

11 In addition, the Proponent admits
12 that it will likely have to displace combined cycle
13 gas turbines in American markets. Combined cycle
14 gas turbines are the least carbon-intensive fossil
15 generation facilities and the carbon reduction
16 potential of Lower Churchill energy is small
17 relative to the cleaner renewables like wind, solar
18 and tidal installations.

19 In short, the assumptions of ever-
20 increasing demand and willing markets are a myth
21 the Proponent is using to justify the financial
22 viability of this project. The era of mega
23 projects feeding a never ending increased demand is
24 over.

25 Nalcor's inability to give

1 reasonable estimates of the cost of delivering
2 energy to the dubious markets undermines any claim
3 of the financial viability for this proposal. Both
4 the total cost of the proposal as outlined above
5 and a reasonable analysis of markets are still
6 absent from this proposal.

7 Newfoundland and Labrador Energy
8 Plan is not being followed by the government so
9 that stated policy directives are irrelevant. The
10 demand-side management programs are languishing in
11 limbo and the moratorium on small-scale hydro
12 further undermines the plans credibility.

13 The underpinning goal of the
14 Newfoundland and Labrador Energy Plan of
15 environmental leadership has not happened. Wind
16 projects have been blocked by the Proponent from
17 having EAs with the blessing of the Government of
18 Newfoundland and Labrador.

19 One needs to wonder whether
20 preserving their preferential access of supply is
21 at the root of denying even environmental
22 assessment on a wind project. How they can frame
23 their concerns with any regard for sustainable
24 development given that they block these projects is
25 something I wish the Proponent would address and

1 will address.

2 The energy plan goal of
3 sustainable economic development is not sustainable
4 development. It's sustaining economic development,
5 if I can state the obvious. The energy plan goal
6 of maximizing electricity export value is not met
7 by this proposal. Energy will be heavily
8 subsidized by Newfoundland and Labrador rate payers
9 to be sent to Nova Scotia.

10 The Nalcor justification in energy
11 terms admits that the delivery cost of energy must
12 be competitive with alternative sources in export
13 markets. The Proponent has failed to demonstrate
14 competitiveness with alternative supply sources.

15 The newest wind turbines, for
16 example, have a four to five megawatt capacity that
17 has lowered the cost of wind to the range of
18 thermal fossil generation. This makes it less
19 likely large-scale hydro can compete with the
20 alternatives and it also speaks to the claim that
21 wind energy is uncompetitive with the thermal
22 alternative. It's dismissive of emerging
23 technologies that are here today and are cost
24 competitive today. The rest of the world knows it.
25 The Proponent apparently doesn't.

1 The Nalcor claim that this supply
2 is not emitting a specious. It admits that, in most
3 states, large hydropower facilities are not
4 eligible under most state renewable portfolio
5 energy standards. Diffuse of fluxes of carbon and
6 nitrous oxide as well as the release of carbon from
7 rotting vegetation produce significant greenhouse
8 gas emissions.

9 Using intensity arguments is as
10 repulsive and misleading as is the federal
11 government using the same tactic to avoid taking
12 action on runaway greenhouse gas emissions in
13 Canada.

14 The Nalcor investment evaluation
15 process fails to assess the overall project. It
16 has not demonstrated the viability of the necessary
17 investment. If infrastructure to deliver Gull
18 Island power to market and decommissioning are
19 included in the costs, the problem is uneconomic.

20 Nalcor revenue projections are
21 wildly optimistic. No financial assumptions in
22 costs are outlined. No firm markets and project
23 financing are quantified. Additionally, no attempt
24 is made to include reasonable transmission costs to
25 deliver all of the power to the markets. The

1 transmission costs are beyond the scope of this
2 assessment as is claimed on page 32, volume 1IR as
3 JRP-146 to 164.

4 It's not possible to make any
5 determination of the financial viability of this
6 project. This renders the assumption and cost
7 estimates useless. Financial viability, the
8 primary justification for this project, is not
9 demonstrated.

10 The sole shareholder, the province
11 -- unlike normal shareholders in a corporation --
12 has political benefits that motivated as much or
13 more than the consideration of financial benefit.
14 Upper Churchill is a case that illustrates this
15 problem very dramatically.

16 The Proponent has not presented
17 the full cost of construction, transmission and
18 wheeling fees that would permit a financial
19 analysis of the proposal. The indirect and induced
20 economic benefits cannot be used to justify a
21 proposal that ignores over 20 billion in costs
22 needed to deliver the power to market. It must be
23 demonstrated to be viable as a stand-alone project.
24 The Proponent has once again failed to do this.
25 There remains no evidence of a vigorous economic

1 review.

2 The assumption that sales to the
3 Maritimes will correspond to the price projections
4 for the New England market have been undermined by
5 the term sheet with Nova Scotia. Even with a
6 discounted power to Nova Scotia, that price will
7 not be competitive in a New England market.

8 The subsidy to the discounted rate
9 will have to be subsidized by the rate payers in
10 Newfoundland and Labrador. This further undermines
11 the financial viability of the proposal.

12 The revenue projection of doubling
13 revenue between 2016 and 2030 is wildly
14 unconservative and assumes that \$200 a barrel oil
15 will be the benchmark. Long before oil reaches
16 these levels, less expensive alternatives and
17 aggressive demand-side management will cut costs
18 and demand for power and oil as we saw the last
19 time, it approached 150. It nearly collapsed the
20 global economy. Be it, you couldn't sell a car.

21 The Proponent has failed to show
22 that this development will benefit the people of
23 Newfoundland and Labrador. In fact, it will burden
24 rate payers with dramatically higher cost and the
25 government with servicing the debt of an uneconomic

1 project that has failed to demonstrate markets
2 exist or a means to deliver it to market.

3 If and when Gull Island is
4 developed, at least a thousand megawatts still has
5 no viable or discussed transmission capacity. A
6 second link to Nova Scotia is required or Quebec
7 must be convinced to build additional transmission
8 capacity. Given the dismal attempts by the
9 Proponent to negotiate with this -- with Quebec,
10 this alternative is dubious at best.

11 The Proponent has not demonstrated
12 viable or cost-competitive market opportunities
13 exist. The lasting fiscal benefits claimed by the
14 Proponent will, if they ever materialize, be at the
15 expense of Newfoundland and Labrador rate payers
16 that will see rates double and redouble if this
17 project proceeds.

18 Dumping unwanted and uncompetitive
19 power and unnecessary energy in Nova Scotia
20 subsidized by Newfoundland and Labrador rate payers
21 will not benefit present or future generations and
22 certainly it's not sustainable development.

23 The Proponent has not demonstrated
24 that this project is the most appropriate solution
25 for meeting the projected energy demand in

1 Newfoundland and Labrador by 2025.

2 The upper achievable demand-side
3 management energy savings are understated because
4 they do not consider development of a smart grid
5 which is already being implemented by enlightened
6 and fiscally responsive utilities and their
7 shareholders.

8 Neither a sufficient long-term
9 sales portfolio sufficient to meet financing
10 requirements or transmission rights to mitigate
11 interconnection congestion has been demonstrated by
12 the Proponent.

13 The Proponent has refused to
14 disclose details of the delivered costs that are
15 the only metric to estimate the competitiveness and
16 financial viability of the proposal. It's clearly
17 failed to demonstrate that this project will ever
18 find profitable markets using as an excuse that it
19 would hinder their competitive advantage if they
20 gave us a range of expected return in the
21 marketplace is a sham and a fraud.

22 The dismissal of aggressive
23 demand-side management by the Proponent as an
24 alternative to the project because it does not meet
25 the goal of providing a profit to the provinces and

1 to Nalcor is both specious and entirely outrageous.

2 The Proponent has repeatedly
3 refused to outline alternative means of meeting the
4 projected energy demand. It instead claims that
5 providing energy supply for sale to undefined
6 markets with undefined or costly transmission cost
7 is a goal.

8 It's also failed to demonstrate
9 that this project will benefit the people -- the
10 province and its people. The rate hikes borne by
11 rate payers are ignored. The first phase alone
12 will raise wholesale cost to 17 cents a kilowatt
13 from 10 cents according to Premier Kathy Dunderdale
14 who on -- in early November on the CBC was quoted
15 in a conversation with Jeff Gilhooly said:

16 "The new power is going to
17 cost us about \$165 a
18 megawatt/hour."

19 And Gilhooly says:

20 "And how's that compared with
21 what's coming out of Holyrood
22 right now; any idea?

23 "I wouldn't be able to give
24 you that comparison right off
25 the top of my head, Jeff, but

1 I have those numbers before
2 us. But in terms of when we
3 bring that in 2017, that's
4 the cost in 2017."

5 A hundred and sixty-five (165) or
6 excuse me, it's 143 a megawatt/hour. Anything that
7 we could do other than Muskrat Falls would either
8 be the same cost at that time, but escalating right
9 up through the roof over the next 10, 15, 20 years.

10 I'd like to understand and try to
11 have the Proponent explain the difference between
12 the \$143 a megawatt/hour and the -- or fourteen
13 thirty a kilowatt to the 7.2 cents normalized
14 kilowatt that I think you discussed this morning
15 shortly before I got here. I would appreciate that
16 as part of the discussion when I finish my brief
17 here.

18 No detailed description of the
19 technical and economic feasibility of efficiency
20 and conservation measures that was provided, as was
21 requested by the Panel, yet again falls back on the
22 unproven and undocumented economic benefits that
23 may accrue.

24 There is no alternative to the
25 Proponent's proposal to fully develop the Lower

1 Churchill hydro potential. Comparing any
2 alternative to the profits foregone by not
3 destroying the river's ecosystem, is specious,
4 illogical, and points to the fundamental disregard
5 for the intrinsic value of natural ecosystems.

6 The alternatives, according to the
7 Proponent, must not only supply needed power, but
8 the capital that would accrue from the destruction
9 of a natural system. Demanding a profit beyond the
10 current needs of Newfoundland and Labrador
11 residents is clearly not sustainable development,
12 and it's pretty horrific economics, too.

13 If generating a profit needs to be
14 addressed; destroying natural capital to do it is
15 clearly not sustainable and must be dismissed as a
16 valid goal or used to dismiss viable alternatives
17 to meeting Newfoundland and Labrador residents'
18 need for energy, or this whole exercise is
19 meaningless.

20 If Nalcor needs a profit, why does
21 it not use the Bull Arm manufacturing arm that it
22 has outlined as part of its corporate structure to
23 produce wind turbines, tidal turbines, wave energy
24 generators, photovoltaic panels? It might then
25 make a creditable claim of concern with

1 sustainability issues.

2 Only if profiting from ecological
3 destruction is removed from consideration of
4 alternatives can one take a realistic approach to
5 alternatives. Meeting the future need for power in
6 Newfoundland and Labrador can be accomplished by
7 two independent energy islands without the need for
8 costly interconnection.

9 A creative and cost-conscious
10 utility would roll out on both systems of smart
11 grids, smart meters, encourage independent
12 production with fee tariff legislation and create
13 -- and a creative combination of wind, tidal wave,
14 run of river hydro, photovoltaics, to complement
15 existing hydro.

16 The one terawatt of achievable
17 demand side management savings by 2026 outlined in
18 the provincial energy plan is pursued -- if
19 pursued, can more than offset Holyrood's capacity
20 and allow it to be decommissioned. Nothing beyond
21 the provincial plan is needed to decommission
22 Holyrood.

23 So, let's get the bogeyman of
24 Holyrood and increased carbon emissions off the
25 table. It's not in issue. There are alternatives

1 in Newfoundland; there are alternatives here. The
2 demand side management alone can eliminate the need
3 for Holyrood -- end of that story.

4 Nalcor claims that the project is
5 more competitive than combined cycle gas turbines.
6 No comparison of cost is provided for either
7 option; no detailed comparison was provided as
8 requested.

9 The no-project option is dismissed
10 without justification apart from the promise of
11 profits to Nalcor and Newfoundland and Labrador
12 that have not been demonstrated. No detailed
13 technical and economic analysis of the alternatives
14 requested by the Panel was presented. The
15 alternatives to this project have not been
16 meaningfully assessed; they've just been dismissed
17 out of hand, without evidence.

18 It's clear that the Proponent has
19 a single focus: destroy the Churchill to provide
20 perceived profits to the corporation.

21 How sustainable is that? How
22 creditable is that a plan? Is that energy policy
23 or is that corporate malfeasance run amok?

24 The threshold for the economic
25 viability of the project has not been provided as

1 requested. Once again, the primary justification
2 for this proposal has not been demonstrated.

3 The proponent ignores the fact
4 that wind farms on the Island have firm,
5 dispatchable hydro to balance wind. Also ignored
6 are other renewables like tidal installations that
7 can balance wind generation.

8 The Proponent has not justified
9 the claim that wind is more expensive per
10 kilowatt/hour. The new 5 to 6 megawatt wind
11 generators, that I've already mentioned, are
12 comparable in cost to fossil generation sources.

13 In addition, windmills are ideal
14 for generating hydrogen in off-peak periods, so
15 that the energy from those windmills can indeed
16 provide reliable, dependable energy into the grid,
17 when the wind stops blowing from the stored
18 hydrogen.

19 So the Proponent just chooses not
20 to look at implemented, viable, cost-effective ways
21 of balancing the load without its gigantic mega
22 project.

23 The rolling out of the smart
24 grids, smart meters, that would remunerate surplus
25 power fed to the grid, cutting demand and shaving

1 peak demand, has not been considered an alternative
2 by the Proponent.

3 The financial analysis for
4 alternatives, dismissed by the Proponent, like wind
5 energy, are absent. A combination of wind and
6 tidal or wave energy could meet the needs of both
7 Labrador and the Island of Newfoundland,
8 independently, without the need for costly
9 interconnection via sub-sea, high voltage DC lines,
10 and extensive new power corridors.

11 The resulting savings could be
12 used to roll out the smart grid backbone. That,
13 and along with the \$600 million that he claimed
14 that it would cost to retrofit Holyrood, would move
15 the utility into this century, and prepare it for
16 the energy super-highway that most utilities, that
17 have their eyes fixed forward instead of back
18 trying to address 60-year old political insults
19 with more political nonsense, are employing today,
20 and rolling out today.

21 Thank you.

22 CHAIRPERSON GRIFFITHS: Thank you
23 very much, Mr. Marcocchio.

24 I will now ask Panel members for
25 their questions.

1 ---QUESTIONS BY THE PANEL

2 CHAIRPERSON CLARKE: Mr.
3 Marcocchio, you've mentioned several times about an
4 aggressive demand side management program ---

5 MR. MARCOCCHIO: Yes.

6 CHAIRPERSON CLARKE: --- and I'd
7 be interested in pursuing that with you.

8 If you could like elaborate a
9 little more in terms of the success that such
10 programs might have had in other jurisdictions,
11 what type of targets make sense, what kind of
12 measures are the ones that seem to be -- give the
13 most efficient or the most return, what do they
14 cost, that type of thing? I'd be interested in
15 your experience from other jurisdictions on that.

16 MR. MARCOCCHIO: Well, the
17 possibility for the efficiency response is huge,
18 and, of course, there is a lot of low-hanging
19 fruit, a low-hanging fruit that is easily
20 addressed, inexpensively addressed, that would have
21 a dramatic effect on supplies.

22 Windows that I've mentioned, that
23 don't lose as much heat as they do, insulating and
24 re-insulating basements, walls and homes, and doing
25 -- providing the same incentives for industries to

1 reduce consumption, implementing controls on
2 machines that are now -- can very easily and
3 automatically reduce the consumption of energy and
4 industrial processes; can easily and very quickly
5 and cost-effectively have huge strides.

6 It's possible to go through the
7 economy, offer benefits both to -- and money, to
8 engage in these efficiency improvements and, at the
9 end of that process, start it again and again and
10 again, and move higher up that tree from the
11 low-hanging fruit to the top, removing obviously
12 the biggest fruit at the bottom that provides the
13 maximum benefit in the most cost-effective manner.

14 And the next result of which is to
15 provide a huge stimulus to the economy, everywhere
16 across the island, and across the nation, if it's
17 implemented nationally.

18 And so I think the demand side
19 management savings are immense, and really have had
20 no impetus in Canada beyond that program that ended
21 in the mid-'70s. It's time to do it, and to offer
22 those incentives both to homeowners and to industry
23 and when that program has run out, we take stock
24 and either provide more targeted -- or just do it
25 again, and offer those grants, because in the end

1 it's a win-win-win situation.

2 CHAIRPERSON CLARKE: Thank you.

3 Do you have any like specific
4 examples of -- can it, for example, reduce the, you
5 know, 10 percent of your demand, or 2 percent? Do
6 you have any quantifiable figures?

7 MR. MARCOCCHIO: Not at the -- not
8 immediately, but ---

9 CHAIRPERSON CLARKE: Thank you.

10 MR. MARCOCCHIO: I could do some
11 research on the range of what that response -- of
12 course, it would be -- it's entirely dependent on
13 the situation, right? Our situation here would be
14 very different.

15 Addressing demand side management
16 in Labrador would be very different than it would
17 be in California, for example. And the measures
18 that one would take, and the potential savings, are
19 very different.

20 But in a climate as cold as this
21 one, in the Canadian winter, it would be extremely
22 easy to cut power consumption and the need for
23 energy here by 30 percent or more, I'm certain,
24 with very little investment.

25 CHAIRPERSON CLARKE: Thank you.

1 MEMBER DOELLE: Yes, thanks for
2 your presentation.

3 Just a follow-up to the question
4 -- the discussion that you just had. I guess I
5 have a similar question and I want to give you a
6 similar opening to respond in terms of the smart
7 grid.

8 We've heard quite a bit about
9 this, but we -- and we'll hear from the Proponent
10 this afternoon on alternatives. And I understand
11 your position that this is information that the
12 Proponent should be providing.

13 But I'm wondering whether you have
14 any more specific information in terms of the level
15 of investment that is required, the timescales
16 within which benefits from that kind of an approach
17 could be achieved, and how that relates to kind of
18 this being an alternative to the project?

19 MR. MARCOCCHIO: I provided some
20 information this morning that obviously the Panel
21 hasn't had an opportunity to go over that sets out
22 several examples of programs that are being rolled
23 out.

24 The island of Malta off of the
25 coast of Sicily is one. There's a model being

1 rolled out in Hawaii in an industrial development.

2 They are being facilitated by
3 General Electric and it provides huge opportunities
4 for the electric energy sector to engage and
5 invest, and it seems like GE is in the lead, both
6 rolling out the meters and the smart appliances
7 that will facilitate the interaction with the new
8 system that's rolling out.

9 I don't know if that answers your
10 question or if I've left an aspect of it?

11 MEMBER DOELLE: Yes, I mean, I
12 realize there may be limited information available
13 on this. But I guess from our point of view, one
14 of -- in terms of looking at this as an
15 alternative, one of the things that we're
16 interested in is in the specific context of, for
17 example, the Island of Newfoundland.

18 What amount of investment is
19 needed over what timescales? Is the investment
20 needed and does that then affect demands over the
21 timescales that are relevant for determining
22 whether this kind of an approach provides an
23 alternative way of meeting demand in the island of
24 Newfoundland?

25 MR. MARCOCCHIO: I understand the

1 question and I understand the Panel's concern.
2 However, I think it's a little unreasonable to
3 expect an intervenor in this hearing to have that
4 at his fingertips. However, it does raise a very
5 important and interesting point.

6 I hope that the Panel has the
7 resources to bring in the independent -- and I
8 stress independent -- expertise to be able to
9 address these questions, both for these issues
10 about the rollout and demand and on these bigger
11 issues of what are very confusing to lay people
12 here, and probably to the Panel as well, about the
13 nuts and bolts of both financing and the generation
14 and the interconnections and the ability to -- how
15 many renewables can be reasonably accommodated.

16 On thing that's clear and that
17 everyone acknowledges, perhaps even the Proponent,
18 is that with the roll-out, it increases the amount
19 of alternatives that the grid can and will support.

20 So I hope that the Panel does have
21 the resources -- and I guess it's a question to the
22 Panel -- do you have the resources to hire those
23 independent experts?

24 CHAIRPERSON GRIFFITHS: Well, you
25 know my standard answer when anyone asks a question

1 of the Panel; I'm sorry, we don't ---

2 MR. MARCOCCHIO: Well, it's pretty
3 relevant ---

4 CHAIRPERSON GRIFFITHS: --- we
5 don't ---

6 MR. MARCOCCHIO: How can I ask the
7 question so that it addresses a pretty fundamental
8 issue and doesn't cause you concern?

9 CHAIRPERSON GRIFFITHS: Our Terms
10 of Reference do, in fact, allow to us to call upon
11 the technical advice. But any technical
12 information or expertise that we would call upon
13 would need to come through the public process.

14 MR. MARCOCCHIO: I hope the Panel
15 does avail itself of that empowerment in the Terms
16 of Reference. And I certainly hope that it has
17 the ability to do that in terms of resources
18 because it is very important and these are
19 technical -- there are an awful lot of technical
20 and economic questions that need to be answered
21 before -- it would appear to me -- before the Panel
22 can make a reasoned decision.

23 CHAIRPERSON GRIFFITHS: Okay.
24 Thank you.

25 Any more?

1 MEMBER IGLOLIORTE: Yes, I really
2 think Dr. Doelle asked the same question I was
3 going to ask, and I think you've pretty well
4 touched on it.

5 And that essentially was, where do
6 you feel the onus is on providing the numbers for
7 what you call resulting savings to roll out the
8 smart grid back? Well, I think that's -- you
9 talked about the same issue pretty well unless you
10 want to expand on that?

11 MR. MARCOCCHIO: On where the
12 money come from or?

13 MEMBER IGLOLIORTE: No, I think
14 what the savings numbers would be, you know,
15 relative savings. You're saying that the resulting
16 savings could be used to roll out the smart grid
17 ---

18 MR. MARCOCCHIO: Call it backbone.
19 Again, you'd need an expert that can, first, do an
20 analysis of where we're at.

21 Frankly, from what I've seen here,
22 there's an awful lot of electrical energy being
23 used and consumed, probably a function of the
24 relatively inexpensive cost of that power. But if
25 saving energy were a -- became the priority, it

1 would appear that the savings here would be very
2 substantial. Perhaps much higher a percentage than
3 somewhere where prices are already elevated and
4 consumers have taken independent measures to try to
5 keep their bills contained.

6 I'd like to answer the other
7 question that I sort of thought you were asking if
8 you don't mind. And that's who's responsible for
9 the capital investments necessary to roll it out?
10 And, clearly, that's the role of the utility.

11 And it takes me back to the
12 problem that I raised yesterday, that the utility
13 is not -- that it's not really a utility, it's a
14 corporation that sees generating a profit as its
15 primary motivation.

16 And it needs its mandate refocused
17 on the task at hand if it's ever going to work, and
18 that's to provide a service at a cost-effective and
19 environmentally sustainable manner which, clearly,
20 it now does not have.

21 And it can legitimately make the
22 claim that generating a profit by destroying the
23 Mishtashipu is part of its mandate. It's a bizarre
24 notion, but they firmly believe it.

25 CHAIRPERSON GRIFFITHS: Mr.

1 Marcocchio, I've got a question about the costs of
2 decommissioning which you've -- you're indicating
3 of the costs of decommissioning are not really
4 included in the financial analysis of the project.

5 Essentially, the Proponent has
6 indicated that they do not have any plans to
7 decommission the project. One assumes that the
8 project, therefore, is assumed to run in
9 perpetuity, but I would assume no project could
10 ever run without a fairly constant reinvestment in
11 refitting.

12 And we haven't actually talked to
13 the Proponent about that, about what's involved,
14 the magnitude of that.

15 I just wonder what your response
16 is to the fact that the Proponent is not
17 anticipating decommissioning the project in terms
18 of doing financial analysis of the project?

19 MR. MARCOCCHIO: Frankly, I think
20 it's a convenient way of avoiding inevitable cost.
21 The Proponent obviously doesn't see costs beyond
22 the 50 to a 100-year window as being relevant, but
23 they're costs that will have to be borne by future
24 generations.

25 And if it wants to make any

1 pretence at sustainability, it needs to include the
2 notion -- I mean no-one believes -- I hope the
3 Proponent doesn't believe that this dam will exist
4 forever.

5 Let's be generous and say it might
6 last 100-150-200 years. The fact remains, at the
7 end of the day, it's going to have to be removed.
8 At the end of the day, the river will have to be
9 restored to its natural course.

10 The costs of that are part of this
11 proposal, and the Proponent chooses not to consider
12 it by suggesting that this project will go in
13 perpetuity. Nothing goes on in perpetuity, not
14 even the planet.

15 CHAIRPERSON GRIFFITHS: Thank you,
16 Mr. Marcocchio.

17 I feel I should now just ask that
18 question of the Proponent.

19 Is the way I have phrased it, is
20 that fair to your stated intent? You have no plans
21 -- foreseeable plans to decommission? However, if
22 you're not including the costs of decommissioning
23 in a financial analysis, the viability, what should
24 you be including in that -- in terms of the renewal
25 of the dam facility on an ongoing basis?

1 MR. G. BENNETT: Maybe I can make
2 a couple of observations here.

3 If we look at the oldest hydro
4 facility in the province today, it was built in
5 Petty Harbour just outside St. John's. It went in
6 service in 1900. That plant is still in reliable
7 operation today.

8 So when we look at our business
9 case, you know, we're looking at a 50-year study
10 for example.

11 The facility is fully paid for,
12 all we have at the end of that study is the
13 operating cost associated with the facility, as it
14 should reasonably last for that 50-year life.

15 If we do need to refurbish that
16 facility for the second 50 years of operation that
17 would be included in the business case analysis at
18 that time. Needless to say given that the vast
19 majority of the investment is in concrete and rock
20 and assets don't require much maintenance.

21 What we're talking about is a
22 refurbishing of the equipment inside the plant.
23 And that would result in a plant that delivers
24 energy at dramatically less cost than the original
25 facility where the vast majority of the investment

1 went into civil works.

2 So if you -- you know, if you
3 extend that argument out to 200 years, the net
4 present value of that investment, looking at it
5 today, is a very small number.

6 And that history is consistent
7 with our other facilities. If we look at Baie
8 d'Espoir or even Churchill Falls, that the amount
9 of investment required to refurbish and prepare
10 that plant for its next five decades of service is
11 much smaller than the original capital cost to
12 construct it.

13 MR. MARCOCCHIO: If I may ask the
14 Proponent a question; are you an engineer?

15 MR. G. BENNETT: Yes I am.

16 MR. MARCOCCHIO: Are you wearing
17 that ring?

18 MR. G. BENNETT: I am a
19 professional engineer registered in the Province of
20 Newfoundland and Labrador and I practice electrical
21 engineering.

22 MR. MARCOCCHIO: No, that wasn't
23 my question. My question is; do you wear the ring
24 that most engineers wear?

25 MR. G. BENNETT: Absolutely I do.

1 MR. MARCOCCHIO: Can you tell us
2 why engineers wear that ring?

3 CHAIRPERSON GRIFFITHS: And the
4 ---

5 MR. MARCOCCHIO: It will be
6 relevant to the question at hand.

7 CHAIRPERSON GRIFFITHS: Mr.
8 Bennett, do you -- if you don't wish to answer
9 that, I'm not pushing you.

10 MR. G. BENNETT: I'd like to hear
11 how it's relevant before we go much further.

12 CHAIRPERSON GRIFFITHS: Yes, could
13 you be as direct as possible?

14 MR. MARCOCCHIO: All right.

15 CHAIRPERSON GRIFFITHS: It's
16 always helpful, Mr. Marcocchio.

17 Just explain your point.

18 MR. MARCOCCHIO: Canadian
19 engineers wear a ring constructed of the metal of a
20 failed bridge that collapsed. That's a testament
21 and a reminder of the hubris and arrogance of
22 engineers too keep them humble.

23 Suggesting that dams will exist in
24 perpetuity and because the rock and concrete will
25 last forever smacks of the hubris that that ring on

1 his finger should be reminding him of everyday.

2 CHAIRPERSON GRIFFITHS: Okay.

3 Thank you, Mr. Marcocchio.

4 Is there anything more for Mr.

5 Bennett on questions either decommissioning or of

6 refurbishment and the -- I take it what you're

7 saying that is in terms of -- I mean one of the

8 main reasons to ensure that -- let's just say that

9 the -- it was anticipated that the dam would be

10 removed at some point, that you include the cost of

11 that on an ongoing basis so that you did not defer

12 the cost to a future generation of the

13 repercussions of something that was started by an

14 earlier generation.

15 And the intergenerational

16 distribution of cost is certainly something that

17 the Panel has to address.

18 So your argument with respect to

19 refurbishment is that not -- or do you build in the

20 -- gradually build in the cost of that

21 refurbishment through the life of the -- initial

22 life of the project?

23 Are you saying it doesn't actually

24 represent a burden to future generations because

25 they will be getting power, it will produce power

1 at such a low rate, is that the argument to our
2 study?

3 MR. G. BENNETT: Well that's the
4 argument, yes.

5 If you looked at the end of our
6 initial study and let's look at the -- you know,
7 the second 50 years of service for the facility
8 beyond our study, the -- we have to look at, of
9 course, the ongoing maintenance of the civil assets
10 and generally speaking those are very small numbers
11 in comparison to the capital cost.

12 And we would look at the condition
13 of the mechanical and electrical equipment in the
14 facility during, you know, that second five decades
15 of service.

16 And by any -- you know, by any
17 evaluation that cost is significantly lower than
18 the cost we see for the first 50 years of service
19 where we have actually constructed the facility.

20 I think the other point that's
21 worthy of note on this point, and I never did say
22 that the facility would last forever. My point was
23 that those costs are much smaller than the
24 construction cost.

25 And secondly, that activity of

1 actually removing the dam, if that were to be
2 something that somebody had to contemplate in the
3 future would also be the subject of an
4 environmental assessment at the time.

5 CHAIRPERSON GRIFFITHS: Okay.

6 Thank you.

7 I'm going to ---

8 CHAIRPERSON CLARKE: I only have
9 one question.

10 CHAIRPERSON GRIFFITHS: Yes.

11 CHAIRPERSON CLARKE: I just had
12 one small follow-up question of your original
13 question with respect to the cost.

14 In your presentation, Mr.
15 Marcocchio, you also mentioned that the analysis
16 hasn't included the several billions of dollars
17 that will be paid out in terms of wheeling costs
18 and interconnection access costs, et cetera.

19 I guess my question is; in your
20 experience, how is that cost normally included? Is
21 it in part of the initial economic analysis of the
22 investment or is it something that nets out in
23 terms of the operating costs and is recovered from
24 the revenue in the market?

25 MR. MARCOCCHIO: Well again, I'm

1 not a technical expert. But I think obviously it
2 must be included in the costs of -- part of the
3 costs of delivering the energy to market and should
4 be included in -- logically, one would think -- in
5 the cost of the original proposal.

6 CHAIRPERSON CLARKE: Maybe at some
7 stage, the Proponent might want to respond to that
8 but that was my question.

9 MR. G. BENNETT: Yes, we'd be
10 happy to touch on that.

11 I think if we look back to page 32
12 of our Supplemental Report on Need, Purpose and
13 Rationale associated with JRP 146, I think there's
14 a paragraph here that may be helpful for the Panel.

15 "Nalcor's considered a
16 range of costs for
17 transmission access for the
18 purpose of modeling. Based
19 on its conservative approach
20 to modeling Nalcor has
21 selected this highest end of
22 the range of upgrade costs
23 which in Nalcor's opinion
24 does not consider
25 opportunities for

1 optimization and includes
2 costs currently subject to a
3 complaints process before the
4 Régie de l'énergie.

5 The costs for transmission
6 include estimates for capital
7 cost of interconnection with
8 the Hydro Quebec system, the
9 costs of all upgrades
10 identified by Hydro Quebec
11 Trans Energie as lowest costs
12 are interconnecting with
13 destination markets.

14 The cost estimate for
15 modeling includes OATTs
16 charges, it's the open access
17 transmission tariff, the fees
18 for upgrades beyond those
19 provided in the applicable
20 OATTs when including the
21 highest end of the
22 transmission access costs for
23 modeling, the business case
24 is robust."

25 MR. MARCOCCHIO: You should have

1 no problem in showing us that business case, should
2 you, Mr. Bennett?

3 MR. G. BENNETT: Yeah, I do have a
4 problem, I think we're talking about our
5 methodology here in our approach.

6 The summary results of that
7 business case are also presented in the same
8 report.

9 CHAIRPERSON GRIFFITHS: I think
10 that concludes the questioning from the Panel.

11 Yes?

12 If possible, I would like to allow
13 just a few minutes at the end before we break for
14 lunch -- I'm just working backwards here -- in
15 order for the Panel to communicate some questions
16 to the Proponent, if that's possible. If we don't
17 have enough time, we can do that later I guess.

18 So I would now like to -- I'll
19 first ask the Proponent if you have questions for
20 the presenter and then I will ask for questions of
21 the presenter from the floor.

22 So, Mr. Bennett, do you have
23 questions for Mr. Marcocchio?

24 MR. G. BENNETT: Thank you.

25 Yes, we have a couple.

1 --- QUESTIONS BY THE PROPONENT:

2 MR. G. BENNETT: One question that
3 I'd like to look at was this discussion about the
4 energy super highway and compared that comparison
5 to the interstate highway system.

6 Some utilities in the United
7 States have considered that energy super highway
8 context in the context of a renewed or developed
9 765 kV 5 transmission grid that could do things
10 like moving renewables from the central part of the
11 U.S. to certainly the east coast, the eastern
12 seaboard.

13 Is that the kind of transmission
14 connectivity you were thinking about in that
15 context?

16 MR. MARCOCCHIO: That hub, that
17 backbone is clearly going to be a part of that
18 super highway and the Obama administration is
19 funding it and its being rolled out as we speak.

20 MR. G. BENNETT: So how would you
21 compare or contrast that approach to our version of
22 that super highway which would be the Labrador
23 Island transmission link and the Maritime link
24 which would ultimately give our province
25 connectivity to that same market?

1 MR. MARCOCCHIO: No one suggested
2 conductivity to that same market. I suggested two
3 independent smart grid backbones, one for the
4 Island of Newfoundland which is relatively
5 isolated; one for Labrador which is relatively
6 isolated, given that you can't negotiate in good
7 faith with the Province of Quebec.

8 MR. G. BENNETT: But my point is,
9 one of the aspects we are seeing in the development
10 in the U.S. is greater transmission connectivity,
11 so why would that work for wind resources located
12 in the central U.S. but not be appropriate for us
13 with -- as we've seen yesterday, thousands and
14 thousands and thousands of megawatts of potential
15 resources?

16 MR. MARCOCCHIO: Because your
17 demands are much smaller, the available energy from
18 alternative sources like wind, waves and water is
19 unprecedented in most of North America.

20 I guess my answer is everything
21 you need is right here.

22 MR. G. BENNETT: I still don't
23 quite understand, though. If you can justify the
24 development of that transmission grid to export
25 wind, for example, from the Midwest United States

1 where the supply far exceeds their domestic demand,
2 why isn't it a reasonable objective for us in
3 Newfoundland and Labrador to do the same thing to
4 the same populated markets?

5 MR. MARCOCCHIO: Well, for one
6 thing, you have some significant structural
7 barriers that are being addressed by federal
8 investment in the U.S.

9 And secondly, your energy is not
10 clean and it's not green. So why would we need to
11 do that?

12 You were talking about moving
13 renewables that are virtually GHG-free from the
14 American southwest to the American northeast, for
15 instance, wind and solar.

16 If you want to -- I mean, it would
17 be wonderful for you to propose farms large enough
18 to do that, but you have no intention of doing
19 anything except ravishing every river you can.

20 MR. G. BENNETT: I think I've made
21 the point on that one.

22 MR. MARCOCCHIO: Well, you haven't
23 made a point.

24 MR. G. BENNETT: We have a
25 difference of opinion on what constitutes

1 renewables.

2 MR. MARCOCCHIO: Yeah, we do.

3 MR. G. BENNETT: I think another
4 question ---

5 MR. MARCOCCHIO: So do renewable
6 portfolio standards in your target market, don't
7 they, Mr. Bennett?

8 CHAIRPERSON GRIFFITHS: Excuse me,
9 Mr. Marcochhio ---

10 MR. MARCOCCHIO: Sorry.

11 CHAIRPERSON GRIFFITHS: --- let's
12 continue.

13 Mr. Bennett, you still have a
14 couple of questions for Mr. Marcocchio?

15 MR. G. BENNETT: Just a couple
16 more.

17 CHAIRPERSON GRIFFITHS: And then
18 I'm going to open it to the floor.

19 MR. G. BENNETT: Okay. Great.
20 Thank you.

21 Just back to DSM for a second, if
22 demand side management is so easy, why isn't it
23 happening on the larger scale that you suggested?
24 I think you mentioned 30 percent as being an
25 achievable objective in terms of energy consumption

1 reduction.

2 CHAIRPERSON GRIFFITHS: For
3 clarification, you mean why isn't it happening in
4 other jurisdictions?

5 MR. G. BENNETT: Yes, and why
6 isn't it happening everywhere because it's such a
7 great -- it's so easy to do?

8 MR. MARCOCCHIO: It is happening
9 with utilities that are encouraging it and in
10 jurisdictions where it's been encouraged.

11 MR. G. BENNETT: But ---

12 MR. MARCOCCHIO: Why? No one
13 suggested it happened spontaneously. It needs
14 policy directions and it needs utilities that want
15 to do more than provide ever-increasing and
16 filthier supply to a diminishing market. It needs
17 a utility with vision I guess is what I'm saying.

18 MR. G. BENNETT: My only point on
19 that is I thought in response to a question from
20 the Panel you weren't able to indicate where those
21 types of savings were being achieved.

22 And maybe to follow onto that ---

23 MR. MARCOCCHIO: Where they're
24 being achieved, you mean geographically?

25 MR. G. BENNETT: No, which

1 utilities are achieving the types of reductions
2 that you had suggested were possible?

3 MR. MARCOCCHIO: I submitted a
4 paper this morning on a utility in Wisconsin called
5 Dare (phon.). It had a name that would --
6 surprisingly un-utility-like, but it's there on the
7 public record.

8 MR. G. BENNETT: Okay. I haven't
9 seen that yet. So we can review that.

10 Just one thought on that point.
11 What do you see as a relationship between demand
12 side management and rates for electricity?

13 MR. MARCOCCHIO: The relationship
14 between demand side management and rates?

15 MR. G. BENNETT: Yes.

16 MR. MARCOCCHIO: Over time, it
17 would push rates down because one would not need
18 large capital investments like spending \$20 or \$30
19 billion building several hydro plants as the need
20 will increasingly be met by a strong self-
21 supporting, self-healing system -- interactive
22 system of energy production and consumption.

23 MR. HULL: Mr. Marcocchio, you've
24 indicated that 30 percent or more, I guess, savings
25 could be achieved -- 30 percent more load could be

1 saved on systems with very low investment, I guess.

2 Which utilities are you seeing
3 that are achieving those savings today?

4 MR. MARCOCCHIO: I suggested that
5 that might be achievable here in Labrador. And if
6 you'd like to sit down, I'd love to work it out
7 with you.

8 But it takes a commitment, a
9 commitment to an energy plan that is focused on
10 reducing rather than encouraging ever-expanding
11 consumption to use resources that may or may not be
12 needed but are desired for sale by a Proponent that
13 is intent on ever-increasing supply when the world
14 is moving in the other direction.

15 MR. HULL: With respect to demand
16 side management, I guess the province and
17 Newfoundland and Labrador Hydro have specific
18 initiatives for demand side management.

19 Which initiatives, in your view,
20 could the province or Newfoundland and Labrador
21 Hydro be missing to achieve further savings?

22 MR. MARCOCCHIO: Insulating homes
23 and windows, insulating windows and re-insulating
24 homes, similar things for industry, controls on
25 motors.

1 MR. HULL: Most of those programs
2 are being pushed, I guess, by the province and by
3 Newfoundland and Labrador Hydro ---

4 MR. MARCOCCHIO: No, they ---

5 MR. HULL: --- and those savings
6 have been reflected in the load forecasts that we
7 filed with the Panel.

8 But specifically, I guess, which
9 ones, in your view, I guess, are we missing out on
10 that could generate further savings?

11 MR. MARCOCCHIO: There's all kinds
12 of them. You're asking me to design your demand
13 side management program because you've never heard
14 of it before or?

15 MR. HULL: No, I'm just asking, in
16 your view, I guess, some specific instances of
17 opportunities that we may be missing out on.

18 MR. MARCOCCHIO: Those windows
19 behind you might reduce their heat loss by 90
20 percent overnight by replacing them.

21 MR. HULL: Thank you.

22 CHAIRPERSON GRIFFITHS: I just
23 want to ask the Proponent; do you feel that you are
24 maxed out on your demand side management? Is that
25 the implication of your questions?

1 MR. G. BENNETT: We do have a
2 demand side management program.

3 CHAIRPERSON GRIFFITHS: I realize
4 that, but that's not the question. It's do you
5 feel that you're sort of maxed out, that there's
6 nothing more than you can do? Is that the -- that
7 sounds to be the tenor of your question.

8 MR. G. BENNETT: Well, I guess --
9 I think it -- maybe the responses into the context
10 that we could eliminate depends on Holyrood simply
11 through demand side management. I guess we're
12 having trouble seeing that conclusion. That's
13 ultimately the problem.

14 CHAIRPERSON GRIFFITHS: Okay.

15 MR. G. BENNETT: We do have a
16 demand side management program. It's regulated by
17 our Public Utilities Board. We provide rebates for
18 insulation, window upgrades, door upgrades. We
19 have an energy efficiency program for our
20 industrial customers. And that is funded through
21 Newfoundland and Labrador Hydro's regulator.

22 So I think what we were focused on
23 more than anything else was the notion that
24 reducing our consumption by 30 percent and
25 therefore eliminating the requirement for the

1 Holyrood generating facility may not be a viable
2 alternative to what we're talking about here.

3 That was, I think, the genesis of
4 the question.

5 CHAIRPERSON GRIFFITHS: I
6 understand, yes.

7 Sorry, quickly, Mr. Marcocchio,
8 can you respond to that?

9 MR. MARCOCCHIO: I don't think I
10 understood.

11 Are you suggesting that the 1
12 terawatt of potential savings by 2026 in the energy
13 plan is not a reasonable goal?

14 MR. G. BENNETT: Our consultant,
15 Marbek, on that point said that 1 terawatt/hour was
16 the upper limit of what could be achieved by 2026.
17 And I think that was filed in response to -- I
18 don't have the IR in front of me, but I will get
19 that for the record when we come back after lunch.

20 MR. MARCOCCHIO: Well, you haven't
21 really answered the question. You don't believe
22 that's achievable?

23 MR. G. BENNETT: I'm simply
24 relying on our consultant who had completed work in
25 that area and made a recommendation that 1

1 terawatt/hour was what they felt to be the upper
2 limit of a DSM target.

3 MR. MARCOCCHIO: Would that not be
4 enough to displace Holyrood?

5 MR. G. BENNETT: No, it would not.

6 CHAIRPERSON GRIFFITHS: Thank you.

7 I can take one or two questions
8 from the floor for Mr. Marcocchio and his
9 presentation. Then we'll -- yes, Mr. Davis and --
10 I'm sorry, I don't know your name.

11 --- QUESTION BY THE PUBLIC:

12 MR. DAVIS: Thank you. It's
13 Eldred Davis again.

14 Mr. Marcocchio, you asked about
15 the -- I guess in response to a question about the
16 billions of dollars to justify the -- or explain
17 away some of the costs for wheeling power through
18 -- or from this particular source, and I think the
19 answer was not applicable to this potential
20 development. The response from the Proponent was
21 dealing with power going through Quebec.

22 And I thought you might ask them
23 to clarify the power that they're proposing to
24 generate, you're saying, through the DC link to the
25 Island of Newfoundland and onto the Maritimes.

1 I understand that Emera is getting
2 free power and I guess there won't be any wheeling
3 costs that this Proponent will have to deal with
4 there. But they also plan to use that facility,
5 the DC link to Cape Breton, to sell other power to
6 other interested buyers, you know, into Nova
7 Scotia, independent of Emera, into New Brunswick
8 and beyond to the United States.

9 So there aren't any figures that
10 I've seen that would explain the costs and where
11 they could possibly profit on this without having
12 to have the stakeholders in the corporation, I
13 guess, SIA Falco -- not SIA Falco, Emera in this
14 case, without being financially backed-up by the
15 ratepayers and taxpayers of Newfoundland and
16 associated with Labrador of course.

17 So -- maybe you could ask the
18 Proponent to just explain a bit more on that?

19 CHAIRPERSON GRIFFITHS: Well, Mr.
20 Davis, that sounds like a question to the Proponent
21 from you which is ---

22 MR. DAVIS: I understand I'm not -
23 - I know you've been lenient, Madam Chair, but I
24 try to play within the rules in this case.

25 CHAIRPERSON GRIFFITHS: Well,

1 thank you very much, I really appreciate that.

2 And as your reward, I think it is
3 more efficient that we put that question straight
4 through to the Proponent. So thank you, and Mr.
5 Bennett?

6 MR. BENNETT: I think maybe that
7 is one that we better -- we would best address once
8 we've had a discussion this afternoon with the
9 other presentation and then we could put that in
10 context.

11 CHAIRPERSON GRIFFITHS: Okay, Mr.
12 Davis, are you able to come back this afternoon?

13 MR. DAVIS: I accept that as a
14 non-answer.

15 CHAIRPERSON GRIFFITHS: Pardon?

16 MR. DAVIS: I accept that as a
17 non-answer.

18 CHAIRPERSON GRIFFITHS: Well ---

19 MR. DAVIS: I do have another
20 point to make as well which will only take a
21 minute.

22 As far as demand side management
23 and so on there's -- and the seemed overwhelming
24 reluctance of the energy people in Newfoundland and
25 Labrador to even seriously address it.

1 I had the opportunity to see a
2 presentation given by Memorial University through
3 the Harris Center and unfortunately I don't
4 remember the details now but I guess Dr. Fisher was
5 there and he had some ideas and so on.

6 Eventually, it came down to time,
7 and people from the audience were able to ask
8 questions and make comments.

9 There was one fellow there -- I
10 forget what community he represented, I don't -- I
11 think he was either a paid or elected official, he
12 said, "Well, you know, we have a windmill in our
13 yard, in our town depot. It's used to ..." I think
14 he said they used the electricity to light the yard
15 basically.

16 Now what he -- the community could
17 have used if for -- it chose I think to light their
18 vehicle yard or something. But to me -- and he
19 also said, you know, if I recall correctly, that
20 they'd like to do more of that.

21 And I'm, you know, I had the
22 impression that he was trying to give us -- other
23 communities would like to do that. It costs them
24 very little and they had a benefit from it but they
25 couldn't really go beyond that because the utility

1 more or less decided that they would not be open to
2 dealing with anything like that.

3 I just think that, you know, this
4 is one of the obstacles that we are against now and
5 it's one of the reasons why we're really being held
6 in older technology where we're being held back.

7 There are those that could
8 probably be doing something similar and it's just
9 being disregarded, so I just wanted to make that
10 comment.

11 CHAIRPERSON GRIFFITHS: Well,
12 thank you, Mr. Davis.

13 MR. DAVIS: Thank you.

14 CHAIRPERSON GRIFFITHS: And à
15 propos of your first question that you felt you
16 didn't receive an answer, can we bear that in mind?
17 Mr. Bennett has indicated he'll address it this
18 afternoon and so -- this afternoon, let's make sure
19 that it gets answered.

20 I'd like to -- just finally to
21 recognize Ms. Wheeler , if you'd like to come
22 forward with your question from ---

23 MS. WHEELER: Karen Wheeler, I'm
24 Director of Economic Development with the Town of
25 Happy Valley-Goose Bay.

1 It's not to Mr. Marcocchio -- I'm
2 sorry if I've mispronounced that -- but I'm sorry I
3 was late today. I missed the opportunity to hear
4 both presentations, I was meeting with a developer
5 who's come into town as a result of this
6 anticipated project.

7 But I was wondering if there's an
8 opportunity -- actually, it's a question for the
9 Panel -- if there's an opportunity for me to review
10 the presentations once the transcripts are done so
11 that I might possibly ask a question later on,
12 tomorrow or at another session?

13 CHAIRPERSON GRIFFITHS: Ms.
14 Wheeler, yes, the transcripts will be available as
15 of tomorrow morning, hopefully, and please anybody
16 can review them and come to other sessions.

17 Now, if your question -- if you
18 want to make a presentation, I encourage you to
19 talk to the secretariat to see if there's space in
20 any of the sessions. If you want to come and ask a
21 question, again, speak to the secretariat. If your
22 question is not on the topic of the topic-specific
23 session, we'll find a way to accommodate you.

24 We're interested in hearing
25 people, so my advice is ---

1 MS. WHEELER: Okay.

2 CHAIRPERSON GRIFFITHS: --- always
3 talk to the secretariat.

4 MS. WHEELER: Okay, thank you.

5 CHAIRPERSON GRIFFITHS: Okay,
6 well, thanks.

7 You know that -- everybody knows
8 that you can access the transcripts on the Registry
9 online, yes.

10 Mr. Raphals, is your question or
11 comment -- I was going to cut it off after Ms.
12 Wheeler.

13 MR. RAPHALS: It's really just to
14 ask you -- it's not a question for Mr. Marcocchio,
15 but I'd like to -- I do have some comments to make
16 about some of the questions that have been raised
17 this morning. And whatever time would be good for
18 you, I'd be happy to accommodate -- fine, thank
19 you.

20 CHAIRPERSON GRIFFITHS: Now, if
21 that's all right, you're here this afternoon?

22 MR. RAPHALS: Sure, yes, I am.

23 CHAIRPERSON GRIFFITHS: We'll make
24 sure we fit you in, there's going to be time.

25 Yes, Mr. Denstedt, you have a

1 question -- a quick comment so that we can ---

2 MR. DENSTEDT: No, just a question
3 about process and it can be fairly quickly.

4 I've been sitting relatively
5 silent for quite a few days now. I'm just curious
6 about how the process unfolds because during the
7 question periods we seem to be having kind of
8 endless rebuttal from Mr. Raphals in particular and
9 I think the only fair way to proceed is if you're
10 going to allow that kind of rebuttal from Mr.
11 Raphals then Nalcor and others should be allowed to
12 have their own replies to that and -- just maybe
13 over the lunch we could think about the process
14 looks like going forward so it's fair to everybody,
15 that's all.

16 CHAIRPERSON GRIFFITHS: Mr.
17 Denstedt has raised a procedural question and
18 suggested that we will -- and we will indeed
19 consider this over lunch.

20 I'd just like very briefly to call
21 if anybody else has a comment that they'd like to
22 make about this process question?

23 Obviously, we had some -- perhaps
24 a slightly stricter structure that we were -- we
25 started off with. We've been adapting it to the

1 circumstances, but I would like to hear if there's
2 anybody else -- now please brevity, it's lunchtime.

3 But if anyone else would like to
4 make a comment, not a rebuttal, relating to this
5 issue of how we're structuring the process and the
6 questioning, I'd like to hear them.

7 Ms. Rudkowski? This is in order
8 that we can hear from people with a concern and
9 we'll go into our deliberations over lunch.

10 MS. RUDKOWSKI: I appreciate that
11 the Panel has shown some flexibility. I think it's
12 terribly important that we all be heard and not
13 having that opportunity to be heard I think would
14 be an injustice to all of us.

15 CHAIRPERSON GRIFFITHS: Thank you.

16 Is there anyone else who wishes to
17 make a quick comment on this?

18 Well, if not, we will certainly
19 consider your comments, Mr. Denstedt, and respond
20 to them after lunch.

21 So I think it's almost five past -
22 - oh, do you want to ---

23 CHAIRPERSON CLARKE: Thank you, if
24 you have time, there's three little things.

25 ---REMARKS BY THE PANEL:

1 CHAIRPERSON GRIFFITHS: How long
2 will it take? Oh, well, that's fine.

3 Yes, Mr. Clark just wants to put -
4 - give the Proponent a little bit of notice to some
5 of the questions the Panel will want to ask this
6 afternoon so you have time to think about it.

7 So he says three minutes, so ---

8 MR. MARCOCCHIO: I'm done.

9 CHAIRPERSON GRIFFITHS: Yes, thank
10 you very much, Mr. Marcocchio.

11 CHAIRPERSON CLARKE: Yeah, thank
12 you very much.

13 I thought that this would be an
14 opportunity to give you -- I know we're going to be
15 talking about alternatives this afternoon that --
16 but there are other issues we want to also discuss,
17 and I'm just going to outline a series of questions
18 with the idea that you can think about them and
19 then decide how you want to respond later in the
20 day.

21 And I want to go back to the first
22 question I started with yesterday, which had to do
23 with the justification of the project in economic
24 terms and realizing that the basic major benefit
25 has to do with the revenue stream that's

1 anticipated over the longer term.

2 And there's numbers that's -- has
3 been pointed out in some of the presentations in
4 the order of reaching, say, one billion dollars per
5 year, and I wanted to make sure that we had a real
6 good appreciation as to how that was determined,
7 how realistic and how much confidence we have in
8 it.

9 I realize that you believe that
10 you have a robust case in terms of the economics
11 and you've indicated that already today.

12 And -- so one of the questions --
13 we've looked at the cash flow that you have in your
14 JRP 146 and it's -- while I'm not an economist, it
15 seems to me that the S2 and S3 sequences where you
16 don't have the big cash flow from Gull Island up
17 front would in fact result in a different set of
18 cash flows.

19 I was, first of all, wondering
20 whether or not you had re-run your cash flow model
21 with respect to S2 and S3?

22 The second area has to do with the
23 sensitivity analysis. I knew you had run some
24 sensitivities. You have some different variables
25 that you've looked at, and you've looked at, as I

1 recall it, it was most sensitive to changes in the
2 market price.

3 My understanding is that the model
4 includes selling all of the power, 100 percent of
5 the power. And it seems to me that a variable
6 could very well be looked at as running it at 50
7 percent sales, 80 percent sales. In other words,
8 not make the assumption that you can sell 100
9 percent of the energy.

10 So I thought that would be a good
11 variable to look at in terms of your sensitivity
12 analysis.

13 And the other thing is that in
14 most sensitivity analyses like that, you often look
15 at a combination of changes in variables. So it
16 would be interesting to me if you could run
17 something like, let's say, sales at 80 percent,
18 market prices down 15 percent, capital costs up 10
19 percent. That might be extremes, but to get an
20 idea of certain combinations of different
21 sensitivity analyses, I think that would be
22 important and then look at the return on investment
23 in those kinds of circumstances.

24 Half a minute. The other issue
25 has to do with we have talked about just Muskrat

1 Falls alone. I understand you're going to look at
2 some cash flow numbers just on Muskrat Falls alone,
3 and that would be interesting because you've
4 indicated that the -- certainly at least in the
5 initial years, that Muskrat is not dependent upon
6 the Nova Scotia link or not dependent upon selling
7 all the power.

8 So the same kind of question with
9 respect to Muskrat and the return on investment in
10 that kind of a scenario. So that's one area of
11 questions.

12 We have others, but that's the one
13 that I just wanted to mention at this stage to give
14 you a heads up because this afternoon is the end of
15 this session.

16 MR. G. BENNETT: Well, thanks for
17 that and we'll try to think about how we approach
18 those over lunch.

19 CHAIRPERSON GRIFFITHS: Thank you
20 very much.

21 I'm going to say that we will
22 start this afternoon's session at 10 past 1:00 in
23 order to give you enough time to get out and get
24 some lunch.

25 So thank you very much.

1 --- Upon recessing at 12:06 p.m./

2 L'audience est suspendue à 12h06

3 --- Upon resuming at 1:12 p.m./

4 L'audience est reprise à 13h12

5 CHAIRPERSON GRIFFITHS: Good

6 afternoon, ladies and gentlemen. Sorry we're a few
7 minutes later than we should be, but we will resume
8 this session, this topic-specific session on need,
9 purpose, and alternatives.

10 Our agenda for this afternoon, I
11 am first going to respond to the issue of process
12 that was raised before lunch.

13 We will then move on to a
14 presentation by the Proponent, which is in response
15 to an undertaking that was requested of them and
16 it's a presentation on alternatives.

17 And then we will have questioning,
18 obviously, and the break.

19 We will then resume with general
20 questioning on this topic to the Proponent,
21 beginning with some questions that were posed by
22 Mr. Clarke on behalf of the panel before lunch and
23 then there will be plenty of opportunity for other
24 people to ask questions as well.

25 And then finally, the Proponent

1 will have 10 minutes to make a general response to
2 all the material that's been brought before the
3 panel in this particular topic-specific session.

4 So that's the agenda.

5 So before the lunch break, Mr.
6 Denstedt, on behalf of Nalcor, raised an issue of
7 process and asked for a response from the panel.

8 Mr. Denstedt indicated that some
9 participants, naming one in particular, were being
10 allowed excessive opportunity to provide what Mr.
11 Denstedt characterized as rebuttal and that this
12 was unfair to the Proponent.

13 The panel then asked for views on
14 this issue from other participants.

15 After due consideration, the panel
16 makes the following observations. The main purpose
17 of the hearings is to draw out information and
18 views that will help the panel to reach its
19 conclusions and to prepare recommendations.

20 The panel endeavours to apportion
21 this time available, the time available for
22 questions and comments, as fairly as possible.

23 The panel does not agree that any
24 particular participant has been given an unfair
25 advantage in this regard.

1 Earlier in the process, the
2 Proponent asked the panel for an opportunity to
3 respond to information and views presented at the
4 end of each of the sessions.

5 The panel has granted this
6 request, and as one example, the Proponent is being
7 allotted 10 minutes at the end of this particular
8 session to provide that response.

9 In addition, the panel believes
10 we've been open to requests from the Proponent to
11 offer clarification or corrected information
12 throughout the process.

13 Therefore, the panel concludes
14 that the process we are following is appropriate
15 and is fair to all participants.

16 So that is the panel's response to
17 Mr. Denstedt.

18 Yes, Mr. Marcocchio, a brief
19 comment.

20 MR. MARCOCCHIO: Yes, a very brief
21 comment.

22 CHAIRPERSON GRIFFITHS: I also
23 recognize Ms. Rudkowski.

24 MR. MARCOCCHIO: I'd like to thank
25 the panel for coming to that decision and I would

1 also like to register the concern that I have that
2 it was in fact legal representation from the
3 Proponent that made that request. And as I thought
4 and as I think the panel instructed, legal
5 representation was discouraged in these kind of
6 processes, and I hope in the future that a) the
7 person will identify himself in his role as an
8 employee of the Proponent and, secondly, that he
9 will keep in consideration that legal
10 representation is not really welcome in these
11 processes.

12 CHAIRPERSON GRIFFITHS: Mr.
13 Marcocchio, you are not speaking for the panel in
14 this regard. I think the panel's position is that
15 legal representation is certainly not required,
16 obviously, and we're trying to make this process
17 open and comfortable for all -- Mr. Denstedt is --
18 can take the -- is as welcome as anybody else to
19 raise a question of process if he needs to. He may
20 not have identified himself and I may have cut that
21 off by recognizing him because I knew who he was so
22 that's a good point.

23 Ms. Rudkowski?

24 MS. BLAKE-RUDKOWSKI: Bruno --
25 Bruno did make part of my point and I think the

1 point is that here we have a lawyer for the
2 Proponent making an objection against -- basically,
3 against us, Grand Riverkeeper, for having an expert
4 that can answer questions that we, as laypersons,
5 can't.

6 And I'd like to point out also for
7 the Panel and for those in the room the inequities
8 that we face here as Grand Riverkeeper. You just
9 look at table of all those paid support staff that
10 Mr. Bennett has here with him and -- and you put
11 that against us, Grand Riverkeeper, who are all
12 volunteers doing this on our own time with no pay
13 whatsoever.

14 And also I would like to point out
15 the inequities of the funding. Nalcor, for
16 instance, has spent well over \$18 million in
17 environmental studies. Grand Riverkeeper had a
18 total of \$60,000 for intervenor funding to take
19 part in this process. So there's very much an
20 elephant in this room and we're the mouse.

21 CHAIRPERSON GRIFFITHS: Thank you,
22 Ms. Rudkowski.

23 Is that -- that completes your
24 comment? I would like to keep this as short as
25 possible maybe since the Panel has made its

1 finding.

2 MS. BLAKE-RUDKOWSKI: That's it.

3 That's it and I -- we do appreciate your decision.

4 Thank you.

5 CHAIRPERSON GRIFFITHS: Thank you.

6 Any other comments?

7 If not I'd like to call upon

8 Nalcor to make your presentation.

9 --- PRESENTATION FROM NALCOR BY MR. GILBERT

10 BENNETT:

11 MR. G. BENNETT: Great. Thank you

12 Madam Co-Chair.

13 So the purpose of this
14 presentation is to consider the outcome of an
15 evaluation of Lower Churchill Power as the
16 preferred means of meeting the identified
17 electricity needs compared to other available
18 options for the Island of Newfoundland.

19 So throughout this presentation,
20 it'll put some context around the planning process
21 and how we arrived at this -- this conclusion based
22 on a number of options that were available.

23 So there are three things here
24 we'd like to -- we'd like to review. We'll look at
25 the Island demand analysis for capacity and energy,

1 consider the analysis of some of the alternatives
2 that were -- of the alternatives that are available
3 and then home in on the recommendation that's
4 contained at the end of this presentation.

5 So if we look at the electricity
6 requirements on the island, over the long-term
7 they're projected to grow to over 2,300 megawatts
8 and just over 12 terawatt/hours by 2067 and that's
9 in line with current Newfoundland and Labrador
10 economic growth projections.

11 The assumptions that go into this
12 demand analysis include the assumption that there
13 is a single newsprint mill on the island in Corner
14 Brook; that the mills in Stephenville and Grand
15 Falls-Windsor have closed. We have a single oil
16 refinery at Come By Chance.

17 The Vale nickel processing
18 facility will start up in late 2011 and will reach
19 full production in 2014. That the Duck Pond Mine
20 will continue in operation until 2013. That the
21 Hebron Offshore Project will be developed. Other
22 economic forecasts are provided by the Department
23 of Finance, the Government of Newfoundland and
24 Labrador and that would include population, housing
25 starts, GDP and so on.

1 In considering the reliability of
2 our system, we have an objective that we would not
3 lose load on the Island for a period of more than
4 2.8 hours annually so that's a reliability
5 objective that's built into our planning criteria.

6 The Island energy requirement on
7 an annual basis is shown on the right-hand side
8 here and it grows from just below 7 terawatt/hours
9 -- 8 terawatt/hours today over the study period
10 increases to approximately 12 terawatt/hours.

11 So the annual growth rate between
12 2010 and 2041 is approximately 1 percent and then
13 over the entire study period from 2010 to 2067 is
14 0.8 percent. So the growth that we're forecasting
15 into the future, I think historically would be
16 considerably less than we've seen in past years.

17 So in considering Newfoundland and
18 Labrador Hydro's capacity and energy requirements,
19 the study identifies that we will not achieve our
20 loss of load or our objectives in 2015. And
21 therefore, there will be a capacity deficit on the
22 Island and that must be addressed and that's using
23 hydro's normal reliability criteria that have been
24 approved by our Public Utilities Board.

25 So while we do meet our energy

1 balance for approximately four years beyond that,
2 this capacity deficit is an issue that has to be
3 dealt with by hydro in the short term.

4 So as a result, Nalcor and, more
5 specifically, Newfoundland and Labrador Hydro is
6 required to take some action to ensure that an
7 appropriate supply is available for the Island.
8 And there is a regulatory obligation with the
9 Public Utilities Board to decide on the long-term
10 supply options.

11 Using normal process, by the end
12 of 2010, we have to decide whether we're going to
13 remain isolated for another period of time or
14 whether we have to take some other action.

15 So looking at this graphically,
16 you can see here that our existing hydro assets
17 responsible for the base in this curve, we have
18 NUGs or non-utility generators on top of that and
19 then we have our additional required capacity
20 there; in this case, energy beyond the -- that
21 currently available. So today that other
22 requirement of course is met by the facility in
23 Holyrood.

24 So the focus of this presentation
25 is on our Island supply starting in the 2017

1 timeframe; that there is no alternative that can
2 retire this dependence on thermo-generation on the
3 short term. So what we're really interested in now
4 is why does the supply option to fill the need
5 beyond 2017.

6 So the options that are considered
7 in this evaluation; first of all, maintaining the
8 isolated island system and if we look at the
9 generation planning issues before it that was filed
10 in our response earlier -- the one that provided
11 the update for in the past 24 hours -- that plan is
12 laid out and approved -- laid out by Hydro,
13 submitted to our Public Utilities Board and
14 identifies the supply options that we're
15 comfortable can be integrated into the system.

16 That includes our conservation and
17 demand-side management programs. They're --
18 they're included in that forecast. Of course, the
19 Marbek Report was submitted to the -- or the
20 results of the Marbek Report were submitted to the
21 Panel in our -- in our response to JRP-20 -- I'm
22 looking to the team now -- 2526 -- we can get a
23 specific reference on that -- and there were
24 certainly -- there was an identification of the
25 amount that that consultant reasonably thought

1 could be achieved through demand-side management or
2 conservation programs.

3 So looking at the -- the status
4 quo on the Island system; that's one option that's
5 out there. That's our reference plan absent and
6 interconnection.

7 And then we look at the Lower
8 Churchill Project, the generation project, and
9 identify how can we meet that need with either a
10 scenario that has Muskrat first or Gull Island
11 first. And then we've looked at some other options
12 as well.

13 And maybe just to clarify the
14 record, I was -- I was half right on both counts
15 with respect to the Marbek Report. That reference
16 is in JRP-25S/26S.

17 So the criteria that are important
18 in considering each of these options include, you
19 know, the security of supply for our customers, the
20 reliability, the cost to rate payers, environmental
21 considerations, risk and uncertainty and the
22 financial viability of the -- the non-regulated
23 elements of this plan.

24 So the aspects of the plan that
25 aren't included in regulatory rate base where there

1 is a non-regulated risk, we need to carefully
2 consider the financial viability of those
3 particular options.

4 In terms of the assumptions that
5 go into the analysis, our corporate assumptions are
6 used in this evaluation.

7 So when we look at regional North
8 American electricity prices, input and advice on
9 those forecasts comes from the PIRA Energy Group.
10 Our forecasts for world oil prices comes from the
11 same team.

12 Environmental issues. If we look
13 at our island isolated case, we know that we
14 require electrostatic precipitators and scrubbers
15 for Holyrood and those costs are included in the
16 capital cost for the isolated scenario.

17 There is no impact assumed in this
18 study for some of the uncertain costs associated
19 with federal atmospheric emission regulations or
20 greenhouses gases. And any additional cost or
21 burden from those areas would be unfavourable to
22 the isolated scenario.

23 And one point that I should make
24 here is that today the small number of oil-fired
25 generating facilities that are in the country, like

1 Holyrood, are not captured by the proposed federal
2 greenhouse gas regulations for coal-fired plants.

3 And if a determination was made by
4 Canada to require the retirement of those
5 facilities at the end of their economic life,
6 Holyrood would have to be replaced many years
7 earlier than we've assumed in our plan.

8 We've assumed in this plan that
9 that facility can actually run out to beyond 2030
10 and, if that were not the case, because of the
11 federal regulations that have been proposed for
12 coal-fired facilities that replacement would take
13 place much sooner.

14 So that's another -- in the
15 context of this analysis, another favourable
16 assumption that's been made for the isolated
17 scenario.

18 For cost escalation and inflation,
19 we've assumed 2 percent for CPI. We use 2.5
20 percent for generation and transmission, operating
21 and maintenance expenses, and our capital cost
22 escalators are in the order of 2 to 3 percent,
23 depending on the specific type of asset that we're
24 talking about.

25 In the long-run, the financial

1 assumptions used by the -- used in our regulated
2 activities, we have a debt cost of 7.4 percent, our
3 equity cost is 10 percent, debt-equity ratio is
4 typically 75/25 and, therefore, our weighted
5 average capital -- Weighted Average Cost of Capital
6 or WACC or discount rate is working at 8 percent.

7 So for the isolated island system,
8 our build program involves numerous projects. So
9 between now and 2015 we would see an additional 25
10 megawatts of wind put on the system, a 23-megawatt
11 facility at Portland Creek would come on service in
12 -- actually, I missed one there, I'm sorry.

13 In 2015, we would see the Island
14 Pond Hydro Facility at an estimated capital cost of
15 \$200 million; the Portland Creek Generating
16 Facility with 23 megawatts capacity, capital costs
17 in the order of \$111 million. Both of those
18 projects have had relatively recent cost estimates
19 developed in compliance with an order by the Public
20 Utilities Board to prepare these as contingencies.

21 Further development is the Round
22 Pond Hydro Project, capacity of 18 megawatts with
23 capital costs of \$185 million.

24 And these are the -- these are the
25 best opportunities that hydro has identified on the

1 island and I think when you look at -- you know,
2 just even looking at the capital costs of these
3 facilities compared to the generating capacity,
4 these are the best that are available on the
5 island.

6 So notwithstanding some of the
7 opportunities that have been -- you know --
8 discussed as opportunities, these are projects that
9 have a relatively reasonable level of understanding
10 and have been looked at from an engineering
11 perspective.

12 I mentioned earlier the
13 requirement for scrubbers from precipitators for
14 Holyrood and the burner upgrades to reduce nitrogen
15 oxide emissions. That's in this plan with a
16 capital cost of approximately \$600 million.

17 Just beyond 2020, we see almost
18 \$300 million for a Combined Cycle Gas Turbine for
19 170 megawatts in the system; a simple cycle
20 combustion turbine at \$100 million just before
21 2025; another one between 2025 and 2030; a renewal
22 of the wind project so we have the -- the initial
23 ones have reached the end of their life and we have
24 to look at replacement or refurbishment of those
25 facilities.

1 And post-2030, as I mentioned
2 earlier, the replacement of Holyrood at a capital
3 cost of \$1.5 billion.

4 So the capital cost associated
5 with this scenario is in the order of \$3.2 billion.

6 And just looking at this, given
7 the dependence on Holyrood, this is simply capital;
8 this doesn't include the fuel cost that's required
9 to drive Holyrood in the interim.

10 So over the course of our study if
11 we look at the isolated scenario with these
12 renewables integrated with our conservation plan in
13 place, the cumulative present worth of that revenue
14 requirement is just over \$12 billion.

15 And if we bring the capital back
16 to 2010 dollars, the capital in this plan is just
17 over \$8 billion.

18 Some of the key risks in this
19 strategy, if we look at sort of sensitivities at
20 the qualitative level, fuel costs and escalation is
21 a -- and volatility is an issue.

22 We talked about the price of oil
23 this morning and certainly, you know, Brent today I
24 think is about \$118 to \$120 a barrel and that's a
25 significant rise over the past two weeks. So we're

1 seeing this play out in real time and we're all
2 feeling it every time we put gasoline in our
3 vehicles. That is a situation we see continuing
4 into the future.

5 Some of the environmental issues;
6 I talked about the potential for the replacement
7 for Holyrood to be advanced, that's a significant
8 consideration for that asset.

9 From a reliability perspective, we
10 continue the island system to be isolated from the
11 rest of the North American grid and that has
12 reliability implications in the long-term.

13 I think another point that's worth
14 making here is that we have very limited industrial
15 activity on the island. We're down to -- you know
16 -- one paper mill, one mine and one oil refinery,
17 and that represents the total industrial load on
18 the island and that's something that we've seen
19 play out over the past number of years as --
20 particularly in the pulp and paper sector, we've
21 lost the two paper mills.

22 So this activity is all regulated
23 so we have no non-regulated elements in this
24 capital plan.

25 So if we look at the Muskrat Falls

1 scenario, we have to put a single gas turbine on
2 the system just before 2015 in order to alleviate
3 the capacity concern that I mentioned earlier.

4 And from then on, Muskrat Falls
5 can deliver 824 megawatts of capacity. The island
6 link has the capability of delivering approximately
7 900 megawatts capacity and, at that point in time,
8 Holyrood goes into standby, Holyrood gets shut down
9 in the 2020 timeframe and then the other thermal
10 units -- and that doesn't include Holyrood, that
11 would be these -- a couple of these simple cycle
12 gas turbines -- are simply required for reliability
13 support on the system.

14 But we're non-emitting for the
15 vast majority of our energy from this point on.

16 So we talked about the question of
17 spill and what happens with the shortfall of -- or
18 with the surplus of energy that's available from
19 Muskrat Falls beyond the needs of the island, that
20 risk is to the account of the project, not to
21 ratepayers on the island.

22 And the price paid by island
23 ratepayers is based on the Lower Churchill cost,
24 assuming a rate of return that would be very
25 similar to that of a regulated utility.

1 So we have to deal with the excess
2 energy that's not used by the island. As I
3 mentioned, we have two ways to get that to market;
4 one is through our firm booking through Hydro-
5 Québec and then the other one is -- if we move
6 forward with the Emera arrangement -- with the
7 Maritime link and on to the market.

8 And in this case, the cumulative
9 present worth of the revenue requirement is \$10
10 billion, so we've saved almost \$2.2 billion
11 compared to our isolated future. And if we bring
12 the capital back to 2010 dollars, the capital
13 investment is commensurately less, it's 6.5
14 billion, and now the risks that we're dealing with
15 are the environmental approval, the environmental
16 assessment process and the approvals that come with
17 that on the project schedule, as well as dealing
18 with this capital project that we're working on.

19 So the whole question is of cost
20 and schedule control.

21 From a reliability perspective,
22 this option is favourable because now we're
23 integrated with the North American grid by the
24 facility in Churchill Falls.

25 And the rate of return on the non-

1 regulated aspects of this plan, so the work that's
2 been undertaken by Nalcor, earns an 8.4 percent
3 internal rate of return assuming, in the worst
4 case, that we don't monetize that spilled energy.
5 If we do monetize that spilled energy, then that
6 rate of return would improve.

7 Now, another alternative that we
8 look at will be to move Gull Island first, in which
9 case, rather than simply having Muskrat Falls in as
10 a generating source, we put Gull Island in. The
11 island link will be the same capacity; the effect
12 on the island is the same. Holyrood goes as stand-
13 by, it shuts down, and then post-2030, we just need
14 reliability support on the system.

15 And, of course, if we look at the
16 energy balance now, in this particular context, now
17 we can see that we have -- we have to deal with a
18 larger surplus, because Gull Island can generate
19 12 terawatt/hours of energy per year, and that's
20 significantly greater than we're dealing with, with
21 the island. So we have to find a home for that
22 energy in the shorter term.

23 So the revenue requirements look
24 very similar. The challenge is that, absent a way
25 of monetizing the spill, the IRR is not where it

1 needs to be in order to support that capital
2 investment.

3 So we've always said that from a
4 planning perspective we need to assemble an
5 appropriate portfolio for the generation project,
6 and, at this stage, it should be fairly clear that
7 the portfolio lining up for Muskrat Falls, at this
8 stage of the game, has a -- earns a greater return
9 for the energy produced in that site compared to
10 where we are right now for Gull Island.

11 So I guess the key points here are
12 that the island supply issue is an urgent question,
13 both from a cost perspective, both from a
14 reliability point of view, and that we have to make
15 some actions in the short term.

16 Those planning decisions can't be
17 deferred on, from Hydro's perspective, and that if
18 we don't start to take action to ensure that we
19 have an appropriate supply, then the Public
20 Utilities Board may direct that supply decisions be
21 made, and feasible non-lower Churchill options all
22 involve the burning of imported fossil fuel.

23 So, from that perspective, Muskrat
24 Falls is our least expensive option. Gull Island
25 has a lower cost, assuming that all the power could

1 be sold and, while we're confident that we can
2 secure transmission capacity to market Gull Island
3 in the long term, the timing of that transmission
4 access is uncertain. And, in this context, Muskrat
5 Falls represents the least cost-feasible
6 alternative to secure a timely supply for our
7 island customers.

8 So, in that context, if we can
9 look at -- and if we look at other alternatives, we
10 have the same cost components in here. For
11 example, one might say, well, if you build the
12 Labrador island transmission link, you say, well,
13 where could the energy come from to import from
14 other places in the market?

15 And the key point on that is that
16 if we look at the eastern -- look at the Quebec
17 market and the eastern Canadian market, our peak
18 demands are in the winter. So there's no readily
19 identifiable source of supply within the North
20 American market that we can turn around and say,
21 well, we would like to import 700 or 800 megawatts
22 of capacity from the region.

23 I could look at that qualitatively
24 from the perspective of Quebec. If we looked at
25 our price references that we have for energy in the

1 northeast market, there's nowhere that we could see
2 that there are sites or markets that can give us
3 energy at a lower cost than Muskrat Falls.

4 If we turn attention to the
5 Maritime market, we could say the same thing. You
6 know, where in the Maritimes, where in New England,
7 is there a firm generation source that's available
8 during the winter peak, you could say, okay, that
9 could beat Muskrat Falls, as an import?

10 So we looked at those alternatives
11 and very quickly concluded that there is no firm
12 energy sources behind them, where we have our --
13 you know, everybody is looking for energy projects,
14 but nobody has a project that looks like Muskrat or
15 Gull Island, in that context. So we'll talk a
16 little more about that, if that's helpful for the
17 Panel.

18 But that, in a general sense, is
19 where we are. The planning process unfolds within
20 Hydro, looks at the opportunities that they have
21 available.

22 So we take the screening
23 information that may have been looked at by
24 Professor Fisher, for example, and we say, "Yes,
25 all these opportunities are out there." We did a

1 similar screening report in Labrador, and we said,
2 "Okay, on a very high-level desktop ranking, here
3 are the opportunities. Here is the storage and
4 capacity that's available from them."

5 You put a preliminary estimate on
6 them, and then you advance the ones that make sense
7 further and further through the decision process,
8 and exactly the same decision gate process that we
9 use for the project.

10 So, in the case of the island, the
11 ones that made it through that screening were
12 Portland Creek and Island Pond and, to a lesser
13 extent, Round Pond. Those are the short-term, what
14 I would say are technically feasible and
15 opportunities that have been advanced to gate 2 in
16 the hydro world.

17 So, notwithstanding the other
18 potential that's out there, there are other
19 projects that have been advanced to the level of
20 certainty that we see either with this project or
21 with the island alternatives.

22 So maybe with that context, if you
23 have some questions we can explore this some more,
24 because I suspect there may be more questions.

25 CHAIRPERSON GRIFFITHS: Thank you

1 very much, Mr. Bennett.

2 Questions from the Panel?

3 ---QUESTIONS BY THE PANEL:

4 CHAIRPERSON CLARKE: Thank you,
5 Ms. Griffiths.

6 And thank you, Mr. Bennett, for
7 the presentation.

8 I have a couple of general
9 questions and I'm sure I might have some specific
10 ones later on. But it's quite a lot of new
11 information, over and above what has been
12 included in the EIS previously.

13 Previously we were looking at
14 information that, basically, took us up to 2027
15 or 2029, in terms of demand growth and what the
16 options might be within that period, the same as
17 in your system study I think which you tabled
18 yesterday, and the same with the system study
19 that we had before.

20 So this is quite a lot of new
21 information, and we had been thinking about one
22 timeframe and you've expanded that significantly.

23 A couple of observations, you're
24 saying that the Muskrat Falls is a better option
25 for satisfying the island than Gull Island was,

1 and the reason for that is because -- not being
2 able to sell all of the power from Gull Island
3 right at the beginning? Because, originally, the
4 S1 sequence had Gull Island being the first
5 developed.

6 But also Gull Island, I think,
7 with the idea that a certain amount of the power
8 from Gull Island would be part of the -- would
9 satisfy the island, it would be -- the actual
10 transmission link would be from Gull Island as
11 opposed to Muskrat Falls.

12 So I take it that the reason why
13 Muskrat is more attractive now is because of not
14 being able to sell all of the power in Gull
15 Island? And then, that will lead me to the
16 question then about, well then, when we develop
17 Gull Island, that will be even more to sell,
18 right? Because you won't have the 800 megawatts
19 on the island.

20 And the other thing that I
21 observed, in that return -- I don't have the
22 correct slide there, but maybe 19, Slide 19?
23 When you're talking about the -- down at the
24 right-hand side, the internal rate of return of
25 5.7 percent?

1 Now, is that comparable to the
2 rate of return of the return on equity that we
3 were talking earlier about as being 12 percent?
4 Or is it a different ---

5 MR. G. BENNETT: Okay. There
6 were a number of -- there are a number of issues
7 in there that, hopefully, we can address.

8 I think the first observation
9 I'd make is that the situation on the island, the
10 need to solve the island's capacity issues, has
11 made that a much more pressing planning issue and
12 has made the business case very clear from
13 Muskrat Falls.

14 As a planning tool, we've been
15 participating in the environmental assessment
16 process and we've been advancing our other
17 activities at the same time.

18 So, if we look at that process,
19 we provided feasibility estimates for Gull
20 Island, for example, and we believe that we will
21 get transmission access for Gull Island. We're
22 committing hundreds of millions of dollars in our
23 planning efforts to advance the Gull Island and
24 Muskrat Falls project this year.

25 And, notwithstanding the

1 situation of where we are with the Régie, Gull
2 Island remains an excellent project, and we're
3 committed to developing that project.

4 However, at the same time, we
5 see a situation where things have unfolded with
6 respect to the island needs, and with respect to
7 Muskrat Falls, and with respect to our
8 arrangements that have developed during this
9 planning process with Emera.

10 And now we have a situation
11 where we have clarity on a portfolio that
12 supports the start of Muskrat now as opposed to
13 continuing to advance our market planning
14 activities from Muskrat for Gull Island.

15 Now, I would agree that Gull
16 Island has more attractive per unit economics
17 than Muskrat Falls. It is a less expensive
18 project, or site, rather, per kilowatt/hour, than
19 Muskrat Falls can deliver.

20 But, at the same time, as a
21 developer, now we have a choice. Do we wait, and
22 continue to focus more and more effort on our
23 excellent Gull island site or do we say, "No, we
24 actually have the right conditions to facilitate
25 a sanction decision on Muskrat Falls"? This is

1 where we are.

2 You know, our business planning
3 and our commercial development and our market
4 access and our domestic demand have reached the
5 point where we can say, "Yes, we're ready to move
6 forward with Muskrat Falls."

7 It doesn't detract anything from
8 Gull Island in the sense that we're still committed
9 to developing that project, that site. We still
10 have a viable market access alternative for it and
11 we are committed to seeing that through to the end
12 because we do believe that Gull Island is an
13 excellent site.

14 But from a developer's
15 perspective, we say, "Well, here we are." Do we
16 want to wait and continue market development or do
17 we say "This market development is right and we
18 have to solve a domestic issue, and let's solve
19 that problem."

20 CHAIRPERSON CLARKE: Just for
21 clarification on Holyrood, the \$600 million, that's
22 just for environmental clean-up and scrubbers and
23 that type of thing and not at all for the
24 refurbishing of some of the units. The
25 refurbishing, that's the big \$1.5 billion or

1 whatever?

2 MR. G. BENNETT: That's right. So
3 the \$592 million that we're carrying here is
4 strictly for pollution controls, so scrubbers and
5 electrostatic precipitators for that site.

6 And that's the commitment that's
7 contained in the energy plan that if we don't move
8 forward with Lower Churchill, then we've committed
9 that those pollution controls would be installed.

10 It does nothing for the capacity
11 of the site and it does nothing for the long-term
12 future of the facility. Ongoing maintenance or
13 potential life extension to get us out to 2030 is
14 still part of the -- still part of Hydro's plan.

15 CHAIRPERSON CLARKE: And that's a
16 requirement of the energy plan?

17 MR. G. BENNETT: Yes, that's
18 right.

19 CHAIRPERSON CLARKE: And the
20 replacement of Holyrood would be with a similar
21 type of facility and upgrading or will it be a
22 different ---

23 MR. G. BENNETT: It will be a new
24 site. The probability that we could get or Hydro
25 could get authorization to install a heavy fuel

1 oil-fired facility today is pretty well none. And
2 if you look at the cost, it's cost prohibitive as
3 well.

4 So our alternative for that site
5 is a distillate-fired combined cycle facility. So
6 although the fuel is more expensive, the plant is
7 much more efficient. So that would be the least-
8 cost alternative for us.

9 CHAIRPERSON CLARKE: Thank you.

10 MEMBER DOELLE: Just a quick
11 follow-up on Holyrood and the retrofit that's
12 required for NO_x purposes. Is that at all dependent
13 on the extent to which Holyrood is used? In other
14 words, do you have a total NO_x requirement that you
15 have to meet or is it just a requirement to
16 retrofit the facility regardless of how much it's
17 being used?

18 MR. G. BENNETT: On the NO_x
19 requirement, I'm going to have to confirm that one.
20 That's a detail I don't have. I know that the
21 electrostatic precipitators and the scrubbers,
22 which are the largest part of that investment, are
23 mandatory no matter how much we use it. But I'll
24 confirm.

25 MEMBER DOELLE: All right.

1 Well, just a couple of other
2 questions of clarification for now.

3 If you go to Slide 5, I just want
4 to confirm that the demand side management that
5 you're planning to do is included in these numbers?

6 MR. G. BENNETT: Yes, it is.

7 MEMBER DOELLE: Okay.

8 MR. G. BENNETT: So the system
9 planning team has made an estimate of the demand
10 side management initiatives that they expect to be
11 achieved and that's included in the load forecast.

12 MEMBER DOELLE: And that's based
13 on the Marbek report?

14 MR. G. BENNETT: Yes, the Marbek
15 report identified that between .5 and 1
16 terawatt/hour of savings were achievable, 1 being
17 -- and our forecast is much closer to the .5. We
18 would concur that's that what is reasonably
19 achievable as opposed to the 1 terawatt/hour
20 target.

21 The interesting point about demand
22 side management is that if it does happen, then we
23 have an opportunity to sell that energy into the
24 market as opposed to using it domestically.

25 So notwithstanding some of the

1 concerns about DSM, from a sales perspective we see
2 that as an opportunity. Rather than selling that
3 energy at a regulated rate of return, we'd be happy
4 to sell it into the market and earn a market price
5 at the appropriate point in time.

6 So in many respects we see DSM as
7 an opportunity, particularly if we have
8 interconnections to the rest of the market and we
9 have a way to monetize that extra production that
10 we wouldn't have otherwise had.

11 MEMBER DOELLE: Maybe we can kind
12 of pursue this a little bit. I'm not familiar with
13 the demand side management opportunities in
14 Newfoundland. But in other jurisdictions,
15 generally speaking, there's a link between the
16 amount of investment you're willing to make and the
17 time period and the kind of return you get in terms
18 of reduced energy consumption.

19 So I know we explored this a
20 little bit in previous information requests, but I
21 still don't have a good handle on this.

22 Can you give me a sense of the
23 investment, kind of the assumptions that went into
24 achieving the .5 that in the end you ended up with
25 and how much more could be achieved with more

1 investment?

2 Have you looked at that in the
3 Newfoundland context?

4 MR. G. BENNETT: No, that's a good
5 question. I think that's what we had asked Marbek
6 to consider, looking at the market, what they
7 thought could reasonably be achieved and could
8 possibly ultimately be achieved, and that's where
9 they landed on their .5 and 1 terawatt/hour
10 estimates that we presented in our IR response.

11 So we look to their guidance on
12 this one. That wasn't a study that we had
13 completed directly ourselves.

14 MEMBER DOELLE: I guess what I'm
15 trying to get an understanding of is what
16 assumptions went into that? Either what direction
17 did Marbek get from you in terms of the investment
18 that you're willing to make in demand side
19 management or what assumptions did Marbek make on
20 its own about the level of investment that is
21 reasonable?

22 MR. G. BENNETT: Right.

23 Well, to the extent -- I don't
24 have those assumptions from Marbek directly with
25 me, but I'm sure that one of the important

1 considerations would be the marginal cost of energy
2 that they were displacing, which would have been
3 Holyrood. So Holyrood's marginal cost today is
4 about \$140 a megawatt/hour.

5 So there is an incentive. There's
6 no question about that. I can pull some more
7 detail on that if that would be helpful to put some
8 context around that.

9 MEMBER DOELLE: Well, and I guess
10 the incentive differs depending on the timing too,
11 right?

12 MR. G. BENNETT: Right.

13 MEMBER DOELLE: Because
14 theoretically, if you could achieve a certain level
15 by the time you have to retrofit Holyrood, then
16 you're not just talking about saving the cost of
17 fuel; you're also talking about avoided capital
18 costs, and the same with other kind of steps in the
19 process, right?

20 MR. G. BENNETT: Oh, I see. Yeah.

21 MEMBER DOELLE: So that's, in
22 part, what I'm getting at is to what extent was
23 that demand side management, that kind of an
24 approach, applied overall to your planning in terms
25 of meeting the energy demand in Newfoundland?

1 MR. G. BENNETT: I would be very
2 surprised if we could justify capacity on the
3 system given the -- you know, as it stands right
4 now, the peaks on the system are -- you know,
5 they're not long term. So this is more -- for us,
6 it's more about the energy balance.

7 I think the capacity cost is not a
8 major component of that value. The real value is
9 in the energy. And I think for us it's more a
10 question of conservation and avoiding the energy
11 production rather than a question of what the
12 demand is at any point in time.

13 MEMBER DOELLE: And it would
14 remain that even if you looked at demand side
15 management in combination with other -- with more
16 focus on other alternatives such as small-scale
17 hydro, wind and so on?

18 MR. G. BENNETT: Well, the
19 challenge with some of the small-scale hydro is
20 that for the most part, those small sites have very
21 little storage. So, you know, we'll save energy
22 when the water is available, but there would be
23 long periods of time given that they have no
24 reservoirs, for the most part, where we will still
25 be relying on thermal generation.

1 MEMBER DOELLE: Okay.

2 MR. G. BENNETT: Which sort of
3 gets into the unit cost evaluation and why we have
4 a relatively small list of opportunities that made
5 it to the feasibility study level within hydro.

6 MEMBER DOELLE: Okay.

7 Unrelated, but something that just
8 occurred to me, you talked this morning about the
9 ramp-up ability of Muskrat Falls.

10 I'm wondering if you could give us
11 the figures for Holyrood on that?

12 MR. G. BENNETT: Okay.

13 I'll try to find those. Those, I
14 don't have at my fingertips because the
15 configuration of the boiler on that plant are quite
16 different than they are for a hydro unit. So that
17 one, I'll have to talk to our thermal engineering
18 team on.

19 MEMBER DOELLE: Okay.

20 MR. G. BENNETT: I'll refer back
21 to that.

22 MEMBER DOELLE: Okay. Well, I'll
23 take a break for now.

24 MR. G. BENNETT: So maybe we want
25 to record that as an undertaking?

1 MEMBER DOELLE: That would be
2 great, yeah. That's for reminding us.

3 CHAIRPERSON GRIFFITHS: Is that
4 clear and received? All right.

5 Cathy?

6 MEMBER JONG: On Slide 9, when you
7 look at the options for meeting the Island supply
8 requirements, you mentioned the isolated Island and
9 the Lower Churchill options which you explored
10 certainly in more detail. Then there's another
11 little blurb at the bottom about "other".

12 MR. G. BENNETT: Right.

13 MEMBER JONG: And I just wanted to
14 explore that, please.

15 MR. G. BENNETT: Sure. And the
16 primary one that we looked at -- I guess the two
17 alternatives we looked at were, "Okay, let's put in
18 these DC links and then start to look at where can
19 we go from there". And I guess we make a couple of
20 observations; maybe I'll pull the slides so it's
21 helpful here.

22 So the question that begs itself
23 is, you put the transmission link in there and
24 where is the firm source of generation behind it?

25 And we start looking out and,

1 first of all in the Maritime Provinces, we look at
2 the maritime alternative. Well, there's no firm
3 generation available to us in the period when we
4 need it. We need it in the winter when -- the same
5 time that Nova Scotia, New Brunswick and PEI are
6 all on their peak loads.

7 So while it's helpful to have
8 generation in the summer, we have a real problem in
9 the winter when we have our heating load. So
10 there's no identifiable resources in those regions
11 and now we can look to -- we go to the U.S.

12 Well, we have a handle on what the
13 market clearing prices are and they're not very
14 attractive compared to Muskrat Falls in the long
15 term. And we ask the same question with respect to
16 Quebec, we've got the same problem.

17 MEMBER JONG: You had the slide --
18 -

19 MR. G. BENNETT: Oh, sorry, no ---

20 MEMBER JONG: I didn't realize
21 that's what you were ---

22 MR. G. BENNETT: No, it's helpful
23 to ---

24 MEMBER JONG: --- referring to.

25 MR. G. BENNETT: --- make that

1 clear ---

2 MEMBER JONG: Thank you.

3 MR. G. BENNETT: --- so thanks for
4 that.

5 And maybe just to -- maybe fill
6 that point in a little bit more, we did look at the
7 costing and we found that it wasn't competitive.
8 So on two grounds, whether it's security of supply
9 or the cost, it didn't make it past that initial
10 screening.

11 CHAIRPERSON GRIFFITHS: Yes, I
12 just have a few small questions, a clarification
13 mostly.

14 Slide 5, could you just explain
15 "loss of load" to me?

16 MR. G. BENNETT: Sure, okay.
17 Let's go back to Slide 5. So ---

18 CHAIRPERSON GRIFFITHS: This is
19 not the same as having your power go out for a
20 certain amount of time; that's not what we're
21 talking about?

22 MR. G. BENNETT: Well, yeah,
23 that's right. What it would be here is an
24 inability for the capacity that we have available
25 on the system to meet the system load.

1 So, yes, in this light, if this
2 situation were to happen somebody's power is going
3 to go off because we have more demand on the system
4 than we have capacity available to meet that
5 demand.

6 CHAIRPERSON GRIFFITHS: And this
7 2.8 hours a year means that -- what? I mean, it
8 doesn't mean for any individual consumer that they
9 lose their power?

10 MR. G. BENNETT: No, it will be on
11 the bulk -- on the bulk system we would have to
12 say, "Well, we are going to be curtailing load" so
13 we're going to be forcibly turning people off in
14 order to make sure that the remainder of our
15 customers would be able to get their service.

16 So this is a criterion that we use
17 in the industry to say we do not want to exceed
18 that number.

19 CHAIRPERSON GRIFFITHS: So if you
20 add up -- so if you turn my power off, it should be
21 a trick since I live in Nova Scotia, but who knows,
22 if you turn my power off for certain minutes and my
23 neighbours and some people who live in another
24 community, when you add that all up and divide it
25 by all of the users, it would add up -- this is the

1 figure we're talking about?

2 MR. G. BENNETT: Well, yes, it's
3 the period of time where we would have to forcibly
4 curtail load somewhere on the system.

5 CHAIRPERSON GRIFFITHS: Yes.

6 MR. G. BENNETT: And we don't want
7 to do that for more than 2.8 hours.

8 CHAIRPERSON GRIFFITHS: All right,
9 I think I understand that.

10 The growth projections -- economic
11 growth projections ---

12 MR. G. BENNETT: What slide?

13 CHAIRPERSON GRIFFITHS: Four (4).

14 I mean, when you simply look at a
15 graph they seem to climb steadily upwards, but you
16 were indicating that these would be considered to
17 be modest, very modest, fairly modest? I mean ---

18 MR. G. BENNETT: These are --
19 well, these are certainly lower than we have seen
20 historically; there's no question about that.

21 CHAIRPERSON GRIFFITHS: I mean,
22 what are the population estimates for Newfoundland?
23 Is Newfoundland going to have -- Newfoundland and
24 Labrador going to have positive population growth
25 or likely to be falling steadily?

1 MR. G. BENNETT: I'm going to look
2 down the table for a second to see if we have that
3 data available with us. We can refer that question
4 to the department of finance so they'll be prepared
5 to answer when they present, if that's helpful?

6 We're -- I mean, I don't have
7 their econometric projections with me personally.
8 I know that they were included in the model for the
9 demand forecast. But that's a question that maybe
10 the department of finance can answer.

11 CHAIRPERSON GRIFFITHS: So if we
12 can assume for the moment that the population is
13 going to stay -- I mean, at best steady, but maybe
14 that's an unfair assumption -- let's just take it
15 for a moment -- but we're seeing the electricity
16 requirements just increasing, it didn't sound like
17 you were projecting a large amount of industrial
18 developments in coming years, but ---

19 MR. G. BENNETT: And to some
20 extent that's a chicken and egg too that, you know,
21 depending on -- and that's a point I should make
22 that, you know, these growth projections are based
23 on the prices in our isolated scenario as opposed
24 to the integrated one. So if electricity prices
25 were lower, we may see greater growth.

1 CHAIRPERSON GRIFFITHS: Yeah, fair
2 enough.

3 But it would appear that to a
4 large extent or to some extent -- large extent,
5 these growth projections are -- everybody using a
6 bit more power per capita, basically. That's an
7 assumption is it, that that's what's going to drive
8 this?

9 MR. G. BENNETT: Whether it's
10 everybody using some more -- everybody using a
11 little bit more power residentially, whether we see
12 some -- additional commercial activity, whether,
13 you know, some industry is feasible, whether -- I
14 haven't compared this but it's in the model. I
15 haven't compared it personally, but whether there's
16 an incentive for people to continue to come off oil
17 heat and onto electric heat; those are all factors
18 that are built into the model.

19 CHAIRPERSON GRIFFITHS: And these
20 sorts of projections would be in line everywhere in
21 North America? Do we have any areas -- or in
22 Europe -- where reasonably prosperous areas are
23 able to project that in fact that the use of
24 electrical energy will just level off ---

25 MR. G. BENNETT: Right, well,

1 there is ---

2 CHAIRPERSON GRIFFITHS: --- which
3 would have some advantages?

4 MR. G. BENNETT: Sure, and there
5 are a few factors in play in terms of the fuel
6 alternatives that are available; for example, if we
7 looked at Ontario where natural gas is prevalent or
8 in the northeast U.S. where gas is used much more
9 heavily for home heating than electricity.

10 Now those are all issues. I guess
11 the other question is the level of taxation. So if
12 we look at, for example, some of the European
13 countries, the amount of tax that's levied on
14 electricity rates is substantial and it wouldn't be
15 uncommon in Europe to be paying, you know, 25 cents
16 per kilowatt hour. At that point in time, you've a
17 pretty strong incentive to, you know, to do
18 something different.

19 So those are all factors that
20 would be included in that model.

21 CHAIRPERSON GRIFFITHS: Thank you.

22 I had one more question. What was
23 it? No, I've lost it; it will come back to me.

24 Are there any more questions from
25 the Panel? So ---

1 CHAIRPERSON CLARKE: Yes, thank
2 you. I have a follow-up on the ---

3 MR. HULL: Could I just -- just
4 two points I guess to that.

5 I guess a couple other drivers and
6 we can certainly dig out some detail here, but, you
7 know, there's been greater penetration per
8 household in terms of electricity consumption over
9 time and that's, you know, I guess since even the
10 1950s until now, I mean, that continues with the
11 number of devices that we have in our homes that
12 are consuming electricity.

13 The second thing that I draw your
14 attention to as well is that during the 1990s when
15 the economy was hit hard here after the devastating
16 impacts on the fishery and we had an outward
17 migration of population, low growth did continue to
18 grow.

19 CHAIRPERSON GRIFFITHS: Thank you.

20 CHAIRPERSON CLARKE: Yes, my
21 follow-up question was related to your question on
22 projections as well.

23 I'm mindful of one of the
24 presentations that we had received from a
25 participant where they indicated that when this

1 project was being proposed back in 1980, at that
2 time the projections were that the full 600
3 megawatts of Muskrat would be required on the
4 island by like 2010. And, in fact, the projections
5 really hadn't grown that much.

6 But I'm just restricted to the --
7 to what my understanding of the information that we
8 had in the EIS so far, and if my memory is correct,
9 we had two or three projections, each subsequent
10 one indicating a lower requirement -- a lower
11 additional requirement by the year 2027 or 2029.

12 And the kind of figures that I
13 recall at least were the second projection had a
14 total of -- load growth of something like 561
15 megawatts. And then subsequent to that with the
16 closure of the Abitibi Pulp and Paper Mill, there
17 was an additional 130 megawatts or something like
18 that that was added to the system and, therefore,
19 it just continued, you know, reduced the additional
20 requirement.

21 And at the same time, the
22 projections indicated that the demand management,
23 the program, could reduce the requirement -- the
24 required additional growth by 12 percent of the 29
25 percent growth that was anticipated.

1 And based on that and in the IS, I
2 was under the impression -- certainly that was --
3 and this is why I mentioned the figures I did
4 yesterday, that the demand management projections
5 were not included in the load growth that had been
6 provided to us after the Abitibi reduction.

7 And therefore, the amount come up
8 to -- as I said, it was about 350 megawatts through
9 2027 with no -- with industrial growth on the
10 Island and about 150 megawatts with no industrial
11 growth. And this was before the application of the
12 demand management targets.

13 And I also understand that the
14 targets in terms of capacity that were in the
15 Marbek report were like a low of -- something like
16 80 megawatts and a high of like 154 megawatts.

17 So I guess my question is that now
18 this new load growth we got here showing something
19 like 380 or something like that, increase up until
20 2029 in this systems report we had last night, so
21 2029, 369 megawatt growth.

22 And you're indicating that in fact
23 the demand management savings are included --
24 reflected in that figure, which is inconsistent
25 with what I had at least read from the earlier JRPs

1 and that type of thing.

2 But be that as it may, I wonder if
3 you could tell us what number is included in that
4 figure? Is it the 54 -- the 84 megawatts that
5 Marbek -- is it the low side or is it the 154 or is
6 it some different figure?

7 MR. G. BENNETT: My sense is it's
8 very close to the middle of the Marbek range. I
9 know the energy number is approximately a half
10 gigawatt hour, but maybe that's one we'll confirm
11 for you. And we'll probably -- I think it's
12 probably contained in the report so we'll make sure
13 we pull that out and present that specifically.

14 One point that I should have made,
15 and it shows up as a bump right there, we can see
16 that this curve jumps fairly dramatically here and
17 that's the Vale facility.

18 So there a few moving parts in
19 here. We've got the -- we've seen the -- maybe on
20 the other side of this we would have seen the paper
21 mills fall off in the short term which would have
22 brought this curve down from where it would have
23 otherwise been on a smooth basis and then we see a
24 jump up again when the Vale facility comes in
25 service.

1 So that's -- if I recall, that's
2 almost half a gigawatt hour -- half a terawatt hour
3 just for that facility alone.

4 CHAIRPERSON CLARKE: Okay. So
5 that wouldn't have been included in your 2009
6 forecast?

7 MR. G. BENNETT: It should have
8 been there. I think it was.

9 But the other thing to keep in
10 mind is that -- maybe the elephant in the room here
11 is a 500-megawatt Holyrood facility which we're
12 planning to replace. So you've got that facility
13 plus whatever growth is happening.

14 CHAIRPERSON CLARKE: Well, just so
15 that I understand now, what I was thinking were the
16 numbers, like I say, 350 with new industrial, 150
17 without industrial and yet to have the demand
18 management savings applied to that for further
19 reductions, in fact, now is like 368 megawatts and
20 that already includes the demand management figures
21 that are factored in there?

22 MR. G. BENNETT: Right. The
23 demand figures were included in the growth
24 forecast.

25 CHAIRPERSON CLARKE: Okay. Thank

1 you.

2 MR. G. BENNETT: Thank you.

3 MEMBER DOELLE: If we can stay on
4 this, first a question of clarification. The
5 Island demand chart, that's peak demand, is it?

6 MR. G. BENNETT: Yes, that's
7 right.

8 MEMBER DOELLE: Okay.

9 Yes, what I would like to explore
10 with you a little bit, you've talked about
11 Newfoundland, the Island of Newfoundland being --
12 and presumably Labrador too -- being kind of a
13 winter peak area.

14 I'm wondering if you could tell me
15 how much of that is related to space electric
16 heating?

17 MR. G. BENNETT: Well, the vast
18 majority of that is from electric space heating.

19 MEMBER DOELLE: Okay. So if
20 that's the case, just again in terms of thinking
21 about alternatives, I'm wondering whether you've
22 done any analysis around the amount of electric
23 space heating that could be converted to other
24 heating sources and to what extent that that could
25 be a way of reducing your winter peak?

1 MR. G. BENNETT: So were you
2 thinking -- well, we know gas isn't an option.

3 We don't have natural gas
4 distribution within the province, so it comes down
5 to a question of oil versus electric heat, and I
6 guess the question that begs itself and that's an
7 individual consumer decision, I don't know that
8 we're ready to impose penalties one way or the
9 other to encourage that switching.

10 I mean, that's a -- right now
11 about two-thirds -- two-thirds of customers in the
12 province, on the Island anyway, are using electric
13 heat.

14 Of course, the number up here in
15 central Labrador will be much higher. It's pretty
16 well universal at 3.3 cents a kilowatt hour. It's
17 pretty well universal that people use electric heat
18 here.

19 MEMBER DOELLE: Yes, of course. I
20 mean, it doesn't have to be regulated. There can
21 -- just like any demand-side management program,
22 you could have incentives implemented to encourage
23 switches away from electric space heating.

24 I guess I'm just trying to explore
25 to what extent that could be -- those kinds of

1 programs could help you flatten out that peak and
2 what that then does to the rest of the analysis
3 about whether there are other alternatives.

4 MR. G. BENNETT: Well, I'm not
5 sure that, you know, forcing that fuel switching
6 and encouraging that price volatility is something
7 that we would -- we can explore that. Maybe the
8 province might want to talk about that from a
9 policy perspective, but that's not something that
10 would typically fall within demand-side management.
11 Usually we're trying to retime the activity.

12 People's decisions on what heating
13 source they put in their source, recognizing that
14 it is a big investment, I mean, if you look at the
15 cost of changing from oil to electric heat, that's
16 tens -- not tens, it's thousands of dollars for
17 individuals. Those are fairly big decisions.

18 CHAIRPERSON GRIFFITHS: So if I
19 can just ask one more, I got my question back, the
20 one that I lost there, and it has to do with your
21 -- the energy conservation program.

22 I'm looking at page 29 of the
23 update, the planning update, and it, I guess,
24 outlines what the program is at the moment.

25 But is there -- maybe you've told

1 me this and I've forgotten, but is there any
2 independent oversights or regulation of this
3 program that sets targets and that pushes the
4 targets and invites public input into the setting
5 of the targets and so on?

6 Is the PUB involved in any way of
7 this?

8 MR. G. BENNETT: Well, to the
9 extent that it's an activity of -- the regulated
10 utility is Newfoundland Power and Newfoundland and
11 Labrador Hydro, yes, they would have oversight as
12 to the amount of funding that was set aside.

13 So they have oversight in that
14 regard.

15 CHAIRPERSON GRIFFITHS: Oversight
16 as in telling you how much?

17 MR. G. BENNETT: Well, how much
18 funding is available or how much is to be included
19 in the budgets for both utilities for those types
20 of activities.

21 CHAIRPERSON GRIFFITHS: So they
22 basically set that target for you?

23 MR. G. BENNETT: Yes.

24 CHAIRPERSON GRIFFITHS: And do
25 they -- the public input and discussion of that

1 comes through their hearings?

2 MR. G. BENNETT: Through their
3 process, yeah.

4 CHAIRPERSON GRIFFITHS: And do
5 they basically -- have they been pushing hydro in
6 any way or has it generally been an acceptance of
7 whatever -- of the target that Hydro puts before
8 them, is that -- which way does it go?

9 MR. G. BENNETT: I don't have a
10 personal insight into how that worked at the last
11 hearing.

12 That's a question I can ask Hydro
13 about and we can come back on that, if that would
14 be helpful.

15 CHAIRPERSON GRIFFITHS: I just
16 wonder, Mr. Bown, is this anything that you have
17 insight into in terms of how the province -- is the
18 province playing a role in pushing the agenda or
19 demand-side management in policy?

20 Go ahead, please. Thank you. If
21 you'd just identify yourself.

22 MR. BOWN: Sure. Charles Bown,
23 Department of Natural Resources.

24 I believe, as I indicated
25 yesterday in my presentation, the Office of Climate

1 Change, Energy Efficiency and Emissions Trading is
2 preparing an energy efficiency strategy and a
3 climate change action plan.

4 And it'll be in those documents
5 that there will be a strategy and targets for
6 energy efficiency in demand-side management.

7 CHAIRPERSON GRIFFITHS: Targets
8 that would apply to Newfoundland and Labrador
9 Hydro?

10 MR. BOWN: Yeah, they would ---

11 CHAIRPERSON GRIFFITHS: They would
12 receive targets that would be non-regulated, I
13 assume? They'd be ---

14 MR. BOWN: Well, the targets would
15 be set province-wide and we would have specific
16 direction either to the PUB or to utilities on how
17 we want them to fulfill that.

18 CHAIRPERSON GRIFFITHS: So that's
19 in process and so at the moment you don't have any
20 insight into how aggressive those targets might be?

21 MR. BOWN: No, I don't.

22 CHAIRPERSON GRIFFITHS: Okay.
23 Thank you very much.

24 MR. BOWN: You're welcome.

25 CHAIRPERSON GRIFFITHS: Okay.

1 Thank you.

2 I'm sorry the panel is taking up
3 all this time with questioning, but we have a lot
4 of questions. So I hope you'll be patient with us.

5 So I'd now like to provide an
6 opportunity for others to put questions to the
7 Proponent on their presentation.

8 If you can give an indication
9 who's interested and we can try and -- I see Mr.
10 Marcocchio, Mr. Raphals, Mr. Davis. Who else do I
11 -- I've got to ask Mr. Igloliorte here, he's the
12 best person at spotting.

13 That's it? I'd better remember
14 what I just said or else I'm in trouble.

15 So I think I saw Mr. -- I
16 recognize Mr. Marcocchio first; Mr. Raphals; and
17 Mr. Davis.

18 Mr. Marcocchio, are you -- did you
19 hear me or are you getting ready to ask your
20 question?

21 ---QUESTIONS BY THE PUBLIC:

22 MR. MARCOCCHIO: Perhaps someone
23 else should go, I'm getting ready.

24 CHAIRPERSON GRIFFITHS: Ah, if
25 you're getting ready, we'll go to Mr. Raphals.

1 We'll put you to the back of the queue behind Mr.

2 Davis, you'll be ready then.

3 MR. RAPHALS: Thank you very much,

4 Madam Chairman. Good day.

5 I have several questions; they're

6 mainly oriented around the planning update because

7 I have that on paper.

8 First, with respect to the chart

9 of loss of load which is on page 10 of the planning

10 update. There was a slide as well which, if I

11 understand it correctly, shows that as of 2015 you

12 are -- if nothing has changed you will have

13 exceeded your planning parameter of 2.8 hours?

14 MR. G. BENNETT: That's right.

15 MR. RAPHALS: Yeah. Can you give

16 us a sense of how much additional capacity is

17 needed so that say for by the horizon of 2020 in

18 order to bring you back into conformity?

19 MR. G. BENNETT: The recommended

20 plan is laid out a little bit later in this report.

21 MR. RAPHALS: Well, I realize it

22 is, but, you know, as increments are added, well as

23 -- just like -- today, your LOLH is well below the

24 2. hours.

25 So I don't think there's any way

1 to derive easily from what we've seen -- does it
2 need 50 megawatts or a 100 or 200 megawatts by 2020
3 in order to not be out of conformity?

4 MR. G. BENNETT: The economic
5 alternative in the case of both scenarios is shown
6 in Table 7.1 on page 22 and in the link scenario,
7 it's a 50-megawatt gas turbine ---

8 MR. RAPHALS: Just ---

9 MR. G. BENNETT: --- and in the
10 isolated scenario, it's actually 25 megawatts of
11 wind followed by a 36-megawatt development at
12 Island Pond.

13 CHAIRPERSON GRIFFITHS: Excuse me,
14 I'm sorry to interrupt.

15 Could we get those -- it would be
16 great because I gather you ---

17 MR. G. BENNETT: Oh, I'm sorry.

18 CHAIRPERSON GRIFFITHS: Number 5.

19 MR. G. BENNETT: It is page 5,
20 yeah. There we go.

21 So what we're talking about is
22 this objective here.

23 MR. RAPHALS: Okay.

24 So looking now at that table that
25 you just referred me to on page 22 which shows the

1 timing of the additions, and if we can look at that
2 together with the table on page 25 that shows the
3 project lead times.

4 MR. G. BENNETT: So just for the
5 Panel's help here, this table is not on the
6 presentation but it's in the Generation Planning
7 Issues Report.

8 MR. RAPHALS: Which is Undertaking
9 18 that's on your website.

10 CHAIRPERSON GRIFFITHS: We have
11 the report. The problem is everyone else in the
12 room does not have the report so ---

13 MR. RAPHALS: Yeah.

14 CHAIRPERSON GRIFFITHS: --- that's
15 the trouble, but if you can make your questions as
16 clear as possible for people who can't see
17 something?

18 MR. RAPHALS: Yeah, okay. The two
19 things strike each other pretty closely.

20 But in Table 7.1, you show year by
21 year the capacity additions that are forecast in
22 the two scenarios, and then in Figure 8-1 of
23 Undertaking 18 you show the lead times for each
24 particular resource.

25 And what I notice looking at this

1 is, for instance, the wind farm, which is due to --
2 under the isolated island scenario, the wind farm
3 is due to be in service in 2014, but according to
4 the lead times, there's a 4-year lead time.

5 So it would seem that that would
6 mean that that project would have had to have been
7 initiated, I guess the RFP would have had to be --
8 to have been initiated in 2010 in order for it to
9 be able to be in service by 2014?

10 MR. G. BENNETT: Well, that a
11 point of identifying the immediacy of this issue,
12 and what we say in here and if it's -- it's
13 actually in the last paragraph on page 25 just
14 before the chart.

15 MR. RAPHALS: Yeah.

16 MR. G. BENNETT: And what we say
17 there it illustrates the lead times, including that
18 required for a Board review.

19 MR. RAPHALS: Yeah.

20 MR. G. BENNETT: So at this point
21 in time, our sense is that this decision is urgent
22 enough that we have to say we may need direction on
23 this from government to say move to the next step
24 and move forward with the preferred alternative.

25 MR. RAPHALS: But Board review for

1 the wind farm or Island Pond means, I presume, the
2 permitting process for those projects isn't it?

3 MR. G. BENNETT: Yes, it does.

4 MR. RAPHALS: Yeah. So I guess
5 what I'm getting at is both for wind farm and
6 Island Pond, it seems that you've really missed the
7 start date when you would need if you were to have
8 those in service?

9 MR. G. BENNETT: I think I said
10 earlier that this was an urgent decision for the
11 utility.

12 MR. RAPHALS: Okay. But do we
13 understand that by the time things are -- by the
14 facts of the situation that you have, in effect --
15 I mean, you haven't moved forward on this; you
16 haven't initiated those projects?

17 MR. G. BENNETT: No, those
18 projects have not been initiated.

19 MR. RAPHALS: Right. Now, just a
20 parenthesis, the combustion turbine that's
21 scheduled for 2014 under the Lower Churchill
22 scenario, I don't see a lead time for that.

23 Is that a similar lead time?

24 MR. G. BENNETT: Lead time for a
25 combustion turbine would be shorter than that of

1 some of the other alternatives as it would not
2 require, for the most part, an environmental
3 assessment, even if the site would be on an
4 existing facility.

5 MR. RAPHALS: So the ---

6 MR. G. BENNETT: And the lead
7 times are shorter as well because you don't have to
8 do much construction for a CT.

9 MR. RAPHALS: So would the lead
10 time be on the order of what, two years or ---

11 MR. G. BENNETT: That's probably
12 fair.

13 MR. RAPHALS: Yeah. So in other
14 words, we're very rapidly reaching the point where
15 the non-Lower Churchill alternative can't meet the
16 reliability requirement.

17 Is that fair?

18 MR. G. BENNETT: No, I wouldn't
19 say that.

20 I think I pointed out earlier that
21 we may have to expedite those isolated
22 alternatives, but I think I did point out as well
23 that this is becoming an urgent decision for the
24 island.

25 MR. RAPHALS: Okay, sorry, I

1 didn't understand what you were saying.

2 So in other words, you're saying
3 that those lead times could be shortened with
4 government intervention, if necessary?

5 MR. G. BENNETT: I think I did
6 point that out, yes.

7 MR. RAPHALS: Okay, yeah, I didn't
8 understand it clearly. Thank you.

9 Another question I have for you in
10 the same document, pages 14 and 15, talking about
11 the wind alternatives, the last paragraph that
12 starts at the bottom of page 14 says that:

13 "Any future wind farm would
14 potentially consist of a
15 number of interconnected wind
16 turbines tied to a single
17 delivery point on the
18 transmission network and with
19 a limit of 25 megawatts." (As
20 read)

21 I'm sort of assuming the 25
22 megawatts is tied to the 80-megawatt figure that we
23 heard about yesterday from the energy plan.

24 But I'm curious about the notion
25 of a single point. Wouldn't wind be more

1 advantageous to you if it were spread around than
2 if it were in a single point?

3 MR. G. BENNETT: No, I don't think
4 so. I think the trade-off is in the economies of
5 scale in the construction of the wind farm.

6 And in many locations in Canada we
7 find that wind farms are economically sized at 100
8 megawatt locations at individual sites, so under
9 the control of a single developer.

10 What we found within the context
11 of our system is that the two existing wind farms
12 that we have both have an installed capacity of 27
13 megawatts or 9 3-megawatt units, and those 3-
14 megawatt units have proven to be fairly effective
15 under our wind conditions and our terrain.

16 So we would expect that that farm
17 would probably -- would be developed at the next
18 best wind site that we have available within the
19 province. So that may or may not be on the Avalon
20 or Burin Peninsulas as we have the existing two
21 facilities.

22 MR. RAPHALS: Okay, thank you.

23 On another subject now, this is
24 slide 12 of the presentation. Oh, sorry, no. No,
25 it's not that one. I must have got the number

1 wrong.

2 One of the slides shows the
3 financial parameters, interest rates, debt equity
4 ratio -- 11, thank you.

5 I notice that those assumptions
6 are slightly different from the ones that were in -
7 - I think it's JRP-146. Does that reflect a
8 modification or is it two different sets of
9 parameters used for different kinds of things?

10 MR. HULL: This set of assumptions
11 here at the bottom, you can see to the left,
12 addresses long-run regulated financial assumptions.

13 MR. RAPHALS: Okay.

14 MR. HULL: The presumption for the
15 project, Muskrat Falls and Gull Island, is that
16 that would be a non-regulated venture.

17 And I think we've indicated
18 throughout this presentation, I guess, non-
19 regulated elements and in terms of financial
20 metrics for those.

21 So the difference here is that for
22 the regulated portions of what you see in this
23 analysis, we've outlined the regulated financial
24 assumptions which would be different than a non-
25 regulated business.

1 MR. RAPHALS: So for instance, the
2 equity cost is higher for the non-regulated?

3 MR. HULL: Yes.

4 MR. RAPHALS: And the debt-equity
5 ratio, I think, was 70/30; is that right for the --
6 -

7 MR. HULL: Yes, that's correct.

8 MR. RAPHALS: Yeah.

9 CHAIRPERSON GRIFFITHS: Mr.
10 Raphals ---

11 MR. RAPHALS: Yes?

12 CHAIRPERSON GRIFFITHS: --- you
13 have a -- how many more questions do you have? I
14 do have two people behind you waiting.

15 MR. RAPHALS: Two or three, but
16 they won't be -- I don't think they'll be long.

17 CHAIRPERSON GRIFFITHS: You can go
18 through them.

19 MR. RAPHALS: Okay. Yeah, thank
20 you. I will.

21 On slide 15, the statement:

22 "The price paid by the island
23 ratepayers is based on the
24 Lower Churchill Project cost
25 assuming a return is similar

1 to regulated utility".

2 That seems to me to be a different
3 formulation than yesterday when I had asked you if
4 -- what can be said about the price at which power
5 will be supplied to NLH from Nalcor.

6 Is this new -- is this a further
7 statement or is that what you were saying yesterday
8 and I didn't understand you?

9 MR. HULL: No, this is consistent
10 with the statement we made yesterday and it goes to
11 the point we were making yesterday in terms of if
12 you take all of the costs of Muskrat Falls and
13 charge that back to the Newfoundland and Labrador
14 ratepayer and assume a regulated rate of return --
15 something approximating the 8 percent that you saw
16 -- that's -- that's what this statement is alluding
17 to.

18 So it's that -- it's that
19 discussion we had yesterday and if you go to slide
20 -- the slide with Muskrat Falls, I'm not sure; I
21 think it's probably the next slide -- you'll see
22 down -- and this goes to Mr. Clarke's question, I
23 think, earlier as well.

24 You will see that the rate of
25 return on the non-regulated element there -- I

1 guess assuming the spill which we don't plan to do,
2 but assuming the spill -- produces an 8.4 percent
3 IRR which would be consistent with a regulated
4 return.

5 So it's going to the point we made
6 yesterday, if you take all of the costs of Muskrat
7 Falls, including a return that would be
8 commensurate with a utility rate of return, then
9 these -- this set of economics is produced.

10 MR. RAPHALS: Okay. Now the 7.7
11 cent figure that you mentioned this morning, that's
12 -- that's the levelized cost for the generation
13 only?

14 MR. HULL: For the generation
15 only.

16 MR. RAPHALS: Okay and is that in
17 nominal dollars or is that in real dollars?

18 MR. HULL: It's LUEC so it starts
19 at the in-service date in 2017 and then continues
20 through the study period.

21 MR. RAPHALS: But in nominal
22 dollars? Seven point seven (7.7) cents nominal or
23 7 ---

24 MR. HULL: Nominal, yes.

25 MR. RAPHALS: Nominal, yes.

1 MR. HULL: Yes.

2 MR. RAPHALS: Finally, about the
3 energy efficiency plan. I gather all these figures
4 come from the Marbek study which is dated January
5 2008 which I would gather means that it was
6 prepared in 2007 based on marginal costs and
7 information that was available in 2007.

8 As the cost of fuel has changed
9 and as the marginal cost of operating Holyrood has
10 changed, I would imagine that some -- some aspects
11 of that have changed, but my first question is; is
12 this study available, is it in the record or is it
13 available online somewhere to be consulted?

14 MR. G. BENNETT: I'll have to
15 check on that, but one observation I would make is
16 I'm not convinced that the fuel prices that we
17 would have seen in Holyrood in late 2007, early
18 2008 are materially different than the ones we see
19 today remembering that the price of oil spiked to
20 \$140 a barrel in the middle of 2008.

21 But I'll check on the report, I'll
22 see if that's -- if I can find that -- if I can
23 make it available -- if I have access to it.

24 CHAIRPERSON GRIFFITHS: So we're
25 enter that as an undertaking ---

1 MR. G. BENNETT: No problem.

2 CHAIRPERSON GRIFFITHS: --- Mr.

3 Bennett?

4 Thank you.

5 MR. G. BENNETT: Okay, thank you

6 very much.

7 CHAIRPERSON GRIFFITHS: Thank you,

8 Mr. Raphals.

9 And Mr. Davis? We'll have Mr.

10 Davis, then we'll have Mr. Marcocchio and I think

11 we might then be ready for a break.

12 MR. DAVIS: Thank you. It's

13 Eldred Davis again.

14 Mr. Bennett just mentioned a spike

15 in oil prices -- prices of 2007-2008 and previously

16 mentioned another spike that's currently ongoing.

17 Those are spikes. I hope you all realize that.

18 After that first spike that he

19 mentioned, the price dropped back to 30-something

20 dollars a barrel. And I think the projected price,

21 barring the unfortunate turmoil in North Africa and

22 the Persian Gulf area, are -- the prices are

23 variable between 80 and \$85 a barrel; nowhere near

24 118 or whatever he mentioned. It's currently

25 because of the crisis they're artificially

1 inflated.

2 This presentation -- now, I have
3 to ask -- I haven't seen it before. This part of
4 the presentation that's been floating around in the
5 various manuals that are available, I haven't seen
6 this compiled as a -- in this order. I wonder is
7 that available or where can I find it or is it
8 something new?

9 CHAIRPERSON GRIFFITHS: The
10 presentation that Nalcor's just made to us this
11 afternoon?

12 MR. DAVIS: Just this ---

13 CHAIRPERSON GRIFFITHS: They made
14 this -- the reason you haven't seen it before, I
15 guess, is because it was made in response to a
16 Panel -- specific Panel request yesterday and they
17 put this together.

18 I imagine that -- that a copy of
19 the presentation -- speak to the Secretariat about
20 that.

21 MR. DAVIS: Thank you.

22 CHAIRPERSON GRIFFITHS: And it
23 will of course be on the -- it will be on the
24 public registry shortly or is already.

25 MR. DAVIS: I kind of assumed as

1 much, but I wanted to verify that.

2 There's a lot of information for
3 someone such as myself to try and absorb and digest
4 in a short time so I think there's a lot of
5 information there that -- with all the side bars
6 and balloons and everything else to try and figure
7 it out. Anyway, I hope -- hopefully that will be
8 available.

9 One of the slides showed a
10 decision, Gull Island or Muskrat Falls. Now, I
11 think it should be kept in mind that this decision
12 was not -- it may have been discussed for years to
13 some degree, but it's only recently -- within a few
14 months -- that this monumental decision has become
15 -- has been made and known to the public. So I
16 think we should be adding context as well.

17 Actually had a few notes made this
18 time, but most of them I figured I'd want to ask --
19 of what I wanted to ask.

20 Referring to the projected demand
21 from Newfoundland customers and the reason that
22 Muskrat Falls has to be built to supply that
23 demand; there's another option that's being used in
24 Labrador right now to artificially keep the demand
25 down.

1 This is in central Labrador here
2 as well as all the oil-fired plants on the coast.
3 And that is -- as we're told, there's no demand
4 there and yet the people are limited to what they
5 can use.

6 The price which in -- you know, in
7 the diesel plant served area or communities, they
8 have an escalating price.

9 If you -- if you use sufficient
10 hydro or diesel-power or electricity to do your
11 lights, your fridge and a few odds and ends, it's
12 acceptable with the subsidy.

13 However, if you start to go beyond
14 that -- people using heated driveways so they don't
15 have to shovel and extra lighting and heat the
16 outhouses and everything else -- all of a sudden
17 the price goes up and -- and because, you know, the
18 price here is pretty affordable, it's
19 understandable.

20 On the coast, people don't have
21 that choice. Most of them can't afford to have
22 their bills go that high and therefore, there --
23 they can't use it and they don't demand it.

24 Why are the people of the
25 Newfoundland area not put under the same

1 conditions? It's bad enough for us -- it's good
2 enough for us; why not them?

3 And plus in Goose Bay as well, I
4 don't know if you here are aware, but there's a
5 bunker steam burning heat plant here in Goose Bay
6 that has to be fired up when the demand is -- is
7 high enough that Nalcor cannot supply sufficient
8 power. It happens periodically during cold weather
9 in those.

10 CHAIRPERSON GRIFFITHS: Is this a
11 question you're asking to Nalcor with respect to
12 the levelization of prices between the coast and --
13 do you wish to respond to that, Mr. Bennett?

14 MR. G. BENNETT: Well, I'm not
15 sure I understand the question. I think the -- you
16 know, the rates here in Central Labrador and -- and
17 in Labrador West that we talked about yesterday are
18 reflective of the cost of delivering the service.
19 They're very attractive. We have an obligation to
20 meet demand at least cost on the island and we're
21 taking steps to do that.

22 I think the other point from
23 yesterday, just to review that is that the rates in
24 the diesel communities are expensive, I agree, but
25 they're also highly subsidized below the actual

1 cost of delivering service.

2 MR. DAVIS: I apologize, I'm not
3 very familiar -- very comfortable with public
4 speaking. I didn't phrase my question right
5 obviously because I never got the answer to a
6 question I hoped I had asked.

7 Basically what's happening now is
8 the people on the coast are limited in the amount
9 of power that they can affordably use. They would
10 like to have more at the price that I pay, for
11 instance, but they cannot. And it's
12 understandable. You know, somehow they had to be
13 artificially prevented from using more power than
14 the diesel plant can provide. That's
15 understandable.

16 And it's the excuse that Nalcor
17 gives for not putting in sufficient power lines to
18 distribute the power from Churchill Falls across
19 Labrador; cheap power, but expensive transmission,
20 I understand that.

21 But again, people in Newfoundland,
22 they have a limited amount of power, and we're
23 hearing that "We've got to have more, we've got to
24 have more".

25 Again, it's understandable, but

1 why not use the same policy to keep demand down?

2 I can't put it any more simple
3 than that.

4 CHAIRPERSON GRIFFITHS: You mean
5 reduce demands on the Island by increasing the rate
6 the people pay depending on their level of use?
7 That's what you're saying?

8 MR. DAVIS: Simply put, yes. But
9 then again, I guess there was talk that it's a lot
10 cheaper to use oil to heat your house than use oil
11 by the utility to convert it into electricity which
12 can be then used for baseboard or interior heating,
13 electric heating.

14 If it applies to the Labrador
15 coast, why does it not apply to the coast of the
16 Avalon Peninsula?

17 I mean, I guess the point there is
18 that the demand that's projected in the next 50
19 years or so is as the conditions are now, like,
20 anybody who wants power will get it. It does not
21 apply to the people of the Labrador coast. Or even
22 in Goose Bay we've been told, "If you want more
23 power, you know how we'll provide it?" I mean,
24 they have this humongous amount of power just west
25 of here with the insufficient transmission lines.

1 Again, we can have all we want if
2 we don't mind to pay for it.

3 That's one question. I hope I
4 don't use as much time for the rest of my
5 questions.

6 CHAIRPERSON GRIFFITHS: Yes. And
7 in fact, I'll have to encourage you absolutely not
8 to do that.

9 Do you have more questions right
10 now, Mr. Davis?

11 MR. DAVIS: I just have this
12 particular question. I haven't gotten an answer on
13 this, but I'll try and cut back.

14 The energy policy ---

15 CHAIRPERSON GRIFFITHS: Yes, can I
16 ask for just one more question so I can give Mr.
17 Marcocchio a bit of time, and then we can move to
18 the break?

19 MR. DAVIS: I will do that, sure.

20 CHAIRPERSON GRIFFITHS: Would that
21 be all right?

22 MR. DAVIS: Some of these slides
23 showed that the requirement for gas-fired
24 generators will be -- that will be part of your
25 energy plan in the future or Nalcor's plan to

1 supply electricity to Newfoundland as backup power,
2 I believe, and probably a replacement for Holyrood
3 eventually. I mean, eventually it has to go.

4 Part of the energy plan is the
5 establishment and I guess taking advantage of the
6 natural gas that's offshore Newfoundland and
7 getting that industry off the ground and supplying
8 customers probably for export, like apparently Gull
9 Island is supposed to do.

10 It seems to me that you kill two
11 birds with one stone if the energy plan would put
12 more emphasis on the introduction of the gas into
13 the required areas that need energy, and Nalcor
14 does have a gas and energy division. You know, I
15 kind of hinted at that the other day when I
16 mentioned Parsons Pond. Actually, the point that I
17 brought up was cost projections which we don't need
18 to go into now, I guess.

19 However, if the energy warehouse
20 were followed -- the energy policy -- I forget the
21 name of this thing now -- Mr. Bown mentioned it in
22 his presentation -- if natural gas were used, Gull
23 Island and Muskrat Falls would not be required as
24 an addition to the electricity source on their
25 island now and it won't be in the future.

1 There has to be a source of gas
2 anyway to supply those generators -- combined cycle
3 gas generators, as well as the simple gas burners
4 that were mentioned in an earlier -- in part of
5 this presentation.

6 I'll leave it there.

7 CHAIRPERSON GRIFFITHS: Okay.

8 Thank you.

9 And I'm going to turn to Mr.
10 Bennett for some clarification because I think
11 you're assuming some use of gas that I didn't see.

12 Could you just clarify that in
13 your plan?

14 MR. G. BENNETT: Right. When we
15 talk about simple cycle gas turbines or simple
16 cycle or combined cycle plants, those units do not
17 run on natural gas. That technology -- and if I
18 use a more generic term -- a combustion turbine can
19 be fired on either natural gas or light fuel oil or
20 distillate.

21 In our application, without
22 natural gas, they will be fired on light distillate
23 fuel. So maybe there's a little confusion in my
24 use of terminology that may have caused that issue.
25 I'm sorry, I apologize for that.

1 CHAIRPERSON GRIFFITHS: Thank you.

2 Okay. Mr. Marcocchio, a couple of
3 questions, please?

4 MR. MARCOCCHIO: Yes. First of
5 all, with the permission of the Chair, I'd like to
6 ask a process question.

7 Many of us who are seeing this for
8 the first time and considering the complexity, it
9 would be appropriate -- it would be much
10 appreciated if, after we've had an opportunity to
11 review the stuff, we had another opportunity to
12 question the Proponent on the specifics of these
13 because I, for one, haven't had enough time to
14 really make much sense of these.

15 CHAIRPERSON GRIFFITHS: I'll tell
16 you what; may I take that question under
17 advisement? I'm not going to -- we're going to
18 have a break in a minute and I'll consult with my
19 colleagues and we'll give you an answer after the
20 break.

21 MR. MARCOCCHIO: All right.

22 My first question relates to a
23 question about -- well, if we could go back to that
24 demand curve that was shown?

25 CHAIRPERSON GRIFFITHS: Page 4?

1 MR. MARCOCCHIO: I think so.

2 CHAIRPERSON GRIFFITHS: That one?

3 MR. MARCOCCHIO: Yeah. A rise
4 from 2010 to 2060 from 1,500 to 2,500 is, by rough
5 calculation, about a 70 percent increase, and
6 correct me if I'm off by an order of magnitude.

7 The population of -- please feel
8 free to disagree with me -- but the population of
9 Newfoundland and Labrador has been declining for
10 the last decade or so, since the 1990s.

11 The de-industrialization that was
12 referred to has been happening here like in much of
13 the rest of Canada. The demand-side options and
14 consumers' consciousness about the increasing costs
15 have led to a more careful use in most places of
16 electric energy.

17 Yet despite, at best, a constant
18 population, if not a growing population, your
19 curves continue to be extremely optimistic. I
20 would be much less cynical if you weren't in the
21 business of trying to sell power that you want to
22 generate that there may or may not be a market for.

23 Frankly, I look at these curves,
24 and I do want to have a closer look at them, but
25 what strikes me is that if you put garbage into a

1 graph, you'll get garbage out. And the demand
2 growth, given that the population is, at best,
3 stable and will continue to be stable, and that the
4 de-industrialization that we've already seen in all
5 likelihood will continue -- I also wanted to remind
6 you that the Hydromet plant is an experimental
7 technology that's never before been employed in
8 that scale and it might be in the utility's best
9 interest to not count those chickens, so to speak,
10 before they hatch.

11 I'd like to refer to a question
12 that was put to me this morning by the Proponent
13 about a percentage of potential savings. I'm
14 looking at B.C. Hydro's energy plan.

15 They have a goal that by 2020,
16 they want 10,000 gigawatts of currently forecasted
17 needs met through demand reduction measures. They
18 in fact want 66 percent of the growth in demand to
19 be met by demand-side management measures, and
20 that's a utility that has a climbing population
21 which obviously means a justifiable and predictable
22 rise in demand, unlike your curves that predict
23 that demand-rise with no growth in either
24 industrialization and probably a decline in
25 population.

1 To say their figures look at
2 little more rigorous to me as a layperson
3 understates the case.

4 “To put this goal in context”,
5 B.C. Hydro says, “it represents about 20 percent of
6 the 52,000 gigawatts of electricity B.C. Hydro
7 required in 2006 to meet the needs of British
8 Columbians.” Twenty (20) percent is their target
9 for demand-side management reduction between now
10 and 2020.

11 I daresay it could be even more
12 aggressive, but certainly 20 percent is clearly
13 achievable.

14 I don’t think any of your figures
15 reflect that kind of ---

16 CHAIRPERSON GRIFFITHS: Could you
17 now phrase a question based on this?

18 MR. MARCOCCHIO: Would you agree
19 that 20 percent reduction in demand by 2020 is an
20 achievable target?

21 MR. G. BENNETT: I’m not in a
22 position to make any comments on B.C. Hydro’s
23 system.

24 I haven’t seen the plan, I don’t
25 know the specifics of it.

1 MR. MARCOCCHIO: No, the question
2 was about your system.

3 MR. G. BENNETT: Well, I'll come
4 back to that.

5 CHAIRPERSON GRIFFITHS: Yes,
6 please don't interrupt, Mr. Marcocchio.

7 MR. MARCOCCHIO: Sorry.

8 CHAIRPERSON GRIFFITHS: Just give
9 Mr. Bennett a chance.

10 MR. G. BENNETT: So whether 20
11 percent is relevant in the context of BC Hydro's
12 world, where I know that Terasen Gas is their major
13 natural gas distributor and there are certainly a
14 broader variety of alternatives, their climate is
15 different than ours.

16 So I can't draw any conclusions
17 from BC Hydro.

18 I would say that we've had a
19 reputable consultant deliver our evaluation of the
20 merits of our conservation and demand-side
21 management program. That report has been provided
22 to our public utilities board, the regulator who is
23 responsible for that activity, including hydro
24 system planning activities, and insofar as our
25 economic forecast and so on, those were provided in

1 Table 2.1 in the Generation Planning Issues Report.

2 So I think that the numbers that
3 we have, based on the information that I have
4 available to me, are reasonable.

5 CHAIRPERSON GRIFFITHS: Mr.
6 Marcocchio, if you have some information ---

7 MR. MARCOCCHIO: I'll make this
8 available.

9 CHAIRPERSON GRIFFITHS: --- on
10 what's happening in British Columbia, please ---

11 MR. MARCOCCHIO: I will.

12 CHAIRPERSON GRIFFITHS: --- if
13 you'd table it with the Secretariat, then everyone
14 can see it.

15 MR. MARCOCCHIO: Yes.

16 CHAIRPERSON GRIFFITHS: In the
17 interests of us having to go for a break, can I ask
18 you to ask one more question. I'd really like it
19 to be a question.

20 MR. MARCOCCHIO: Well ---

21 CHAIRPERSON GRIFFITHS: If you're
22 looking for a kind of model about asking questions,
23 I don't think the Panel does too badly in terms of
24 getting to the questions. So not too much preamble
25 if you don't mind.

1 MR. MARCOCCHIO: Yes. You've
2 referred once again recently to the fact that these
3 are the figures that you've been given; you weren't
4 in fact able to answer the questions about the
5 population growth. Clearly ---

6 MR. G. BENNETT: Just a point of
7 clarification. The population growth forecasts
8 were answered, they're in Table 2.1 in the
9 Generation Planning Report.

10 MR. MARCOCCHIO: There isn't time
11 for me to develop this point, so I'll go on to my
12 other point. Perhaps I'll have an opportunity
13 later if the Panel chooses to -- offers that
14 opportunity.

15 I'm back to another document that
16 I'll put on the record from BC Hydro. It says:
17 "Since its inception in 1989,
18 Power Smart is trying to meet
19 the growing demand for
20 electricity. [And it talks
21 about the --] Specifically,
22 BC Hydro is deploying new and
23 enhanced programs and
24 financial incentives for
25 business, industry and every

1 day British Columbians;
2 implementing conservation
3 rules to provide incentives
4 to use less electricity and
5 to save more money;
6 encouraging improvements to
7 building codes and product
8 standards to increase
9 sufficiency in buildings."

10 (As read)

11 And then they talk about benefits
12 and opportunities:

13 "Power Smart delivers
14 savings. Power Smart
15 initiatives from 2008 to 2011
16 will deliver annual energy
17 savings of approximately
18 2,300 gigawatt hours per
19 year, the equivalent of
20 powering more than 2,000
21 homes. Through Power Smart,
22 BC Hydro has helped increase
23 the adoption of energy
24 efficiency products by
25 reducing cost barriers,

1 deploying higher performance
2 standards and increasing
3 public awareness.” (As read)

4 Now, the quick facts are very
5 interesting. More than 150 million in bill savings
6 since 2007. And this one I specifically would like
7 a comment on. For every \$1 spent on energy
8 conservation, BC Hydro saves \$3 in generating
9 costs.

10 Is 3:1 not a fairly good return in
11 the world of your utility? And why are you not
12 going all out and investing billions in demand-side
13 management if it provides a 3:1 return?

14 MR. G. BENNETT: I’m glad that BC
15 Hydro is earning that return.

16 The relevance of that for us I
17 guess is questionable. From our perspective
18 certainly support any effort to conserve energy.
19 This is an important resource and in that context I
20 encourage that and certainly I practice it at home.
21 I’m one of the few people in the province who has a
22 heat pump heating their house.

23 So I’m fully prepared to make
24 investments in conservation and I’m able to do so
25 and I’m happy to do so.

1 But in the context of the eastern
2 North American market and all the issues that we've
3 talked about, there is a broader context and I'm
4 certainly not going to diminish the importance of
5 conservation. It is a critical -- it's a critical
6 issue for all of us, but it will not replace this
7 project and it will not replace the demand that
8 exists throughout the region and the ability of
9 this project to supply renewable energy into the
10 long-term for the region.

11 MR. MARCOCCHIO: If I can
12 summarize that response.

13 The 3:1 savings that a utility
14 like BC Hydro claims it benefits by investing in
15 demand-side management you think does not apply to
16 your utility. Is that fair?

17 MR. G. BENNETT: I have no
18 evidence to either support or deny that.

19 CHAIRPERSON GRIFFITHS: Okay,
20 thank you, Mr. Marcocchio. Before you go, one
21 question.

22 You put a question to the Panel;
23 you asked for an opportunity to review the material
24 that was in the presentation. How much time do you
25 think you require?

1 MR. MARCOCCHIO: A day or two
2 after it's on the public record would be
3 sufficient.

4 CHAIRPERSON GRIFFITHS: Okay,
5 thank you. We'll come back with a response about
6 that.

7 Okay, thank you very much. Thank
8 you to Nalcor your presentation.

9 We're going to take a break.
10 We're going to come back at five past three and for
11 the rest of the afternoon we have questions.

12 We'll -- I think we'll then return
13 to the questions that were posed by Mr. Clarke and
14 I think there are some additional questions on
15 earlier matters touched on about needs, purpose,
16 and alternatives.

17 And then there'll be another
18 opportunity for people to ask questions and then we
19 will finish up with Nalcor having a chance to
20 provide a kind of summary response on this
21 particular topic for 10 minutes.

22 Okay, thank you very much.

23 I used up a bit of that time so --
24 well, ten past three is good.

25 --- Upon recessing at 2:52 p.m./

1 L'audience est suspendue à 14h52

2 --- Upon resuming at 3:11 p.m./

3 L'audience est reprise à 15h11

4 ---QUESTIONS BY THE PANEL:

5 CHAIRPERSON GRIFFITHS: We'll
6 resume our session if people would like to come in
7 and get seated.

8 Okay, the first thing I'd like to
9 do is -- Mr. Marcocchio, I have a response for him.
10 I guess I'll have to wait 'til he -- he's right
11 there? He's right there, good. Come and take a
12 seat.

13 Okay, the request from Mr.
14 Marcocchio was that -- needed an opportunity to
15 review the presentation, the print version of the
16 presentation from Nalcor this afternoon, and to ask
17 some further questions about this.

18 I just reiterate, I'm sure he
19 understands this, but in this instance this was --
20 we do expect normal presentations to be circulated
21 in advance. In fact, it is a requirement for the
22 topic-specific session, a requirement that's
23 sometimes being met and sometimes not being met,
24 but certainly it is by the Proponent and by a
25 number of the other presenters. We really

1 appreciate that. So we do require those to be
2 circulated in advance.

3 This was a response to a specific
4 request, it was an undertaking, so obviously we did
5 not expect you to turn the clock back and go
6 backwards in time and get it out ahead of time.

7 So I would say to Mr. Marcocchio
8 and to others that we have a very, very full
9 schedule. If you have -- if you're ready this
10 afternoon, after a little bit of thought, to
11 present a question, obviously there's an
12 opportunity there.

13 Our topic-specific sessions for
14 the rest of the time are going to jammed-packed, we
15 think. If by any chance we're able to find some
16 time at the end -- I can't make a promise -- but if
17 one of the sessions we find we have time at the end
18 I would certainly allow question on another topic
19 at that point.

20 Otherwise, I recommend that you
21 register for the general session on April the 1st
22 and present your questions there.

23 I'm sorry about that, but we do
24 have to use the -- make some time allocation
25 decisions, and also you're very welcome to submit

1 comments in writing as well and they'll be treated
2 with equal consideration as spoken comments.

3 The next step this afternoon is
4 that we -- Mr. Clarke posed some questions from the
5 Panel to the Proponent. This is not on the
6 presentation before the break but more generally on
7 the topic that we're dealing with.

8 Now, should we start with -- I
9 think we should start with a recap of the question
10 from Mr. Clarke and then -- you're ready to pursue
11 that -- and then there will be, I think, other
12 lines of questioning from the Panel.

13 And then an opportunity for the
14 people -- other participants to ask questions and,
15 finally, at 10 to 5, if we get that far, I will --
16 questioning will cease and I'll turn it over to the
17 Proponent, and provide them an opportunity to
18 provide a response to what they've heard over the
19 two days.

20 So, Mr. Clarke, are you able to
21 give a summary of your question so people will
22 remember?

23 CHAIRPERSON CLARKE: Thank you.

24 It was primarily to do with the
25 revenue stream from the project which included Gull

1 Island and Muskrat Falls and the information in
2 JRP-146 had to do with the S1 sequencing, Gull
3 first followed by Muskrat.

4 And I made the observation that
5 with the new sequencing, it appeared to me that
6 there would be some changes in that cash flow and
7 my question was whether or not that was the case
8 and had you done runs on that?

9 I also raised the issue about the
10 sensitivity to various variables such as market
11 price changes, changes in capital costs, and I
12 raised the one about the percentage of sales sold,
13 and it was my understanding that the assumption in
14 the graph that we saw or the table we saw, there
15 were 100 percent sales.

16 So I was wondering if that should
17 not be a variable and have it from, say, 80 percent
18 to 50 percent or whatever. And also posed the
19 sensitivity analysis related to the combination of
20 those factors, a variation of those combinations of
21 factors and whether or not you had done the return
22 on investment using those factors and what the
23 sensitivity was and what would be the results?

24 And then a similar kind of
25 question just with Muskrat Falls only. So that's

1 the summary.

2 MR. G. BENNETT: Okay. I think if
3 you look at the revenue stream on Muskrat Falls,
4 that may be something that we can talk about right
5 now. I think that's one of the graphs that we just
6 looked at or we just circulated, rather.

7 So maybe it's worthwhile to go
8 back and look at some of the undertakings and we
9 can maybe put some of these in a little bit of
10 context.

11 I would say that we're going to
12 need some more analysis on some of the other
13 points, but maybe let's start with some of the
14 graphs that we've just circulated.

15 MR. HULL: So what we've provided
16 is the revenue available for the Muskrat ---

17 CHAIRPERSON GRIFFITHS: Excuse me;
18 I'm sorry, Mr. Hull, are these graphs available to
19 other people? Are they available in a way that we
20 can put them up on the screen?

21 They are.

22 MR. HULL: Thank you.

23 So this is one of the undertakings
24 from yesterday which is the revenue available for
25 the Muskrat Falls component of the Lower Churchill

1 project which shows -- I think we were asked to
2 provide a profile of the cash flows over the study
3 period, which includes the construction period and
4 a 50-year evaluation period, the in-service revenue
5 period. And so we've provided that in this case
6 here.

7 I guess a clarifying note in the
8 bubble at the bottom is that this case is Muskrat
9 Falls servicing the Island market only, energy not
10 required by Island customers assumed to be spilled
11 in this case.

12 So this was the spill case, I
13 guess, that we had discussed yesterday. And the
14 purpose of providing this slide to you is to
15 indicate to you the viability of the project should
16 we be servicing the Island customers only and
17 spilling the remainder of the production.

18 Of course, I think we've clarified
19 a couple of times during the last day or so as well
20 that we don't expect that to be the case. I guess
21 we have two alternatives for the monetization of
22 the spill, one being through our existing
23 transmission through our 265 megawatt booking
24 through Quebec and, alternatively, the booking via
25 the Labrador-Island link and across the maritime

1 link with the term sheet with Emera.

2 So I guess what this graph is
3 demonstrating is that certainly in the in-service
4 revenue period, we're generating significant cash
5 flows commencing at the in-service around 200
6 million and then that escalating to the end of the
7 service period to be producing cash flows in excess
8 of \$1 billion to service any debt and equity
9 financing that would be borne by the project to
10 finance the construction commitments.

11 CHAIRPERSON CLARKE: I wonder,
12 could you tell us the assumptions that you're using
13 in order to come up with the graph and, in
14 particular, what your -- what price you're
15 receiving in the marketplace on your in-service
16 date?

17 MR. HULL: So the assumptions
18 here, the only marketplace we're contemplating here
19 in this graph, being the spill case, would be the
20 Island ratepayer and we're assuming that instead of
21 a levelized supply price, that we would have an
22 escalating supply price from the beginning of the
23 in-service and that would be escalating at 2
24 percent a year.

25 That may or may not be the case at

1 the end of the day. It could be a levelized price.
2 It could be various shapes. It all depends on the
3 financing arrangements that we ultimately come to
4 and various policy decisions that might be made
5 with respect to that.

6 But the pricing that we're showing
7 in this graph is approximating, I believe, \$75
8 initially and escalating by 2 percent a year.

9 CHAIRPERSON CLARKE: Seventy-five
10 dollars (\$75)?

11 MR. HULL: Seventy-five dollars
12 (\$75) per megawatt/hour.

13 MEMBER DOELLE: Can we have that
14 in cents per kilowatt/hour?

15 MR. HULL: Seven point five (7.5)
16 cents.

17 CHAIRPERSON CLARKE: Okay.

18 So this morning I understood that
19 your in-service costs for generation for Muskrat
20 Falls was like 7. something.

21 So how do you factor in when you
22 do the transmission? That must add something to
23 it?

24 MR. HULL: Yes. Yes, so the
25 transmission -- I guess there was a number, I

1 think, that we've been talking about over the last
2 couple of days of \$143 per megawatt/hour. The \$143
3 per megawatt/hour includes the transmission
4 component, the Labrador-Island link.

5 So the \$77 would be just -- that
6 would be for Muskrat Falls only.

7 CHAIRPERSON CLARKE: So if I were
8 like a consumer on your in-service date, what would
9 I be expected? I know you're going to say it's PUB
10 and all, but what price would I be expecting to pay
11 versus -- with those numbers you've given us?

12 MR. HULL: Just to clarify, I
13 guess the price that you will pay will be a policy
14 decision. But for modelling purposes, I guess,
15 which is what we're assuming for purposes of this
16 analysis, the price would be \$75 and change -- I
17 don't have the exact amount -- at the beginning of
18 the in-service and that would escalate with
19 inflation through the study period.

20 And then combining that with the
21 transmission costs of the Island link which would
22 be rolled into rate base, you would be receiving --
23 it would be a cost somewhere around \$143 that we've
24 been talking about for the last day or two.

25 CHAIRPERSON CLARKE: That's the

1 combined number?

2 MR. HULL: Right. That's the
3 combined number.

4 CHAIRPERSON CLARKE: The 40 or
5 40.3 or whatever?

6 MR. HULL: Yes.

7 CHAIRPERSON CLARKE: Okay.

8 I didn't have any more questions
9 on this graph. I thought then Mr. Bennett was
10 going to respond to some of the other ---

11 MR. G. BENNETT: Yes, I guess the
12 other point, the sensitivity analysis; the
13 sensitivity analysis we have looked at in the
14 context of fuel and we've also circulated a graph
15 that has a reference case and then a case where we
16 have fuel prices 15 percent above forecast and 15
17 percent below, and we've taken a look at the impact
18 on the present value of the savings in either case.

19 So if our reference case is that
20 the NPV advantage was \$2.2 billion, the
21 interconnection with Muskrat energy compared to our
22 reference plan.

23 And if we go to the next slide,
24 fuel prices are 15 percent higher, then that
25 benefit stretches to \$2.9 billion.

1 And if it's 15 percent lower,
2 which is the third slide, the saving is still
3 significant. It's still \$1.4 billion.

4 So we've got a series of scenarios
5 here to help show the robustness of this business
6 case in that light.

7 Now, to your question about have
8 we looked at multiple sensitivities, that's
9 something that we haven't run to date. We've been
10 looking at sort of a more comprehensive view and
11 looking at the difference between the two spreads
12 as opposed to running maybe a Monte Carlo analysis
13 where we would throw them all in and let them all
14 -- let all these factors change simultaneously.

15 CHAIRPERSON CLARKE: Two points.
16 This is relative to the base case, right, 15
17 percent higher, 15 percent lower?

18 MR. G. BENNETT: Yes.

19 CHAIRPERSON CLARKE: Do we have
20 the numbers, the actual -- like what were the
21 dollar values for the oil that you use in the base
22 case?

23 MR. G. BENNETT: We don't have the
24 specific year-by-year price forecast with us. What
25 we did is we said, "Let the escalator increase

1 higher in one scenario and a little bit lower in
2 the other."

3 We don't have access to the actual
4 series of oil prices year over year that are
5 contained in the forecast.

6 CHAIRPERSON CLARKE: Okay. But
7 that would be -- that would be good information for
8 us to have, to go with this graph and if that's
9 something that you'll be able to do at some time
10 ---

11 MR. G. BENNETT: Okay. We can
12 take that away, we'll look at -- so look at it in
13 comparison to the table that's in the Generation
14 Planning Report that says here's the price of oil
15 in those two cases.

16 Okay. We should be able to find
17 that.

18 CHAIRPERSON GRIFFITHS: So that's
19 being entered as an undertaking? Great.

20 MR. G. BENNETT: Yes, that's good.

21 CHAIRPERSON CLARKE: And just to
22 clarify, the charts in 146 that I was referring to
23 were something like this, but they were for the
24 total project and that's the ones, the sensitivity
25 analysis was related to that one and these are the

1 ones that I was referring to and hoping you would
2 either do or comment upon.

3 I take it you haven't done S2 and
4 S3 with us at this time?

5 MR. G. BENNETT: Well, I think
6 it's fair to say they were looking at each
7 individual opportunity on the continuing basis.

8 So, you know, at this stage when
9 we look at the sanction -- a pending sanction
10 decision for Muskrat Falls we're putting a lot of
11 analysis into that decision right now. We'll
12 continue to update our Gull Island model in
13 anticipation of that sanction decision later.

14 So we're actually looking at those
15 two decisions and putting together the package to
16 support, primarily at this stage of the game,
17 Muskrat up front with a view that we would fill in
18 -- continue to fill in the blanks on Gull Island as
19 we proceed.

20 And Rob, maybe you have some more
21 clarification on that.

22 MR. HULL: Yeah, I guess a couple
23 of things.

24 I guess with respect to Gull
25 Island, from our point of view the focus has been

1 on the Muskrat portion for the last little while.

2 But from Gull Island, the economic
3 fundamentals that we've outlined in 146, we don't
4 view that there's been any significant change in
5 those.

6 Market prices, although albeit
7 depressed after the last recession, that's being
8 reflected in the pricing that you see in 146.

9 So we certainly expect when we do
10 proceed with Gull Island that we will see economics
11 that are indicative of the economics that have been
12 outlined to you in 146.

13 So irrespective of the sequencing
14 we certainly expect to continue to exceed the
15 stated hurdle rate that was outlined of 12 percent
16 in that IR.

17 With respect to -- just as a
18 clarification of the graph, Mr. Clarke, you
19 indicated that it was similar to the one that I
20 believe was illustrated in Figure 4 of IR 146 and
21 that indeed is true, but I just want to bring just
22 a -- there are just two small distinctions that
23 make that difference, just so there's no
24 interpretation that they are one and the same.

25 I guess the Figure 4 in IR 146

1 doesn't include just the economics of Muskrat Falls
2 plant but also includes the benefits, the indirect
3 and direct benefits that the province may receive
4 through taxation and so forth.

5 To the extent that those benefits
6 are available to Muskrat Falls, as we've indicated
7 in the documents that we've submitted to you, then
8 they would be additive to the document that you
9 just -- that has been presented to you at the
10 break.

11 And secondly, I guess that I just
12 wanted to point out is that the figures that were
13 presented in Figure 4 are in real dollars. So in
14 other words, they don't take into account the
15 impacts of inflation, so they've been stated in
16 2010 dollars. The figures that have been presented
17 to you in this figure here are in nominal dollars.

18 So I just wanted to clarify that,
19 just for the record.

20 Another thing too, just so I get
21 it on the record, when we were talking about the
22 \$75 and change for the price for Muskrat Falls to
23 the Island, that is starting in 2010 and escalating
24 at 2 percent a year.

25 CHAIRPERSON CLARKE: Well, that's

1 a very important clarification, because otherwise I
2 was looking at Muskrat as producing -- getting up
3 to, like, you know, net revenue nearly close to a
4 billion dollars a year which was limit for the
5 total project together. But that does make a
6 difference.

7 But you say that the project --
8 the chart that was in 146 had both generating
9 facilities, right, both Gull and Muskrat? It's
10 sales of 100 percent of the output of both of
11 those?

12 MR. HULL: That's correct.

13 CHAIRPERSON CLARKE: That's
14 correct.

15 And as I say, not being an
16 economist I would assume -- a big part of doing
17 Gull first was that you get a major cash flow up
18 early which would help pay for the construction of
19 Muskrat and this would be early in the system,
20 whereas now in S2 where we have Muskrat which is
21 much smaller and you don't have the same cash flow,
22 I thought that that would be a -- make some
23 difference in the other graph.

24 But I thought that S3, where there
25 is a delay, an indeterminate delay in Gull Island

1 would in fact have a significant change in the
2 overall benefit to the total project?

3 MR. HULL: Certainly with respect
4 to S2 and S3, I guess we have not recast, to my
5 knowledge, Figure 4. So I'm not able to quantify,
6 I guess, what those impacts would be for you here
7 today.

8 I think it's certainly a fair
9 statement to say that certainly with S3, where
10 there's no overlap in construction and Gull is
11 pushed out, from a real basis, I guess there would
12 be some impact on those benefits.

13 CHAIRPERSON CLARKE: Yes. And
14 also, would you agree that to the extent that you
15 weren't able to sell all of the power immediately,
16 that would also make an impact, which was my
17 variable. Let's suppose for the first 10 years
18 that we're only able to sell 80 percent of the
19 power, for whatever reason.

20 MR. HULL: From my involvement
21 with the project, I guess we never contemplated a
22 scenario where we would see ourselves selling below
23 100 percent of the output of the project.

24 I guess as we've presented to you
25 in the materials and discussed over the last day or

1 so, I guess our approach to sales here is a
2 portfolio approach that would see us having a
3 portfolio of sales that would be long term, medium
4 term and spot sales to various markets.

5 I guess what we've presented in
6 the economics to you represent having the cost of
7 transmission and the costs of interconnection to
8 markets to enable us to sell 100 percent of the
9 plant output.

10 I guess to the extent that we
11 would run scenarios that would see us selling less
12 than 100 percent of the product would also see you
13 have to remove some of the costs to get a
14 comparative -- or to accurately portray what the
15 economics of that may look like.

16 But I've got to say to you,
17 selling output significantly below 100 percent of
18 the plant is not something we're contemplating and
19 will certainly not be supportive to the financing
20 arrangements that we've outlined to you in 146 and
21 I doubt we would proceed on that basis.

22 CHAIRPERSON CLARKE: Yes, well, --
23 I just wanted -- I know it's very laudable to hope
24 that you have a case where you sell all of the
25 power and you get all of this type of thing, but

1 from our point of view we're just trying to
2 understand the project and the amount of confidence
3 that I have in the project and the numbers that
4 you're providing us because, you know, the long-
5 term benefit of such a project comes from that
6 revenue stream.

7 And we realize that there are
8 complications with respect to different
9 transmissions routes, like you might, for example,
10 be able to sell a certain amount -- or direct a
11 certain amount of the Gull Island energy west.
12 There may be a certain amount that will have to
13 come through your Newfoundland link, as you
14 explained it to me yesterday.

15 So with all of those uncertainties
16 I thought that it would be a very reasonable
17 request to look at what about if there's a certain
18 period of time where we're not able to sell all of
19 this power.

20 And in fact, the scenario was
21 mentioned yesterday that even with Muskrat it's a
22 -- for a period of time it may be that you won't be
23 able to sell all of the power. And in fact, even
24 here it's indicating that you might have to spill
25 for a certain period of time.

1 So I thought that would give us a
2 more -- how do you say -- realistic appreciation of
3 some of the uncertainties associated with the
4 project.

5 MR. G. BENNETT: I think where
6 we're trying to get with our thinking is that --
7 what we want to present is a scenario that you can
8 have a high degree of confidence in.

9 So if you look at the Muskrat --
10 the Muskrat first scenario with the link to the
11 island with a spill case, we have a high degree of
12 confidence that the forecast is underneath it, that
13 we can cover our costs, and that the Maritime
14 extension into those future exports represents an
15 upside opportunity.

16 So from our risk --you know, from
17 a risk management strategy we want to make sure
18 that we deliver a conservative analysis and then
19 build up, rather than take one and try to knock it
20 down.

21 So I guess -- I mean, even if you
22 look at our -- the Quebec alternative and the open
23 access booking for Gull, we've looked for firm
24 transmission access and we're paying significant
25 funds for those upgrades so that we can have

1 confidence that the capacity will be there for us.

2 So we'd rather lean that way so
3 that we can be -- we have a higher degree of
4 certainty of delivery as opposed to taking non-firm
5 access and taking our chances in the marketplace.

6 And that would be another
7 approach; would be to look at the capital cost of
8 Gull, for example, and say, okay, let's not put the
9 upgrades in, let's assume for a second that you
10 take those out, and then you reduce the probability
11 that you can actually get through to the market and
12 sell.

13 Now, for a smaller project there
14 may be merit in that but given the magnitude of the
15 investment, what we're trying to do is build a
16 relatively conservative case and then say, yes, we
17 have a high degree of confidence in this scenario.

18 And while timing might be a
19 question as we continue to advance at market
20 access, the value at risk, we try not to have that
21 -- to be a question.

22 Rob, I don't know if you want to
23 comment further on that?

24 MR. HULL: No. I guess the other
25 thing is, you know, I guess what we've demonstrated

1 with the Muskrat Falls fees, and, you know, why we
2 have the confidence to move forward, is we have the
3 winning conditions in terms of having the sales
4 arrangements in place, and following the steps -
5 you know -- that we're going to through our gate of
6 process that ensures that the risks -- you know--
7 that in terms of not being able to access markets
8 and so forth, don't become, I guess, sustaining
9 risks -- you know, as we move forward, that are
10 going to impact our economics.

11 Another thing that I might point
12 out, I guess, you know, combining I guess, you
13 know, some of the sensitivities that you had
14 mentioned, in terms of decreases in market prices
15 and so forth.

16 I guess given the market prices
17 that we've indicated to you in IR 146, I don't
18 think, unless we hit a high degree of confidence in
19 selling all of our output that we'd be proceeding
20 on that basis.

21 And so to take those types of
22 sensitivities and combine them together to say that
23 we would sell -- you know -- less than 100 percent
24 of our product, you know, I guess and taking
25 significant capital risk and facing the potential

1 in those marketplaces to be exposed to further
2 price declines, I don't think they are the winning
3 conditions that would see us proceeding with the
4 plant.

5 CHAIRPERSON CLARKE: Well, ---

6 MR. HULL: So on that basis, I
7 guess you want to look at conditions maybe where we
8 may sell 80 percent of our sales. I guess to take
9 that kind of risk, I think we would have to have
10 sales arrangements or see market prices that will
11 be a lot more favourable than the ones that we'd be
12 indicating in 146, to be able to proceed on that
13 basis.

14 CHAIRPERSON CLARKE: Well, I would
15 have assumed that it would be -- that those kinds
16 of analysis would be part of the sensitivity
17 analysis.

18 But having said that, I don't want
19 to pursue it, but if the corollary of what you're
20 saying to me is that unless you're able to sell all
21 of the output of both projects generally in line
22 with the market prices that you've indicated there,
23 which generally produce a revenue maxing out at a
24 billion dollars a year at some stage, unless those
25 conditions were met, then the project wouldn't --

1 get it passed sanction. That's what I understand
2 you're saying to me.

3 MR. HULL: That's right. And,
4 Mr. Clarke, just to further illustrate that point;
5 you know, in 146 we did indicate a significant
6 amount of debt in the capital structure, and from
7 73rd we had indicated.

8 So in that situation most of the
9 capital cost would be borne by debt holders who
10 would be looking for three main attributes of that
11 revenue stream: One would be the length of the
12 contract, one would be price certainty, and the
13 third would be credit-worthiness of the off-takers
14 who would be taking that energy from us.

15 You know, to not have -- so in the
16 scenario presented to you, you know, we wouldn't
17 necessarily -- we would not see a portfolio that
18 would have a lot of exposure to short term
19 volatility and market prices, or a scenario that
20 would see us with significant amounts that probably
21 would not be contracted to credit-worthy parties,
22 to be able to have those conditions to be able to
23 achieve those financing terms.

24 So I think that's the kind of
25 point that I'm trying to get across, is that unless

1 we had those types of conditions in place, either
2 ourselves, Nalcor, would look at it and say that we
3 don't have the winning conditions to be able to
4 proceed or we probably would not be able to obtain
5 financing on reasonable terms and conditions, to
6 the extent that we've indicated to you in 146, to
7 be able to proceed on that basis.

8 CHAIRPERSON CLARKE: Okay. Just
9 one final follow-up and that leads me to a question
10 that I had a bit later.

11 I appreciate that you're
12 concentrating on Muskrat Falls now, but also
13 working on the Gull Island one.

14 And I guess my question is related
15 to the need for an update with respect to Gull
16 Island in terms of the possible transmission
17 options and the portfolio-type of requirements that
18 you need.

19 And my question is this; given
20 what you know about the situation right now, do you
21 have a timeframe when it might -- where you think
22 that you might have all of those things in order,
23 like, you know, arrangements for selling 100
24 percent of the power, arrangements on the market,
25 the transmission line access, et cetera, all of the

1 things that you need so that you and the financiers
2 can do your sanction?

3 And I'm wondering, do you have an
4 approximate -- given all the things that you have
5 to do, approximate idea as to when that might be?

6 MR. G. BENNETT: Well, I think the
7 timeframes that we had indicated in 165.

8 So the idea that if we move
9 forward with -- if we move forward with Muskrat
10 first, then we could see a situation where Gull, I
11 think we've said, would be no earlier than three
12 years after the start of the construction of
13 Muskrat Falls.

14 My sense is, within the next three
15 years we'll have a great degree of clarity on where
16 Gull Island sits and we see, you know, those
17 activities unfolding over that period of time.

18 CHAIRPERSON CLARKE: About three
19 years after the start of Muskrat?

20 MR. G. BENNETT: I think that's --
21 I mean, that's -- and those activities all have to
22 be done in concert to lead up to a sanction
23 decision on Gull Island, just like we're running
24 through with Muskrat Falls.

25 CHAIRPERSON CLARKE: Thank you.

1 MR. HULL: If I could just add one
2 thing; I guess with respect to the timing and I
3 guess -- you know -- the impact that they may have
4 on the economics that we presented to you, I guess
5 a significant amount to spend, obviously, on the
6 plant comes after all those winning conditions are
7 in place.

8 To the extent that there is a
9 timing differential, from -- you know -- what we
10 may assume for modelling purposes and what actually
11 materializes until we do start the construction of
12 Gull Island, certainly there will be increases in
13 the cost, due to inflation and other increases that
14 may factor into those inputs but we'll certainly
15 see increases in the prices as well.

16 So as you shift this out over
17 time, if it shifts a year or so or two years,
18 there's no material impact on the economics that
19 we've presented to you.

20 So I'd just like to add that in,
21 just for your consideration.

22 CHAIRPERSON GRIFFITHS: Other
23 questions from the Panel? No?

24 I would like to ask a question so
25 that I can be clearer than I am now about -- on the

1 Muskrat Falls first scenario, and setting aside
2 Gull Island, as we've been doing to a certain
3 extent in this discussion and I don't know whether
4 this graph is even helpful in any way or there's
5 some other graph that you could put up.

6 I think I'm still quite unclear on
7 the whole notion of the provincial revenues. The
8 provincial revenues have been identified as -- I
9 mean, basically when asked what the lasting
10 benefits, after construction of this project, I
11 think the answer was the ongoing -- benefits and
12 consequences of the training and the experience
13 that people will have obtained. I mean over and
14 above the operating jaws but there are not many of
15 those, plus the on-going provincial revenue stream.

16 And it's very clear to me what --
17 the on-going provincial revenue stream, where it
18 comes from with the Gull Island project which is
19 very much an export project.

20 With the Muskrat Falls, what
21 information can you give about when that provincial
22 revenue stream would begin?

23 And when I look at this, I mean,
24 obviously, I guess there's a whole range of
25 financing options. Maybe you could talk a bit

1 about that?

2 When are you going to pay off the
3 mortgage and when will -- and when and what
4 percentage of this available revenue could be
5 attributed to this ongoing provincial revenue
6 stream that will bring the lasting benefits?

7 MR. G. BENNETT: Okay. Let me put
8 some context around it. I'm sure Mr. Hull is going
9 to have some more detail, but I guess there's a
10 third dimension that we need to consider as well,
11 and that's a domestic supply of energy.

12 CHAIRPERSON GRIFFITHS: Yes, fair
13 enough. Sorry, I realized as soon as I said that,
14 that -- although I was mirroring some replies

15 MR. G. BENNETT: Yes.

16 CHAIRPERSON GRIFFITHS: --- I had
17 heard, but, yes.

18 MR. G. BENNETT: Okay.

19 CHAIRPERSON GRIFFITHGS: No, I
20 accept that.

21 MR. G. BENNETT: Okay.

22 CHAIRPERSON GRIFFITHS: I accept
23 that, but I'm thinking also from the perspective of
24 people in the Labrador region whose -- who already
25 have their supply, and, yes, I recognize the

1 concerns about the situation on the coast. I
2 certainly recognize that, and that they may need to
3 be addressed, but...

4 MR. G. BENNETT: So, in general
5 terms, whether it were Gull or Muskrat, our policy
6 today is to deliver energy domestically on a cost-
7 of-service basis.

8 So if we were moving with Gull
9 Island right now, we'd have to pull a chunk of
10 energy to meet our domestic need. We would
11 typically do that on a cost-of-service basis.

12 So I guess the question that begs
13 itself is, how much value do we put on that because
14 certainly if Muskrat were being exported, we'd be
15 able to say, "Yeah, sure, absolutely; we'll get
16 export revenue. We'll bring it into the province
17 from Muskrat, just as easily as we could from Gull
18 Island."

19 So there is an underlying policy
20 question there in terms of how that benefit is
21 ultimately distributed, and I think that ultimately
22 becomes a provincial question.

23 From our perspective, we know that
24 there is \$2.2 billion of NPV advantage on a cost
25 basis from domestic use of Muskrat compared to the

1 Holyrood alternative.

2 And, ultimately, that is a
3 provincial benefit.

4 Now, in our cost-of-service model,
5 we have not asked our regulated utilities to pay
6 back a dividend to the province, other than through
7 the water royalties that come from those
8 developments. But is there benefit to the
9 provincial economy? Absolutely, because there's a
10 significant saving in the -- for electricity
11 consumers throughout the province, as a result of
12 that less expensive supply.

13 So I think that's the other
14 dimension of this, that is maybe a little more
15 difficult for us to rationalize on a -- from a
16 Proponent's perspective. We can say that this
17 definitely is a lesser cost alternative than the
18 Holyrood alternative, where we continue to burn
19 fuel oil.

20 CHAIRPERSON GRIFFITHS: And it's a
21 benefit - just to explain in really simple terms,
22 it's a benefit because people and businesses and so
23 on are paying less for their power; there's more
24 money that is available to be circulated in the
25 economy in other ways? This is what you mean?

1 MR. G. BENNETT: That's exactly
2 it.

3 CHAIRPERSON GRIFFITHS: Yes.

4 MR. G. BENNETT: And we're more
5 competitive as a provincial economy.

6 CHAIRPERSON GRIFFITHS: How about
7 straight cash to the provincial coffers, though, in
8 terms of provincial revenues? I mean, you will be
9 selling 40 percent -- at the start, you'll be
10 selling 40 percent. You know, how long -- when do
11 the construction costs get fully paid off?

12 MR. G. BENNETT: They will be
13 fully paid off in -- typically, in our modelling,
14 we're using 30 years as a financing period. So
15 after that project is paid off, it's generating
16 free energy, other than the operating cost and the
17 sustaining capital and refurbishment that I talked
18 about earlier today.

19 CHAIRPERSON GRIFFITHS: And so you
20 say then it will be a policy decision about what
21 rates -- at what rate this power will get sold
22 domestically?

23 MR. G. BENNETT: Right.

24 CHAIRPERSON GRIFFITHS: But you're
25 still selling -- I gather, if the growth

1 projections are correct, you will be selling a
2 decreasing amount of export until after 30 years,
3 and then you've got the power that was going to
4 Nova Scotia?

5 MR. G. BENNETT: Right. We get
6 that back and, if we need that domestically, great.
7 If not, we'll continue to export it, so...

8 And we've seen different
9 jurisdictions, you know, take different views on
10 this policy. For example, if we were in New
11 England, they don't typically sell generation
12 products on a cost-of-service basis. They sell it
13 to market, in which case we'd be turning around and
14 saying, "Okay, now the shareholder is getting the
15 full market exposure." That's not where we are, so
16 -- and different jurisdictions have different views
17 of that model.

18 So ultimately we look at it as a
19 provincial benefit, but certainly if somebody were
20 to say, "Well, no, you should charge at more than
21 cost," well, that's a different way of running the
22 electricity sector here in the province.

23 CHAIRPERSON GRIFFITHS: But over
24 and above the benefits of the reliable source of
25 energy that's being provided, and maybe a less

1 expensive source of energy, there's also a revenue
2 stream to the province ---

3 MR. G. BENNETT: Right.

4 CHAIRPERSON GRIFFITHS: --- which
5 begins when?

6 MR. G. BENNETT: When we export.
7 So we said we want full market value for our
8 exports.

9 We have a domestic issue that we
10 have to solve, and in the context of the project as
11 a whole, it's 4.8 terawatt hours out of 16.7, so
12 just about 25 percent is being used domestically.
13 The goal is to build a big project and still get
14 that export revenue.

15 CHAIRPERSON GRIFFITHS: Thank you.

16 CHAIRPERSON CLARKE: I'd just like
17 to add one quick follow-up on the same question.

18 Yesterday, when we were talking,
19 and Ms. Griffiths was mentioning about that
20 40 percent of the power would be sold on the
21 Island, and we were talking about, well, does that
22 mean that the price there would reflect 40 percent
23 of the capital costs? And I think that the answer
24 was that, "Well, maybe at the beginning, but it
25 would be more than that, because that would be

1 increasing."

2 So I'm wondering what percentage
3 -- in this graph here, at the start, does this --
4 the price that you're charging to Newfoundland
5 Hydro, does that reflect the full capital cost or a
6 portion of the capital cost, or how does that work?

7 MR. HULL: It represents a price
8 that includes all of the costs of Muskrat Falls,
9 assuming a rate of return that is similar to that
10 of a regulated utility. So that's the first step
11 in terms of that calculation, and then that number
12 returns a number in the neighbourhood of \$75 and
13 change per megawatt/hour starting in 2010.

14 That number then is applied to the
15 output that is sold to the Island. So I believe in
16 2018 the Island would be taking 40 percent of the
17 output, so roughly 2 terawatt hours.

18 So, if you take 2 terawatt hours,
19 multiplied by the \$75.82, escalating that -- it was
20 the 2010 number, so by 2018 it would be a number
21 that would be roughly, say, maybe \$85 or \$90. So
22 \$85 or \$90, times 2 terawatt hours. And then, that
23 number, so that revenue amount, escalates by
24 2 percent a year, and the output increases with the
25 load requirement on the Island.

1 And that's how that ---

2 CHAIRPERSON CLARKE: So it does
3 include the full 7.5 cents then?

4 MR. HULL: Yes.

5 MEMBER JONG: Just to clarify, you
6 said that the revenues to the province would come
7 with exports.

8 Do we know what sort of a price
9 you're going to be able to offer for export? We've
10 talked about 7.7 coming out of Muskrat; 14.3 by the
11 time it gets to the Island, or 14.3 by the time it
12 gets to Nova Scotia?

13 MR. G. BENNETT: Well, 14.3 to the
14 Island.

15 MEMBER JONG: To the Island.

16 MR. G. BENNETT: I guess, when we
17 look at the broader export scenario, that's what
18 we've laid out in 146. So, that portfolio in
19 there, big blocks of energy, large capacity,
20 multiple markets.

21 MEMBER JONG: I guess, yes, my
22 question is, will the price you'll be able to offer
23 be a competitive price for those markets?

24 MR. G. BENNETT: Well, we can
25 slice that a couple of different ways. I mean, if

1 you look at the overall economics for the domestic
2 scenario, we could take the whole capital cost of
3 Muskrat Falls and say, "Yes, that's less expensive
4 than Holyrood." So we can find a way to pay the
5 whole bill.

6 So on that basis, whatever we earn
7 in those export markets is upside revenue for the
8 business case. There would never be a scenario
9 where we would spill as opposed to selling to those
10 markets. We'd always have a strong incentive to go
11 to the market and get that cash.

12 CHAIRPERSON GRIFFITHS: Thank you
13 very much for answering those questions from the
14 Panel.

15 I would now like to provide an
16 opportunity for people from the floor to ask
17 questions.

18 I'm going to be -- as you know,
19 we've been allowing fairly lengthy preambles to
20 questions and also fairly lengthy statements in
21 lieu of questions, and this afternoon I would
22 really like to encourage everybody to really work
23 on asking fairly concise questions so that we can
24 give plenty of opportunity.

25 And I'm going to start off,

1 anyway, with providing people with opportunity for
2 one or two questions, and then we'll see how that
3 pans out.

4 So could I get an indication of
5 who is interested in questions? Mr. Raphals, Mr.
6 Hendriks ---

7 ---QUESTIONS BY THE PUBLIC:

8 MR. HENDRIKS: Yes.

9 CHAIRPERSON GRIFFITHS: Yes. No,
10 I got that. Sorry, I got Mr. Hendriks. I moved
11 away from the mic. I did see you.

12 Oh well, I hope we're not a huge
13 press of people.

14 Just a minute, please, I'll take
15 them in order.

16 Mr. Raphals, would you like to ask
17 your questions first?

18 MR. RAPHALS: It's a little
19 difficult to work with this on the fly but I'll do
20 my best.

21 Just at the end, I understood you
22 to say that the revenue stream to the province will
23 begin when you begin to export.

24 And I understand that this is a
25 scenario essentially in which there isn't export,

1 which there's only sales to the island. And I'm
2 really -- I'm just trying to get a handle on this.

3 Does that mean that there's not a
4 return to the province in these revenues, there's
5 not a return on equity?

6 MR. HULL: The province gets an 8
7 percent or 8.3 or 4 percent return on this right
8 from the outset.

9 MR. RAPHALS: Okay, that's what I
10 thought.

11 MR. HULL: And to the extent that
12 there is a monetization that's billed and the
13 province will get a return in excess of that 8.3
14 percent return from the outset.

15 MR. RAPHALS: Right.

16 I understand this, correct me if
17 I'm wrong, it's starting -- you said at \$75 in 2010
18 which becomes around \$92 at the -- around -- well I
19 think you said 18 something around the in-service
20 date.

21 I'm just -- looking at the growth
22 of the revenues, it passes the 200 million mark, I
23 believe, in 2023 and it passes the 400 million mark
24 in 2036.

25 So just a quick calculation, you

1 need -- I believe -- a 5.5 percent annual increase
2 to get from 200 to 400 from 2023 to 2036.

3 So I'm just going to walk you
4 through the steps I've taken, you can tell me where
5 I went wrong if you think I did.

6 So if we start with 200 -- sorry,
7 we start with 2 terawatt/hours a year and we
8 increase that with your load growth which I think I
9 saw was around 1 percent or a little over 1 percent
10 per year, so the -- I'm trying to get at the
11 numbers that are behind this graph.

12 So the quantity of energy year-by-
13 year starts at around 2 terawatt/hours and
14 increases gradually, so by 2040 I think it seems to
15 me, you'd be at around two and a half
16 terawatt/hours.

17 And your cost price starts in 2023
18 at \$92 which is \$75 inflated to 2023 and if you
19 keep inflating it at \$2 -- 2 percent a year that
20 comes to 120 by 2036 but that's still only yields a
21 revenue of under \$300 million and here it shows
22 400.

23 So can you explain more about how
24 this -- these numbers were generated?

25 MR. HULL: Probably not here on

1 the fly. But certainly what I can do though is
2 undertake to provide an analysis of those
3 calculations.

4 I guess there's two things that
5 are increasing, you know, one is the price and one
6 is the load and that compounds year after year.

7 One thing I do know is that
8 initially that load is 2 terawatt/hours in 2018 and
9 that increase is to be using all the production of
10 Muskrat Falls around 2040. So I think you had
11 indicated ---

12 MR. RAPHALS: Well I thought I
13 remembered the \$1 a year from the cumulative growth
14 in the load forecast early this afternoon.

15 MR. HULL: Yeah. I'd have to go
16 back and look. I'm not sure that the load forecast
17 was just an even 1.1 percent per year or whether it
18 wasn't.

19 But I certainly do know that the
20 beginning load was around 40 percent of the output
21 which is 2 terawatt/hours. I do know that that
22 does ramp up to around 4 terawatt/hours by 2040.

23 MR. RAPHALS: Not to waste time
24 but if you could fill that in I think it would
25 help.

1 MR. HULL: Certainly will.

2 CHAIRPERSON GRIFFITHS: So if I
3 can just -- so that's an undertaking, Mr. Hull, to
4 provide a brief explanation of how those figures,
5 that graph was -- came about, the pricing; yes?

6 MR. HULL: Yes, I will.

7 CHAIRPERSON GRIFFITHS: Thank you.

8 MR. G. BENNETT: Just a point of
9 clarification -- I'm sorry, I apologize.

10 CHAIRPERSON GRIFFITHS: No, no, I
11 just want realizing I should also ask -- and when,
12 when do you think it might be possible?

13 MR. HULL: Should be able to
14 prepare that this evening.

15 CHAIRPERSON GRIFFITHS: Sure.

16 MR. G. BENNETT: Maybe just a
17 point of clarification on this. I know that the
18 load is not evenly spread out. For example, the
19 Vale hydromet facility comes on-stream in 2014 and
20 if I recall that's like half a terawatt/hour.

21 So this forecast is front-loaded
22 and that may be part of the explanation here.

23 MR. RAPHALS: If you simply
24 provided the numbers that -- but now let's go to
25 the cost side.

1 I believe the scenario here is
2 Muskrat Falls producing 2.9 -- sorry 4.9
3 terawatt/hours a year with the costs that we've
4 seen, 2.9 -- 2.5 million or 2.9 million, I don't
5 remember from yesterday.

6 MR. HULL: Two point nine (2.9).

7 MR. RAPHALS: Two point nine
8 (2.9).

9 And with a debt-equity ratio 70
10 percent debt, I believe comes to borrowings of
11 around \$2 billion and equity of around \$870
12 million.

13 Which it seems to me means that in
14 the beginning years that your interest rate of 7.3
15 percent and a debt of \$2 billion that there is
16 around \$150 million of debt payment.

17 And that with an equity of a
18 little under \$900 million and a return on equity of
19 -- it was 12 percent but you just earlier mentioned
20 a different figure I believe. Eight percent I
21 think you said.

22 MR. HULL: Eight percent return on
23 capital versus the 12 percent return on equity.

24 MR. RAPHALS: Okay. I'm
25 interested in the -- I think then that the right

1 number is 12 percent because the investment in
2 building a plant is investment capital for which
3 there's a return equity of 12 percent.

4 So it seems to me -- they way I
5 would look at it, there would be an equity cost of
6 around \$100 million.

7 But if you can see if differently
8 please explain.

9 MR. HULL: There certainly could
10 be a cost of equity of 12 percent, I guess
11 depending -- if you're looking at the risk profile
12 of selling into the marketplace.

13 But depending on the arrangements
14 that are made, I guess from a policy perspective in
15 terms of how this -- how risk and reward is carved
16 up between the project and the ratepayer at the end
17 of the day then that certainly may influence the
18 rate of return that might be reasonable for the
19 risks you may see.

20 As you know, and as I've
21 illustrated or was illustrated earlier in a
22 presentation today, regulated utilities see
23 themselves taking a rate of return on equity that's
24 significantly below a 12 percent rate of return
25 because a lot of those risks are borne by the

1 ratepayer.

2 So I'm not prejudging at this
3 point in time as to whether it will be 12 or it
4 will be something that's closer to eight, it really
5 will depend how -- you know -- the risks and
6 rewards are allocated between the two parties.

7 MR. RAPHALS: Well, what I'm
8 getting at is that in those first years when you
9 have less than \$200 million a year of revenue and
10 your interest costs are around \$150 million a year
11 that only leaves 30 or \$40 million excess for
12 operations and maintenance and return to the
13 equity.

14 So that's the part that I don't
15 really see how it fits together.

16 MR. HULL: Even though I guess --
17 and really depends I guess at the end of the day, I
18 guess, you know, how the sales to the island are
19 shaped, as to whether it's escalating and so forth.

20 But the return over time, right,
21 that's available to the equity holder here is an
22 excess of 8.3 percent.

23 MR. RAPHALS: Okay, I'm really
24 still just talking about the first years after
25 commissioning when the project has been built and

1 we don't really know how the future is going to
2 play out.

3 MR. HULL: We haven't indicated
4 here how much we will be financing. What we've
5 portrayed here are revenues that may be available
6 from the Muskrat Falls.

7 MR. RAPHALS: No I understand but
8 by the time you got into revenues you've already
9 raised the capital, you've already built the
10 project.

11 So by the time you get there ---

12 MR. G. BENNETT: Mr. Raphals, what
13 you haven't considered is a timing and
14 circumstances under which the shareholder may wish
15 to have that dividend or equity -- return on equity
16 paid.

17 They may want it front-end loaded,
18 they may want it back-end loaded, they might want
19 it escalating, they may want it flat. There are a
20 lot of assumptions that you may be making on what
21 the shareholder is actually looking for.

22 So given that we're now into the
23 -- you know -- long-term fiscal planning for the
24 province and when it might want to see that
25 dividend and the timing of it, that's a pretty

1 speculative area.

2 It seems to me that, you know, we
3 look at the project using normal financial
4 indicators the IRR return on capital, return on
5 equity are legitimate evaluators and, you know,
6 getting into the question of when the shareholder
7 wants to see that return on equity paid may be a
8 bit detailed at this point.

9 MR. RAPHALS: Well, I'm trying to
10 avoid speculation and simply ask the actual
11 situation that will pertain upon commissioning and
12 the revenues -- you stating the revenues and the
13 interest costs, I think, are fairly
14 straightforward.

15 So it seems to me it's not a
16 question of what the shareholder wants but what
17 money is left to provide -- you know, if you're
18 going to sell the power at seven and a half dollars
19 in 2010 dollars there's not going to be more cash
20 than this.

21 And so it seems to me at that
22 point the shareholder doesn't really have a choice
23 but to accept whatever revenue is left after paying
24 the interest and look forward to the future to get
25 a better return.

1 MR. G. BENNETT: Which might be a
2 great future and looked at in the context of the
3 province and the other sources of revenue, may be a
4 great thing.

5 So again, I think that's a call
6 for the shareholder.

7 MR. RAPHALS: I agree, it may be a
8 great thing, but I'm trying to get clarity on a
9 situation where in the early years, that return is
10 not available by the nature of -- unless, of
11 course, you sell the power at a higher price, in
12 which case there is more money to go around.

13 But that's a choice which I think
14 is yours to make in terms of the price at which
15 you're offering the power for sale.

16 MR. HULL: I guess, Mr. Raphals, I
17 guess where we are though with respect to Muskrat
18 Falls is we've just passed through Decision Gate 2.
19 Decision Gate 2 is a test from an economic
20 perspective that you've got winning conditions that
21 make a project feasible.

22 I guess between Decision Gate 2
23 and Decision Gate 3, a lot of aspects from a
24 commercial perspective will materialize, some of
25 them that may address some of the issues that you

1 are raising here today.

2 So for instance, I guess the
3 financing arrangements and the extent of leverage
4 that we put into this project, to the extent of
5 equity that the province may offer towards the
6 capital costs of the project, there's a lot of
7 commercial decisions, you know, PPAs with the
8 Island and so forth, that have to be arranged to
9 finally say "We're going to sanction this project
10 and pass through Decision Gate 3."

11 But I think what this demonstrates
12 and the return that it demonstrates, you know, that
13 we are earning a return here with spilling water,
14 which we certainly, I think, demonstrated that we
15 have multiple alternatives to monetize any water
16 that we're going to spill, but we're generating
17 return that's significantly in excess of current
18 regulated returns that are being earned by
19 utilities today.

20 That certainly, from Nalcor's
21 perspective, meets the definition of this is a
22 feasible project.

23 CHAIRPERSON GRIFFITHS: Mr.
24 Raphals, have you completed this line of inquiry?
25 Because what I would like to do is go to the other

1 people who indicated they want to ask questions.

2 If we come around and there's
3 time, I can call you back, you can proceed, but I
4 would like you to make sure you've got -- do you
5 need a follow-up to ---

6 MR. RAPHALS: One more follow-up,
7 if I may?

8 CHAIRPERSON GRIFFITHS: All right.

9 MR. RAPHALS: It seems to me the
10 piece that's missing from this graph to fully
11 present the picture that you're describing is the -
12 - I'm not sure precisely the right term, but
13 essentially the developing entities' asset balance.

14 In other words, starting on the
15 date of commissioning, you've invested all this
16 money and you're gradually going to produce
17 returns. There's inflation built onto this.
18 There's a lot of complicated factors, and there's
19 some point at which I think -- maybe I'll come back
20 with a clearer version of this later or maybe you
21 have a good idea of a way to present it.

22 But at this point, simply looking
23 at the graph, there's no way to balance those
24 negative -- those investment costs at the beginning
25 against the revenues to see where you stand and at

1 what point, for instance, there is net wealth
2 that's been created. At some point presumably
3 there is, but not in the first year.

4 MR. G. BENNETT: I don't agree.
5 At the end of the day, we presented the return on
6 equity and if I were an investor making a 50-year
7 investment decision that would be a good start for
8 me at this point in time.

9 If I look at my own personal cash
10 flow planning, that might be something I look at
11 when I actually cut the cheque, but in terms of the
12 scope of this investment, I think there's enough on
13 the record.

14 MR. RAPHALS: And again, as you
15 described earlier, Madam President, the mortgage,
16 there's an interest balance. There are borrowings
17 which are gradually paid off. There's equity which
18 is gradually returned, and this evolves over time.

19 And it seems to me for this to be
20 a useful tool for your reflections, it would be
21 much more helpful to have some indication of the
22 evolution of those balances to accompany the
23 revenue stream, because the revenue stream by
24 itself is -- anyway, if you feel that to be useful
25 ---

1 CHAIRPERSON GRIFFITHS: Let us
2 ponder that.

3 Thank you, Mr. Raphals.

4 So Mr. Hendriks, and then after
5 that I have -- I'm sorry, I don't know your name,
6 but the gentleman with the hat.

7 MR. ANDREWS: Norman Andrews.

8 CHAIRPERSON GRIFFITHS: Norman
9 Andrews. Thank you.

10 So Mr. Hendriks first.

11 MR. HENDRIKS: Yes, I have it on
12 my computer, so I'll be quick.

13 I'm going back to an issue that
14 came up yesterday. I just wanted to clarify for
15 the Panel and then I wanted to ask a question of
16 Mr. Bennett.

17 Nalcor provided a list overnight
18 of the information about the coastal communities
19 and the power rates. Natuashish is not on that
20 list, and the reason for that is that Natuashish,
21 for reasons that I'm not going to get into right
22 now, does not -- they don't have an arrangement
23 such that they get the regulated rate. So they pay
24 the full amount. So when oil goes up, they pay --
25 they pay. Well, they're charged anyways.

1 So I just want to make that clear.
2 So there's a debate about, you know -- I'm not
3 going to get into that debate about who pays or who
4 doesn't pay. Everyone is laughing here. But
5 anyways, they're charged. I'll leave it at that.
6 So oil goes up, they're charged 100 percent of the
7 increase in the oil.

8 So the issue, what I'm getting at
9 here, is that alternatives are very important for
10 Natuashish.

11 And Mr. Bennett raised a comment
12 earlier about having a heat pump. And I've noticed
13 that when I've been in St. John's that several
14 people I know -- I used to live in St. John's so I
15 know quite a few people there -- also have these
16 heat pumps.

17 And obviously we're interested in
18 this as an alternative on the coast, and I'm
19 wondering; there's been no discussion of this as to
20 whether or not this is a viable alternative for the
21 coast or for the Island, and I just wondered what
22 Mr. Bennett's thoughts were about that or Nalcor's
23 thoughts were about that?

24 MR. G. BENNETT: Well, I can offer
25 some personal experience. I know that the unit

1 that I have wouldn't be very efficient in the
2 extremely cold conditions that we see here in
3 Labrador.

4 So generally speaking, that
5 technology is much better suited to a more moderate
6 climate than we see here in central and coastal
7 Labrador.

8 MR. HENDRIKS: Okay. But on the
9 Island, are they common?

10 MR. G. BENNETT: No, I wouldn't
11 say they're terribly common. It's a significant
12 investment and you see them in some homes, but I
13 wouldn't say they're terribly common. And you'd
14 also need to plan your house fairly well. If you
15 don't have forced-air heating in your house, you've
16 got a real problem to put one in. So, I mean, it
17 is pretty specific to individual homes.

18 MR. HENDRIKS: Right. So they
19 tend to work better on new homes than on retrofits?

20 MR. G. BENNETT: Generally
21 speaking, yes.

22 MR. HENDRIKS: Okay. Thank you.

23 CHAIRPERSON GRIFFITHS: Mr.
24 Hendriks, before you go, could you just satisfy my
25 curiosity about the situation -- not about the

1 paying -- Natuashish, and this is a relatively
2 newly constructed community. Was it built with a
3 high-level of energy efficiency and conservation in
4 mind or not and what heating arrangements? There's
5 not a central heating ---

6 MR. HENDRIKS: No, there's not.

7 CHAIRPERSON GRIFFITHS: Is it oil?

8 MR. HENDRIKS: Well, it's a diesel
9 plant.

10 CHAIRPERSON GRIFFITHS: For the
11 electricity, but how do people heat their houses,
12 space heating?

13 MR. HENDRIKS: Well, some of the
14 homes have wood stoves, but I understand most
15 people are using their electric heaters because
16 they have them.

17 MR. G. BENNETT: But were they
18 originally equipped with oil heating?

19 MR. HENDRIKS: I don't know,
20 actually. I haven't been involved with the
21 Natuashish housing as to how it was designed, so I
22 can't answer the Panel's question. Maybe Nalcor
23 can.

24 MR. G. BENNETT: Is that something
25 you can take away for us?

1 MR. HENDRIKS: Yeah. I can --
2 that can be an undertaking for us, yeah.

3 CHAIRPERSON GRIFFITHS: Okay.
4 Thank you very much.

5 MR. HENDRIKS: I just want to be
6 clear what we're undertaking to do, to determine
7 the residential -- form of residential heating?

8 MR. G. BENNETT: Determine the
9 heat source that was originally installed in the
10 houses in Natuashish.

11 MR. HENDRIKS: The original heat
12 source. Okay. Yeah. And that's in the first ---

13 CHAIRPERSON GRIFFITHS: For space
14 heating we're talking about.

15 MR. G. BENNETT: Yes, that's
16 correct.

17 CHAIRPERSON GRIFFITHS: Yes.

18 MR. HENDRIKS: Space heating,
19 okay.

20 CHAIRPERSON GRIFFITHS: And I
21 guess I -- there's no reason why you have to answer
22 this, Mr. Hendriks; you were just standing there.
23 I should have asked Mr. Davis or someone. I
24 don't -- with all the talk about the coastal
25 communities with the diesel generation, I don't --

1 I'm curious; I don't understand whether most of the
2 homes in those communities where they have access
3 to -- do they have furnaces? Do they have oil/fire
4 furnaces or would the base case be basically
5 heating by wood stove and then perhaps some people
6 attempt to use electricity for their space heating
7 or some combination of both?

8 So I guess -- sorry, I'm asking a
9 question and I've got to find the right person to
10 answer that. I'll remember.

11 You're answering my question. Mr.
12 Sheldon, you're answering my question?

13 MR. SHELDON: No, but we'll give
14 you a thorough answer tomorrow during our
15 presentation with pictures included.

16 CHAIRPERSON GRIFFITHS: Oh, well,
17 that's excellent. So that will be the north coast
18 taken care of. All right.

19 Well, I'll find someone from the
20 south coast to answer the rest of my questions. So
21 thank you very much. I appreciate that.

22 You can answer my question? I
23 know you want to ask a question. I'll put you down
24 on my list.

25 I'm going to now ask Mr. Andrews

1 to come forward.

2 MR. ANDREWS: My name is Norman
3 Andrews and really my interest in this -- these
4 hearings is because of my community. I'm not part
5 of any group or anything, okay. It's just concern
6 for my community. I was going to be negatively
7 affected by this project.

8 And I'm going to speak about the
9 need -- I've been thinking about that a lot.

10 CHAIRPERSON GRIFFITHS: Sorry, may
11 I interrupt and just ask you which community you're
12 from?

13 MR. ANDREWS: Happy Valley-Goose
14 Bay.

15 And first of all, Nalcor announced
16 that Holyrood was going to continue and now it's
17 saying it's going to close, okay? And I wondered
18 about that. There seems to be a desperate need for
19 energy for hydro power -- clean energy -- so they
20 -- in fact, they even -- if I understand the news
21 reports today, they even tried to bring power in
22 from the mainland; from some other part of Canada
23 and wasn't successful.

24 So a desperate need for energy;
25 why? If it's not for the shareholders to make

1 money on, what's it really for? Is it for Long
2 Harbour because Long Harbour's there? Is it for an
3 aluminum plant on the island? Block it here in
4 Labrador, bill it out there and use our power to
5 drive it? You know, it's -- what's this desperate
6 need for energy? If it's not to replace Holyrood
7 because in the beginning Holyrood was -- was going
8 to continue.

9 Thank you.

10 CHAIRPERSON GRIFFITHS: Thank you
11 Mr. Andrews.

12 Do you want to quickly reply to
13 that Mr. Bennett?

14 MR. G. BENNETT: I -- I don't
15 think there's much I can say other than to
16 reinforce commitments we've already made with
17 respect to Holyrood. You know, our -- I think our
18 record is complete here.

19 CHAIRPERSON GRIFFITHS: You might
20 just repeat that very briefly. I don't know or
21 understand who's getting ---

22 MR. G. BENNETT: Sure. Oh, that's
23 fair -- that's a fair point. Thank you for that.

24 Our commitment under the energy
25 plan is to retire the Holyrood facility generation

1 and burning the fuel at the point -- at the plant
2 will cease after we've commissioned and confirmed
3 that the DC link operates reliably. At that point
4 in time, we will -- we will stop burning fuel there
5 permanently.

6 MR. ANDREWS: Isn't it true --
7 isn't it true, though, Mr. Bennett, that you
8 weren't going to retire this Holyrood plant?

9 MR. G. BENNETT: No, the energy
10 plan in 2007 was a firm commitment that that
11 facility needs to be retired.

12 MR. ANDREWS: Didn't you announce
13 yourself that this plant wasn't going to be
14 retired?

15 MR. G. BENNETT: No, we didn't.

16 MR. ANDREWS: You didn't?

17 MR. G. BENNETT: No, we committed
18 that it would be retired.

19 MR. ANDREWS: That's not the way I
20 understand it and some of the other people I spoke
21 to is on the media.

22 MR. G. BENNETT: Oh, no, this --
23 it will be retired. Our commitment is that when
24 the Lower Churchill comes in service, it will be
25 retired.

1 MR. ANDREWS: So is the power
2 really for some industry that you've got planned or
3 ---

4 MR. G. BENNETT: No, no, it's not.

5 MR. ANDREWS: No? No hidden
6 agenda here?

7 MR. G. BENNETT: There is no
8 hidden agenda.

9 MR. ANDREWS: Okay. Thank you.

10 CHAIRPERSON GRIFFITHS: Thank you
11 Mr. Andrews.

12 Mr. Learning?

13 MR. LEARNING: Richard Learning.

14 Mr. Bennett what's a heat pump?

15 MR. G. BENNETT: Now, there's a
16 good ---

17 CHAIRPERSON GRIFFITHS: Sorry,
18 before you answer that question, I have a note here
19 that we need a 10-second break for the changing of
20 the tape so do enjoy our 10-second break.

21 (SHORT PAUSE/COURTE PAUSE)

22 CHAIRPERSON GRIFFITHS: We've got
23 the signal to continue. I was thinking we should
24 -- the Panel should lead a 10-second aerobics
25 exercise or something.

1 But anyway, sorry, Mr. Bennett, if
2 you remember where you were?

3 MR. G. BENNETT: So what's --
4 what's ---

5 CHAIRPERSON GRIFFITHS: Explain
6 about heat pump.

7 MR. G. BENNETT: What's a heat
8 pump? Now, if that's interesting to the Panel, I
9 can do it or we can take it offline. I'll take
10 your lead on this.

11 CHAIRPERSON GRIFFITHS: Explaining
12 a heat pump. You're not going to explain in huge
13 detail; are you?

14 MR. G. BENNETT: I won't be -- I
15 won't be terribly technical, but if you think about
16 -- if you think about your refrigerator for a
17 second; what your refrigerator does is it takes
18 heat out of the inside of your icebox and moves it
19 out into your room.

20 So if you think about doing that
21 from the outdoors, the heat pump that I have at my
22 house takes heat from the outside air although it's
23 very cold -- it can be below zero --and it can
24 extract heat and move it into my house.

25 In very simple terms, that's --

1 that's what a heat pump does. So it's more
2 efficient than simply using the electric heater
3 inside my house.

4 And if we want to talk technically
5 about that maybe we can do that outside.

6 CHAIRPERSON GRIFFITHS: Okay.

7 I'm going to just check again. Do
8 we have questions from the Panel? Do a round of
9 questions?

10 CHAIRPERSON CLARKE: I -- I didn't
11 know there were questions ---

12 CHAIRPERSON GRIFFITHS: Yes, we do
13 know this Mr. Clarke.

14 CHAIRPERSON CLARKE: This one will
15 be maybe easier than some -- some of the other
16 ones. But I just wanted you to -- in the new
17 sequencing, either S2 or S3, there is a change in
18 the transmission -- interconnecting transmission
19 configuration between Muskrat Falls and Gull Island
20 and between Gull Island and Churchill Falls.

21 I'm just wondering if you can just
22 give us a -- there wasn't really much of an
23 explanation in the report saying the systems
24 planning people felt this was necessary and I'd
25 just like to get an appreciation for that?

1 MR. G. BENNETT: Yes, we are and
2 we are continuing to look at that. The
3 transmission configuration between Muskrat and
4 Churchill Falls, looking at a couple of different
5 scenarios there depending on how Gull may
6 potentially interconnect into the Quebec system; so
7 originally, we had a very particular view of the
8 transmission line voltage between Churchill Falls
9 and Gull Island and potentially an interconnection
10 into Quebec into the Romaine complex.

11 So what we're looking at now is
12 that the capacity required for Muskrat is lesser
13 than that and we're asking ourselves, what's the
14 right time to make that investment in high capacity
15 and extra high-voltage transmission between Gull
16 Island and Churchill.

17 So we looked at the environmental
18 footprint and we're satisfied that we're within the
19 footprint that we had originally registered and we
20 had submitted in the EIS and all those effects,
21 predictions are in place.

22 But now it's a system planning,
23 engineering question as to what's the right timing
24 and what is the right mechanism. Do we want to use
25 a low-voltage line in the short-term and then

1 upgrade that line later or do we put the investment
2 in right from the get-go?

3 So those are the questions that
4 we're trying to address from the system planning
5 and engineering side.

6 CHAIRPERSON CLARKE: Okay, then.

7 But when -- if Muskrat is approved
8 and if it's built, there would have to be some
9 transmission lines in Churchill Falls, but you
10 wouldn't decide on the -- or you may not decide on
11 the other -- the transmission line from Gull Island
12 until you get Gull Island's sanction.

13 MR. G. BENNETT: Until we get
14 closer, that's right. So we've got a high degree
15 of certainty, one transmission line will be a 345
16 kV and we will start construction of that as soon
17 as we start construction of Muskrat Falls.

18 The second one, whether it's 345,
19 a 735 line operated at 345 or we go directly to 735
20 right at day one, is a question that we're asking
21 ourselves.

22 CHAIRPERSON GRIFFITHS: I'll now
23 see if there are any more questions from the floor.
24 I will give -- I will give precedent to somebody
25 who has not asked a question this afternoon and

1 after that if any of the previous questioners want
2 to ask another question, I will certainly recognize
3 them.

4 I'm going to keep my eye on the
5 clock to allow time for the last 10 minutes which
6 goes to the Proponent.

7 MR. RAPHALS: I'd just like to
8 mention that I did have a few comments I wanted to
9 make from the morning.

10 CHAIRPERSON GRIFFITHS: Comments
11 from this morning?

12 MR. RAPHALS: From this morning,
13 yes.

14 CHAIRPERSON GRIFFITHS: Yes,
15 everything is all game now ---

16 MR. RAPHALS: It's all game now,
17 okay.

18 CHAIRPERSON GRIFFITHS: Yes, oh
19 yes. You can ask questions on anything dealing
20 with heat pumps and alternatives. Yes, now that's
21 fine.

22 MR. RAPHALS: Okay, good.

23 CHAIRPERSON GRIFFITHS: And let me
24 just check. I didn't see any other hands. I think
25 -- no, it's all right.

1 Please go ahead Mr. Raphals.

2 MR. RAPHALS: Okay. Thank you.

3 A few separate points; one, Ms.

4 Robin Goodfellow -- yes ---

5 CHAIRPERSON GRIFFITHS:

6 Goodfellow-Baikie? Yes.

7 MR. RAPHALS: --- made reference
8 to a town in Quebec and she wasn't sure of the
9 details and I just thought I'd provide that
10 information for you.

11 It was a town which -- it's
12 Murdochville which in 2002 held a referendum
13 requesting the province to shut down the town after
14 Noranda had closed its mine. The province declined
15 to close the town.

16 And since then, there are now 162
17 megawatts of wind installed within the town's
18 boundaries and it's the home to a wind-energy
19 techno centre and is now pursuing a development
20 strategy -- this is all from the village's -- from
21 the town's website -- based on renewable energy
22 including wind power, forest biomass and geothermal
23 energy, recreational tourism and information and
24 communication technologies. The town is
25 Murdochville.

1 CHAIRPERSON GRIFFITHS: Okay.

2 CHAIRPERSON GRAHAM: Thank you,
3 that's helpful.

4 MR. RAPHALS: Secondly, the
5 discussion this morning about energy efficiency. I
6 think I'd like to start in response to what I think
7 was a rhetorical question of Mr. Bennett's, which
8 is "Why isn't it happening? Why aren't we seeing
9 these tremendous gains?"

10 And I think there is a very good
11 reason. It's one that's very well-known in the
12 energy efficiency world, and I'll just mention it
13 as background.

14 I testified as an expert on energy
15 efficiency at Hydro-Québec's first DSM plan before
16 the Régie. At the time, we strongly criticized
17 their plan saying it was -- its targets were far
18 too low. Since then, they've quadrupled their
19 targets and we still think they're a little bit
20 low.

21 But the fundamental problem in
22 energy efficiency is that utilities have a conflict
23 of interest. They make money by selling power, and
24 between -- if their costs are service regulated,
25 then between rate cases if they sell more power

1 than what they were planning to sell in their rate
2 case, there's additional -- there is additional
3 return there. And I mean it's not an accusation,
4 it's not that they're big and evil, it's just a
5 fact of business and is widely recognized in the
6 industry.

7 And the most effective energy
8 efficiency systems are those where it's not the
9 utility which carries out the projects. And one of
10 the most successful has been in Vermont, which is a
11 small state, but actually has the virtue of being
12 comparable to Newfoundland in terms of its scale.

13 Vermont's peak load is around
14 1,000 megawatts, which I believe compares to 1,500
15 on the island, and their annual energy consumption
16 is 5 terawatt hours, compared to I think we heard
17 this morning around 8 for the island. So it's
18 between half and two-thirds the size of
19 Newfoundland.

20 And a few years ago, the Vermont
21 legislature created a structure called Efficiency
22 Vermont, which is a non-profit organization that's
23 completely separate from the utilities but which is
24 funded by a -- it's funded from utility bills. I
25 don't remember the amount, but there's a certain

1 amount per kilowatt hour of all electricity sales
2 and promised they go to fund Efficiency Vermont.

3 And it's been extremely successful
4 and just looking at its most recent plan, which is
5 on their website, their annual plan for 2011 on
6 page 4, they identify their targets for the current
7 period.

8 It's a three-year plan. So for
9 2009 to 2011, their goal is to reduce consumption
10 by 360 gigawatt hours per year, and to reduce peak
11 demand by 54 megawatts. So 54 megawatts out of a
12 peak demand of 1,000 is around 5 percent, and the
13 360 gigawatts is really a very large number
14 compared to the figures that are in JRP 25-S26-S
15 that we referred to earlier based on the Marbek
16 study which showed for an horizon of 2026 the
17 achievable objectives of conservation between 500
18 and 1,000 gigawatt hours.

19 So I think Vermont is an
20 exceptional example and if you're looking for a
21 place to look for further depth, both in terms of
22 the generic analysis and the order of magnitude of
23 the objectives, I think it's an excellent place to
24 look.

25 One last point with respect to

1 alternatives. It really wasn't part of my mandate
2 and I wasn't planning to get involved in it, but I
3 think there actually is one alternative energy
4 source that hasn't been mentioned and should be,
5 which is in-stream hydro power, which is very
6 closely related to some of the -- people talked
7 about "tidal". And tidal power, there are many
8 different kinds of technologies.

9 Some of them are very similar to
10 in-stream hydro. I did a market study on in-stream
11 hydro power two or three years ago, and I think if
12 I removed some information, I could make it public
13 and -- or at least provide it to you if you're
14 interested.

15 CHAIRPERSON GRIFFITHS: May I make
16 note of that as an undertaking? Is that something
17 you can do within the next couple of days?

18 MR. RAPHALS: Yes. Yes, I can.

19 CHAIRPERSON GRIFFITHS: Yes, thank
20 you very much. So it's a -- somebody's got that?
21 It's a study of ---

22 MR. RAPHALS: It's a study on
23 in-stream hydro power ---

24 CHAIRPERSON GRFFITHS: Right.

25 MR. RAPHALS: --- technologies.

1 It's a young technology. It's just passing the
2 point from R&D into commercial.

3 Verdan Power is one of the leaders
4 in the industry. They've have a tidal project in
5 the East River in New York. It's tidal because
6 it's a river that goes back and forth, but it's the
7 same technology. They've now installed a pilot
8 project in Cornwall, in the St. Lawrence, and
9 another number of other companies.

10 It's really a fast-growing
11 technology and it's one which exploits the power of
12 moving water in rivers without obstruction, and so
13 obviously the power and energy from any -- if you
14 thought of it as an alternative to the -- to
15 Muskrat Falls, the power and energy would be very
16 much lower, the capital cost would also be very
17 much lower, and the environmental destruction would
18 be drastically lower, if non-existent.

19 So in the concept of thinking
20 about what other things one might do with this
21 resource, there are obviously many other
22 considerations, but I think it's something that
23 should be on your radar and that's why I mentioned
24 it.

25 CHAIRPERSON GRIFFITHS: And I

1 thank you.

2 Mr. Bennett, do you want to say
3 something about ---

4 MR. G. BENNETT: A really quick
5 question.

6 Can you give us an indication of
7 the unit cost per megawatt hour of production from
8 this technology?

9 MR. RAPHALS: It varies very
10 dramatically based on the speed of the current.

11 MR. G. BENNETT: Well, I'm just
12 trying to get some insight into typical values.

13 We will look at -- the Churchill
14 River, we don't have the speed of current that you
15 may see in other rivers.

16 So I'm just trying to understand
17 what the order of magnitude here is, so from an
18 engineering perspective, the power production or
19 the power production capabilities typically
20 associated with the head or the height of water
21 available. So perhaps you can give us some context
22 into the unit costs?

23 MR. RAPHALS: Well, it's a very
24 good question, a very important question, but as I
25 say the unit costs are not related to head, they're

1 related to speed of current, just as in wind power
2 it's the speed of the wind.

3 Now, of course, water is so much
4 denser than -- I believe from the top of my head
5 that current speeds above four metres per second
6 result in extremely interesting unit costs.

7 MR. G. BENNETT: Right. I guess
8 I'm trying to test it as a credible alternative to
9 the project ---

10 MR. RAPHALS: Well -- but the
11 point is that in order to assess it you have to
12 assess a site and know the current speeds, and I
13 don't know the Churchill River well enough to --
14 maybe you do -- but, generally, it's not
15 information that's very easily available.

16 You know, river systems are mapped
17 by flow but not so much by speed, but there may --
18 if there are parts of the river with high speeds,
19 they would certainly be interesting sites for it.

20 MR. G. BENNETT: Has Hydro-Québec
21 contemplated any application of this technology on
22 a large-scale basis; if I look to them as a large
23 hydro utility?

24 MR. RAPHALS: There is a pilot
25 project in the St. Lawrence, as we speak. I

1 believe it's 2 25-megawatt units, and Hydro-Québec
2 is very interested in the technology, I can say
3 that.

4 MR. G. BENNETT: Thank you.

5 CHAIRPERSON GRIFFITHS: Thank you
6 very much.

7 And I understand the context in
8 which your mentioning this would not necessarily be
9 something that could replace Muskrat Falls in one
10 project, but could be part of an array of alternate
11 power sources, including wind ---

12 MR. RAPHALS: I guarantee you ---

13 CHAIRPERSON GRIFFITHS: --- and
14 demand-side management ---

15 MR. RAPHALS: --- the number of
16 megawatts and gigawatt hours would be very much
17 lower than Churchill Falls ---

18 CHAIRPERSON GRIFFITHS: Yes ---

19 MR. RAPHALS: --- but as part of a
20 portfolio perspective of the different ways to meet
21 power needs and revenue needs ---

22 CHAIRPERSON GRIFFITHS: And it's
23 constituted as a kind of like a free-standing
24 turbine on the bottom of the river or fence or ---

25 MR. RAPHALS: There are many

1 different technologies.

2 Some of them, Verdun's, look a lot
3 like wind turbines planted at the bottom of the
4 river. Others look more like tubes on the bottom,
5 and there are other more -- there are, really --
6 it's technologically very interesting. It's not at
7 all settled.

8 CHAIRPERSON GRIFFITHS: Thank you.

9 I have a feeling, Mr. Learning,
10 that with your experience on the river you're about
11 to tell me something about the speed of the
12 current. Or am I guessing wrongly?

13 MR. LEARNING: Richard Learning.
14 You're guessing right.

15 I fell asleep a good many times
16 going about 10 -- between 10 and 11 knots. I fell
17 asleep in the canoe a few times.

18 CHAIRPERSON GRIFFITHS: Mr.
19 Andrews?

20 MR. ANDREWS: Norman Andrews
21 again, and I don't know if you got a corridor
22 through Québec yet for the Gull Island power or are
23 you selling it to Québec, but I was wondering about
24 the Muskrat Falls power.

25 Was it always in the plans to send

1 the Muskrat Falls power to the island of
2 Newfoundland, or if you obtain the corridor through
3 Québec, was the both projects going to go through
4 Québec, the Gull Island and Muskrat Falls? Or was
5 it in the plans to always send that to
6 Newfoundland?

7 MR. G. BENNETT: The provincial
8 energy plan stated that we have to retire Holyrood
9 if we move forward with the project, so that
10 commitment was made by the province in 2007.

11 MR. ANDREWS: So it was always in
12 the plans for power to go to the island?

13 MR. G. BENNETT: It was an
14 important part of our thinking, yes.

15 MR. ANDREWS: In the plans or not;
16 yes?

17 MR. G. BENNETT: I said yes.

18 MR. ANDREWS: Okay. It was always
19 part of our thinking you said, but -- so it was in
20 the plans. Thank you.

21 CHAIRPERSON GRIFFITHS: Thank you,
22 Mr. Andrews.

23 Yes, Mr. Davis?

24 MR. DAVIS: This is Eldred Davis.

25 Just a suggestion. The in-stream

1 turbines that Mr. Raphals mentioned, they don't
2 necessarily have to be in Labrador. They don't
3 have to be in the Grand River. I just want to make
4 that point. In fact, they would be probably more
5 appropriate near the load.

6 If the power is generated by those
7 turbines, it could be relatively close to the
8 person or factory or whatever that wants to use the
9 power.

10 The Proponent just asked what's
11 the current speed in the river. It's irrelevant in
12 this case.

13 Thank you.

14 CHAIRPERSON GRIFFITHS: Thank you,
15 Mr. Davis.

16 If there are no other questions
17 from the floor or from the Panel, I think if you're
18 ready -- are you ready, Mr. Bennett?

19 I would ask you to provide kind of
20 an overall -- your comments overall on this topic-
21 specific before we end the session.

22 MR. G. BENNETT: So if I can have
23 just one minute to look over my notes and frame my
24 thinking, I promise I will take it off my 10
25 minutes. I'll be shorter than that. I just want

1 to get head straight for a second, if that's okay.

2 CHAIRPERSON GRIFFITHS: I'm
3 calling upon you early. That's no problem. So
4 we'll just take a brief one-minute break and then
5 we'll come back to you.

6 (SHORT PAUSE/COURTE PAUSE)

7 CHAIRPERSON GRIFFITHS: Okay.
8 Thank you, Mr. Bennett.

9 ---REMARKS BY THE PROPONENT:

10 MR. G. BENNETT: Thank you.
11 So there are just a couple of
12 points that I would like to respond to in wrapping
13 up.

14 I think the first one, we had a
15 number of people raise issues specifically with
16 respect to Muskrat, and I think a point I need to
17 make is that the project, of course, includes Gull
18 Island and Muskrat Falls. You know, we're not
19 considering a Muskrat-only project.

20 And the alternatives are too the
21 Lower Churchill Generation Project, including both
22 sites.

23 So we see that there's
24 considerable information at this stage to
25 demonstrate both the economic need and benefit of

1 both Gull Island and Muskrat Falls.

2 A lot of the thinking is contained
3 in our responses, particularly in IR JRP-146. The
4 economics of Gull Island, as we talked earlier this
5 afternoon, are unmatched by our other hydro
6 alternatives and our other energy alternatives, for
7 that matter, and it's a clear direction of our
8 energy plan that we should be developing that site.

9 There is a market. Access through
10 Quebec is required by law. We have access through
11 the Hydro Quebec transmission system today for in
12 excess of 250 megawatts of capacity. They have a
13 legal obligation to make open access available.

14 And Although we've had issues with
15 respect to our existing application, we have other
16 valid queued applications in the system at Hydro
17 Quebec.

18 Certainly a number of point raised
19 about Muskrat and it's sequence right now. And I
20 think a key point to be made there is that that
21 opportunity for Muskrat has matured while we're in
22 this planning process.

23 And from a utility perspective on
24 the Island, the need is real. There is an
25 immediate requirement to replace Holyrood and the

1 benefit to ratepayers is in excess of \$2 billion.

2 In respect of alternatives, I
3 think we went through those in our presentation
4 this afternoon. There were a number of other
5 options raised, whether they be smart grid, demand
6 side management conservation programs.

7 And as I said earlier, we support
8 all of those, but the facts are pretty clear from
9 our perspective that no combination of those can
10 replace the need for this project.

11 And assuming that some combination
12 of those alternatives could be stitched together.
13 We're not at all convinced that they would be
14 dispatchable and operationally feasible. We look
15 at particularly small-scale hydro with limited
16 storage and limited dispatchability and we ask
17 ourselves is that a firm product?

18 And I think in the broader
19 context, I can't conclude that it is. It will be
20 energy that we can take on the system on an
21 opportunistic basis, but without storage behind it,
22 we can't count on that energy source.

23 And maybe finally, if we look at
24 demand-side management and the integration of
25 demand-side management and conservation programs,

1 there's some public policy questions in there, and
2 ultimately that's probably an issue for our Natural
3 Resources Department as well as the Public
4 Utilities Board who regulates hydro to ultimately
5 determine whether those programs are effective and,
6 for example, how the Office of Climate Change, as
7 Mr. Bown pointed out, can consider what to do with
8 those programs.

9 But as I also mentioned, if we do
10 conserve domestic energy, then that provides an
11 opportunity that we can move that into the market
12 and solve other issues in the marketplace.

13 So I think in combination we've
14 covered most of those points throughout the
15 afternoon.

16 I thank you for that.

17 CHAIRPERSON GRIFFITHS: Thank you,
18 Mr. Bennett.

19 Recognizing the complexity of the
20 topic, I think the Panel would just like to let you
21 know that we are probably going to take a little
22 bit of time to digest some of the information that
23 you've put before us and the information that other
24 participants have put before us in this two-day
25 session.

1 And that we anticipate that we
2 will have some additional questions on this topic
3 that we will put to you in the form of a letter.
4 And then we'll request -- we'll consult with you
5 about a reasonable time within which to respond,
6 you know, maybe in the order of a week or so.

7 Possibly this might be something
8 that if there's a time in the St. John's general
9 sessions, it might be something that we could
10 return to.

11 But in general, we'll be putting
12 the questions in writing and we will be looking for
13 some kind of brief, concise written response from
14 you.

15 MR. G. BENNETT: Okay.

16 CHAIRPERSON GRIFFITHS: So I just
17 wanted to let you know that.

18 MR. G. BENNETT: Thank you for
19 that.

20 CHAIRPERSON GRIFFITHS: Okay.
21 Thank you.

22 MR. G. BENNETT: Just one really
23 quick housekeeping point. We were asked earlier
24 with respect to the ramp rates for Holyrood, and
25 I've been able to get those. So if we can get

1 those on the record, if that's helpful?

2 I talked to our engineering and
3 system operations people and the units at Holyrood
4 are much slower than a hydro plant, and depending
5 on the load that's operating at the plant, it could
6 be anywhere between 2 megawatts per minute and 20
7 megawatts per minute.

8 So the point here is that my other
9 numbers were per second. So if I put those in the
10 same ratio, we're talking .3 megawatts per second,
11 so much slower than the other units at the hydro
12 facilities.

13 CHAIRPERSON GRIFFITHS: Ten (10)
14 times slower.

15 MR. G. BENNETT: Ten (10) times
16 slower, that's right.

17 CHAIRPERSON GRIFFITHS: Okay.
18 Good.

19 Well, thank you very much for
20 that. That's one undertaking off the list.

21 Okay. Well, I would like to thank
22 you very much for -- all the presenters who came
23 forward today, including the Proponent and our
24 presenters this morning.

25 I'd like to thank all the

1 participants, those of you who have helped us out
2 by giving additional information and by asking
3 questions.

4 And I'd like to thank all of you
5 who come and participate by listening and observing
6 too. We appreciate that.

7 So tomorrow we will be resuming at
8 9 o'clock in the morning. Again, it's a topic-
9 specific session. And we have a new topic,
10 economic impacts. Is that the correct title?

11 I get the nod. It is the correct
12 title. It is a very busy day tomorrow. We have
13 many presenters, so we'll try to move the session
14 along, but it should be interesting.

15 So thank you once again and we'll
16 see you tomorrow, or some of you, at 9 o'clock.

17 Thank you.

18 --- Upon adjourning at 4:45 p.m./

19 La séance est ajournée à 16h45

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C E R T I F I C A T I O N

3

4 I, Dale Waterman a certified court reporter in the
5 Province of Ontario, hereby certify the foregoing
6 pages to be an accurate transcription of my
7 notes/records to the best of my skill and ability,
8 and I so swear.

9

10 Je, Dale Waterman, un sténographe officiel dans la
11 province de l'Ontario, certifie que les pages ci-
12 hautes sont une transcription conforme de mes
13 notes/enregistrements au meilleur de mes capacités,
14 et je le jure.

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19 Dale Waterman

20 Court Reporter / Sténographe

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