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(9:05 a.m.)
CHAIRMAN:
Q. Thank you. Good morning. It's a fall day out there, but anyway, it beats the alternative, I suppose, this time of the year. Good morning, Ms. Newman. Are there any items before we begin?
MS. NEWMAN:
Q. No, Chair.
CHAIRMAN:
Q. Okay. Thank you. Welcome back, Ms. Greene. Good to see you.
GREENE. Q.C.:
Q. I didn't realize I was going to be noted, that I was missed by so many people. It was a commitment that I couldn't avoid.
CHAIRMAN:
Q. I'm sure, yeah.
GREENE. Q.C.:
Q. For work purposes.
CHAIRMAN:
Q. Good morning, Mr. Greneman. How are you, sir?
MR. GRENEMAN:
Q. Good morning.
CHAIRMAN:

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Q. Welcome.
MR. GRENEMAN:
Q. Very good, thank you.
MR. ROBERT GRENEMAN (SWORN)
CHAIRMAN:
Q. Thank you, sir, and welcome once again. When you're ready, Ms. Greene, you can begin your-- oh, Mr., good morning, Mr. Young.
MR. YOUNG:
Q. Thank you, Mr. Chair. It'll be just a very, very brief direct evidence this morning or direct testimony. Mr. Greneman, evidence has been pre-filed with Hydro's Application in this matter, from you. This evidence includes a witness profile, a discussion of the Cost of Service that's been filed and a brief discussion of the review of the rate design for Newfoundland and Labrador--I'm sorry, Newfoundland Power, correct?
A. Right.
Q. And there are two exhibits to your pre-filed testimony?
A. Yeah.
Q. That's the 2004 Cost of Service Study which is referred to as RDG-1, correct?

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A. Correct.
Q. And RDG-2 is the exhibit which is the report I mentioned a moment ago that you prepared for Hydro titled "The Review of Rate Design for Newfoundland Power", correct?
A. That's correct.
Q. And this evidence has been revised on two occasions, it was revised as an update on August the 12th, at least RDG-1 was revised and RDG-1 was further revised October 31st. Is that correct?
A. That's correct.
Q. Do you adopt these filings as your testimony in these proceedings?
A. I do.
Q. Those are all the questions. Mr. Greneman is available for cross-examination. Thank you, Chair.
CHAIRMAN:
Q. Thank you, Mr. Young. Just before we begin I guess we will adhere to the normal schedule. We'll proceed until 10:30, at which time we'll break for 15 minutes, if that's okay this morning. Good morning, Mr. Browne.
BROWNE, Q.C.:

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Q. 10:30?
CHAIRMAN:
Q. 10:30, yes. That's what I have here. That was the, what I thought was agreed to, in any event, 10:30 to 10:45 and we break at 12:15 for lunch, so if that's satisfactory to everybody, we'll proceed on that basis. Okay.
BROWNE, Q.C.:
Q. Good morning, Mr. Greneman.
A. Good morning.
Q. Can you summarize for us what Hydro is proposing with regard to the wholesale rate for sales to Newfoundland Power?
A. Yes. Hydro is proposing in this proceeding to request that the Board order Hydro, it's my understanding, to implement a demand and an energy rate for wholesale sales to Newfoundland Power.
Q. And -
A. If--sorry, go ahead.
Q. Oh, sorry, continue, please?
A. If the Board does not order it, it has filed as a backup an energy only rates.
Q. But the preference for Hydro is what you stated previously?

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MR. GRENEMAN:
A. That's my understanding.
BROWNE, Q.C.:
Q. You are here testifying on behalf of Stone and Webster as well?
A. It depends--right, I'm here on behalf of Stone and Webster, yes.
Q. Okay. In reference to the report that was filed?
A. That's correct.
Q. Okay. And in that report you advocate or you state in part of your recommendations, if we can go there for a moment? That's on page 17. And the first bullet there you state, "An energy only rate to a wholesale customer the size of Newfoundland Power is an anomaly in terms of current industry practice." Can you expand upon that, please?
A. Yes. I think it's, in my observation it's very unusual to observe an entity the size such as Newfoundland and Labrador Hydro selling to an entity as large as Newfoundland Power on an energy only rate. And within Stone and Webster, whoever we mention this to finds it surprising as--equally surprising.

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Q. You used the word "anomaly" there. We heard yesterday in evidence that there were two exceptions, I guess, from the evidence provided by the Industrial Customers' experts where they could point to situations where the energy only rate was also in practice. Can you tell us from your own experience if the energy only rate is indeed an exception?
A. As I mentioned, I do believe it's an exception. And I think the two examples that were mentioned yesterday referred to the upper northwest of Canada and the surplus of hydro--related to surplus of hydro. I think those are two unique situations that were brought up.
Q. Now, have you had an opportunity to review Mr. Brockman's Supplementary Evidence of November 6th, 2003?
A. Yes, I have.
Q. Can we just go to that, please, on page 2, lines 14 to 16? And there on page 2, lines 14 to 16 he states that "A Marginal Cost Study and Retail Rate Design Study would be useful in evaluating retail rates on the Island Interconnected System." Does Hydro agree that

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such a study should be undertaken?
A. Lines 14 and 15 say, refer to two separate and distinct things. And if I may comment on what they are? No. 1, it refers to a Marginal Cost Study, and secondly, it refers to what's called here a Retail Rate Design Study. Now, my recollection is if you go a few lines above, that's really not a Retail Rate Design Study, but rather what's referred to, in my reading, is a Load Research Study. And a Load Research Study is simply to determine the load profiles to ascertain more accurately the load profiles of the various customer classes. I don't think it's correct in any fashion to characterize that as a Retail Rate Design Study.
Q. In reference to the Marginal Cost Study that if we go to page 3, lines 17 to 20 of the supplementary evidence? Mr. Brockman recommends that the Marginal Cost Study and the Retail Rate Design Study be a joint effort of Hydro and Newfoundland Power. Now, are you aware that Newfoundland Power had its own Margin Cost Study completed some time ago?
A. I am aware of that.

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Q. Are you aware that the following the completion of that--or are you aware in reference to that whether or not Newfoundland and Labrador Hydro was involved in Newfoundland Power's Marginal Cost Study?
A. I have no information, I don't know.
Q. Why would one company want to be involved in the Marginal Cost Study of another company?
(9:15 a.m.)
A. I'll tell you my views on that. With respect to Hydro's Marginal Cost Study, Hydro as a wholesale supplier has its own internal cost and it needs to go out and gather--it has internal costs. But Margin Cost Study deals, in a sense, with the rate of change or the slope of capital expenditures in the future with respect to increment--with respect to load growth. So one component of that is identifying load growth into the future, and it would need to go out and ask NP and perhaps its Industrial Customers and make projections for its Rural Customers what type of load growth is going to happen over the next five, ten, fifteen years. But I think it's limited to that inquiry. I don't think it really goes

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MR. GRENEMAN:
any further. I think the actual conducting of a Margin Cost Study for Hydro should--that is to say, the mechanics--well, we'll be careful--I think--I don't think Hydro really needs input from other entities other than load growth projections. It needs to rely upon its internal cost. So, perhaps other entities can participate with respect to the terms of reference, but I don't--it's not clear to me how they would participate other than providing a load forecast.

BROWNE, Q.C.:
Q. Would there be any proprietary information or the like that to which Newfoundland Power could be violating by getting itself involved on the recommendation that's made by Mr. Brockman here that the Marginal Cost Study be a Hydro and Newfoundland Power joint effort?
A. Well, there's confidential information on both sides and so, yes, those issues can arise.
Q. So for that reason alone Newfoundland Power should not be involved as part of a joint effort in Hydro's enterprise for a Marginal Cost Study, in your opinion?

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A. With respect to the direction of the study and the mechanics of the study and--marginal cost studies can be quite controversial and I think it needs to be handled by one entity. That's my opinion.
Q. And it's your opinion in this instance if the Marginal Cost Study is to be conducted and ordered by the Board, it be conducted by Hydro?
A. That's my opinion.
Q. Is it your opinion that the Marginal Cost Study is required prior to the implementation of a Demand Energy Rate?
A. Absolutely not.
Q. Why not?
A. Demand Energy Rate has been accepted for decades now. It's in virtually every--the support for Demand Energy Rate is in virtually every rate textbook that exists. I don't see any reason why a Demand Energy Rate should not be implemented within the context in this proceeding. Marginal cost studies are a different animal in a sense. They're--okay. This jurisdiction is an embedded cost jurisdiction, that is, we make rates based

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upon costs that have been incurred and current costs as well, and we derive a revenue requirement based upon accounting costs, if you will. There are few jurisdictions, very, very few and they're dwindling, that determine revenue requirement based on marginal cost and those that do--I'm sorry. Those that determine what rate should be paid based upon marginal cost ultimately reconciles to an accounting based revenue requirement. So, if I can, for example, take as an example, the State of Illinois in the U.S., what they had done is they didn't even do fully allocated studies, they did marginal cost studies and then they scaled down all the costs to meet the accounting cost revenue requirements, and then they walked away from that about a year ago. So, we're not making rates, per se, on marginal cost, we're still--and as well as what's being done throughout the rest of North America, rates are being made on embedded cost. Marginal costs are used to provide price signals or to provide a guide as to on and off peak pricing, what the relative level of demand should be with respect to energy.

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They're not a determining factor. They're, if you will, sort of a modifier to embedded or accounting cost. In addition, I observed that this Board has, and the parties have contemplated a Demand Energy Rate since as far back as I know about 1989 and really have not come to any consensus on how to implement a demand and energy rate. And this is really a pretty straightforward process among parties that are willing to agree. When one introduces the concept of marginal costs, which is extremely controversial and is really, I mean, it's always controversial, then you're adding layers of complexity and, in my view, delaying the implementation of a demand energy rate. So it's my view that a demand and energy rate should be implemented first and could certainly be modified with the Marginal Cost Study as a guideline, or tweaked, if you will, using the Marginal Cost Study as a guideline.
Q. But the first step would be to implement the Demand Energy Rate?
A. Absolutely. I think it would be a mistake to wait for the Marginal Cost Study.

BROWNE, Q.C.:

Q. Why do you think--you use the word "a mistake". Why do you say that it would be a mistake to wait?

A. It's my feeling that it would--we would never have a demand and energy rate because if we can't agree on something so simple as a demand and energy rate, with the added complexity of marginal cost, it just becomes too involved, in my view.

Q. We heard yesterday in questions put by Mr. Ian Kelly of Newfoundland Power to the experts from the Industrial Customers that a Demand Energy Rate, if implemented in this jurisdiction, would lead to certain volatilities, I think he used the word "volatilities". You were here and heard that evidence. What is your view on that?

A. My view is that a demand rate and volatility go hand in hand, they're part and parcel, the same thing. And they're intrinsically the same because when you give someone an opportunity to lower their demand, then they're going to say the other party is going to lose and vice versa. So demand

intrinsically means demand goes up, someone pays, someone doesn't collect. There's a one-to-one relationship there, in a sense inseparable. The environment that existed was one of--well, it was, if I may say, it was an energy only rate when in conjunction with Hydro's Revenue Stabilization Plan and Hydro's RSA tended to levelize or stabilize NP's purchases and its annual cost. So in moving away from that there is some volatility introduced. Now, there are a number of ways to mitigate the volatility.

Q. Can you tell us about those?

A. Well, No. 1, Hydro has gone a long way in offering to weather normalize the demand, and that goes a very large way in mitigating volatility. That is to say, it's recognized that there'll be colder winters and there'll be warmer winters, but we're proposing to use a weather normalized demand. So that goes a long distance to stabilizing volatility. In addition, the volatility that NP has shown in their evidence is based upon a plus and minus five percent deviation. That was really a rounded number. Within recent history,

actually, the maximum deviation has been in the order of 3.6 percent. It was just rounded up to five percent as a whole number. And even considering that 3.6 percent, that's a before tax effect. Now, what NP has shown in their evidence is that they have a--how do I say this? It's allowed return on rate base range. I'm not sure if I'm stating that right. But it's a sense an earnings range that they're allowed to earn between. That earnings range has been negotiated based upon two conditions that existed. One of them was the fact that they would be served under an energy only rate and there was a decreased level of volatility. The other one is the fact that there was a load variation component in Hydro's rates and they had RSA as well. So, when their range of allowed earnings is viewed in the context of the energy only rate and viewed in the context of the Rate Stabilization Plan, it would in a sense make sense. Under a Demand Energy Rate where there's a greater level of volatility, it would only make sense, in my view, to ask the Board to expand that earnings range at which

triggers occur in order to--so we can operate more normally, in a more normal range. In addition, there are mechanisms that NP can implement, for example, one similar to what B.C. Hydro has done to stabilize earnings internally. So there is that type of mechanism that could be done. And in a sense, finally, the plus and minus variations in earnings over time hopefully tend to cancel each other out. So, I don't view it as anything more than any other utility having a Demand Energy Rate needs--itself lives with. And in fact, I think it's a little more modest than that in view of the fact that we have weather normalization and so on.

Q. Okay. So you say the weather normalization will assist. What about the Rate Stabilization Plan, would that assist in this?

A. You mean--the rate--the range--the Rate Stabilization Plan with respect to their own earnings or to implement a new -

Q. Well, the new one is about to be implemented, the fact that it allows for a certain stability in the -

A. I'd have to study that little more, it might

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MR. GRENEMAN:
help. I'd need to study that.
BROWNE, Q.C.:
Q. In terms of the range, can you expand upon that a bit, the fact that their Rate of Return on Rate Base is expressed and a range, as indeed is Rate of Return on Equity? You're saying that will address the volatility to a degree?
A. Well, my understanding is that it's a pretty tight range right now.
Q. Not tight enough from our perspective, but anyway, keep going.
A. Well, I'm judging it to be a tight range, actually, from NP's evidence where they showed it can theoretically trigger beyond that. There is definitely a bit more volatility introduced with respect to the introduction of a demand component. And all things being equal, to keep the relative volatility with respect to that range, perhaps the range can be expanded or restructured in some fashion.
Q. And other utilities have to deal with this volatility, this would not be unique to Newfoundland Power?

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A. Absolutely not.
Q. And other utilities deal with it in the ways that you're espousing now?
A. Some utilities just accept the volatility. I mean, it's just an increase or decrease in earnings. And according to NP's evidence, it's only plus or minus $5 million over their total earnings, and it's not a humongous number.
Q. In terms of the end user, by going to a Demand Energy Rate, how will the end user, the ultimate consumer be affected?
A. It's my view that a Demand Energy Rate ultimately trickles down to the end user. I think it provides for relevant pricing. You see, Hydro is really selling two products to Newfoundland Power. They're selling capacity and they're selling energy. And in order for, in order to enable the sales Hydro had to make a long-term financial commitment of capacity to construct generating facilities and it needs to pay back its bankers and it can't pay back its banker on how many kilowatt hours is sold, it needs to pay back a fixed amount. So what's done in the industry is it structures

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what's called a demand charge, and that demand charge reflects the capital cost of generating facilities and its long-term financial commitment made by Hydro on behalf of NP, on behalf of the Industrial Customers and the Rural Customers based upon their historical demand pattern.
(9:30 a.m.)
So it structures a rate in the industry to recover capital cost regardless of kilowatt hours that are produced or consumed by the customer. And that demand charge also serves an alternate purpose, it provides a price signal to NP as a consumer and hopefully down to NP's retail customers as to the financial commitment that Hydro made on behalf of NP, long-term commitment for capital generating resources. So the price signal, there are two price signals. One is a capital resource price signal which is demand, the other is a natural resource price signal which is energy. Energy is gas, oil, water and the capital is labour and steel. So hopefully the NP's ultimate customers and NP itself as a customer will recognize that there's a variable natural

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resource price signal and there's a capital resource price signal. And right now there's only an energy price signal and it doesn't differentiate between what's capital intensive and what's natural resource intensive. So I think there's a definite virtue in separating the two, and in fact, that's what the industry does do.
Q. Okay. That's well and good. But if you were to go on CBC tomorrow morning to explain it to their interviewer by moving to a demand energy charge consumers will benefit, he will want to know the nuts and bolts of how that benefit would derive right down to a person in their home. Can you tell us that?
A. Well, some of the responses are very subtle, some could be very direct in the form of, for example, water heating control or water heating in range interlocks or seasonal rates. And I know that in a sense could be done right now, but what it really takes is actually a price--I think it's Hydro's responsibility to pass on its costs to its customer and consumer, NP, and for NP in a sense to try to reflect that to its customers. The phrase

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MR. GRENEMAN:
that necessity is the mother of invention has been brought out by an often quoted author, James Bonbright, who identified ten attributes of a sound rate structure. And one of the attributes is what's known as dynamic efficiency, and that is that a rate has to be able to respond to invasion and changes in supply and demand. And as a demand and energy only rate it cannot respond to that. And it takes the two components to be able to instill upon the end use customers that if they lower demand, there'll be a direct lowering of cost to NP, so their costs will ultimately go down. It may not go down next week or next year, but ultimately it will be lower. So a lot of the effects are subtle. But it takes an actually demanded energy price signal to do that, in my view.

BROWNE, Q.C.:
Q. And the rates will go down because there will not be as great a capital outlay, is that -
A. It's not necessarily in the very immediate term, but in the longer term it may defer the next plant and therefore there will eventually

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be a lower outlay, and there actually could be a present worth effect of that.
Q. So with a demand energy charge we should see eventually reduced capital budgetary expenditures by Power and indeed, by Hydro, is that -
A. That would be my expectation.
Q. And therefore ultimately the consumers would get the--wouldn't be paying for what is not really necessary on the system?
A. That's correct.
Q. And together with that, with this particular rate we would also be able to get into other variations such as seasonal rates and time of use rates and so on?
A. It doesn't in any way prohibit that. Yes.
Q. Would it be enhanced by moving to a demand energy charge?
A. It would definitely give you more flexibility. You could attribute seasonality to the demand component, you can attribute seasonality to the energy component. Right now you just have there's just one component to deal with.
Q. Ultimately what would it do to the system? You heard evidence here yesterday concerning

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the potential growth for the system. We just brought on Granite Canal, Hydro did, for the benefit of the users of the province and we have Island Pond the next, and indeed, the only hydrology project left on the island coming on in the next six or seven years, and that's it, that'll give us 36 megawatts at a cost of $150 million. In terms of the necessities for these projects and for the goals and objectives of the system, will a Demand Energy Rate assist here?
A. It will assist in--it will assist in two ways. Well, it will assist in two ways. It will assist in deferring the need for new capacity, and there's a present worth effect of that. So over the long run it will save customers. But the other effect is to the extent that Hydro would be increasingly over years perhaps going more to thermal, it would save natural resources as well.
Q. So it would be planning for the future by doing it now?
A. Yes, it would be.
Q. Just in reference to Mr. Brockman's evidence again, if we can take you back there? If we

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can go to page 5 and lines 6 to 8 there? He states, "The extent to which the firm energy criterion affects the cost of capacity is a question that could best be resolved by Hydro and Newfoundland Power completing a long-run Marginal Cost Study in which increases in demand and energy are tested for their impact on future system costs." You've already disagreed with that?
A. Yes.
Q. And then he says, "A Marginal Cost Study based on Hydro's planning models will greatly assist in resolving the relative values of marginal demand versus marginal energy in retail rate design, the value of Newfoundland Power's curtailable service option, the value of Hydro's interruptible B and the value of implementing additional rate options to Newfoundland Power's customers." He makes a reference there to Hydro's planning models. In your view is a modelling effort such as that proposed by Mr. Brockman needed in order to determine the marginal costs?
A. Of generation, of generation?
Q. Yes.

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MR. GRENEMAN:
A. Perhaps. Not of T and D, not of transmission and distribution.
BROWNE, Q.C.:
Q. Not of transmission. What would be the cost of such a study?
A. I would assume that a lot of it would be done in-house by--I would need to discuss it with the Company, honestly, and I -
Q. But they could do it in-house?
A. I would suggest they get some outside guidance. But it could--a lot of it--well, it's their own internal costs and they know their cost better than anyone else, so I think it would be my view is that it should be done in-house with the guidance of an outside consultant.
Q. And -
A. There are different possibilities.
Q. And is it necessary to undertake such a modelling effort in order to determine marginal costs?
A. Not always. I don't--Hydro doesn't have a lot of different types of stack units. I would need to discuss it with them. I don't think

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it's necessarily necessary.
Q. Does Hydro have a model capable of undertaking such a study, do you know?
A. I don't know offhand.
Q. When Newfoundland Power completed its Marginal Cost Study, was that an in-house completion, to your knowledge?
A. I looked at the study and I didn't--my understanding it was, but that's just my initial understanding. I'd need to check it. I don't recall. I think it was in-house, I'm not sure.
Q. You think it was in-house. I guess Mr. Brockman will be able to apprise us of that when he gets on the stand. On page 14 of your pre-filed evidence I'm going to go to now, lines 16 to 18. Just bear with me a moment now, please. So we're looking at lines 16 to 18 on page 14 of your own evidence. Some of this you have already answered now, you referred to discussions surrounding the propriety of the current energy only rate form for sales of other electricity can be traced back at least to 1989. That seems like a long time to be discussing this particular issue,

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it goes right back to 1989. Do you have any views on that, reading between the lines what transpired from 1989 'til now?
A. Well, it just seemed that parties, you know, took up the issue when they were nudged to do so. I really--it was punctuated over time and I, you know, was not here and I really -
Q. And the record indicated as well at one point Newfoundland Power felt--advocated a demand energy rate, is that correct?
A. That's correct.
Q. And Mr. Brockman, as an expert, came forward to the Board and advocated that. You make reference to this in your evidence. Have you looked at the transcripts or have you looked at the history of what went on after that period of time?
A. I have, I don't know if I can recall in detail.
Q. You make reference in line 22 and 23 that the most recent proposals and discussions between Hydro and Newfoundland Power to develop a demand rate occurred in 1992, but yet, there was no resolution of the matter, we still didn't have a demand rate coming forward at

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that time?
A. Apparently, correct.
Q. And then I think we went into--after 1992 I don't believe there were any hearings until 1996. And I think the Board may have ordered something in 1996 and time passes and here we are since 1989 and what are we, fifteen years, fourteen years later and there's still nothing been done. Do you have any comment on that, as to how we could have been waiting for so long for something to happen that was recommended to begin with?
A. Well, my understanding is at certain points in time, both Hydro and NP, you know, I guess, mutually happy with the energy only rates. It seemed to allow them to dispatch, for NP to dispatch their hydro in a manner that they've been doing without any constraints. It doesn't mean it's the right rate, it just means that the right amount of revenues--no one contested the amount of revenue that was being transferred.
Q. Can you comment on the benefits that we have lost over time by not having put in the demand rate as recommended by Newfoundland Power back

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BROWNE, Q.C.:
in 1990, 1991?
A. I think that's a valid point. Had it been put in earlier, I think efforts could have been made earlier on to change, apply--to put in plans and road management techniques to lower the demand at this point in time. I think that's -
Q. And, of course, we would have seen--what, in your view would have been the result in the intervening years?
A. It would have instilled the need to conserve capital and demand, hopefully, at least there would have been an intellectual recognition of the fact that there are two components of supply; namely capacity and energy.
Q. Well, we would have been using our resources wiser, in your view, by now?
A. That would be the hope.
Q. So there's been a lot lost over the intervening period?
A. It could have been.
Q. Would consumer rates have been lower in your view if we had to have introduced this back when Newfoundland Power first advocated it?

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A. It's difficult to say if they would have been lower now or next year or three years ago. But I think there would have been a more, at least conceptually a more efficient rationing of products, capacity and energy. Capacity for the overall efficiency of utilization of demand on the Island and energy for the conservation of natural resources, but -
(9:45 a.m.)
Q. Given that that's the fact, why would Newfoundland Power be coming forward to this Board opposing the introduction of a demand energy rate, in your view?
A. It's, you know, it's really not clear to me.
Q. Do you have any opinion on it at all?
A. I don't think the volatility issue in and of itself is sufficient to oppose it, in my view and that's the only evidence I've seen put forth. It's not clear to me why they would be opposing it.
Q. I guess that's something we'll have to wait for Mr. Brockman to come on the stand and maybe he can explain it to us. In terms of your own evidence, if we go back to page 15 and continuing with this theme and on line 26,

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you say, "The energy price signals the need to either use or conserve natural resources, while the demand price signals the need to conserve capital resources and the energy only rate is therefore seen as giving an incomplete price signal." Now in reference to that incomplete price signal, to whom does that go?
A. That price signal is a price signal to NP and it could trickle down to its retail customers, depending upon the extent to which NP demonstrates to its retail customers what the components of cost are.
Q. And why would NP not want that price signal that is now not going to the customers, why would they not want a demand energy in place so that their end customers could get that price signal?
A. Ideally, I think they would like to fully reflect that price signal in some fashion to their retail customers, to their end-use customers. I think they claim that they don't know of any way of doing--whatever they are doing now is the most they can do.
Q. But that's not the fact from your perspective?
A. I think there are more things that can be

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done, but I don't think it stands solely on the merits of whether NP can reflect--I don't think the need for an NP rate is solely predicated on whether--I don't think the need for NP demand energy rate is solely predicated on whether NP can reflect that price signal down to their end-use customers. I think it has merits on its own just that Hydro be able to charge NP based on the cost structure that it lives and dies by. I don't think in that regard an energy only rate is appropriate. It has a financial commitment, it needs to reflect that in a demand energy rate.
Q. Is the fact that there's no demand component in the wholesale power rate unfair to Hydro's other customers?
A. If I can just reinterpret what you said, there is a demand component in it, but it's not being properly charged and by virtue of the fact that it's not being properly charged, I do see it as being unfair to its other customers.
Q. So it's unfair to the Industrial Customers, do you believe?
A. Yes, I do.

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BROWNE, Q.C.:
Q. And can you expand upon that and tell us how it is unfair?
A. Well as it was brought out in testimony yesterday, NP makes a forecast and if they're off by the forecast, if their forecast is different than the actual, it's just simply an academic fact. I mean, they just pay the forecast and there's no reconciliation with actual and I don't mean to say that there should be a reconciliation with actual, but Industrial Customers, on the other hand, if they forecast wrong have to--they can incur a lot of additional costs, so -
Q. So NP is home free, but the Industrial Customers aren't, according to the system we're -
A. Well, I'd be careful about using the phrase "home free", but -
Q. Yeah, okay. When you stated that a demand energy rate would conserve capital resources, indeed reserve natural resources, because in this jurisdiction we are on a rate-base system and therefore, the more capital expended to build plant, in fact gives the proponent an

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ability to in fact make more money. Would that--how do you see that in terms of introducing demand energy only rate where we wouldn't see so much capital expenditure, according to what you're saying?
A. Right, that was IR, an information request actually and the anticipation is that over the long term, the effect of a demand energy rate would be to reduce Hydro's rate base.
Q. Would it have the same effect on Newfoundland Power of over the term reducing Newfoundland Power's rate base?
A. It would reduce--it would have the effect of reducing, hopefully it would have the effect of reducing Newfoundland Power's costs to Hydro for purchase power and hopefully it would also have the effect of reducing--to the extent that they can pass it on to their customers and their customers can respond, of reducing NP's rate base as well. So there can be that double effect.
Q. Is the primary reason for including a demand component in the rate to reflect costs that Newfoundland Power imposes on the system, rather than to promote demand energy--demand

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management, I'm sorry, the primary reason for including a demand component in the rate to reflect costs that Newfoundland Power imposes on the system, rather than to promote demand management?
A. I think, in my view, they could be equal or anyone could be greater, depending upon the circumstances at the time. I could see circumstances that either one could be more important, so I think they're both important.
Q. Should a demand energy rate be introduced regardless of whether Hydro forecast a need for additional capacity?
A. Absolutely, because these are the costs they live and die by. They made financial commitments and they need to--a demand rate, Hydro can't say I'm going to pay--say to their bankers, I'm going to pay you back if I sell enough kilowatt hours. They have to pay their financial commitment, and the introduction of a demand component represents that financial commitment and passes it on to its customer, namely NP. So yes, it stands on its own merits.
Q. So the fact that Hydro is before the Board now

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saying we need no additional capacity until 2008 or 2010 or whatever they're saying, that makes no difference in your view to the -
A. With respect to implementing a demand energy rate?
Q. Yes.
A. No.
Q. So we should do that now regardless?
A. I totally agree.
Q. What if Hydro doesn't undertake a marginal cost study? Should a demand energy rate be introduced regardless of that?
A. By all means.
Q. So these two events are, in your view, no way connected?
A. Well, they're not in no way connected. Marginal cost can serve as a guide on how to tweak demand energy rate. There's a connection, but certainly a marginal cost does not in any way serve as a prerequisite to implementing a demand energy rate.
Q. Okay. Some particulars now along these themes, this theme that we have. On page 16, line 6 to 8 of your pre-filed evidence, you state that "an additional advantage of a

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BROWNE, Q.C.:
demand energy rate form is that attracts cost causality and changes in customer load profiles much more closely than an energy only rate," and why is this important, in your view?
A. Well, if customer load factor changes, a demand and energy rate should concept--a demand and energy rate will track the cost changes in accordance with the changes in the load profile. That is to say, if customers, for example, cut their energy use in half, then NP has to, for example, burn less kilowatt hours and there'll be a matching of cost and revenues. So the cost and revenues tend to follow each other for each of the products, one product being capacity and the other product being energy. I would note that the capacity product, the change does not follow immediately. It could take years, but there is a correlation, and that correlation doesn't exist accurately in an energy only rate.
Q. So ultimately, is efficiency--will efficiency or greater efficiency be the result?

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A. It'll be a more efficient allocation of capital and natural resources, yes. Efficiency will result. I don't think it could be argued that an energy only rate is in any way more efficient than a demanded energy rate.
Q. That's not your view?
A. Demand and energy rate, in my view, is more efficient than an energy only rate, and it would only add to increase system efficiency and it's more efficient in allocating society's resources.
Q. Because it tracks costs more closely, is a demand energy rate a more fair rate structure ultimately?
A. Absolutely. That's the whole point.
Q. So it's more fair to the end user, to the consumer ultimately?
A. To represent the costs as they are incurred by society is, in my view, more fair.
Q. On page 16 of your evidence, lines 10 to 18, you mention seasonal rates and load management such as water heating control as ways utilities such as Newfoundland Power can pass a demand signal on to their customers, and of

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course, Newfoundland Power does not currently have seasonal rates or water heating control rates. Do you expect this might be because it has an energy only wholesale rate? So in fact, has no incentive to implement such retail rate programs.
A. That could be very likely. I personally believe in the saying "necessity is the mother of invention." If you're presented with a rate structure, you have more incentive to react to it. I mean, that's my feeling.
Q. I guess if customers ultimately had the benefit of seasonal rates or water heating control rates, the electricity consumers in the province, if we had had this back in 1989/1991 when Newfoundland Power first advocated it, the people, consumers of the province have missed out on a potential means for reducing their bills. Would that be true?
A. It could be true. In many other jurisdictions, water heating rates, ceramic storage rates, heater rates and other variations have already been put into effect. It might be that they haven't been put into effect here because of an energy only rate. I

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can't say with certainty, but it's possible.
Q. On page 16 to 18 of your evidence, you discuss issues such as revenue stability and the treatment of Newfoundland Power's generation and other demand rate considerations. In terms of coming before this Board, you're now coming before advocating a demand energy rate and some of these you've viewed as problems. When can we anticipate or when should we anticipate a demand energy rate could be implemented? What is a realistic date for implementing a demand energy rate in the province?
(10:00 a.m.)
A. I can't speak fully for Hydro, but it's my understanding that if this Board orders in this proceeding that Hydro implement a demand energy rate, it will do so expeditiously and I can't speak with respect to for Hydro on this, but that's my understanding that it would be in a relatively short, very short time frame.
Q. And how do you define relatively short time frame?
A. And once again, I'm not speaking on behalf of Hydro, and I would think it would be within a

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MR. GRENEMAN:
month or so, but I'd have to consult with them and I'm not speaking for them.
BROWNE, Q.C.:
Q. So effectively, I guess we would have to wait for the Board's order in reference to this, but a month after that order, these things could be implemented? That's a possibility?
A. Subject to Hydro.
Q. So we could see a demand energy rate in effect what, April-May?
A. I would really need to confer with Hydro on that. I would think -
Q. But we're not talking about a long period of time in any case. We're talking -
A. We're not talking about years.
Q. - about some time in 2004, this demand energy rate could be implemented?
A. That's my understanding.
Q. Okay. If we can just go to Mr. Brockman's evidence again, I just want to get your views on some of these comments that he has made in reference to this particular issue, and we go to page one and two of his pre-filed evidence. I think there's a summary of some sort there.

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That's the summary of evidence, September 2, 2003. He makes certain comments here, and I'm just going to ask you in reference to these. He says "after reviewing the energy only rate compared to the sample rate, using generally accepted principles of good rate design, I make the following conclusions," and then he uses a bullet, "the energy only rate is superior to the sample rate in collecting revenue requirements for a fair return." What is your view of that?
A. I don't agree with it.
Q. Why do you not agree with that?
A. Okay. If we take--it's superior--okay, if you take your sentence and look at it, "it's superior to collecting revenue requirements," can you read it?
Q. Yes, do you have it there on the screen? You're having--it says "the energy only rate is superior -
A. What line is that?
Q. It's page one of the pre-filed evidence of September 2, 2003. Sorry, Terry, I probably should have explained it there. See page one down below, September 2, 2003. You might have

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it on a different format. Keep going, I think, Mr. O'Reilly.
A. I could answer the question without it.
Q. Maybe if your counsel there gave you the page, so you'd -
MR. YOUNG:
Q. I'm looking for it.
BROWNE, Q.C.:
Q. Oh, you're looking for it as well. It's the pre-filed evidence of September, and he has it in his summary. There might be two page ones, I think, from what I can see here. Maybe that's what's going on.
CHAIRMAN:
Q. Do you have the official copy there?
BROWNE, Q.C.:
Q. Okay, if you can give that to the witness. Thank you.
KELLY, Q.C.:
Q. That's not the right evidence on the screen, I don't think. That's 2001 you have.
MR. O'REILLY:
Q. My apologies.
MR. YOUNG:
Q. There we go.

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BROWNE, Q.C.:
Q. Okay. Thank you, Mr. O'Reilly. Okay. It says here -
A. I see it, okay.
Q. Okay. "The energy only rate is superior to the sample rate in collecting revenue requirements for a fair return." That's the conclusion Mr. Brockman makes. What is your view of that?
A. Okay. I have several views. Number one, the revenue requirement and fair return are, in a sense, synonymous. Intrinsic in the revenue requirement is a fair return. So I think we could take out, in my view, the words "fair return" because it tends to imply things that shouldn't be implied, and in my view, first of all, the sentence should read "in collecting the revenue requirement" and I don't think the word "fair return" means anything.
Second of all, there are many, many attributes of what a desirable rate design should be, and one, perhaps, of the most simplistic of all, and I really mean the most simplistic, is does it collect the revenue requirements and that's ignoring allocation, a

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MR. GRENEMAN:
resources ability to respond to changing supply and demand conditions, ability to result in innovation. It's ignoring what I consider to be very, very important attributes, but focusing narrowly on this one attribute, the ability to collect the revenue requirement, it does that very well because not only is it an energy only rate, but it's an energy only rate in the context of a rate stabilization plan and its own RS--NP's RSA. So even if it doesn't collect the revenue requirement, the rate stabilization plan will force it to collect the revenue requirement. So it does that, and it does it well.

But it's a very simplistic measure and once--and as this was discussed many times in the demand energy report, once you unstabilize any component of that, meaning if you take some of the costs away from energy and put them in demand, by identity, they become at risk to one party or another and by virtue of the fact that they're at risk for one party or another, collecting the revenue requirement for that component is at risk. So it's an

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identity in that sense. So in this very, very, very narrow sense, I would agree with that statement and I don't think it should be relied upon in any fashion as to whether or not to implement a demand and energy rate.

BROWNE, Q.C.:

Q. He also says that "the energy only rate fairly recovers Hydro's cost of service revenue requirement from Newfoundland Power." Do you have any comments on that, in terms of comparing it to the sample rate?

A. It's not clear how that's different from the first one.

Q. So that's the same thing in your view?

A. It's very close.

Q. Then he says -

A. If you--okay.

Q. Okay, do you have a comment on it at all?

A. No, they're so similar as to -

Q. So bullet one and two are the same effectively, in your view?

A. I think they're very similar.

Q. The third bullet, he says "a demand energy rate fairly apportions costs between Hydro's Industrial Customers, but is not needed for

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Newfoundland Power since it is the only customer in its class." What is your view of that?

A. While I agree that it's an absolute necessity for two customers in a class--if there were two customers, there would have to be a demand and energy rate, in my view, or else two special contracts.

A. But as I mentioned before, a demand energy rate, even with one customer class is fully justified based upon the fact that I believe it's Hydro's responsibility to pass on its cost as it incurs its financial obligations. And also to encourage load management on the Island to increase the overall efficiency of capital resource utilization on the Island and to lower the use of natural resources when that can be done.

Q. So, their reliance upon the fact that they're the only customer in their class, that doesn't give validity to his comment that the energy only rate is, in fact, better, I guess, is what he's trying to tell us, than the sample rate?

A. Right. What struck me is that in response to

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an information request, my recollection is they responded that there were two customers in class, they still--but I totally don't understand that.

Q. So, they just don't want it, period.

A. Yeah.

Q. The fourth bullet, he says, "the current energy only rate is superior to the sample rate in promoting energy efficiency". What is your comment on that?

A. Well, I think the thrust of that statement is by virtue of the fact that it's higher in magnitude. You see, the current rate rolls demand cost into the energy component and by doing so, it raises the energy component higher than it would normally be on an average basis. And I think that the thrust of that statement is, by virtue of the fact that it's higher than the energy component should be, it results in energy conservation. I think--I don't agree with that. I think the right price signal is the price signal that reflects cost as they are actually incurred. And by the way, to the extent that it promotes, may promote energy conservation, it certainly does

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MR. GRENEMAN:
not address conservation of capital resources.
BROWNE, Q.C.:
Q. And they say as part of that bullet as well, "an inappropriate emphasis on demand charges in the sample rate design contributes to inefficiency in the same rate energy charges".
A. I disagree with that.
Q. Why do you disagree with that?
A. Because it's the right signal for efficiency. In my view, it's the correct signal and it has to be the correct signal because it replicates how Hydro incurs its cost, therefore it must be the correct signal.
Q. So, the energy only rate is an incorrect signal?
A. In my view, yes.
Q. Then the next bullet, it states, "the energy only rate allows Hydro and Newfoundland Power to optimise the use of their hydraulic and thermal generation resources, the proposed sample rate would send an inappropriate pricing signal that would encourage Newfoundland Power to modify its hydraulic storage patterns to reduce cost. Newfoundland

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Power indicates that the storage modification would increase the likelihood of spillage and result in a less than optimal use of generation resources".
A. My understanding is that there's--on point, not a lot of potential to actually move water from one period to other and--I don't think it would result in a large amount of dollars. That's my initial understanding. And I don't think they should be permitted to do that, to increase overall system costs for the benefit of arbitraging summer, winter kilowatt hours.
Q. I'm not certain what you mean by that, can you expand upon that a little more?
A. Well, it may put a few extra dollars in their pockets.
Q. In whose pockets?
A. In NP's pocket, but I think it would be to the detriment of the island system.
Q. I'm sorry, how -
A. Because -
Q. - would they get a few extra dollars put in their pocket? I'm not--that's caught my attention, can you explain that?
A. I'm not sure it would put any more money in

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their pocket, but the theory is that if they can--they can use more water, sorry, if they can move the water that they would normally use from the fall to the winter, it would--if they could store more water in the winter, then it would displace purchasers from Holyrood at the incremental cost of Holyrood.
Q. So, is this what--the witnesses yesterday were referring to an ability to gain the system.
A. That's--yes. The RSP enters into this and I'm not sure how that enters into it, so I can't say with certainty how they would gain or not gain, but yes, it ties into that conversation, yesterday.
Q. Well, what safeguards could we put in place to ensure they didn't do that?
A. One would be prohibition on doing it by this Board.
Q. So, the Board itself could address that.
A. I believe so.
Q. And give them an order in reference to that particular ability that they may or may not have.
A. I believe so; I say that cautiously, yes.
(10:15 a.m.)

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Q. Then the next bullet they state, "Newfoundland Power's current rate designs reasonably reflect the Island Interconnected system cost of demand on energy and the sample rate will not change Newfoundland Power's rate designs". Can you comment on that?
A. Reasonably is broad term. It may reasonably reflect it right now, but that's not to say that there are other measures or more than can be done. The fact that it won't change their rate design is their own initiative.
Q. That was--pardon?
A. Is their initiative, that may be their choosing, but they're perhaps--my understanding is there are things that can be done.
Q. So, they could attempt to change their own rate designs if they so chose?
A. Yes.
Q. Under the sample rate, the so-called -
A. Under the sample rate, yes.
Q. Then we have four more bullets to go, by that time, it would be the break, I would surmise. And it says, the next bullet and it's on the top of page 2, "there is no evidence to

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BROWNE, Q.C.:
support additional cost effective demand management on Newfoundland Power's system. The available evidence indicates that demand management would have little effect on Hydro's future generation plans". Can you comment on that, please?
A. There's always an effect on Hydro's, even several kilowatts saved have an effect, you know, the degree of to which its measurable, but there is a one-to-one effect, but its plans happen in quantum steps, if you will, and not in a continuous fashion. And if Hydro's plans were in a continuum, you would be able to observe it, but there are changes. It would affect Hydro's plant.
Q. For the better or for the worse when you affect -
A. Well, if they conserve, they would be for the better. If NP conserved, it would lower the need for capital additions in the future.
Q. The next, it says, "the sample rate will encourage Newfoundland Power to spend up to $84.00 per kilowatt to reduce peak demand when Hydro has provided evidence of $28.20 per

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kilowatt is too much to pay for peak demand reduction through interruptible rates". Do you have any comment on that or can you explain what they're attempting to say here?
A. Yes. I think that statement is, in a sense, slight of hand. I think it's a confusing statement, but if I can, I'd like to try to clarify it.
Q. Please do.
A. The $84.00 per kilowatt year is Hydro's fully allocated Cost of Service for capacity. The $28.20 is not something that stands next to it and that could be compared to it, but rather, it's a component of the $84.00 per kilowatt year. I don't know how to explain this visually, but the full $84.00 per kilowatt year is, if you will, a full--a commitment, a firm--we will serve you on a firm basis. The $28.20 is a subtraction from the $84.00 to make the $84.00 less firm. It's perhaps--my understanding is its based on, I think it was a diesel rate and then it was cut in half. Ultimately, it was a negotiated number to lower the $84.00 firm such as to make it interruptible. So, it's not comparing--it

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reads as though you're comparing $84.00 versus $28.20, but it's really $84.00 in a sense next to $84.00 minus $28.20. The $84.00 being firm and the $84.00 minus $28.20 being non-firm demand.
Q. So, what is attempting to be said here then?
A. What's attempting to be said is that what's being done sounds ridiculous, but it's not at all ridiculous when viewed in the proper context. You can't compare--you can't put the 84 next to the twenty eight dollars, they're not comparable. The twenty eight dollars is a component of the $84.00 conceptually.
Q. So, the way this is stated, from a layman's perspective, are you telling us this doesn't make sense, the way it's stated?
A. That's correct.
Q. The next bullet they state, "the energy only rate creates a more stable revenue stream for both Hydro and Newfoundland Power than the sample rate. And the energy only rate therefore avoids the costs of dealing with the additional revenue volatility, there are no benefits to customers of imposing additional revenue volatility on Newfoundland Power". I

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guess that's what it's all about. Can you -
A. Yes, this goes back to bullets number one and two. It's not the energy only rate per se. Let me put this on an equal basis, if I could, if there were no revenue stabilization plan and I'm in no way suggesting that we eliminate the revenue stabilization plan, but let's just take another jurisdiction. In another jurisdiction, if there were any energy only rate versus a demand and energy only rate, this statement could not be made with any degree of certainty, in my view. It depends upon what the weather is in the jurisdiction. It depends upon a lot of variables, but on the face of it, in a jurisdiction, one could not say that an energy only rate provides more stable revenues than a demand and energy rate. And demand and energy rate provides a more stable and proper matching of cost recovery with cost incurrence. That's not what's being said here. What's being said here or implied here is that once a revenue requirement is determined, then it goes on year after year in the absence of a rate case and an energy only rate will recover more reliably that target

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MR. GRENEMAN:
revenue requirement. That's a small attribute. But that's in this jurisdiction. In any other jurisdiction a demand and energy rate versus an energy rate, it cannot be said that the energy rate will fulfil this virtue. It's only in conjunction with the revenue stabilization plan that this is true. And once again, when you take cost out of energy and put it in demand, by nature it becomes--it is a risk associated with that. So, it's not the intrinsic nature of an energy only rate that makes this true. It's in this jurisdiction in conjunction with the rate stabilization plan.

Q. And the weather normalization, as well?

A. Well--does it say--sample rate.

Q. Well, what we have, the benefits in this jurisdiction.

A. Yeah, because the sample rate, even with weather normalization, there is some--there has to be some degree of risk to one party or another.

Q. But that there's now, as well, isn't it?

A. Under an energy only rate?

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Q. Yes, isn't there a certain risk here in any case? How are they guaranteed their rate? What if everyone decides, as I advocate, to move from baseboard radiation to other forms of spacing for their homes? What if somehow the government decided to give grants for that or something like that? That would create volatility for the energy only rate in this particular jurisdiction, wouldn't it?

A. Well, but then there'd be an effect of the rate stabilization plan.

Q. In any case, this bullet here, in your view, is not accurate?

A. It's accurate, I think it's accurate in this jurisdiction. I don't think it's the main virtue that's up for consideration. I don't think it's a major -

Q. It's not an impediment?

A. I don't think it's a major issue, I think it's a very minor issue. I think there are more overriding issues at hand than this.

Q. Can you think of any other jurisdiction where they'd have just an energy only rate for a customer the size of Newfoundland Power? Does anything come to mind at all?

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A. Other than what was brought out yesterday, I know of none.

Q. And you worked extensively in the United States?

A. Yes, reasonably extensively in the United States.

Q. In the energy fields?

A. Yes.

Q. And there's no jurisdiction in Canada that you're familiar with in reference in making -

A. Other than what was brought out yesterday, no.

Q. Then they say, "both the sample rate and the energy only rate are understandable for a large customer such as Newfoundland Power. However, the energy only rate is more practical to administer because it is less complicated". What kind of reason is that?

A. These are nice things to say about a rate to domestic customers, but for sophisticated customers such as NP, I think it's a meaningless or next to meaningless measure of what rationale for keeping the rate.

Q. And then they come to the conclusion, "overall, the current energy only rate out performs the sample rate when evaluating,

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using generally accepted, but generally accepted principles of good rate design and a sample rate should not be implemented". Now, what generally accepted principles of good rate design are being referred to here? Do you have any idea?

A. I assume they're referring to Doctor James Bonbright, I assume they're referring to Bonbright. Is there a part that goes further and states that or -

Q. No, it doesn't -

A. It's not enough to--if they are referring to Doctor Bonbright, Doctor Bonbright has gathered up from other sources, attributes of a sound rate structure and he's combined them into what he considers the 10 attributes of the sound rate structure and he's very often quoted on these 10 attributes, as well as his other ideas on rate design and public utility economics. And in my view, it's not proper for a customer with the sophistication of NP to say, well, gee, I satisfy 1, 3, 5 and 7, because I think certain attributes are more important than other attributes and I think what's being cited here are, by far, the least

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MR. GRENEMAN:
important of the attributes for customers such as NP. I think attributes such as static and dynamic efficiency which NP says nothings about, are very, very important and those attributes are key to, I think, it economics of generation on the Island. They think they should be implemented not based upon whether it's a simplistic rate schedule. I don't think that's an important attribute.

BROWNE, Q.C.:
Q. Then they say on the next page, "In conclusion, the current Hydro rate designs fairly allocate the Cost of Service revenue requirements to Newfoundland Power and the Industrial Customers, the demand energy rate fairly apportions cost within the Industrial class, but is not needed for Newfoundland Power since it's the only customer in its class". Well, they're already dealt with that, haven't they?
A. I believe so, yes.
Q. Okay. It's 10:30, can we have a break there now?

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CHAIRMAN:
Q. Thank you, Mr. Browne; thank you, Mr. Greneman, we'll reconvene at 10:45 a.m..
(BREAK - 10:30 A.M.)
(RESUME - 10:50 A.M.)

CHAIRMAN:
Q. Anything, Ms. Newman, before we begin?

MS. NEWMAN:
Q. No.

CHAIRMAN:
Q. Okay. Thank you. Mr. Browne, when you're ready please.

BROWNE, Q.C.:
Q. For the benefit of the Board, I think we'll have about 15 more minutes and then we'll give it over to Mr. Kelly.

CHAIRMAN:
Q. Thank you.

BROWNE, Q.C.:
Q. Okay. So we left off talking--looking at the summary that Mr. Brockman had put forward, a summary of his evidence, and in your view, do the advantages of the introduction of a demand energy rate outweigh the disadvantages summarized by Mr. Brockman?

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A. Yes, I believe they overwhelmingly outweigh the disadvantages. I think the advantages of a demand energy rate outweigh the stated disadvantages of a demand energy rate, stated by Mr. Brockman.
Q. Does the sample rate send an efficient price signal?
A. Yes, it does, in my view.
Q. In your view, have there been--Newfoundland Power came forward in 1989-1990 in support of a demand energy rate. Is there anything you see, changes in the industry or in the economy, over the past decade that would suggest that a demand energy rate should no longer be pursued in this province?
A. Not at all. In fact, throughout the rest of North America, if anything, a demand energy rate becomes more appropriate than ever before, but nothing in the other direction that an energy only rate is more appropriate. There's nothing to indicate that a demand--there's no dynamics or movement to indicate, in my view, that over the last ten years, that an energy only rate would be more appropriate.
Q. In terms of the implementation, just to

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conclude on this particular topic, the way it could be envisaged is this: the Board would order, if it saw fit, a demand energy rate that would send a signal to Newfoundland Hydro to implement a rate. What would happen then? What would the mechanics be, in your -
A. The mechanics of -
Q. The mechanics of the implementation?
A. The mechanics of the implementation?
Q. Yes.
A. Either Hydro independently or Hydro in concert with NP--well, they could either implement the rate as it's stated in response to one of the information requests, which is a minor adjustment to the sample rate, or they can tweak it in some fashion, based upon their internal discussions, and if they were to tweak it internally based upon their discussions, they would run scenarios. My understanding is that the demand energy rate, the sample demand energy rate, as adjusted to meet the revenue requirement as originally filed is an implementable rate. But the final word rests with Hydro and not with me.
Q. And from Newfoundland Power's perspective,

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BROWNE, Q.C.:
they would deal with their own customers as they saw fit?
A. And I think that's appropriate.
Q. That's the appropriate way, so obviously they're not going to scare all their customers off because of a demand energy rate?
A. Right.
Q. Or say there's confusion or tell the public at large. That would have an adverse effect, wouldn't it?
A. Right.
Q. Okay. That completes my evidence on that topic. Just a number of questions on the--on page 10 of your pre-filed evidence, you summarize the cost of service assignment of the Great Northern Peninsula and the Doyles-Port aux Basques and the Burin Peninsula, and you indicate that principles relied on are consistent with those commonly used in the industry. What principles are you referring to?
A. Yes. There are actually two sets of--typically in cost of service, a lot of the controversy, if you will, in cost of service

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arises in part out of the need to allocate joint costs or costs that are used by two or more customer classes, such as generating plant and transmission plant, but as well, there are--there's always some degree of controversy associated with were there any facilities put into place that are above and beyond what would normally be put into place for customers. I would recognize that not everything, not every customer has the same length of line going to their premises, so some customers may have ten feet of line. Other customers may have a thousand feet of line. So there are normal variations. In certain instances, substations might be assigned to a specific customer, for certain reasons. One reason might be that they request a very high reliability of service. Things that are inordinate, in a sense, normal cost of service, might be specifically assigned.

Now what's happening right now with restructuring and deregulation in the United States, the United States has the Federal Energy Regulatory Commission, the FERC, and in

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an attempt to foster open access to all customers, they have derived what's called a FERC 7-factor test and these are seven guidelines to determine whether a line is common, transmission or common, serving all customers, wholesale and retail, and hence under Federal jurisdiction versus whether it's local and under state jurisdiction. So in reviewing system planning's study of the GNP, the Burin Peninsula and the three points, it's been my observation that the guidelines that they have relied on are consistent with those that have been applied for decades in cost of service and also follow the same principles as were followed in the FERC 7-factor test, not the same, but the similar line of reasoning.
Q. And based upon these principles, you came to certain conclusions about the Great Northern Peninsula and the Burin Peninsula?
A. I have relied upon system planning's conclusions, but I have noted that the principles they've relied on are consistent with those that are used in the industry.
Q. And you stand by your recommendations in reference to those?

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A. I stand by system planning's recommendations.
Q. Did you undertake any analysis of the appropriateness of terminating the Interruptible B program to Abitibi Stephenville?
A. I have not personally undertaken that.
Q. With regard to the treatment of Newfoundland Power's thermal generation and the cost of service study and the rates charged to Newfoundland Power, what's your position regarding treatment of Newfoundland Power's thermal generation?
A. I observe that there's some controversy associated with it. I believe that their thermal generation needs to be recognized and I also note the IC's concern with the manner in which it's recognized. So I observe that there's controversy with respect to it. On one hand, I believe it needs to be recognized, and in my view, question of how it's recognize.
Q. Do you see any change in the treatment of Newfoundland Power's generation in reference to the thermal generation, if there was a change in the wholesale power rate to a demand

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BROWNE, Q.C.:
energy rate?
A. There conceivably could be.
Q. How so?
(11:00 a.m)
A. We've identified three options in the demand energy rate. They were titled option A, B and C, and under Option A--the difference between Option A, B and C are, if you will, decreasing levels of recognition of NP's generation. Under Option A, NP gets recognition for both their hydraulic and their thermal generation. Option B, we'd need to refer to it again, under Option B, they get credit for their hydraulic, but I don't recall--I don't think it's their thermal, but I'd need to refer to it again. Under Option C, they don't get credit for either one of them. So there is some relationship.
Q. So it depends which option is -
A. That's right.
Q. - results?
A. Yes.
Q. These are our questions. Thank you very much, Mr. Greneman.

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CHAIRMAN:
Q. Thank you, Mr. Brown. Thank you, Mr. Greneman. Good morning, Mr. Kelly.
KELLY, Q.C.:
Q. Good morning, Chair. Good morning, Mr. Greneman.
A. Good morning.
Q. Mr. Greneman, just a couple of questions first of all on your background. I understand that you're a licensed engineer?
A. Right.
Q. You're not an economist by profession?
A. That's correct.
Q. Okay. Before we get into the details of your report, what I'd like to do is look at a number of matters to be sure that we are in the same understanding on certain basic principles, and the first area that I'd like to look at with that is the system operating characteristics here of the Island Interconnected System. Let me give you a number of points and see whether we're in agreement on it. First of all, the Newfoundland Island Interconnected System, unlike other jurisdictions in Canada and North

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America, is not connected to the North American grid. I take it you accept that?
A. That's my understanding.
Q. Okay. Number two, that the system that we have in Newfoundland for generation is primarily hydraulic?
A. At this moment in time, that's my understanding.
Q. Right. And in fact, if we went to--and we had this discussion with Mr. Haynes, if we look at it in terms of capacity, 65 percent of it is hydraulic capacity and in terms of energy production, 68 percent of it is energy production. Would you -
A. I'll accept that, subject to.
Q. Okay. The third point is that we have hydraulic production. We also have thermal production from Holyrood.
A. Um-hm.
Q. And you can run more water now and save oil, but then you have less water to use later on in the year. So there's a--it's one or the other and you can conserve one at the expense of the other. Do you accept that?
A. I accept that.

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Q. Okay. The next point is that Holyrood is usually operated in a base loaded mode with the hydraulic units then being used to cover peak variations. Do you accept that?
A. To a degree, and I would need to confirm that with someone, but I would confirm that to a degree.
Q. Well, if you like, I can take you to NP-172.
A. Are you saying that hydraulic covers all variations?
Q. No, I'm saying that in the normal type of operation, we go to--NP-172 is on the screen there.
A. Yes.
Q. I'll take you down through it. During an average daily peak -
A. May I just read -
Q. - hydraulic units -
A. - may I just read the question first?
Q. Sure, by all means.
A. Okay. Where are you taking me to?
Q. I take you down to line 12, "during an average daily peak, hydraulic units are generally reduced before Holyrood because Holyrood is base loaded."

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MR. GRENEMAN:
A. Okay. Within the constraints of the way this is framed, I accept what it says.
KELLY, Q.C.:
Q. Okay. And we had this discussion with Mr. Haynes. I can also take you, if you like, to IC-294, and if you go down to -
A. Can I refer back to that other one once again?
Q. By all means.
A. Where we just were. Okay.
Q. Okay. If you wanted to look further, we can have a look at IC-294, in particular lines 19 through 22. This deals with system frequency is controlled using the large hydro units. So my point to you is, as confirmed by Mr. Haynes, the normal operation is that Hydro is--Holyrood rather is operated in a base-loaded mode with the hydraulic units then being used to cover peak variations as the usual operating condition.
A. As you had pointed out to me, this is what's generally done under an average daily load, with those qualifications.
Q. Okay, great, we'll accept that. Now the next point then is that because we have this

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variation with a trade off between water and fuel, Holyrood is the marginal cost of production all year round, accept that?
A. Yes.
Q. Okay. Next point is the marginal cost of production at Holyrood is the same all year round. Do you accept that?
A. Subject to seasonal variation in purchases or however it's expended. I would say generally, yes.
Q. Yes, and we had that discussion with Mr. Haynes as well, so I won't bother to take you to the references. The next point, number seven I think it is, the marginal cost of production at Holyrood is $5.00--sorry--yes, 5.13 cents per kilowatt hour. And I can take you to NP-130 if you'd like to have a look at that.
A. My recollection is that's the cost of fuel cost plus variable O&M.
Q. Exactly, and we can put up NP-130 perhaps. There's your 5.13 cents.
A. Okay.
Q. Okay?
A. Yes.

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Q. And the last point is Hydro has dispatched control on Newfoundland Power's units. They can call on Newfoundland Power for dispatch at system peak and it directs dispatch at system peak for both hydraulic and thermal plants of Newfoundland Power. Do you agree with that point?
A. That's my understanding.
Q. Okay. Now with that as the initial background, let me take you to a couple of other principles that I want to talk about, and the first is that I take it you are aware that resources and facilities for generation and transmission, the one that's perhaps more important here is generation, in this jurisdiction are to be operated in the most efficient manner and that results in the least cost consistent with reliable service. Do you accept that those are principles?
A. I do accept that.
Q. That's part of the power policy of the province?
A. Yes.
Q. And that the Board is mandated to apply that principle in its regulatory activities. Are

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you aware of that?
A. Yes.
Q. Okay. Now can I take you next then to Mr. Brockman's initial evidence at page three? We have to go to page three, that should be page three at the bottom, I think. I'm not sure where--there we go, okay. Now Mr. Brockman sets out there a number of principles that accepted rate making principles, and he summarizes them in lines 17 and onto the next page. Number one is that it is effective in collecting revenue requirements. Do you agree with that principle?
A. I do.
Q. Okay. The next one, that the rate is fair in the apportionment of costs, both between and within rate classes. Do you accept that one?
A. Not wholly.
Q. Okay. Tell me in what manner that you don't.
A. It may be--well, it may--the words have been carefully chosen here. It may be fair in the apportionment of costs, but I don't believe it to be fair in the collection of costs.
Q. I just want to stay at, in terms of principles first of all. Let's forget the -

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MR. GRENEMAN:
A. Right, but I'd like to put it in the broader context whenever I have--whenever you--okay, go ahead.
KELLY, Q.C.:
Q. But in terms of, let's just go back to one for a second. In terms of one, effectively, effective in collecting the revenue requirement, the principle there is, is Hydro going to recover its cost of service. That's the point, isn't it?
A. That's a consideration.
Q. That's a consideration, okay. And all I want to do, I don't want to get into the rates at this stage. I want to talk about principles. The second one then is that whatever rate structure is chosen, whether its demand energy or energy only, it should be fair in apportioning the cost both between and within rate classes. So you would agree with that?
A. By virtue of the fact that there's a rate class consisting of one entity between rate classes and within rate classes.
Q. So let me give you a couple of examples. First of all, it should be fair in how it

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allocates the cost of service between Newfoundland Power and the Industrial Customers. Would you agree with that?
A. Just give me one moment. The words are confusing actually. You say the rate is effective in collecting the revenue requirements for a fair return. I think the word "fair return" is redundant. It's effective in collecting--the rate in conjunction with the -
Q. I'll accept that qualification.
A. - RSP is effective in collecting the revenue requirements. The rate without the RSP is not necessarily any more effective in collecting the revenue requirement than is a demand energy rate without an RSP.
Q. But any rate structure you choose, this is the principle that should be applied or principles that should be applied? Number one, it should be -
A. These are some principles that should be applied.
Q. Okay. Let's take them one at a time. Do you agree that that is one principle that should be applied? It should be effective?

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A. It's not a necessary principle.
Q. Okay. Then I'll -
A. There are other necessary--I'm sorry, I don't mean to be argumentative. I'm trying to -
Q. Is it a generally accepted principle that is applied?
A. Okay.
Q. Do you accept that?
A. Yes.
Q. Okay. Number two, a fair apportionment of costs, is that a generally accepted principle that is applied?
A. I don't understand the logic of this point. The rate is fair in the apportionment of costs. The rate doesn't apportion costs between rate classes in this case. So, I don't -
Q. Well, let me put it to you this way, any rate structure that is used should, number one, fairly apportion costs between Newfoundland Power and the Industrial Customers, do you accept that?
A. If it were common? There is no common rate that apportions cost between Newfoundland Power and Industrial Customers. There's a

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rate to Newfoundland Power and there's a rate to Industrial Customers. It's not the same rate.
Q. No, but whatever rate structure is used, it should fairly apportion Hydro's cost of service between these two classes? That's self evident. Surely that's an accepted principle we'd have to achieve.
A. But you say the rate, singular, is fair in the apportionment of costs between--there's only one rate class. The rate, I assume you're referring to the NP energy only rate?
Q. High level, Mr. Greneman.
A. Well, I'm trying to answer at a level.
Q. Okay. Maybe -
A. Are you referring to the--okay, at a high level -
Q. The principles that the Board should apply in choosing a rate structure should ensure fairness of apportionment of costs. Do you accept that principle?
A. Right, I do accept that.
Q. Okay.
A. At a high level.
Q. And at the retail customer level, it should

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KELLY, Q.C.:
also--whatever rate structure is used at the retail level should fairly apportion costs at the retail level. Fairness is an element of rate design. Do you agree?
A. Okay, in generalities, yes.
Q. Okay. Now item three is that "a rate structure should encourage efficient use of society's resources and discourage inefficient use." Do you agree with that principle?
A. Yes, I do.
Q. Okay. So that in that particular case, would you agree with me that what is important is the end user of the electricity? In other words, we need--whatever you want to do, the end user, that's where efficiency is going to be achieved?
A. The end user can influence the overall efficiency.
Q. Okay. The next item that Mr. Brockman is that "rate design should try to create stable rates and stable revenues." Do you agree with that principle or those two principles, if you want to call them two?
A. The word--if conditions are changing, it makes

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sense to me that revenues should change in accordance with conditions. So the word "stable" in isolation, I can't necessarily agree with.
Q. Okay.
A. What I think is the rate should follow the changing economic conditions and circumstances of cost and supply and demand.
Q. Right, but we should -
A. Which are not necessarily stable.
Q. Right, but we should try to avoid what I would call unnecessary volatility movements up and down in rates? That we should try to ensure a degree of stability over the long term, would you agree with that, to the extent possible?
A. I can agree with that under some conditions.
(11:15 a.m.)
Q. Okay. Let's leave that one, because we're going to come back to that. The last two points, I think we can touch on very quickly. "Rates should be both understandable and practical." Do you accept those?
A. Particularly for domestic type customers, I accept that.
Q. Right, and as you indicated earlier, when

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we're talking about Hydro and Newfoundland Power, we're talking about more sophisticated entities, and I'll accept that -
A. Right.
Q. - as an observation. Now are there any other principles than the six stated there by Mr. Brockman that you think are important?
A. If I can read perhaps some of Bonbright's, some of them may coincide, some of them may not.
Q. I want you to tell us any other principles that you think are applicable.
A. Okay. Okay, one is called static efficiency of the rate classes and rate locks, discouraging wasteful use of service while promoting all justified types and amounts of use.
Q. Okay, and I'll accept that. That's substantially covered under item three.
A. Okay. Talks about--okay, fairness of the specific rates and the apportionment of total cost of service among the different rate payers so as to avoid arbitrariness and capriciousness and to attain equity in three dimensions. Then he talks--let's skip that

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one.
Q. Well, that's essentially Mr. Brockman's number two. So any others?
A. Okay. And very importantly, dynamic efficiency in promoting innovation and responding economically to changing demand and supply conditions.
Q. I'll accept that one. That's essentially part of Mr. Brockman's number three. So dynamic and static efficiency. Do you want to just explain in a little more detail what dynamic efficiency is?
A. I think it's fairly self explanatory. It's promoting innovation and responding to, as it says, changing supply and demand patterns.
Q. Okay. All right. Now with those--are there any other principles you want to add, first of all?
A. Well, there are numerous ones, but the most often cited are the ones that have been summarized here by Dr. Bonbright.
Q. And the ones, essentially the ones Mr. Brockman has already got in his report. Now with that as the background then, let's go to your report RDG-2, because I think it's

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KELLY, Q.C.:
important we all understand exactly what you're proposing here, and I want to go through a number of sections in this. We'll start at page three of your report, in the section dealing with key issues, and you set forth there four issues to be addressed, and the first is to send a correct price signal to all parties. And you go on to say "from the inception, a continuing concern has been the ability to encourage DSM and DSM is viewed in a broad all encompassing sense," and I'll paraphrase here, not only energy efficiency and energy conservation but also peak demand control programs and therefore you refer to it as load management. Now a couple of questions come out of that. First of all, you talk about the price signal to all parties. Does that also include end users? Is it important that the price signal get down to the end user?

A. It could be important or it may not be important. I think it's important if it gets to the purchaser, Newfoundland Power as an entity, and it's also important it get to the

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end user, but each has its own purpose.

Q. Okay. But ultimately, at the end of the day, it's the end users who are going to effect energy consumption, whether that's load or demand or energy. Would you agree?

A. Largely.

Q. Okay. Now DSM that you talk about, which are matters of energy efficiency or conservation, the words you use there, that will also be influenced and, in fact, happen at the end-use customer, would you agree?

A. Yes.

Q. Okay. Now you talk about peak demand control programs. Could you just explain what peak demand control programs are, and give us some examples?

A. These are programs that can be implemented by domestic as well as commercial or industrial customers in an attempt to try to limit their peak demand imposed on Hydro's system and by lowering the peak demand, there will be a lower allocation of cost ultimately. These programs can include various types of load management at the commercial or industrial level. It could be improvements in lighting.

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It could be motor control. At the domestic level, it could be water heating control. It could be interlocking of, for example, electric ranges and water heaters so that they're both not on at the same time. It could be ceramic space heating, storage devices, things along that nature.

Q. Now in terms of peak demand control and load management, is one aspect of that curtailable or interruptible rates?

A. Yes, I believe that falls under that umbrella.

Q. And do you think that those are important components of load management?

A. It could be, except that one is a short-term response and the other is a long-term more infrastructure or appliance change and sort of instilling in consumers' minds, the virtues of energy and demand conservation. So the long-term response in my view is more important in this rate than the short-term interruptible.

Q. Why do you say that curtailable rates and getting people to put curtailable rates in place, are you saying that that is not a long term matter?

A. Well, it's a transient response, I mean, it

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could be long term, but there's no guarantee that conditions will exist. I think it's much more fruitful to instill a long, to have a long term energy management policy, load management policy by instilling in people's minds and changing the appliance mix to overall lower the load long tern and not just for short durations which may change from year to year, conditions for which may change from year to year.

Q. What conditions would change from year to year?

A. Unwillingness of an interruptible customer to interrupt, the customer possibly no longer being there. It's a short term thing. It's not necessarily long term.

Q. But some of these customers, some people, we'll talk a little bit more about this later, but some people have to go to some lengths to put interruptible and curtailable facilities in place, do they not?

A. They could, yes.

Q. Okay. Now, so, the next point that you've got is to ensure that all parties, Hydro and Newfoundland Power, remain revenue neutral and

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KELLY, Q.C.:
avoid earnings revenue volatility. So, I take it you agree that that is an important component of what needs to be addressed?
A. Yes, relatively revenue neutral.
Q. Did you do any analysis yourself in terms of impact on volatility with Newfoundland Power? Did Stone and Webster look at that at all?
A. Well yes, we did, qualitatively, definite--we looked at it qualitatively, for sure.
Q. And what did you do and how did you do that?
A. Well, we noted that there was--as I had mentioned earlier, that a demand energy rate intrinsically has some at risk revenues to either party, depending upon what the level of demand is. And Hydro's case, we looked the volatility that, as it would affect them, in moving out of the fully stabilized environment through the RSP. And we also looked, at least, qualitatively at the other side, what would happen to--qualitatively what would happen -
Q. Did you look quantitatively in terms of the impact on Newfoundland Power?
A. We looked quantitatively in relation to

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answering and responding to an information request.
Q. Okay. In terms of the impact on Hydro, what proposal did you come up with to address the impact on Hydro?
A. Our proposal to--what we actually did is Hydro stepped forward and put two percent of their revenues at risk for this.
Q. Okay. So, the -
A. Their demand revenues.
Q. - demand revenue, the down side is, in your proposal limited at 98 percent? In other words, you can only go down two percent?
A. Yes, subject to where I think you're going, it may be more.
Q. Well, don't try to guess where I'm going, just deal with the question.
A. Okay. Initially, yes, it's two percent.
Q. Okay. And we're going to come to that in a second. Now, while we're in this, you say that one of the things is to avoid a windfall or penalty to either utility due to abnormal weather. So, there's going to be some weather normalization function that has to take place.
A. Right, and Hydro is proposing to weather

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normalize which goes a long way to reducing volatility.
Q. And the proposal that Hydro has put forward, we can see this in an information request, necessary, is that a joint committee be struck to look at that process, correct?
A. That's correct.
Q. And that has not happened yet?
A. I don't know.
Q. Okay. To your knowledge, it hasn't happened?
A. I'm not aware of it.
Q. Okay. Now, the next bullet that you got is protecting rate payers from artificial or short term cost increases. Now, isn't that the same type of proposition put forward by Mr. Brockman that as we're looking at what our options here, we need to look at protecting rate payers from artificial or short term cost increases? In other words, isn't that a rate stability issue?
A. That could be a rate stability issue, yes.
Q. Well, these are your words, is it a rate stability issue?
A. Yes, it is.
Q. Yes, it is, okay. Now, then the next one is

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minimizing revenue volatility which may result, if a demand rate is established and a portion of the revenues removed from the stabilizing influence of the RSP. And that's the discussion we just had about the two percent.
A. Right.
Q. Now, let's go to number three next which is, what you want to do it provide NP an incentive to minimize the island peak, okay. Now, if I stop there first of all, what is the island peak that you want Newfoundland Power to have an incentive to minimize?
A. Can you--what is the island peak?
Q. What is the island peak that you want Newfoundland Power to have an incentive to minimize?
A. The island peak is the diversified coincident, that diversified and coincident, the same peak, which is the basis--a principle basis for which generation is planned. And if that peak is minimized, then generation can be deferred at an overall cost to island consumers and the Province.
Q. Now, that answer that you just gave, as I

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KELLY, Q.C.:
understand it, is that the peak that needs to be addressed to achieve that objective is the overall island system peak.
A. Right, and the components that comprise that peak.
Q. Right, but the ultimately objective is to influence the overall island system peak, not merely Newfoundland Power's peak, correct?
A. Newfoundland Power's peak to the extent that it's a principle component of the overall island peak.
Q. Okay.
A. So, it's inferred that, yes, it is Newfoundland Power's peak.
Q. Yes, but which is more important to meet in order to minimize and to maximize the efficiency and keep the lowest cost generation for the island as mandated by the Electrical Control Power Act. Is it not the overall system peak?
A. To the extent that there's a one kilowatt reduction in your contribution, there is the corresponding one kilowatt hour reduction in the overall system peak.

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Q. That is true, is it not, sir, only if Newfoundland Power's peak happens to occur at the same time as the overall system peak?
A. Absolutely.
Q. Right, but that doesn't always occur, does it?
A. No, it doesn't always occur.
Q. No, it doesn't, okay. Let's go to--now, under this heading, you've got--the first sentence is a demand rate can provide NP with a direct incentive to reduce peak -
A. I'm not seeing that here.
Q. Sorry, your item 3, carrying on -
A. Yes, okay.
Q. The first sentence, in other words, you make a couple of points here and I want to take them one by one.
A. Okay.
Q. "And demand rate can provide NP with a direct incentive to reduce peak through the use of its own generation during peak". So, which is the peak that you want Newfoundland Power to use its generation on?
(11:30 a.m.)
A. It would be either one of them actually.
Q. Either one?

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A. Either NP's individual peak or the island system peak.
Q. So, is it your evidence, sir, that as we think we are getting to a Newfoundland Power peak, we should run our facilities to minimize that peak?
A. No, I'm not saying that at all.
Q. Well, what would we do to minimize our peak?
A. We wrote up the report and I was a principle author of this report. One thing we left out is there's a major virtue of a demand energy rate. This report is sort of biased to, sort of slanted to encouraging the reduction of island peak which is definitely very important, but whether or not NP can respond to that is almost academic because it's equality meritorious, if that's the correct word, to reflect Hydro's rate structure to NP in the same fashion that it has incurred its financial commitments.
Q. Yes, but that's a different issue. We're going to come to that issue.
A. They're related -
Q. We're going to come to that issue. I want to focus on the issue which you've put on the

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table here, sir, and that is, you say, you want us to have a direct incentive to reduce peak through the use of its own generation during peak. And my question to you is, are you proposing to this Board that Newfoundland Power should be incentived when it thinks it is coming to a peak on its system to run its system?
A. That was not the intent of what was said, no, I'm not suggesting that.
Q. What is the intent then of what you have in this sentence?
A. Okay. What that actually was intended to say is, if one just arbitrarily implements a demand rate, it could provide an incentive for NP to run their generation. We're trying to guard against that.
Q. So, you don't want us to run our generation at our peak?
A. Not in an inefficient fashion.
Q. No. So, the way it works now is we run our units to maximize energy production, but at the same time to have system capacity capability available when Hydro calls on it to meet overall island system peak. Do you agree

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KELLY, Q.C.:
that that is the efficient way to run it?
A. I would agree.
Q. And so you do not want that changed, do you?
A. No.
Q. You do not want us to run it to meet some Newfoundland Power peak?
A. By no means.
Q. By no means, okay. So, we don't need an incentive to do that because that's what's already happening, isn't it?
A. Right.
Q. Right, okay. Now, let's go to the next sentence. "Through the use of a demand rate, Newfoundland Power, in turn, can provide incentives to its customers to reduce peak through rates or other cost effective means". So, you got two components, you want us to reduce peak, first of all, which peak do you want us to reduce, system or Newfoundland Power?
A. Well, if you reduce your own peak, you can have lower cost allocated to you in the Cost of Service Study. If you reduce the system peak, you can help reduce overall island

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capacity costs.
Q. But in terms of using rates to do something, would you not agree that the peak that we are going to impact, if any, will be Newfoundland Power's peak?
A. It can be the island peak as well, could it not?
Q. Well, only to the extent that they happen to be co-incidents, agreed?
A. Well, but can you predict exactly that you're not going to--that any measures you put into effect will not reduce overall island peak?
Q. Mr. Haynes said in evidence, we know not the hour or the day at which the peak will arise.
A. So, you would agree it is possible?
Q. Oh, certainly. And I'm sure you will agree that equally it is possible that they will happen at other times?
A. Okay.
Q. But my point is, my question is, that if we are going to reduce peak through rates, the peak which will initially be impacted has to be a Newfoundland Power peak, by definition.
A. I don't know. I mean, why can't it be the-- why can't you reduce load at the time of the

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system peak and not reduce load, not figure on doing, but just because of the way things happen, why can't you reduce the load for the Island and not affect your own system peak? Why is that impossible?
Q. Please explain to me, how, through rates, we would take load off the system simply at a time of system peak? First of all, Hydro would have to tell us now, okay, Newfoundland Power, we are coming up to a system peak.
A. What if you stagger heating units, it'll affect both peaks. What if stagger storage heating units and just stag it in halves or thirds.
Q. Right, but that has its initial impact, if any, on a Newfoundland Power system. So, let's just break this into pieces then. You say that we should, whatever we're going to do there, step one, is through rates. Have you performed any analysis of Newfoundland Power's existing rate structure, to its customers?
A. Other than reviewing your last General rate Application filing, I have not.
Q. No. And in the last rate application that Newfoundland Power which was just a short time

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ago, Newfoundland Hydro, nor yourself did not come in and propose any changes to Newfoundland Power's retail rate structure, did you?
A. No. With respect to providing load management ideas in context of this demand energy rate, we thought it would be--at least I thought it might be the responsibility of Newfoundland Power -
Q. Okay, well, let's just -
A. - to do so.
Q. Okay. Now, the next part of that, so one thing is we would have to look at retail rate design which has not yet been done yet. The second part of it is, you say, "or other cost effective means", so I take it you agree that whatever has to be done or whatever you think should be done, should be cost effective?
A. It should be cost effective from your point of view and from society's point of view.
Q. Absolutely. So, for example, we shouldn't spend a $1.50 to save a $1.00 in the long run; that's the bottom line.
A. Why spend a $1.50 to save .75 of yours and .75 of society's.

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KELLY, Q.C.:
Q. Okay. Now, let's just take that a step further then. So, we need to know, in order to be cost effective, what is worth spending money on, do you agree with that?
A. Okay.
Q. And when it is worth spending the money, would you agree with that?
A. Okay.
Q. Do you agree with that?
A. Yes.
Q. Okay. Now, would you also agree that to the extent that things should be done, if we going to engage in cost effective demand side management to reduce peak demand, that Newfoundland Hydro itself should also follow appropriate load management, cost effective load management processes? Would you agree with that proposition?
A. In what context, other than -
Q. Well, if you say that Newfoundland Power should have an incentive to do things that reduce the peak and we talked about that, that's the island peak.
A. Right.

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Q. Ultimately you want to impact, would you also agree that Newfoundland Power should do what is cost effective to reduce island peak?
A. Newfoundland Power -
Q. Newfoundland Hydro should also do what is -
A. In proposing a demand energy rate, they are doing that.
Q. But in terms of any demand side management load control programs, if we are asked to do things which are cost effective, would it not also make sense for Hydro to do things which are cost effective?
A. Okay, on Hydro's side, there's nothing that's stemming out, to my knowledge, as I sit here, that's inappropriate. What does stand out as being inappropriate is the energy only rate and that's why we're discussing it because it's not that--how do I say this? The energy only rate, at this point in time, stands out as not being proper. I don't see anything in Hydro's side that's--and maybe there is--I don't see anything standing out that's being improper on the way of not promoting conservation of natural and capital resources for the island.

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Q. Go back to your first point that you made as a key issue, you wanted to encourage demand side management, load control.
A. Right.
Q. And my question to you is, and we looked, well, we should do it on a cost effective basis, my question is simple, if, in fact, you want to encourage demand side management, would you also agree that Hydro itself should perform cost effective demand side management.
A. For who?
Q. For the benefit of the Island Interconnected System and for society as a whole.
A. Cost effective demand side management on behalf of someone?
Q. On behalf of Hydro with its customers. Do you not understand that Hydro has customers independent of Newfoundland Power?
A. Yes, I'm trying to understand what you're getting at, its rural customers, its Industrial customers.
Q. Exactly.
A. Okay.
Q. Would you agree with that proposition then?
A. That they be required to do so?

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Q. That to the extent that you think that it is appropriate on a cost effective basis--we don't want anybody doing anything that's not cost effective.
A. I would generally agree with that actually.
Q. Sure.
A. Okay.
Q. Logical thing.
A. It sounds like a virtue.
Q. Okay. If it's cost effective, then we should have--whoever it can be cost effective for. Now, let's go to page 9 of your report next under the potential impact of load management. So, this is your demand side management issue. And if we come down to just before the bullets there, the sentence reads, "the potential for a customer to utilize this price signal involved the interaction of and consideration of" and then you've got four bullets, "the level of the demand rate, the potential for load management in the customers end use equipment profile, cost of procuring the load management potential, and customers receptiveness to utility sponsored load management programs". And if we kind of go at

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KELLY, Q.C.:
those, let's take them, kind of backwards, "the customers receptiveness to utility sponsored load management programs". Would you agree with me that that must be the end use customer that you're trying to impact?
A. Yes.
Q. So we need to know how responsive they would be, we need--going back the next bullet, we need to know the cost of procuring it, the previous bullet, the potential is affected by the load management in the customer's end-use equipment profile. So again, we're talking about end-use impact, correct?
A. Yes.
Q. Okay, so all of these things are going to interact, but they interact, as you suggest here, at the end-use customer?
A. Yes.
Q. Now, the next paragraph you touch on electric heat and you close with the comment, "However, electric heat can be a problematic end-use load for utilities to manage." Could you just explain what you mean?
A. Well, I think it refers to the fact that there

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hasn't been a lot of experience necessarily with electric heat. We're not sure of the elasticity of customers willing to respond to electric heat and the cost of electric heat storage.
Q. So it tends to be a relatively inelastic demand, from an economic's point of view?
A. I would think so.
Q. Now, in your bullet there, your four bullets, and as we looked at them, three of them were clearly directed to the end-use customer and the first one talked about the level of the demand rate. Should I take it then, from what you've got here, that you believe it is important that demand rates be reflected in the end-use customer's retail rate design?
A. No, I don't think that's a requirement.
Q. Okay, could you explain why then?
(11:45 a.m.)
A. The reason is, is because if NP as the utility serving its end-use customers, understands that it can achieve a savings, it can instill that to its customers without a demand rate per se.
Q. So you don't need a demand rate where, at

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Newfoundland Power's level to impact the end-use customer?
A. No, I'm saying that you do need a demand rate to--from Newfoundland and Labrador Hydro to Newfoundland Power without the necessity of having a demand rate at the end-use level.
Q. But if in fact what you believe is that the end-use customer knowing the demand costs that the customer is placing on the system and is it not the end-use customer that needs to have that price signal to achieve whatever quotes efficiency you believe you want to achieve?
A. It doesn't have--it does not have to have a price signal per se, it can have some representation of savings, for example on if you installed an off-peak water--if you have water heating, you can save so much. They can realize the savings and the virtue of not consuming on peak, without having knowledge of the peak.
Q. So if we break what we just said into two components, one component is we could give them a price incentive for some kind of demand side management issue, like water heater controls, or alternatively, if we're trying t

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influence it through rates, and this is the point you made earlier, that we have rates or other cost-effective measure, at the rate level, is it not the message getting translated through in some sort of demand rate signal?
A. Yes, it could be that.
Q. Yes, okay, so those are the two dichotomies we've got to look at, at the end-use consumer. Now, let's go to your next paragraph which talks about water heater controls because we're very interested in what you've got here. As you get towards the end of the page, you say "Approximately 150 megawatts of load that is available for control in total", and your sentence goes on, "with controls or cycling of water heaters, achievable load management potential would be significantly lower than the technical potential reflecting the interaction of economic and market factors noted above." Now, can we break that into a whole series of points. First of all, explain technically the type of controls that you would see being envisaged?
A. I've not personally undertaken a study of the

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MR. GRENEMAN:
exact types of controls, but I do know that utilities do install these types of controls and they are workable in a number of jurisdictions and they do indeed reduce peak.
Q. What type of controls? Because I appreciate then you haven't studied the issue, but what type of water heater controls?
A. It could be water heater cycling controls.
Q. Explain that to the Board, what's a water heater cycling control?
A. Well, there's an intrinsic and this is subject to check, there's an intrinsic storage, you can't change--exchange heat in zero time. When you shut the power going to a water heater, there's a residual heat that decays over time. So if consumers are willing to, for example, live for some period of time, fifteen minutes, thirty minutes, forty-five minutes with the residual amount of hot water, then what that allows the utility to do is cycle water heaters in segments and reduce the peak overall. It's like refrigerators running, a refrigerators cycle, but not all refrigerators cycle at the same exact times.

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So, you get diversity between refrigerators or, in this case, water heaters.
Q. Okay. Now, let's look into water heater. A water heater, if we looked across all of Newfoundland Power's system, they go off and on at a relatively random timing.
A. Right.
Q. Do you agree with that?
A. Yes.
Q. Okay. So, how will this control do anything different? Help the Board understand that.
A. Well, perhaps if, take it off the system, off the anticipated system peak.
Q. When would that be, sir?
A. My understanding is that that could be--I'd have to check, but I think that could be relatively known within a reasonable period of time, I would think, but I'd need to check on that.
Q. Well, let me help you with that because here's the evidence in Newfoundland--Mr. Haynes told us just the other day, you know not when the hour or the day of the system peak. Now, let's forget the day for a minute, you don't know the hour and the reason you don't know

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the hour in this jurisdiction is because the main driver of system peak is temperature, but not absolute temperature, wind chill. That's the historical context. So, if we don't know when that's coming, when do you want us to have these water heaters cycle off?
A. Well, another thing you could do is put more insulation on the water heaters, I mean, that would lower the system peak -
Q. That's a program that's generally out there now and water heaters have generally been upgraded by industry, but on the cycling issue, when do you want us to have it cycle off?
A. Well, it's my understanding that there would be pretty good estimates as to when the system peak would be. You point out that's not necessarily the case.
Q. Yes, okay, but can you point us to that estimate?
A. No, it was just my impression.
Q. Just your impression, okay. So let us assume that the key time--that you could know the key time and it was 6:00 in the afternoon, after people come home and they get their--they're

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going to do their dishes, or it's 8:00 in the morning when they're going to do their showers, are you proposing then that we should have an automatic control that would prevent people from having their shows at 8:00 in the morning because that's a potential time of system peak?
A. Well, there are two things: number one, it would only be those that subscribe to it and are willing to do it; number two, you don't have to necessarily prevent them from having a shower, but you can delay the increase, the cycling time, for example and that would, tend to lower the system peak as well.
Q. So now, have you done any study to figure out what the, number one, the cost of doing that would be; and number two, what the uptake on the program would be?
A. No, I have not and my impression was that it was NP's--it was in NP's arena to do that.
Q. That's right, so you haven't looked at that?
A. No, I have not.
Q. Now let me give you another scenario for water heater controls because there's another way to go at this water heater problem or issue if

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KELLY, Q.C.:
what you really want to do is system peak. Another way you can go at it is you can outfit every water heater in the Province with a radial controlled device, so that when Hydro says the system is reaching peak, we'll shut them all off. Now, do you have any idea what the cost of doing that is?
A. There are a number of technologies around that can accomplish that, I do not know the cost.
Q. No, okay, so you haven't looked at or studied that issue at all?
A. I have not, no.
Q. Okay. Now, let's just go on then to the next bit that you've got in this piece here. "Typically the largest load management opportunities are derived from commercial and industrial facilities, rather than residential facilities and in several U.S. jurisdictions, demand rates have resulted in significant load shapes when targeted at large users." Now, first of all, are you aware that in Newfoundland the large users are directly dealt with by Newfoundland Hydro, principle ones, we have the paper mills, we have the oil

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refinery?
A. Yes, I'm aware of that.
Q. Okay. And what type of load management opportunity do you think Hydro should engage in to target large users?
A. I have not studied that and I'm not prepared to comment on that at the moment.
Q. Okay. Now, I appreciate you haven't looked at Newfoundland Power's retail rate design, but--apart from having a look at the basic rate structure, but are you aware that Newfoundland Power has a curtailable rate option?
A. I don't recall offhand, but I accept what -
Q. Okay, and if I say to you that Newfoundland Power's customers are generally smaller, but the cost or the incentives is approximately the same as for Hydro's Interruptible B? We have roughly, approximately about $29.00 and the available curtailable capacity that we're looking at is only three or four megawatts, so that's there in a curtailable rate structure.
A. Is that $29.00 per what?
Q. Per kilowatt.
A. Per kilowatt year?
Q. Yes, so roughly $28.20 was Hydro's

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Interruptible B, so approximately the same value. Now, Hydro has proposed to terminate its Interruptible B program. Should Newfoundland Power also terminate its curtailable rate option?
A. I'm not prepared--I'm not apprised of all of the circumstances of your curtailable rate program and it would be improper for me to comment on it without having complete knowledge and study of it.
Q. But one of the things that you have indicated in your report is you want us to have an incentive to do things that would minimize the Island peak, that's the whole premise of your report, so we have a curtailable rate that impacts the Island peak to the extent of three or four megawatts, so we're wondering from your long-term efficiency perspective, should we keep that or should we get rid of it?
A. I'd really have to study that to answer that question.
Q. Have you studied then Newfoundland Hydro's termination of its curtailable rate which is 46 megawatts?
A. I don't--I've heard the evidence, I'm not sure

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what there is to study, I have heard the evidence as to why it's been terminated.
Q. Okay, well you've heard the evidence here about how the situation works at Abitibi Stephenville about storage of the pulp, are you familiar with that?
A. Very roughly.
Q. Very roughly.
A. In a qualitative sense.
Q. In other words, when it's called up, they have a storage of pulp which they can draw down, so they can shut down their pulping plant, that's the--so they take loads out entirely of the system, okay?
A. Yes.
Q. Now, Newfoundland Power's curtailable rates are for, some of them are applied to hospitals, senior citizen's homes and we even have the St. John's Water Supply System. In each of those cases that I've just talked about, diesel generation that they have for emergency purposes is what the customer then has to trip in to have that curtailable rate, so in terms of relative efficiencies between storing pulp versus a diesel generation at the

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KELLY, Q.C.:
customer's premises, at a high level, Mr. Greneman, which is more efficient?
A. Well they have different entities and it's different purposes with different entities, so I don't think you can compare one versus the other. They are two different parties with two different objectives.
Q. Well then, let me put the question this way, if we have capacity on the system, should we be paying people, whether it's a hospital or a--which are public institutions now, should we be paying for them to run diesel generation as an Interruptible rate, is that the most efficient way of going about it?
A. I'd have to know under what conditions you would interrupt them.
Q. Okay, and you haven't conducted that study?
A. No, by no means.
Q. Okay. Now, let's move along to page 11 of your report and at the very top of the page, you make three points in your bullet, should be an appropriate cost based price signal, maintain revenue stability and provide an incentive to control the Island peak, those

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are the points we touched on earlier and if we come down to the bottom of the page, you say in the last paragraph, "In setting an appropriate energy rate, Hydro should try to strike a balance between the demand and energy rate levels, such that the demand rate satisfies the above criteria, with the energy rate reflecting short-run marginal costs", in this case, the fuel at Holyrood. So the short-run marginal costs at Holyrood we saw as 5.13 cents a kilowatt hours?
A. Yes.
Q. Now, here you're talking about using, you had a discussion with Mr. Browne about where marginal costing fits into this, and here you are suggesting that in where we set this level of demand and energy rate, that we have to bring in a short-run marginal cost consideration as to what it costs to produce electricity. Why is that the case? Just explain that to the Board.
A. Well because it influences customer decisions at the margin.
Q. Right.
(12:00 p.m.)

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A. Based upon today's cost.
Q. Right, so we should not be selling electricity, we shouldn't be selling energy at less than the cost of producing it? Correct, on a short-run basis?
A. There may be some special circumstances where you can, but in general -
Q. As a general proposition.
A. Right.
Q. And we're going to have a look at some variations later on, but as a general proposition, we don't want to be selling energy at less than the cost of production, do we?
A. Well, it happens sometimes just as a matter of circumstance. If there were a demand--okay, go ahead, I'm sorry, I retract that.
Q. If you want to add something, by all means, feel free.
A. If there is a levelized energy rate that is one energy rate year round and there are two sources of energy, one higher than the other, there will always be one source that's sold at less than the short-run marginal cost.
Q. If you do what?

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A. Suppose you had one source of energy at 3 cents and another at 2 cents and you sold it at--I'm sorry, one at 3 and one at 1 cent and the average was 2 cents -
Q. Yes.
A. And you had a year round rate for 2 cents, at some point you will be selling for less than -
Q. But here on the Island, because of the nature of our generation structure, this is the very point we talked about at the very beginning, the marginal cost of Holyrood is the marginal cost all year round and that's 5.13 cents.
A. Yes.
Q. We agreed on that when we started.
A. Yes, I did.
Q. So that what we don't want to be doing is selling energy at less than cost, as a general proposition, you agree with that?
A. Generally, yes.
Q. Okay. Now, because that would be inefficient, correct?
A. In the long run.
Q. And in the short run it would be inefficient, wouldn't it, to be selling below cost?
A. Well, unless you recovered your cost earlier

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MR. GRENEMAN:
on.
KELLY, Q.C.:
Q. Okay. Now, at page 12 in your recommendation as to how this works, how this should work, as I understand it the type of structure that you're putting forward is to be basing the demand on the single winter peak, correct?
A. That is correct.
Q. In other words, you're not proposing that it should be done over various months, we're going to judge how to do this against the one winter peak?
A. That is the criterion that Hydro has to live by.
Q. Right, and that's what you're recommending and I want the Board to just understand how this is intended to work.
A. Yes.
Q. And then at the top of page 13, you talk about the need to limit Hydro's downside risks in the first sentence and if you come down halfway through the paragraph, you talk about setting a ban, okay, did you intend by that to set any kind of a cap, as well as a floor?

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A. Well, I had thought about--but you know, you have to account for growth on NP side.
Q. But can you address my question?
A. Yes.
Q. In your proposal, were you proposing that--you were clearly proposing that Hydro should have a floor and my question is, were you also proposing, in proposing this band that Hydro should have a cap on how much revenue they should earn if demand went up.
A. No, the thinking was that--the concept was that NP's load normalized--NP's demand normalized for weather, would be representative of its true demand and a cap would not be needed.
Q. So that what you would do is you would impose a floor so that Hydro would be protected if there were variations on the downside, but you would not impose a cap to limit Hydro on the upside?
A. Yes.
Q. And such a cap would also limit volatility to Newfoundland Power if there was a cap on how much demand was going to be subject to this to, wouldn't there?

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A. But it wouldn't--it wouldn't really cap the load growth, if at the end of this proceeding there is not another proceeding for eight or nine years from now, NP can grow a certain percent and as NP grows, it moves further away from that 2 percent, if you will. For example, if you grow 3 percent, then you have an allowable 5 percent swing before you hit that 98 percent threshold because it's 98 percent of the 2004 forecast. So as you get bigger, the downside increases proportionately.
Q. That's assuming Hydro doesn't come in for five or six years, which I think is perhaps unlikely. But let's stick with it, so you're proposing a floor, but no cap? That's the effect of your recommendation?
A. Well, the concept is that your demand normalized for weather will be very closely related--will be quite accurate and that it will greatly minimize the chance for windfalls on either side and that it would be very representative of an agreeable demand between everyone. And I still believe that.
Q. If you fully believe that, why do you need a

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floor for Hydro at all?
A. It's sort of a safety net in moving out of a revenue stabilization plan.
Q. A safety net for Hydro?
A. Well for moving out of this environment where there is revenue stabilization--rate stabilization plan in effect.
Q. And just to kind of jump ahead of that, if the demand drops to the 98 percent and in fact, drops more than the 98 percent, would Newfoundland Power then pay for demand that is not being used on your recommendation?
A. You're paying for it right now.
Q. Exactly, right now the demand -
A. You're paying for it right now if you're not using it.
Q. Right now it gets all translated through at an energy only rate without the volatility issues, we'll talk about those as we get to them.
A. Right.
Q. But on your scenario with the demand rate -
A. On the scenario you just stated, you're gaining an economic advantage if you drop below 98 percent.

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KELLY, Q.C.:
Q. But after we get to 97 percent, Newfoundland Power will still have to pay at the 98 percent level -
A. Right.
Q. Even though the load has dropped to 97 percent, is that what you're recommending?
A. Right, see you're 2 percent ahead of where you are right now.
Q. Now let's just follow this along, at the bottom of page 13, you talk about your recommended rate treatment and you make a number of observations there. You say, "The report does not recommend an actual demand rate to Newfoundland Power, but a demand rate structure that is based on the principles set out in this section using the preferred Option A." Now, if we break that into a couple of parts, first of all, you say not necessarily giving you the demand rate, but saying this is the type of structure you should follow. Could you just elaborate on what you mean by that?
A. Yes, I would like to. This structure--what I've done is reviewed all the parties'

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objections to a demand energy rate, the basic objections from 1989 through present, and that's explained in the demand energy report and what Stone & Webster done was to try and structure a demand energy rate that addresses all the concerns that have been stumbling blocks until this point.
Q. Okay, but you're not proposing necessarily this rate, but this is somehow the structure to be followed?
A. It's our view that a structure such as this can serve as a guideline in going past the stumbling, things that have been stumbling blocks in the past.
Q. As a guideline. Then you go on to say, "Using these principles, it is recommended that Hydro run cases to carefully determine measures for such things as the appropriate demand energy balance, variation in its revenue stream, et cetera. It is also recommended that the results of various cases be shared with NP and that the proposed demand rate be based on discussions between both utilities." And if I take that in parts, that hasn't happened yet, as it? In fact, the running the various

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analysis, providing that, getting feedback?
A. Well, I have not been apprised as to whether it's happened or not.
Q. Okay, you don't know the answer.
A. No, I don't.
Q. Now, just go back to the Option A, as I understand your recommendation, the Option A is the option with the full credit for Newfoundland Power's hydraulic and thermal generation, correct?
A. That's correct.
Q. And just explain to the Board the reasons why you believe that that's desirable?
A. Any one of the three options could have merits on their own, but one of the stumbling blocks in the past has been the question as to whether, if we do put in a demand energy rate, then perhaps NP can maximize their generation and, in particular, their thermal generation at the time of the system peak to artificially and for the short term depress the peak; thereby giving them an economic advantage and what Option A does is it actually builds on NP's native demand, that is what its intrinsic demand before any of its own generation is

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run. So we, in a sense, hung our hats on Option A because it allows NP to operate in the efficient fashion it has been operating in the past. That's not to say other options aren't viable, but it does directly address that aspect of the past negotiations that have been a stumbling block.
Q. And Option A is the--what I'll say consistent with the existing generation credit methodology that the Board has used?
A. Yes, it is consistent with that.
Q. Right, okay. Let's turn next to page 15 and just flesh out the final bit of your report here, page 15 in Chart 1, you have the sample rate design characteristics and what I want to go to is down to the bottom and you have a proposal which goes as follows: For the energy component, you have the first 420,000,000 kilowatt hours, 0.344 cents a kilowatt hour?
A. That's correct.
Q. And then for over that, 0.470 per kilowatt hour, okay?
A. That's right.
Q. And a demand charge of $7.00 per kilowatt hour

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KELLY, Q.C.:
of billing demand, correct?
A. Per kilowatt of billing demand.
Q. Per kilowatt, sorry, per kilowatt of billing demand. Now, that demand charge is per month as are the energy charges, correct?
A. Yes, the thing with that is the level--the number of kilowatts that NP, we're proposing here that NP is to be billed on, is the 1 peak hour of the winter, the winter being November through March. But now here, we're collecting it, this is simply a collection mechanism, we're collecting that in 12 equal payments of $7.00, which equals the fully allocated demand cost of $84.00 per kilowatt year.
Q. Exactly the point I was coming to. So you are going to base it off the single winter peak, so the annual demand charge is $84.00 per kilowatt?
A. And that is indeed, Hydro's fully allocated cost of serving NP.
Q. Right, and we'll come to that discussion, but the numbers on the annual basis is $84,00 a kilowatt because we're looking at it off a single winter peak demand?

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A. That's correct.
Q. That's correct.
A. And that is the costing methodology that's been used and approved.
Q. Okay, Now, can we just go to NP-128 for a second, so that we see what this means in practise, and the question in NP-128, boiling down the question, what months are we talking about here, and the answer is in '98, 2000 and 2001 and 2002, the monthly energy purchases exceeded 420 kilowatt hours in the months of January, February, March and December. So on your proposal, if you look at 1999 first, there were only two months, January and December, correct?
A. Sorry, where are you referring me to?
Q. Okay, it's lines 9 through 14. If you look at years '98 -
A. Oh here, yes, I see, January and December, right.
Q. So we will agree that most years we're talking about that upper rate kicking in at, for four months of the year, correct?
A. That is correct.
Q. Okay, so your proposal essentially boils down

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to this, we're going to have a demand charge of $84.00, but right now under the existing energy only rate, we have the demand charges and the energy charges rolled into one energy only charge, which is 54 whatever it is, as in the Revised Application, we're going to break that out, we're going to have a $84.00 demand charge and then you're going to have a two-level rate, one that applies for eight months of the year and one that will apply at the higher rate in the last four months--or in four months of the year?
A. No, it's one rate that applies throughout the year.
Q. Yes, but the higher rate will only kick in, in the usual circumstances, on four months of the year, correct?
A. Well, you will--the rate will be there, you will fall into the second block for that period of time, right.
Q. Right. Now, my next question is, and I'll just give you this question before we break, is it your contemplation that Newfoundland Power should reflect that proposed wholesale rate structure in its retail rates?

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A. Which component of this?
Q. Any or all of them, I'd like you to tell me which component you think should be reflected in Newfoundland Power's retail rates?
A. None of them can be reflected identically, but by Newfoundland Power living by the same rate structure, a rate structure such as this, which is consistent with the way Hydro incurs its cost, is a virtue on its own and will, in my view, promote innovation and being able to respond to that and proper rationing of demand and capacity. I cannot sit here and tell you the exact route to take or the exact mechanics to take, I think that's in your--more properly in your ballpark, but I think this is an essential and needed step that needs to be done.
Q. As a general principle then, do you want us to reflect in our retail rate structure a seasonal component reasonably proportional to what you are proposing at the wholesale level?
A. I think a seasonable component--see, Hydro is a unique situation, I mean, this Province is, in a sense, unique. I would need to study the mechanism of the seasonal--I can't say yes or

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MR. GRENEMAN:
no to a seasonal, as a general concept. I think it can, a seasonal component can be implemented, but I would need to see the mechanics.
KELLY, Q.C.:
Q. What would be the utility of you giving us a seasonal rate to achieve anything unless we somehow put a seasonal rate in place with our customers?
A. That would be--isn't that what I just mentioned?
Q. I thought you were just saying that you'd have to study it and -
A. I'm sorry, I was referring to you putting a--
NP putting a seasonal rate in for their customers, that's what I was referring to.
Q. Right, and my question to you is, well if you want us to have a seasonal rate -
A. Oh, do we have to have one? No.
Q. No, my question is, if you think it is worthwhile for us to have one because there is some benefit to the system of having seasonable rates and end-users, to we not have to pass that on in some fashion to the end

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users, our customers?
A. Can you repeat that please?
Q. Do you want us to pass on your seasonal rate structure in our retail rate structure to the end-use consumers?
A. Oh, this being the seasonal rate structure.
Q. Yes.
A. Not in the same form necessarily.
Q. In what form?
A. There could be--I would think that would be for you to devise, a form.
Q. Would you think it should be reasonably proportionable to what you are proposing?
A. Not necessarily.
Q. Okay, the demand charges, are you proposing that we should pass on the demand charges as demand charges in some reasonable proportionality?
A. That's what is typically done, not--I mean, there's divert, considerations of diversity, of course, and so you can't pass on the same exact demand charge and there's different ways of passing it on, whether you do it at the retail level based upon a single peak or whether you do it on a racheted peak is up to

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you.
Q. But you'd like us to pass on that demand charge to our customers?
A. I'm not saying that's a necessity, utilities do do that in response to this type of rate structure.
Q. That's a good place for us to break and we'll pick it up there after lunch.
CHAIRMAN:
Q. Thank you, Mr. Kelly, thank you Mr. Greneman, we'll reconvene at 1:30 p.m.
(BREAK AT 12:20)
(RECONVENED AT 1:30 P.M.)
CHAIRMAN:
Q. Thank you. Good afternoon, Ms. Newman, is there anything before we begin?
MS. NEWMAN:
Q. No.
CHAIRMAN:
Q. Okay, thank you. Good afternoon, Mr. Kelly, when you're ready please? Are you ready?
KELLY, Q.C.:
Q. Thank you, Chair. Mr. Greneman, when we had broken, we had had a discussion in which we looked at the operating characteristics of the

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system, principles to be applied and then we had looked at your report, exhibit RDG No. 2. And I want to go next and have a look at your evidence at page 16, if we could go there. And if we come down to the paragraph that begins at line 10, and I'll give you a moment to read the paragraph, the second that I want to focus on begins at line 15. And at line 15, you say, "The demand portion of Hydro's rate will provide Newfoundland Power with a quantitative measure against which to develop a viable load management plan." Now, the quantitative measure that you're talking about there is the $84.00 per kilowatt, per year, correct? For demand?
A. Effectively yes.
Q. Okay. Now, and you go on in the next sentence to say, "All things considered, the preferable alternative is to provide Newfoundland Power with a relevant price signal." And the relevant price signal that you're talking about there again is $84.00 a kilowatt a year?
A. Yes, that is relevant because it's the relevant costs that Hydro incurs for capacity.
Q. And that is based upon an embedded cost basis;

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KELLY, Q.C.:
in other words, what Hydro has spent in the past?
A. It is.
Q. Okay, now let's just follow this along a bit, so if this is the quantitative measure against which Newfoundland Power is to develop a viable load management plan, would you agree with me that any expenditure which Newfoundland Power makes less than that quantitative measure to reduce demand, would be good in your view for the system?
A. I would agree tentatively. The $84.00 provides a measure which was non-existent in the energy only rate.
Q. Okay, but will you accept my proposition that on your view any expenditure that Newfoundland Power makes to reduce demand, which is less than $84.00, it costs less than $84.00 a kilowatt hour--sorry, a kilowatt for demand, would be good for the system? That's your view?
A. I would agree, but I would like to reflect on it a little bit more later on.
Q. Well, that puzzles me because this is your

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evidence here that this is the quantitative measure against which we are to develop the load management plan. Is it or is it not?
A. Right, I'm not disagreeing with what I wrote, you have to think about your sentence.
Q. Okay, well let me put this proposition to you, if it is the quantitative measure against which we should develop a load management plan, in your view is it also the quantitative measure against which Hydro should develop its load management plan?
A. Which load management plan of Hydro's are you referring to?
Q. Load management plan for any demand that relates to the customers that Hydro serves directly, whether that is Rural Connected or whether that's Industrial?
A. Well, you see, you're expressing it as an absolute and I'd need to think about whether it's valid as an absolute, rather than being based on, and I have not come to a conclusion on whether I can say anything that's absolutely less than $84.00. There are other considerations that come into play.
Q. What would be the other considerations that

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would come into play there?
A. It would be the quality of the type of load management you achieve, whether it's long term, short term, whether it's a specified limited number of hours per year or whether it's available on a continuing basis. These are all modifiers--the statement holds on its own. I'm reticent to agree with your very specific case.
Q. But you had set forward a proposal in which we are to develop a load management plan -
A. This is a guideline, if you will.
Q. - and we are to test it, sir, according to your analysis, against a winter peak, a single winter peak, that is your proposal.
A. Right.
Q. And the value of that is $84.00 a kilowatt, so if we spend $75.00 a kilowatt to get rid of a kilowatt of demand, would that not meet your criteria of quantitative measure?
A. As I sit here, I don't think I can agree with that premise. I think it's based on the $84.00, but I cannot say that if you spend 78, it's worthwhile. That's for you to decide, number one; and number two, it's the quality

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of what you achieve. What are the characteristics and quality of what you achieve? Is it--can it be called on at any time, is it for a specified period of time, are there conditions involved with it, is it temporary in nature or long term in nature? You can't answer those questions based--they're all valid considerations and honestly, I cannot -
Q. What would you have to look at then to address all of those concerns that you've put forward?
A. I'd have to know the nature of what it is and to study it.
Q. So then this is not a quantitative measure against which we can determine the value of a load management plan?
A. It is in that it provides you with a hard number to assess various options in consideration with other variables.
Q. Well, let's take it a step further and wrap some numbers around this discussion. Let's assume that there was 20 megawatts that we could deal with, so instead of talking about $84.00 a kilowatt, 20 megawatts would work out to 1.68 million dollars at $84.00. So if we

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KELLY, Q.C.:
spent anything less than 1.68 million to get rid of 20 megawatts of demand at peak period, would that not meet your quantitative measure?
A. You would have a net savings.
Q. In your view, we would have a net savings?
A. On the face of it, yes.
Q. And that's your view, is it?
A. On the face of what you describe without further consideration and my experience is that everything requires further consideration, you would have -
(1:45 p.m.)
Q. Okay, well--so let's take it a step further. So by the same token, that would also be true for Hydro? Hydro could get rid of 20 megawatts at peak period, it would make sense for them to spend anything less than 1. 68 million to get rid of it.
A. Hydro has made a long-term commitment and it cannot get rid--that's the embedded cost, so it has to recover that cost and it's putting that money at risk. It's already made a historical commitment for that $84.00.
Q. Made a historical commitment, but what -

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A. And has to live by it, but it's putting that at risk in order to get a demand and energy rate on the table and in place.
Q. So you would agree that Hydro, anything less than 1.68 million for 20 megawatts would be a good investment?
A. No, as I pointed out, it has a commitment that it must pay those dollars, regardless right now of whether it gets rid of them or not.
Q. But those are historical costs, aren't they?
A. But they have contracts and they have to pay that historical costs, so -
Q. But the future costs against which load management has to be addressed is a future expense, is it not?
A. Yes, the deferral of plant.
Q. Deferral of plant is a future expenditure, okay. Now, then what does the Board have to know in order to be satisfied that it is cost effective to spend money now to defer capacity in the future?
A. Well, if you're headed towards marginal costs, marginal cost is certainly an input to demand side management and load management; however, that is separate and distinct, in my view,

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from implementation of a demand energy rate. The virtues of a demand energy rate stand, on themselves, regardless of whether or not NP does any load management.
Q. But your report has framed it in terms of deferring capacity to meet peak. Now let's just follow this through. Would we not need to know, first of all, what that future capacity will in fact look like? What are the long-run system expansion model for that Interconnected System? Would we not need to know that?
A. No, I can say--well, it depends if you want to know qualitatively or quantitatively. I can tell you with a very high degree of certainty that if you lower your load on a--I can tell you pretty definitively that if you lower your peak demand on an ongoing basis, you will defer capacity. I can say that pretty--with a high degree of certainty.
Q. Okay, so but do we need to know what that capacity analysis is going to look like, what type of plant, how much it's going to cost?
A. You might need to know that.
Q. Well Hydro is going to build it, presumably,

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would not Hydro need to know it and would not the Board need to know it to determine the cost effectiveness of it?
A. It will defer the time, my presumption is it will defer the time at which Hydro needs to sit down at the table and plan the next unit.
Q. Okay.
A. And that, in itself, is a savings in dollars.
Q. So we need to know what -
A. Without knowing quantitatively, to the extent that it will defer it and it will defer it, that is a dollar savings and I don't think it necessarily has to quantify that dollar savings.
Q. It's a dollar savings, but you say we don't need to quantify it?
A. I'm saying I'm not sure that Hydro needs to quantify it and is Hydro quantifying it right now? I don't think so.
Q. Do we need to know when that capacity will be added, would otherwise need to be added? Is there not a time element that comes into play here?
A. Yes and we would quantify if there is a time element that would come into play.

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KELLY, Q.C.:
Q. And would we not then have to determine a net present value of the cost of that future capacity to be deferred?
A. Right.
Q. We would, wouldn't we, right. So that if in fact, let me come back to the example we talked about this morning of water heaters, the one that you put forward. And in your report, you said there were 150,000 electric hot water heaters, 1 kilowatt per unit for a total load of 150 megawatts. Now they cycle off and on, so at any given point in time, how many do you think would be on?
A. I don't know at the moment.
Q. You have no sense of on a regular basis -
A. How many would be off?
Q. How many would be on?
A. How many would be on? I would say anywhere from, I would just take a rough guess and this is, I'd say between 10 and 50 percent.
Q. Between 10 and 50 -
A. I'm just picking a rough number, I'm stepping out of my area right now.
Q. So that would give us at 10 percent, 15

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megawatts and at 50 percent, 75 megawatts. Now remember we had the discussion this morning -
A. I'm sorry, say that again?
Q. If how many were on, how many were running -
A. Right.
Q. And you said 10 percent to 50 percent of them may be on at any point in time during the day, agreed? And at 150 megawatts for the whole capacity, according to your report as a rough ballpark here -
A. Right.
Q. That would be a hot water -
A. Well the 50 percent was premised on normal recycling to begin with.
Q. Fine.
A. And what I'm referring to, okay, so the gain would be the gain with respect to 50 percent--this is purely hypothetical and theoretical.
Q. I appreciate that.
A. And to reiterate, I'm stepping out of my area right now. But assuming in the normal course of events 50 percent were on, and I said 10 to 50 percent meaning if 25 percent are on, that's a 100 percent gain with respect to the

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50 percent that would have been on.
Q. Okay, so if I could ask you the question, if I had a magic switch and I said, now I can turn off every hot water heater in the province that's on -
A. Yes.
Q. How many megawatts would I turn off?
A. Well according to your calculation, 150 megawatts.
Q. But that's if they're all running.
A. According to the 50 percent, 75 megawatts.
Q. So it may be 75 megawatts, to take a very high percentage using your 50, okay.
A. Right.
Q. Now, if I'm--we talked about this morning about how we could go about doing that and one potential method that's out there is we could put in an electronic control on every hot water heater and build an expensive system to have radial control dispatch to take that off the system, so that when Hydro calls us up and says, okay, there's a peak, we're getting close to a peak, could you turn off all the hot water heaters, so we flip the switch. Now, how much is it worth spending to turn off

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75 megawatts like that?
A. Well instant savings to you are $84.00 a kilowatt year.
Q. So if you work that out, it would be worth it to us to spend a lot of money to do it, how much would that work out to?
A. 75,000 times 84.
Q. A lot of money. Now, if we spent all of that money, would we go out there--that would be the cost to, if we spent a million dollars, would it be worth spending a million dollars?
A. On the face of it, it seems like it would be worth spending it to you.
Q. For us?
A. Yes.
Q. On your analysis. Would it be worth us spending 5 million dollars?
A. I'm trying to think where this is all headed.
Q. Never mind, just -
A. It could be.
Q. Could be. Would it be worth us spending 10 million dollars?
A. I would say not.
Q. And you're judging that against $84.00 a kilowatt hour?

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MR. GRENEMAN:
A. That's right.
KELLY, Q.C.:
Q. Okay.
A. Actually I would say it could be, because that's per year and then it goes on year after year.
Q. Right, but that enables us to turn it off on a winter peak. Now, would that defer any capacity?
A. If it's reliable year after year, the question is, is it reliable year after year, something that's dependable.
Q. We have a dependable radial controlled system.
A. Right. That would cause--I would think that would cause Hydro to defer capacity.
Q. Okay, now what's the difference in that and Hydro calling up Stephenville and saying we have a winter peak coming and they have a program in place that turns off 75 megawatts or 46 or whatever number they have is equally as reliable, does that not defer capacity?
A. Well, I don't know all the circumstances around Stephenville. I don't know how long term it could be. I think the option for

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whether they want it turned off or not is their option, rather than Hydro's option, I'm not sure of that.
Q. No, no, on Interruptible B, if they've signed up for 25 times a year, 25 peaks on demand from Hydro, they'll turn off 46 megawatts.
A. Yeah. I think this is getting out of the purview of the demand energy rate and I'd probably want to refer this to somebody that's more qualified within Hydro to speak to it.
Q. Who would that be, sir?
A. I don't know, I'd like to confer with Hydro on that.
Q. Well, let me, I want to continue this discussion though. We have to measure the Board, the $84.00 is simply an historical rate, but the Board has a responsibility to determine system planning for the future and the least cost alternative. That's the mandate under the Electrical Power Control Act. In order to determine whether the expenditure that I just put to you for water heater controls is appropriate, does the Board not have to judge that against the following factors. What are the alternatives? And the

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alternative is what is the system--number one, what is the system plan for future expansion? Number two, what is the long run marginal cost of that expansion? Number three, when will that occur in the future? And number four, what is the net present value to bring it back so we have a number to determine whether the expenditure now on deferral today is, in fact, a savings or not? Isn't that the analysis that has to be done?
A. I honestly believe that your line of questioning is exceeding the scope of the demand energy rates. I think it's a pretty well known fact and I think you would even agree that a demand energy rate does promote conservation, it's pretty well accepted in the industry. And I think you're getting into a lot of details which perhaps are more properly addressed by system planning.
Q. But this Board has to determine the least cost alternative. And your proposal at line 15 was that you should give us, you, Mr. Greneman from Stone and Webster and Hydro, should give us the quantitative measure, but the Board has an obligation to determine whether that

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quantitative measure is the right measure against which to determine activities related to viable load management. So, doesn't the Board need the information to determine whether that is, in fact, cost effective?
A. Well, that's going beyond what it says. Eighty four dollars is the proper measure, it is Hydro's embedded cost. It's the obligation that it has to live with. Whether load management is indeed implemented or it's not implemented, that's in your purview, in my view. And I think walking down this path is really something that might more properly be taken up with system planning.
Q. But the whole purpose in your report that we looked at was to enable a demand to be taken off peak, that's the premise of your report. And so the question becomes how much is it worth doing to do that?
A. Not to take a demand -
Q. To reduce the demand at system peak.
A. Oh, to reduce the demand at system peak.
Q. That's the premise. So, the question is how much is it worth doing and I'm putting it to you, sir, you can't look at that question by

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KELLY, Q.C.:
looking at the historical costs. You have to look at the future potential costs of generation versus deferral.
A. I would submit that it could be looked at both ways and it could be looked at independently based upon embedded cost.
Q. Okay. What will embedded cost give us other than historical costs?
A. It gives you historical cost, but it's supportable in that it passes in a proper demand and energy relationship. Hydro's cost relationship that it has to live by and it's passing it on to you as the customer. And that in itself is appropriate and has merit, all by itself.
Q. Now, -
A. Now, you can respond to it or not respond to it, but I think that Hydro has an obligation to reflect that in its rates.
Q. But the question for the Board is, is it appropriate for Newfoundland Power to respond to that type of price signal. In other words, is it worthwhile, us spending $84.00 a kilowatt to take demand off the system? Are

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we supposed to respond to it?
A. That's up to you.
Q. No, no, with respect, sir, you have said we should have an incentive to do this. And so, if you're saying we should have the incentive, presumably you want us to respond.
A. It would be desirable to respond, but I can't tell you how you're going to respond or what the economics are.
Q. You can't tell me the economics of how we should respond?
A. Well, I think that's within your area to determine.
Q. But you can't tell me the economics--you're going to give me an incentive at $84.00 to take demand off the system, but you can't tell me that we should take demand off the system for anything less than $84.00? Is that not what -
A. This is really going beyond what the report is saying. The $84.00 is a proper number, it's supported on the, in some virtues.
Q. Will you agree with me, sir, that your rate has two components to it, both demand and energy?

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A. That is true.
Q. Okay. Now, in your energy component you have a value for eight months of the year of 3. 4 cents a kilowatt hour?
A. Is that 3.44?
Q. 3.44. I'm doing a bit of rounding here? Yes?
A. (No audible response).
Q. And the highest rate that you have is 4. 7 cents as the tail block rate for the other part of the year, the other four months?
A. If I could restate it a different way, there's a rate of 3.44 cents which is applicable all 12 months of the year.
Q. Yes.
A. And a rate of 4.7 cents which is applicable all 12 months of the year.
Q. And that will only kick in as we saw historically -
A. But the rate, as it's stated, is a year-round rate -
Q. That's semantics. I don't want to quibble with you over that.
A. Okay. 3.44 and 4.7.
Q. Both of those rates are below the marginal cost of producing energy in this province,

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aren't they, at 5.13 cents a kilowatt hour?
A. I'm not sure that's--I was told that's--how do I say -
Q. Would you like -
A. I'm not sure of the validity of that number exactly.
Q. You're not?
A. But the 4.7 is -
Q. Can we put NP-171 on the screen?
A. I saw that, I saw that. The 4.7 cents is the incremental cost of fuel at Holyrood.
Q. Can we put NP-171 on the screen, Mr. O'Reilly, please? Sorry, I got the wrong number for you. Let me--NP-130. 4.7 is fuel but there's a variable operation and maintenance cost. In other words, for every kilowatt hour you produce at Holyrood it costs .45 cents additional?
A. Yeah.
Q. Correct?
A. I'll accept that for purpose of this discussion, but I think there's some question as to the -
Q. Well, these are Hydro's numbers.
A. I know that.

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KELLY, Q.C.:
Q. Have you done an analysis to dispute Hydro's numbers?
A. No.
Q. No. So would you agree with me that your energy rates are less than the marginal cost of production?
A. The intent was to put the--the intent was to put the tail block, the 4.7 cents at the marginal cost of fuel, not OM, but fuel at Holyrood. So the intent was to price it at the marginal cost of fuel at Holyrood.
Q. Then, sir, that would then price energy at less than it costs to produce it in this province.
A. What would?
Q. Because you're going to price it at roughly half a cent below the cost of producing it. Do you not think that that is an inefficient price?
A. What--I'm not supposed to ask a question, so I'll ask it rhetorically. Would it make you happier if we'd made the tail block 5.13?
Q. Well, I simply put the question, do you not agree that any energy should be sold at a

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minimum at the marginal cost of production?
A. Well, one's a theoretical question, the other is--there's theoretical one, a practical answer. There are circumstances where it's acceptable to sell energy at less than the marginal cost.
Q. And so out of that may I suggest to you, sir, that in looking at the long-run future system and how we should either add capacity or defer capacity, we need to look at the marginal cost of energy and the marginal cost of demand as relevant components quite apart from or in addition to, whichever you like, the embedded costs?
A. Yeah. There are marginal cost considerations. To price fuel, to set the price of energy at the price of fuel there's a very close if not exact matching of fuel cost with fuel consumption. So if customers decrease their use, Holyrood burns less and there's a proper matching of cost. That's the intent in the energy block. The intent is not long-run marginal costs, the intent is to match the cost with--the revenues with the cost.
Q. To make sure we don't sell it below cost at

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the time of production?
A. There are plenty of utilities that sell below cost.
(2:05 p.m.)
Q. Do you think in this province we should sell energy below cost?
A. There are circumstances where it may be appropriate.
Q. Do you think in any circumstance which exists in this province now we should sell energy below cost?
A. If you have two sources and one source is one cent a kilowatt hour and the other is three cents a kilowatt hour and there's an equal use of the one cent energy and the three cent energy, but you have an equal block all year round priced at two cents -
Q. That's not our system, though, is it, sir?
A. Well, I'm giving you an example.
Q. No, but in this province now, where we have a predominantly hydraulic system that we talked about this morning, is there any circumstance in which you think we should sell energy below marginal cost of production?
A. Well, you're selling--okay. I think it could

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be appropriate to -
Q. In what circumstances then?
A. Okay. Let me hypothesize, let me put forward a theoretical rate form, okay, to give you an example. It's not the rate form we put forward here. Suppose we implemented as an alternative to what we have in RDG-2 a rate, a two tier rate just as we have right now where the second block is exactly as you see it here, 5.13 cents per kilowatt hour and we took the block ending instead of being 420 gigawatt hours per year, we moved that such that every single month NP would see the 5.13 cents. Because it's a two tier rate you would take the first block and bring it down sufficiently low in order to enable the higher 5.13 cents in every month. It's that first block that's being sold at less than the marginal cost, and yet, that would satisfy all incremental production at the marginal cost.
Q. So what -
A. But it's a concrete example, though, of selling under marginal cost.
Q. Okay. So what you would propose, I'll get this clear before -

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MR. GRENEMAN:
A. I'm not proposing it, it's -
KELLY, Q.C.:
Q. No. But -
A. It's demonstrative -
Q. To make sure we sell at marginal cost, you would reduce the first tire block, which is-- further reduce it, which is in effect for eight months of the year and increase the tail block at the last four months of the year? Is that what you're telling us?
A. No. The tail block would be in effect at all 12 months of the year.
Q. Yes, but it's never reached?
A. Well, no, the point is it is reached. And the reason it's reached is you modify the--instead of being a 420 gigawatt hour threshold.
Q. Yes.
A. You vary that such that you have consumption in each of the 12 months at the tail block.
Q. Okay. So that you would have a reduced rate in the summer, but a tail block rate as well?
A. Right.
Q. Another -
A. And NP would consume in both blocks during the

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summer.
Q. And if you structured that at the wholesale level, would you like us to pass that along at the retail level?
A. Well, you've moving away from your original question.
Q. No, no, I'm -
A. That's a concrete -
Q. That's the concrete example that you put.
A. Yeah.
Q. And my question is, if that was the wholesale rate, would you like us to reflect that in the retail rate structure?
A. I don't know if I'd like to. You could do it if you'd like to.
Q. No, but what would you as the expert consultant on rate design, what would you see?
A. I haven't studied your system -
Q. Haven't studied it?
A. And you brought that out before.
Q. Okay. Now, let's look next then at a couple of areas on the history of the load. Can I take you to Mr. Haynes' table 8, please? Have you seen this table before?
A. I believe I have.

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Q. Okay. Now, as Mr. Haynes has explained, the energy criterion that governs Hydro's system expansion planning models indicates on this that in 2009 there will be an energy shortage requiring an either plant or capacity addition for 2009, 2010. Is that how you understand it, first of all?
A. Yes.
Q. Okay. And capacity will not be required until 2011?
A. Yes.
Q. Okay. Now, when the next plant in added, you will agree with me that it will add, by definition, both capacity and energy?
A. Yes.
Q. Okay. In fact, if we go to NP-154, the answer at the bottom says, "Since the next plant addition is required to meet both demand and energy requirements, a reduction in peak only with no associated energy reduction will not defer the next plant addition, although it may have an impact on which options would be considered least cost at that time and beyond."
A. Yes.

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Q. Correct? Would you agree with that statement?
A. Yes.
Q. Okay. So that one of the things when you're looking at load management and how that impacts system expansion is you need to model what will happen to the type of plant expansion that will be needed at that point in the future? Agree with that?
A. Yes.
Q. Okay. And we've heard in evidence that currently within the next year or so there's 25 megawatts of a wind project contemplated for the Burin Peninsula?
A. Yes.
Q. Were you aware of that?
A. Yes.
Q. And that that will add both capacity and energy?
A. If you say that it will. I'm not familiar to the extent to which it will add capacity.
Q. Well, Mr. Haynes indicated it would add 25 megawatts of capacity and would add corresponding amount of energy.
A. No. On peak, at the time of the coincident peak?

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KELLY, Q.C.:
Q. Well -
MR. YOUNG:
Q. Can we see the reference to the transcript?
KELLY, Q.C.:
Q. I'll take--we'll leave it at -
A. At just capacity, okay.
Q. It will add something? I don't want to debate with you whether it's 25 or whatever. See to satisfy Mr. Young whether we can find the reference for you.
GREENE. Q.C.:
Q. There was no evidence given with respect to the wind on the LOLH calculations.
KELLY, Q.C.:
Q. I agree with that. But that wasn't -
GREENE. Q.C.:
Q. Well, you're going to with the next plant addition, Mr. Kelly.
KELLY, Q.C.:
Q. Okay. Let's just leave it on the basis, Mr. Greneman, that -
GREENE. Q.C.:
Q. And we haven't objected to date with Mr. Kelly summarizing evidence, but really, there comes

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a point if he is going to do that, he should be taking the witness to the actual reference so that we can see, in fact, whether the representation is correct. And this is one where I believe he should do that.
KELLY, Q.C.:
Q. I'll have a look for that -
CHAIRMAN:
Q. Mr. Kelly, if you're going to pursue that, I agree with Ms. Greene on that.
KELLY, Q.C.:
Q. It's not important, but I will look for the reference at the break, Chair. Mr. Greneman, the next addition will add some degree of capacity, some degree of energy, agreed?
A. Yes.
Q. Okay. And in fact, there's discussion of adding Island Pond. And Island Pond was proposed to be a 36 megawatt project. Are you familiar with that at all?
A. I've heard the name.
Q. Okay. And that would add, as we understand it, being a hydraulic project, 36 megawatts of capacity and some degree of energy, correct?
A. Yes.

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Q. Okay. So that if we go back to table 8, if you add both capacity and energy, the point at which the energy balance and the LOLH balance move will be presumably some point further out into the future. Would you agree with that?
A. Yes.
Q. Okay. So that in determining the value today, the net present value of load management today, the question is, what is the value of that future generation at an unknown but a significant point in the future, discounted to today's date, is that not the type of analysis you'd have to go through to determine its cost effectiveness?
A. Generally, yes.
Q. Okay. And meanwhile, would you agree with me that the more current effect, more current issue right now is the total energy consumption because that is what drives currently the next generation addition?
A. But it's followed shortly thereafter by capacity, the need for capacity.
Q. But energy -
A. Might -
Q. Energy is the one that gets met first?

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(2:15 p.m.)
A. Well, that's, in my view, a technicality. It's followed rapidly, within a year or two, by capacity. And my understanding is that in the years to come Hydro's system will become actually more capacity constrained rather than energy constrained.
Q. If we could conserve enough energy, would we not defer the plant expansion from 2009 or 2010 on the table 8, to 2011?
A. If I understand what you're getting at is that Hydro's system is a combination of energy and capacity constrained, what I would like to point out is that this is indeed recognized in Hydro's Cost of Service where were apportion the hydraulic facilities based on load factor and we apportion Holyrood based upon capacity factor. So this indeed recognizes that there's a dual demanded energy relationship. And what is being proposed in the $84 is not the entirety, is not the entirety of capacity cost, but rather it's the demand portion. And it's my view that to the extent you point out, rightly so, that there perhaps is an energy portion that is already in the energy portion

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MR. GRENEMAN:
of the rate. It's been apportioned in the Cost of Service.
KELLY, Q.C.:
Q. So we should ensure, should we not, that the energy portion of rates are efficient in terms of the signals that they send because of the fact the next--the first constraint right now is energy, not capacity. Would you agree with that?
A. They are so close together they are tantamount to being the same, almost. I mean, they are within a year or two of each other.
Q. But you're not suggesting that we should ignore energy pricing efficiency at the expense of demand pricing efficiency, are you?
A. Or the other way around.
Q. Okay. Let's go next then--have you looked at NP's, Newfoundland Power's, the structure of its customer base at all? Mr. Greneman?
A. I'm sorry, where were you?
Q. Have you -
A. Oh, I'm sorry, I thought you were pointing me here.
Q. No, no. Have you looked at Newfoundland

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Power's customer base, what it looks like, what it's made up of?
A. It would only be by recall of when you did your GRA. I can't recall offhand.
Q. Okay. So let me, let me take you to Mr. Perry's evidence and Mr. Henderson's evidence. And the place I want to take you to is to page 4, table 1. While Mr. O'Reilly is finding that, as we looked at your exhibit RDG- 2 you'll remember this passage that you had written which was on page 3, "Through a demand rate Newfoundland Power can provide incentives to its customers to reduce peak through rates or other cost effective means." Now, I want to talk about this rate issue as we go through this next discussion. There we go. Now, in table 1 you can see a breakdown by customer number, to start off with, what our customers' structure looks like. And you'll see 86. 3 percent of them are in domestic and 5.3 are in general service?
A. Um-hm. Yes.
Q. Now, none of those have demand charges, correct, or would you know that?
A. The zero to ten is not a -

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Q. Zero to ten.
A. Is no demand meter?
Q. No demand meter.
A. Okay.
Q. Are you aware of that?
A. I would have assumed it because it's a common type of structure and I've seen it before.
Q. Okay. And so, I take it you would agree with me that it is not cost effective to demand meter the domestic classes and the general service zero to ten class?
A. Yes, I would agree with that.
Q. Okay. So the ones that would have a demand rate are the 2.2, 2.3 and 2.4 classes, correct?
A. Right.
Q. Because street and area lighting wouldn't be a demand issue either, would it?
A. I would consider those to be effectively demanded metered. There's no--even though they're not metered, they are--they can't react.
Q. They can't react?
A. So their rate structure is proper.
Q. So the ones that will have a demand rate that

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will be influenced at the end use customers are the 4.1 percent of our customers that fall in classes 2.2 to 2.4?
A. In all fairness, I think the point is better represented by the percent of energy distribution rather than demand.
Q. And I'm going to come to that.
A. Okay.
Q. So that we look at the number of customers first. Let's go next then to table 2, which is the energy sales by customer class.
A. Right.
Q. So we have roughly 60 percent, 59.2 in domestic and in 2.1 we have two percent, so about 61 percent in total?
A. That's right.
Q. Okay. And if we go to table 4, the total across the entire group of Newfoundland Power's customers have 77 percent comes from energy charges and 9.1 percent comes from demand charges?
A. I have a comment on that table.
Q. By all means.
A. If this is to imply that the 9.1 percent that comes from demand charges is the extent of

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MR. GRENEMAN:
what's demand metered, I would like to point out that corresponding with that 9.1 percent is the energy piece for those customers which currently appears to be in the 77.1 and to illustrate the point to the Board and to myself, I believe that that should be restated in the demand charge line because it's been separated at that point and it's rightly demand, as opposed to giving the illusion that the 77 percent cannot be dealt with. Part of that has been split already.

KELLY, Q.C.:
Q. Okay. Let's just follow that along. What you're saying there is that the residential class is getting its demand charge in the energy rate that goes to it, correct?
A. That's correct.
Q. So that--and it is not possible cost effectively to give them a separate demand meter. So they will always be on an energy only rate?
A. That's correct.
Q. Right. So that the ones that will be on the demand rate will continue to be the classes

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2.2 to 2.4?
A. Yes.
Q. Now have you looked at that type of rate structure to determine whether it is the demand charges that we have in those rate classes are appropriate?
A. I remember reviewing it at the time of your GRA.
Q. And what conclusion did you come to?
A. The only personal conclusion I came to was the relationship of the demand--the demand seemed to be declining in magnitude as the classes got larger and larger, but that's a detail. That's not relevant to any of this.
Q. Okay.
A. But I did notice--I did see demand charges, yes.
Q. So did you give Hydro any advice or recommendation that there were any problems with the rate structure in those classes?
A. Not specifically.
Q. Now in order to have those demand charges there, Newfoundland Power didn't need, because we don't have, a demand energy rate at the wholesale level to put those in place, did we?

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A. No, you did not. Part of the desirability of having a demand charge in a larger general service rate is to distinguish customers within the class and to minimize interclass subsidies.
Q. But it wasn't necessary for us to have a wholesale demand rate in order to look through to the entire system costs and pass along appropriate demand costs to our customers?
A. I would agree with that.
Q. Okay. Now can I take you next to CA-236? Now this was a question which was posed. If we can scroll it up a little bit more so we can get the bottom notes, Mr. O'Reilly, if we could? Just a couple of more, can we go a little further? Okay. Now we've got the--now in this table, there are the retail tail-block rates for various classes and the tail-block rate as a percentage of what was short-run marginal cost. And you'll see in the blocks 2.2, 2.3 and 2.4, our rates are currently actually below marginal cost of energy. See that?
A. Yes, it says shown in the last column.
Q. Right.

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A. Less than 100.
Q. And if you go down to the note at the bottom, beginning at line 21, it explains that "Newfoundland Power's 2003 GRA evidence was presented which indicated that Newfoundland Power's retail tail-block rates for 2, 3 and 4 were below short-run marginal costs. Having rates set for these rate classes that better reflect short-run marginal costs was recommended. Due to other considerations, such as the need to minimize customer impacts and the final order to decrease overall rates, Newfoundland Power was unable to increase its tail-block rates." So one of the things that concerns us is, in fact, whether the energy component should be priced higher for economic efficiency signals to our customers. Do you agree with that?
A. I understand the logic of it, yes.
Q. Yes. Now if you shift more into energy, you either have to take it out of demand or take it out of earlier tail blocks, do you not?
A. Yes.
Q. Okay. Because those are the only two places it can come from?

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MR. GRENEMAN:
A. Right.
KELLY, Q.C.:
Q. Okay. Now what, if any, specific changes do you see making to Newfoundland Power's rate structure, if any? Not necessarily on this, but on any of our rate structures.
A. I can't -
MR. YOUNG:
Q. Mr. Chair, if I can interject for just a moment. This very similar question to this one, and perhaps the very same question has been asked three or four times before, and I think in each case, Mr. Greneman indicated he wasn't able to answer it. I just don't know if there's a point of belabouring this particular line of questioning any further.
KELLY, Q.C.:
Q. Well -
GREENE, Q.C.:
Q. And to clarify, Hydro's position has always been that we are not suggesting rate design changes for the Newfoundland Power end-use customers. That is an issue for Newfoundland Power to address. I think Mr. Young was kind

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when he said the question has been asked and answered three or four times. It's been asked and answered several times that Mr. Greneman has not studied the Newfoundland Power end-use rates and I really don't see the point in pursuing this further.
KELLY, Q.C.:
Q. Well, I want to explore the seasonal rate with you, Mr. Greneman, because I asked you earlier about whether you thought that should be reflected in the retail rate.
GREENE, Q.C.:
Q. I would like the Board to rule on my objection, before Mr. Kelly continues with the question of the seasonal rate for Newfoundland Power end users.
CHAIRMAN:
Q. Do you have any response to -
KELLY, Q.C.:
Q. Chair, I think it is vitally important for this Board to understand the implications of what is being suggested with this demand energy rate and the implications for the system overall and for customers in particular. One of the questions that flows

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out of that is if in fact we are to attempt to reflect seasonal rates or a seasonal rate structure into retail rates, which is, as Mr. Greneman said, that's what one would expect to do, then surely the Board needs to have an understanding of the potential type of impact of that, whether it's been looked at and to what extent. I think it's quite an appropriate -
GREENE, Q.C.:
Q. And perhaps Newfoundland Power are the best people to advise the Board as to what the impact of their own rate classes and structures would be on their own end-use customers. They have Mr. Brockman and Mr. Henderson who are both testifying who are very familiar with their rate structures and who should be in a position to advise the Board as to what the implications are if a demand rate is implemented.
CHAIRMAN:
Q. I think -
GREENE, Q.C.:
Q. Stone and Webster have not studied the issue of the Newfoundland Power end-use rate, nor

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has Hydro made any recommendations with respect to them.
CHAIRMAN:
Q. - I think I have to agree with Ms. Greene, Mr. Kelly. I have heard that question a number of times and I have heard Mr. Greneman say that he hasn't studied the issue, and certainly, it's--I don't know what progress we're making in that area, to be honest with you.
KELLY, Q.C.:
Q. Thank you, Chair. If that's your ruling, I'll move on. Can I take you to NP-167, Mr. Greneman?
A. Yes.
Q. And the question deals then with DSM and how DSM should be evaluated. Do you agree that DSM should be evaluated on a marginal cost basis?
A. Yes.
Q. And can I take you to NP-162? And Hydro has indicated at line 5 that it has not undertaken any studies to demonstrate the extent to which implementing a demand and energy rate will increase system load factor or defer new capacity. Have you done any such studies?

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MR. GRENEMAN:
A. No.
KELLY, Q.C.:
Q. Okay. Now the rest of the answer goes on to suggest that in theory that should be the case?
A. Right. That's not the only support for demand energy rate though.
Q. No, but in theory, that's what you're suggesting in this answer or Hydro is?
A. The theory is that consumers respond to price signals or tend to respond to price signals.
Q. Now can I take you next then to NP-136? And these are the--this is the information provided by Hydro with respect to the Interruptible B at Stephenville, and I wanted you to be able to see the terms of it. $28.00, 25 occasions per year for 46 megawatts.
A. Yes.
Q. And if I take you to IC-194, the answer down at line 12--or sorry, if I back up a little bit, an assessment of the capability of the Island Interconnected System to meet future load requirements is summarized on Table 8 in

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the evidence of Mr. Haynes indicates that deficits in capacity are not forecast until 2011.
A. Yes.
Q. And it's on that basis that Hydro has decided not to renew the Interruptible B contract?
A. Yes.
Q. So it appears to be because of the capacity not being needed, agreed?
A. Yes.
(2:33 p.m.)
Q. Okay. Now let me take you then, with that as the background to NP-140. If you could scroll up the table, Mr. O'Reilly, please. Now in the table, that 46 megawatts, if it were put back into the system, still leads to an LOLH criteria violation in 2011, the same date that Mr. Haynes had in his table before?
A. Yes.
Q. So that 46 megawatts did not defer any capacity, did it, and that -
A. Not on a quantum, by quantum I mean by year basis.
Q. Right.
A. It appeared not to.

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Q. So when we looked at the example of the radio control turning off the hot water tank, would not that lead to the same conclusion? In other words, we can turn it off when Hydro calls on it, so it's an interruptible type load. That in itself would not defer capacity either, would it?
A. It seems like it could defer the capacity.
Q. But the only model analysis that has been run so far, which is the Interruptible B, would show that it does not defer capacity at current time. Do you not--would you not think that further analysis would need to be done as to whether other such programs would, in fact, defer capacity?
A. I would assume so.
Q. Okay. Now I want to explore a little bit with you the volatility issue. Now currently, Hydro has no revenue volatility issue under the demand energy rate--sorry, under the energy only rate because of the way it's protected through the RSP load functions?
A. Yes.
Q. So it fully recovers its cost of service with no risk?

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A. Yes.
Q. Okay. Now in your report, you indicated that the revenue volatility to Newfoundland Power is a factor that you thought was important, but if we go to NP-127, you haven't evaluated that risk at all, have you?
A. Not qualitatively, no.
Q. Not -
A. Not quantitatively rather.
Q. All right. Would you agree that that needs to be done, needs to be looked at?
A. Not necessarily before implementation of a demand energy rate. Once again, the support for demand energy rate--all this rate is doing is suggesting a way to reflect its internal cost structure to the customers. Now if there's volatility associated with that, that goes hand in hand with the demand portion of the demand and energy rate. I don't think Hydro is required to do any quantitative analysis beyond its responsibility, in my view, to pass on its cost structure.
Q. But is it not a factor that the Board needs to consider looking at the Bonbright principles that we talked about earlier of what would be

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KELLY, Q.C.:
the volatility issues both in revenue to the utility and in terms of rate stability to customers?
A. Those are two principles stated in Bonbright. In the case of NP, I think there are two overriding principles which are stronger than that, and while we're on the subject, if I might go back to one point. I had brought up earlier two points on two of Bonbright's points. One was static efficiency and one was dynamic efficiency, and I think you had said well, this is basically Mr. Brockman's--this point and basically Mr. Brockman is that point. And on reflection, I would disagree with that, and I just wanted to bring that up within this context.
Q. Well, I don't want to leave that simply left on that basis. What are static and dynamic efficiency issues that you think are different then from Bonbright?
A. Not from Bonbright, from Mr. Brockman.
Q. But just explain your position then.
A. Okay, if I might. The dynamic aspect is the ability of the rate to respond to innovation

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and changing supply and demand conditions. I think, in my view, that is most--and I think as represented in the industry, that is most appropriately done through a demand and energy rate. I don't think it--I don't see how it could possibly be done through an energy only rate.
Q. Anything else you want to say on that point?
A. Pardon?
Q. Is there anything else?
A. Basically, that's the point on that. And the other one, if I can just turn to that -
Q. What's the static efficiency point?
A. Bonbright has, in this point of static efficiency, the control of the relative uses of alternative types of service by rate payers on peak versus off peak service or higher quality versus lower quality, and I don't think that could be effectively accomplished through an energy only rate. So to the extent that you had said well, this is basically Mr. Brockman's, I can't remember which of the points and which of the other points. I would say that Mr. Brockman's is a very limited case of this more general characterization.

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Q. Okay. Can I take you to PUB-151? Now in PUB-151 at line 8, beginning at line 7, the difference between Hydro's forecast for NP native peak and the weather adjusted actual has been within the range of plus or minus five percent?
A. Yes.
Q. So after adjusting for weather, the volatility of peak or the range of peak is plus or minus five percent?
A. Yes. If I might say, my understanding is that based upon recent history, the actual number has been something more like 3.6 percent. Five percent is just a more rounded number.
Q. Okay. This was Hydro's response.
A. It was Hydro's response, but my let's say internal understanding is that it's really been 3.6 percent.
Q. Okay. Now let's just go on with the answer here. The billing determinants under the demand energy rate, when you come down a little bit further, line 12, the lower limit is set by the minimum bill provision which is 98 percent of 1054 or 1033. The upper limit is 105 percent. But as we talked about

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earlier, there's no actual upper limit. There's no cap at the top, is there?
A. See, I don't--I'm not sure that there actually needs to be a cap at the top for a couple of reasons. The real cause of any volatility would be weather and once one normalizes for weather--if I could even frame it more generally. Maybe it's not the load that's volatile. Maybe it's the estimate that's volatile. It's a comparison with respect to the forecast. Either one could be wrong.
Q. But the plus or minus five percent or plus or minus 3.6, whichever you want, is after weather normalization, is it not?
A. Right. But part of that volatility depends upon your ability to forecast, as opposed to the weather, adjusted weather.
Q. I'm not sure I'm taking your point.
A. There's different factors that enter into that five percent and you're comparing it with the forecast.
Q. Yes. I'm not getting your point.
A. In other words, the adjusted demand--the demand adjusted for weather could be exact and your forecast could be five percent

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MR. GRENEMAN:
difference.
KELLY, Q.C.:
Q. Okay. But you had no indication that Newfoundland Power's forecasts have been anything other than the best that can be provided?
A. And I also. correspondingly have no indication that the weather, adjusted weather is anything other. This could be some combination of -
Q. I don't want to get into that debate with you.
A. Okay.
Q. The variation of billing determinants then, at line 16, is negative 21.1. So the most that Hydro will take out in terms of megawatts, because of the 98 percent factor, is 21.1 megawatts, line 16?
A. Okay.
Q. Do you see that?
A. So is that minus the two percent one?
Q. That, as I understand the mathematics, reflects two percent on the load.
A. Okay.
Q. So if we save two percent, then that would be 21.1 megawatts.

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A. Right.
Q. Okay.
A. And under the present energy only rate, you would be paying that right now.
Q. Now, just go to -
A. So this gives an opportunity for savings.
Q. - let's go to PUB-152. And that 21.1 percent would reduce Hydro's earnings by 1.77 million?
A. Yes.
Q. Okay.
A. Yes.
Q. Now so if I follow the math correctly, Hydro would lose 1.7 million for 21 megawatts of capacity taken off the peak, correct?
A. Yes.
(2:45 p.m.)
Q. Now on what basis would the Board approve that as cost effective when, in fact, Hydro has the ability, for example, with Interruptible B to pay $28.20 or 1.3 million for 46 megawatts and to ratchet that down to 21.1 would be $595,000. In other words, if you want 21.1 megawatts off between rate hearings, that's the range that is going to be potentially affected, why would the Board approve Hydro

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losing 1.7 million of revenue when in fact that capacity reduction off peak can be achieved at a price much less?
A. I don't know about the capacity reduction being achieved much less within the context of the demand and energy rates. It's a risk that Hydro is taking to reduce system peak.
Q. Yes.
A. And to implement--I mean, a demand energy rate is, once again, a proper rate and this is an affect that goes part and parcel with that.
Q. But under the Interruptible B program, 1.3 million costs, 1.3 million dollars takes off peak 46 megawatts five times, 25 times a -
A. This is really the same question as the $84.00 versus the $28.00.
Q. But my question to you is Hydro here would lose 1.7 of revenue which potentially then impacts, 1.7 million that Hydro does not get. So, on what basis would Hydro pay 1.7 when, in fact, they could pay as little as 565,000?
A. I think they're two separate issues and I don't think I need to reconcile them.
Q. Okay.
A. I don't believe it's within the scope of the

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demand and energy rates to reconcile the those two things.
Q. Now, when you translate the answer on the up side here, the upper bound results and a gain of 4.952, if in fact, the demand goes over -
A. Yes.
Q. - and correspondingly, Newfoundland Power would have to pay that 4.952 million, wouldn't they?
A. Yes.
Q. Right. And what mechanism would exist for Newfoundland Power to recover that from its customers, from your view?
A. Okay. The nature of the 4.9 million is a plus and minus deviation of--it's a deviation of plus and minus 5 percent.
Q. Yes.
A. And in my view, there's a probabilistic expectation that in another year it could be minus 4.9 million dollars. So, there is some plus and minus volatility. And there, perhaps, are mechanisms that NP can institute on its side to reduce the volatility with sort of perhaps a banking mechanism to average the up year and down years. But overall, I would

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MR. GRENEMAN:
expect that it would--the plus and minus excursions would equal out.
KELLY, Q.C.:
Q. But -
A. Go ahead.
Q. Sorry, I don't want to cut you off, but that sounds like some kind of a reserve account creation. Is that what you're proposing?
A. I'm not proposing it, it's a possibility.
Q. Okay.
A. I think they see Hydro has something similar.
Q. What would be the impact then on the price signal to go as customers who have demand rates at the retail level, if you put that in place?
A. If you were to put that in place?
Q. Yes, you had this reserve account mechanism.
A. If NP had this reserve account mechanism?
Q. Yes.
A. What I think it would do is it wouldn't stabilize it as the RSP stabilizes cost, but it would deal with your definition of the volatility, the plus and minus the five percent. But very importantly, it would

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capture load conservation and load growth.
Q. So, one potential way of looking at it is somehow in Newfoundland Power's retain rate design, a reserve account mechanism would have to be created. That's one mechanism that could be used. That's your -
A. I'm not saying it would have to be created -
Q. It could be.
A. - it could be.
Q. Okay. Now, another possibility is that as the winter peak is met in January or February or March of the year, that could be passed through on as an extra cost by coming back in a rate hearing. Is that a possibility?
A. Say that again.
Q. In other words, if we get a peak in January of the year that drives up expenses five million dollars, 4.95, then you could find yourself in the situation where the utility has to apply for rate relief to pass that through to customers. It's another possibility, is it not?
A. Why? Because it--why would that happen?
Q. Because as we looked at the rate to our customers who are primarily residential are on

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an energy only basis. So, if peak demand rises and creates an additional cost of 4.9 million dollar, how does that get recovered by the utility?
A. I would find it unlikely that that small variation would cause you to go--I mean, it would need to be recognized that it could be cancelled out the very next year.
Q. The only problem with that, of course, is under the current regulatory regime, we have a cap on earnings. And that comes to the discussion that you had with Mr. Browne about changing the range that that would cover. Is that something that you are proposing as an alternative as well?
A. I'm not proposing it officially, but it is my understanding that that range of earnings, if you will, was negotiated within the context, was determined within the context of an energy only rate and a rate stabilization provision.
Q. So, is that another matter that the Board would then have to look at?
A. My understanding is yes.
Q. Okay. So, can I suggest to you that some of the items which would need to be look at

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potentially are, if we want to get a handle on future costs and the costs of deferral of new capacity, we'd need to do a marginal, long run marginal cost study, if you wanted that information.
A. Well, I don't think that's a necessary consequence of a demand energy rate.
Q. But if you want to know the cost of deferral of new capacity, would you agree with me that that's a piece of information, that's the type of study you would have to do.
A. I think I have agreed with that.
Q. Okay.
A. But I don't think that's a necessary consequence of implementing a demand and energy rate.
Q. If you wanted to look at the impact on retail customers, you'd need to do a retail rate study. Do you agree with that?
A. Those are very broad terms.
Q. If you want to look at -
A. What is a retail rate study?
Q. If you want to look at how retail rates at the end user, in other words, those who will actually use electricity, if that is to be

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KELLY, Q.C.:
restructured, you'd have a retail rate study to look at that issue.
A. Okay. In a general concept I would say, yes.
Q. Now, you referred earlier to Mr. Brockman's testimony and you suggested that his reference to a retail rate study were simply a load research project. Can I suggest to you, sir, that there is currently under way, by virtue of the Board's ruling in our last hearing, a load research project.
A. See, I did not know that. When I read, all I had was the Supplemental Evidence.
Q. I appreciate you may not have known -
A. And when I had seen retail rate study, the way it was phrased, he was referring to the marginal cost and the retail rate study. And I scratched my head and I said, what retail and I looked up ahead and it says load research study.
Q. The language--and I can find the passage for you, is at page 3, sorry, in the Supplemental, if you go to page 1, there you go, and if you go to lines 11 through 13. "As part of a comprehensive plan, the retail rate design

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study should also incorporate load research information which is currently being gathered by way of Newfoundland Power's load research study". So, it contemplates a retail rate design study which includes the load research data.
A. Okay.
Q. Correct?
A. Yes.
Q. Okay. The volatility issue would be another point that would need to be looked at, do you agree with that one?
A. In the context of retail rate study?
Q. And in terms of, yes, and in terms of a demand energy rate structure.
A. The volatility would need to be looked at by whom?
Q. As one of the things that still would need to be looked by the Board before determining how to proceed.
A. If the Board wants to look at that.
Q. Okay. You talked about the joint committee which is looking at the weather normalization.
A. Yes.
Q. That's an item still to be done?

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A. Yes.
Q. Okay. Can I take you back to the last point and I'll close with these, if we go back to Mr. Brockman's points, principle again. The first one was being effective in collecting the revenue requirement for Hydro. Under the current energy only rate, Hydro collects all of its cost of service revenue, correct? Whereas under the demand energy rate, Hydro has 1.7 million in the proposal at risk?
A. That's correct.
Q. So, in terms of collecting the revenue for Hydro, the energy only rate is more effective?
A. It's more effective in collecting the--can you repeat that? In terms of -
Q. In terms of Hydro collecting its revenue requirement from the Cost of Service study, the energy only rate is more effective in achieving that objective.
A. In terms of its collecting it revenue requirement at the time that the rates were set, okay, it's more effective, but in following the way the cost and things evolve, a demand energy rate may actually be more effective.

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Q. In terms of fairness is allocating the Cost of Service, Hydro's Cost of Service between Newfoundland Power and the Industrial Customers, both rates allocate the Cost of Service, do they not, fairly, those structures? Ours is simply rolled into one rate -
A. Did you say both rates allocate the Cost of Service?
Q. In other words, both the energy only rate structure and the demand energy rate -
A. Rates don't allocate Cost of Service. Rates collect cost.
Q. Right. The division that comes out of the current division will be the same, would it not?
A. The division that comes out of the current division--I'm sorry, I'm -
Q. The division between Newfoundland Power and the Industrial Customers of the Cost of Service is the same under the energy only rate and demand energy rate.
A. Yes.
Q. Okay. In terms of encouraging efficiency, that's the one that we seem to have the most

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KELLY, Q.C.:
disagreement on, would you agree with that?
A. There are different aspects of efficiency, yes.
Q. Okay. In terms of stability, will you agree with me that in terms of the result to the end customer, that the energy only rate is more stable for customers?
A. Everything else being equal, no, I would not.
Q. Then tell me -
A. We discussed this before. The energy only--both rates, can we take away for purposes of this conversation the effect of the RSP or do you want to talk in the context of the RSP?
Q. You can address it either way.
A. Okay. And energy only rate can be as unstable as a demand rate. It depends upon temperature variations within the month, it depends upon many--economic conditions.
Q. But within the mechanisms that exist in Newfoundland and will continue to exist, the energy only rate would create more stability for customers, does it not?
A. But that is not a virtue in this case. The virtue is putting dollars at risk to achieve a

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result, that's the virtue. That's not a virtuous measurement right now, in my view.
Q. Okay. So, do I take the answer--you don't agree then it's necessarily a good thing, but do you acknowledge that there is more rate instability for customers?
A. And that is what is intended by a demand energy rate.
Q. Okay. And the latter two, predictability and understandability, I don't think we need to spend any time on.
A. Well, the other qualification--you say that you're putting them on equal footing and some of these are things that are more important to domestic customers and some are more important to customers, more sophisticated customers such as NP.
Q. Yes. Which, out of all of them, would you think is the most important?
A. I would think static and dynamic efficiency are two very important ones.
Q. The efficiency issues.
A. Static and dynamic as it--right.
Q. We have different views on that, but we agree that that's the right issue. Thank you, Mr.

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Greneman, those are my questions.
A. Okay.
CHAIRMAN:
Q. Thank you, Mr. Kelly. Thank you, Mr. Greneman. We'll break now for 15 minutes.
(BREAK - 3:00 P.M.)
(RECONVENED AT 3:22 P.M.)
CHAIRMAN:
Q. Thank you. Good afternoon, Mr. Hutchings. When you're ready, please?
HUTCHINGS, Q.C.:
Q. Thank you, Mr. Chair. Good afternoon, Mr. Greneman.
A. Good afternoon.
Q. We'll start by admitting that there's an element of cruelty in dealing with Cost of Service after 3:00 on Friday afternoon, but we'll move on from there. I just wanted to touch very briefly on your discussions with Mr. Kelly relative to the Demand Energy Rate. And from what you've said I understand that this would be typically the type of rate that a utility like Newfoundland Power would see in practically every other jurisdiction unless you happen to be in the Yukon and your mine is

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closed. But--and that all other things being equal, and that's to say leaving out a Rate Stabilization Plan, there's no great difference in rate volatility as between energy only rate and a demand energy rate. Is that fair?
A. Under an energy only rate there can be volatility and under a demand energy rate there can be volatility, and it's hard to say which is greater at the moment.
Q. Okay. And the reason why this is an issue here seems to be that there is in place here a Rate Stabilization Plan that protects Hydro against load variation?
A. That's exactly right.
Q. Okay. And is that something you've seen anywhere else?
A. Not in the electric industry.
Q. Oh, okay. I want to look now at an allocation issue, first of all. We haven't seen much of the Cost of Service Study since you took the stand. But if we could put up, first of all, Mr. Haynes' evidence at page 44? Okay. Yeah, this is the part of Mr. Haynes' evidence where he is dealing with the guidelines for the

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HUTCHINGS, Q.C.:
assignment of plant. And at the top of page 44 he deals with this NP-IC sub-transmission class. I take it you're familiar with these various classes of assignment of plant for the purpose of Cost of Service Study?
A. The sub-transmission function?
Q. Yes.
A. Yes, I am.
Q. Yes, okay. As I understand it, there is actually nothing that falls within this classification in the present Cost of Service Study, is that correct?
A. Sub-transmission?
Q. This particular NP-IC sub-transmission.
A. Oh, NP-IP--NP-IC sub-transmission. I would--I'll accept that subject to.
Q. Okay. That's my understanding. If you have any different information, you can certainly let us know, but I don't believe that there was any plant that served by Newfoundland Power and an Industrial Customer but not Hydro Rural with an original capital cost of two percent of the total transmission of terminal stations cost. But this is a valid and

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accepted way of dealing with allocation to assign it to two specific customers, yet not to a third?
A. There--I've experienced many, many variations in the industry and I'm not doubting that this could be an acceptable method.
Q. Okay. If we could now look at that in the context of the issue we had about the transmission line on the Burin Peninsula. Would there be any objection in principal to a sub-transmission category to deal with customers of Newfoundland Power and Hydro Rural but not Industrial Customers?
A. I would think that that could be of acceptable--may I preface my response?
Q. By all means.
A. Okay. I'd like if I could to respond from the point of my general industry experience with recognition, as I had noted this morning, that the specific study in question that we're looking at right now was performed by Hydro's planning department and supported by Hydro's witnesses, Mr. Haynes. And I've read that study, but I'm not, if you will, prepared to comment on the appropriateness or

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inappropriateness of any of Mr. Haynes' recommendations, only to note that he has followed what I believe to be relied upon what I believe to be general industry guidelines. And I would--in response to your question, I would think that such a category could exist.
Q. Okay. Thank you. I don't think we need to pursue that any further. There is a somewhat technical point, I guess, that I was trying to resolve with Mr. Haynes earlier on, and there are a number of references to look at to illustrate the initial point. If we could put up Mr. Haynes' Schedule 11 in the revision? I'm looking here at the numbers for total sales and bulk deliveries and noting that as regards the demand from the August filing, the megawatts decline from 1337.5 down to 1334.2 in the October filing.
A. Yes.
Q. Okay. What I want to do is to compare that to your RDG-1 in the last revision, specifically page 105 of 107. It might help to make that a little bigger if we can, Mr. O'Reilly. Good. Now, page 105 of 107 I was looking for. I don't think that's the one. The numbers are

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down in the lower right-hand corner, page numbers. It's Schedule 4.2, page 1 of 1. There. Okay.
(3:30 p.m.)
I recognize the numbers don't necessarily coincide and I want to get you to reconcile them for us. But, the coincident peak at generation here for the Island Interconnected System is shown at 1.32915, 1,324,915 kilowatts?
A. Yes.
Q. I don't think we need to go to it, but in revision No. 1 of RDG-1 that number was 1,324,720. So that the number being used for your coincident peak at generation from the October figures is higher than the one which was used in your initial or your first revision, which was based, I understand, on the August figures, but the peak that Mr. Haynes' is using is moving in the opposite direction?
A. Um-hm.
Q. Two things if you could help us with. First of all, how does one move from Mr. Haynes' number to your number in the Cost of Service

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HUTCHINGS, Q.C.:
Study, and secondly, why are they moving in opposite directions?
A. I think that I could refer you to the rational for the first and I'd have to come back to you with the answer to the second.
Q. Okay.
A. The rational for the first, we can prepare a sheet for you, but effectively the reconciliation of Mr. Haynes and what's used in the Cost of Service Study would need to be based upon the Information Request, IC-265, NLH as it would be updated.
Q. Yes. I tried to follow that through and as regards the coincident peak 265 refers us to IC-77, which refers us to PUB-14, which refers us to PUB 3. And I got the first number in the first one and the last number in the last one, but I'm not sure I got the road in between.
A. Okay. If we can provide -
Q. I mean, I don't -
A. Provide that to you afterwards?
Q. Okay. That's fine. And it's more related, I guess, to the different directions of movement

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that I noted earlier, so--but we need to understand the difference between the two numbers, I guess, in order to be able to get there. Okay. If we could look, Mr. Greneman, at page 17 of your evidence? And specifically under Section 2.2.3 in, at lines 8 to 10 you refer to the proper recognition of Newfoundland Power's generation on both the costing and rate side. And I believe that's essentially the same phrase that you used earlier on in terms of responding to issues about the Newfoundland Power generation credit. The question was what recognition should it get?
A. Yes.
Q. Yes, okay. I suppose the first question for you on this issue and recognizing that the rate side of this doesn't affect my clients, the Industrial Customers at all, we're purely dealing with it as with the Cost of Service aspects of it. What benefit is the Newfoundland Power thermal generation to the Industrial Customers, what do we get out of that?
A. It's my view that NP's thermal generation in

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some fashion benefits the entire system and Industrial. To what extent it's representing in the Cost of Service Study to the allocation process, I guess would ultimately be up to this Board to determine. But it's my view that there is some potential benefit to all customers from all generation.
Q. Yes, okay. Accepting that premise for the moment that all generation is of some degree of benefit to all customers, how does one approach the question of assigning a proportion of the cost related to that generation to specific customers or a customer class?
A. In general or within the context of the way it's being treated?
Q. Firstly, in general and then specifically with respect to this issue.
A. There can be various ways of handling it. There are three options that have been presented and each has a slight variation.
Q. But the notion being that there is ultimately a fair allocation of the cost and some connection to the benefit which a particular customer derives from the specific asset. Is

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that fair?
A. Well, to the extent that the Hydro can derive a benefit from the generation. That is to say, the customer or Hydro can derive benefit from the generation.
Q. I'm not quite sure I understand your reference to benefit to Hydro. If Hydro's costs are being allocated among customers presumably any cost that is allocated to a particular class of customer must represent some benefit that that customer is receiving, should it not? Otherwise the cost would be specifically assigned to someone else?
A. Right.
Q. Yes. So what do you mean when you say that there's some benefit to Hydro which would justify a -
A. Well, what I was referring to was to the extent that Hydro can call on NP's thermal generation.
Q. And the theory being that that's of benefit to the Industrial Customers because it helps the system and we're on the system?
A. That's right.
Q. Yes, okay. So it's not a benefit to Hydro

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HUTCHINGS, Q.C.:
that stops at Hydro? It's a benefit -
A. Oh yes.
Q. - it's something that's available to Hydro and hence, a benefit to Hydro's customers generally?
A. Of course, right.
Q. Yes, okay. All right. I wasn't sure whether we were talking about two different things there, but I think we're just talking about one thing. So in that context then, how do we move to start allocating a particular portion of the cost of that asset, those assets, those thermal generation assets of Newfoundland Power to a customer class like the Industrial Customers?
A. It is subtracted from--in other words, how does the flow through of cost effects come to Industrial?
Q. Yes. How do we decide what proportion of the total cost to the system of that capacity, what portion of that--how do we decide what portion of that gets assigned to the Industrial Customers?
A. In general, based upon Relative Coincident

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Demand.
Q. And how does that work itself through the cost of service study?
A. With respect to the thermal or thermal and-- with respect to NP's thermal alone?
Q. NP's thermal alone.
A. NP's thermal is subtracted in calculating the system load factor net of reserves. The system load factor is used to classify what portion of the system is generation that is energy related versus demand related and the demand related portion has--there is a coincident demand attributed to each class and in calculating that coincident demand, NP's thermal is net of reserves is subtracted from--I'm sorry, NP's thermal capacity net of reserve is subtracted from its forecast. This is disregarding hydraulic for the moment.
Q. Yes. I just want to direct our attention toward the thermal issue at this time. So if the thermal generation of Newfoundland Power did not give rise to a generation credit then there would be a higher number used for Newfoundland Power's capacity responsibility, correct?

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A. Yes.
Q. Okay. So following that through the cost of service study, I mean the costs of this generation are still recovered by Hydro, correct?
A. That's correct.
Q. And how does the cost of service study, after application of the generation credit, distribute those costs?
A. The demand component of the costs are distributed based on relative coincident peak.
Q. Okay.
A. Relative contribution to coincident peak.
Q. All right. Can I have you look for a moment at the evidence of Mr. Osler and Mr. Bowman at page 30? Have you had the opportunity to review the information contained in this table?
A. Yes.
Q. Okay. And this is with reference to the specific information which was available to those gentlemen from the cost of service studies and under the heading "costs to NP" the fourth entry down, which deals with Newfoundland Power generation credit, there is

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a note to the effect that NP receives a net credit of $841,388. Do you agree that that's an accurate representation of what the credit does in that particular year?
A. I'll accept that.
Q. Okay. And immediately to the left then, there is a representation of the cost to the Industrial Customers with respect to that generation and the number there, which is again an annual number, $738,386. Do you accept that that's what the cost of service study does in respect of allocation of these costs?
A. I'll accept that.
Q. Okay. Now the function these units serve is to provide peaking capacity, correct?
A. Generally that's my understanding.
Q. Okay. There's no--I mean, on all the forecasts and in the cost of service study, there's no energy forecast to be produced by these units, correct?
A. I'll--subject to my understanding, yes.
Q. Yes, okay. Now there are, of course, other sources of peaking capacity on Newfoundland Hydro's system, including their own gas

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HUTCHINGS, Q.C.:
turbines, correct?
A. Yes.
Q. Okay. And again, going back to the table, the top entry there refers to Hydro's gas turbines and the provision of 128 kilowatts of peaking capacity--128,000 kilowatts of peaking capacity at a cost to the Industrial Customers of $280,613. You agree that that's the way that the cost of service assigns those costs?
A. That's my understanding. I'll agree to that.
Q. Okay. Now sir, if Hydro's gas turbines, which I would suggest to you serve essentially the same sort of function on the system as Newfoundland Power's gas turbines, are charged to the Industrial Customers for the benefit of 128,000 kilowatts for $280,000, what is fair about the Industrial Customers paying $738,000 for 45,500 kilowatts?
A. I noted in Mr. Osler's and Mr. Bowman's testimony yesterday that the same point was being made and perhaps it needs some attention or some look at.
Q. Would you agree with me that there is an unfairness present on the face of this?

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A. I'm not going to use the word "unfairness" but there seems to be some sort of perhaps inequality.
Q. Would you agree that this is not a result that would be consistent with the proper principles of cost allocation to be applied in the public utility setting?
A. At this moment, I wouldn't go so far as to say that. I would simply say it merits review.
Q. Okay. And are you telling us that you have not reviewed the issue?
A. I note there might be an anomaly in this respect and I'm not 100 percent sure what the remedy is.
(3:45 p.m.)
Q. Okay. Would you agree with me that at worst the Industrial Customers should not be paying any more per kilowatt for the benefit of the Newfoundland Power thermal generation than they're paying per kilowatt for Hydro's gas turbines?
A. Well, of course it depends upon the relative cost of the turbines, you know, when they were installed and the relative age and so on, but putting those factors aside and everything

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else assumed to be equal, one would expect them to be relatively equal.
Q. And if in fact Hydro's gas turbines are larger and more efficient and more modern, that would move further in that direction?
A. It depends upon the relative age and efficiency as you point out.
Q. Yes. And noting as well that gas turbines are the primary peaking capacity? They're the first units dispatched in a peak constrain situation, a capacity constrained situation?
A. Yes.
Q. Would you agree that's a factor that actually should tend to make those units even more valuable?
A. I would probably tend to agree.
Q. Yes, okay. Now are you aware that certain of this thermal capacity of Newfoundland Power is in fact located at the end of some longer radial lines? I think we've discussed or I don't know if you were here for the discussion but the discussion took place about some of that being down on the Burin Peninsula at the end of a long radial line down there.
A. Yes.

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Q. So should the Board be satisfied that those generating units are in fact primarily or almost exclusively used for the purpose of supporting local loads at the end of radial lines, would it not be proper, in fact, to be consistent and not assign any of that cost to the Industrial Customers on the general grid?
A. I think that this is stepping out of my area. I think it relates to the system planning study that's been done and I'd like to defer.
Q. Okay. All right. In your rate design study, I think some of what we have been discussing is illustrated in your Appendix 3. Perhaps we could bring that up? Yes, there we are. And your Option A, and this of course is in the context of a demand energy rate but that's not particularly relevant for our present concern. Option A is essentially the current system for the generation credit. Is that correct?
A. Yes, that's correct.
Q. Okay. And we see there that the hydraulic credit is netted off at 79.3 megawatts and the thermal credit is netted off at 45.5 for costing purposes?
A. Yes.

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HUTCHINGS, Q.C.:
Q. Okay. And that is, in fact, the generation credit that we're talking about?
A. That's correct.
Q. Part of it is hydraulic and part of it is thermal?
A. Yes.
Q. Okay. And as you understand it, Newfoundland Power actually uses its hydraulic production capability and produces energy with it, does it not?
A. Yes, it does.
Q. So it's fair to say that the system actually gets the benefit of that 79.3 megawatts?
A. It gets the benefit from NP's hydraulic.
Q. Yes. It's actually used and produced and consumed somewhere in the system?
A. Right.
Q. Yes, okay. How does that compare to the thermal?
A. Thermal can be used.
Q. For cost of service purposes, is any energy production assigned to that thermal production, thermal capacity?
A. No, my understanding is it's not.

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Q. Okay. But the effect here is to give credit to Newfoundland Power as if that thermal production was running all the time, correct?
A. No, it's to give effect for its ability to run.
Q. Yes.
A. When called upon.
Q. Yes, but as regards its capacity elements, I mean, leaving out energy, because we know it doesn't produce any energy, but the effect is the same as if this was running the whole time?
A. I'm sorry, are you saying that the capacity arithmetic is the same as if it was or was not running?
Q. Exactly.
A. Yes.
Q. Okay. And equally under your Option B here, it is the thermal capacity that you're giving the full credit for there?
A. That's correct.
Q. Okay. Now in that scenario, I take it you're assuming that Hydro or Newfoundland Power runs its own hydraulic and hence has reduced its peak or its demand that it's putting on

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Newfoundland Hydro?
A. That's correct.
Q. Okay. And your Option C is on the assumption that it's in fact running all of its own generation. Is that correct?
A. It's running whatever it's running, yes. Whatever's running is running, which could be all or none. It's however.
Q. Yes. But if in fact its native load is 1161.5, in order to get down to the 1038.5 -
A. Right.
Q. - it has to run all of its generation, correct?
A. Yes, correct.
Q. Including its thermal generation?
A. Yes.
Q. Which wouldn't be a wise thing to do?
A. Right.
Q. Right. Because it's wasteful?
A. Yes.
Q. Yes, okay. Mr. Kelly asked you a question earlier on about the dispatch of the Newfoundland Power generation and his question was, I think, related to peak times. Do you know what the normal process is for the

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dispatch of Newfoundland Power generation, both hydraulic and thermal?
A. No, I don't.
Q. Okay. I think you told Mr. Kelly that at peak Newfoundland Power will respond to a request from Newfoundland Hydro to put that generation on the system.
A. Okay.
Q. This is what you told him?
A. Okay.
Q. And that's your understanding of the way it works?
A. Yes.
Q. Okay. And just so we're clear, you don't know whether or not, during the rest of the year, Hydro or Newfoundland Power dispatches its own hydro generation, for instance at its own whim?
A. I would assume that it does, but perhaps that could be answered by someone else.
Q. Okay. That's fine. Just one other incidental point, I guess, on this generation credit issue. On your Appendix 3 there, when in the calculation of the demand credit, and that's the second little group of lines under demand

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HUTCHINGS, Q.C.:
credit on the left-hand side of the page there, you calculate the hydraulic credit and the thermal credit, I take it using gross figures and then dividing by 1.185?
A. Yes, that's what's shown.
Q. Yes. And that I understand is the reserve -
A. Yes, it is.
Q. - that is applied so that that's consistent with the percentage of system reserve for the entire Island system? Is it not?
A. I would think so.
Q. Yes, okay.
A. Subject to check.
Q. If we could look for a moment at the Osler and Bowman evidence at page 39. Yes, that's it, and I'm specifically interested in footnote 137. This footnote, and I don't know whether you've had a chance to look at it in any detail, comments upon the fact that the reserve requirement for the system has changed from 16 percent to 18.5 percent since the last hearing. Were you aware of that?
A. I believe I've heard that.
Q. Okay. Can you tell us what that change does

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to the amount of the Newfoundland Power generation credit?
A. It reduces the credit.
Q. No, I don't think. You're dividing by 1.185 now instead of dividing by 1.16.
A. Oh, so it increases the credit, I guess.
Q. Yes. And has anything happened, that you're aware of, with the Newfoundland Power generation that would suddenly make this generation capacity more valuable than it was previously?
A. No, I am not.
Q. Okay, thank you. Another point to deal with, Mr. Greneman, and I want to refer you to the response to IC-1C and that's the 2002 Actual Cost of Service and specifically at page 3 of 98. Yes, that's it, can you make that a little bigger? I've broached this subject with a couple of witnesses who have all deferred it down the line, let's see how far you and I make out with it, can you just explain to us the significance of column 7, the revenue to cost coverage?
A. Well just as it's noted, the revenue to cost coverage is columns 2, divided by column 3, so

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it's the cost of service before--sorry, it's the revenues recovered, divided by the cost of service before the deficit and revenue credit allocation.
Q. Okay, and we can see there for Newfoundland Power that the revenue to cost coverage number comes out at 1.16 and as I understand it, that's because Newfoundland Power pays the vast bulk of the rural deficit, is that correct?
A. That's correct.
Q. All other things being equal, what you're trying to get to for revenue to cost coverage is 1.0, isn't that correct?
A. No, it's 1.0 overall, but--did he say for each class or overall?
Q. For each class.
A. No, in order to cover the rural deficit, some customers have -
Q. No, no, I said all other things being equal, leaving out things like the rural deficit.
A. Oh, there are ranges, it doesn't have to be 1.0, it could be .95 to 1.05.
Q. Okay. For Newfoundland Hydro's system and specifically for the Island Industrial

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Customers, what is the target?
A. It's different in different jurisdictions. It's a matter for the Board to decide what target is--1.0 simply says that they're covering 100 percent of their cost. 1.05 says they're covering 105 percent of their cost. There's a reasonable range and I'm speaking generally among various jurisdictions, including Canada. There could be a range of .9 to 1.1.95 to 1.05 and there are circumstances why it might be greater or less.
Q. I understand. In your exhibit RDG No. 1, you have targeted for the cost of service for 2004 forecast a 1.0 revenue to cost coverage for Island Industrial Customers, is that correct? That isn't the one you're looking at.
A. I do see that, yes.
Q. In your current cost of service, RDG No. 1, Revision No. 2, page 3 of 107.
A. Right.
Q. You have targeted a 1.0 revenue to cost coverage for Island Industrial Customers, is that correct?
A. Yes.
Q. That is correct, is it?

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MR. GRENEMAN:
A. Yes.
HUTCHINGS, Q.C.:
Q. Okay, and why did you do that?
A. Well the point of that is that you're paying your costs exactly.
(4:00 p.m.)
Q. And that's the way it's supposed to be, correct?
A. That's the way it could be. There could be a lot of reasons why it won't be that way.
Q. Yes. But to your knowledge, at least since the time that legislation was passed to prevent the Island Industrial Customers contributing to the rural deficit, has the 1.0 revenue to cost coverage been the target for Island Industrial Customers for cost of service purposes?
A. Yes, but I can understand that there could be reasons to differ from the 1.0 for reasons other than the rural deficit, with that qualification.
Q. Sure. I quite understand that. If we can go back then to IC-1C, page 3 of 98, we note that the actual results for 2002 show the revenue

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to cost coverage for the Island Industrial Customers of 1.13, do you see that number?
A. Yes, I do.
Q. Okay. Can you explain to us why the target of 1.0 was not met for 2002?
A. I believe this is in connection with the issue that's been brought up in Mr. Osler's and Mr. Bowman's testimony, that the actual for demand for NP came in higher than forecast and came lower than forecast for Industrials.
Q. Well it came in differently for Newfoundland Power and for the Island Industrial Customers, yes. Okay, and does that in fact explain the difference in the revenue to cost coverage from the target to the actuals?
A. I would--I'd have to review it, I think it probably explains a lot of the difference.
Q. Okay, all right. And perhaps we should look at page 39 of the evidence of Mr. Osler and Mr. Bowman. And this is the issue that's discussed starting at line 12 and shows that the Industrial Customers paid more than 5 million dollars in excess of their measured costs in 2002 and Newfoundland Power's actual payments to Hydro were almost 5 million

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dollars below. If we were to assume perfect information and perfect forecasting, would it be fair to say that those two numbers would have cancelled one another out, that the Newfoundland Power number would have come out at its appropriate share of costs, which includes the rural deficit and the Industrial Customer's number would have come out at its cost?
A. From a very strictly theoretical point of view, I would say yes, that's not to say--attribute anything to practice or the real world, just from a theoretical point of view.
Q. No, I quite understand. Can you explain for us what effects the load factor for Newfoundland Power has on the allocation of cost under the Cost of Service Study?
A. The load factor for Newfoundland Power or the load factor for Hydro?
Q. First of all, the load factor for Newfoundland Power.
A. The load factor per se, as opposed to the demand or energy.
Q. Yes.
A. I don't know that load factor has any, per se,

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has a direct influence.
Q. Let's look then from another direction and explain for us -
A. Unless that's what they're forecasting with, is that what you're referring to?
Q. Well we've been through some evidence on that with Mr. Haynes earlier on and apparently the process for determination of their peak is based upon an assumed load factor.
A. Okay, then maybe I've misunderstood your question.
Q. Okay, well let's go directly to the number that affects the cost of service end. For the cost of service purpose, you use, presumably, a forecast of demand and a forecast of energy from Newfoundland Power, correct?
A. That's correct.
Q. And what effect do those numbers have on the workings of the cost of service?
A. The forecast or demand in energy serves as the basis for the determination of their demand component and as well for the determination of the energy allocation factor. It serves as a basis for the determination of both the demand and allocation factors.

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HUTCHINGS, Q.C.:
Q. And correct me if I'm wrong, but to the extent that the forecast peak of Newfoundland Power is higher, they will have a larger proportion of the demand costs assigned to them, correct?
A. That's correct.
Q. Okay. One further question in that regard and this relates back to some extent to the generation credit. Is the generation credit taken into account for all purposes in the Cost of Service Study?
A. For all purposes?
Q. Yes.
A. Could you explain for all purposes?
Q. Well, just explain for us what you use the Newfoundland Power forecast peak for in the Cost of Service Study?
A. The Newfoundland Power forecast peak is used to determine their native peak. Okay, the forecast peak is net of their estimated on hydraulic generation. From there we go to their native peak and then we subtract generation credits, net of reserve. And that number is used in the demand--okay, it's used in calculating the system of, the Island

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system load factor, in part -
Q. Yes, okay.
A. And it's also used as their magnitude in calculating their demand factor for the portion, of course, that is demand related.
Q. Okay. Those are the two purposes, there is the calculation of the system load factor and their allocation of demand responsibility?
A. That's correct.
Q. And in calculation of the system load factor, do you use both Newfoundland Power's forecast of demand and their forecast of energy?
A. Of the system load factor?
Q. Yes.
A. Yes.
Q. Okay, and what would be the effect of Newfoundland Power having a lower forecast for demand and a higher forecast for energy?
A. It would increase their load factor.
Q. It would increase their load factor and what does that do to the system load factor?
A. It would increase the system load factor.
Q. Okay, and what does the system load factor do to the allocation of costs generally?
A. A higher system load factor contributes more

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cost to the energy components.
Q. And who are the higher energy users proportionately?
A. The ICs are.
Q. Okay, so both by way of reducing the demand costs assigned to Newfoundland Power and by way of increasing the energy responsibility for the costs associated with energy for the Industrial Customers, the prediction by Newfoundland Power, the lower or higher load factor than they actually experience tends to shift costs to the Industrial Customers?
A. I agree.
Q. Thank you, Mr. Greneman. That's all I have, Mr. Chair.
CHAIRMAN:
Q. Thank you very much, Mr. Hutchings. Mr. Greneman. Mr. Kennedy, do you have very much?
MR. KENNEDY:
Q. Asking cost of service questions after 3:00 is cruel and I suggest criminal after 4:00. (laughter).
CHAIRMAN:
Q. I'll stop the bleeding, you need not -
MR. KENNEDY:

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Q. We'll end up with a murder trial that we spoke about earlier. With your indulgence and consent, I'd suggest for us to break for the day and start again fresh Monday morning. I think again the weekend will give me an opportunity to review the notes, I'd be that much more concise.
CHAIRMAN:
Q. That's fine with me.
MR. KENNEDY:
Q. And clear headed.
CHAIRMAN:
Q. I see some nodding of heads as well. That's fine, we'll reconvene at 9:00 on -
GREENE, Q.C.:
Q. I have one item, Mr. Chair. It will only be a moment. It's to respond to an undertaking that was outstanding. It was Undertaking 14 which was to provide the impact for the Industrial Customers based on the 2004 revenue requirement of the GNP transmission line being assigned to common. They had asked us to provide that information back on October 23rd and I have a response, a written response to provide to that at this time. And this is a

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GREENE, Q.C.:
response to Undertaking No. 14 dealing with the issue of the assignment of the GNP transmission line as common and its impact on Industrial Customers. Thank you very much, Mr. Chair, that was the only item. I meant to do it earlier and had forgotten.
CHAIRMAN:
Q. Thank you, Ms. Greene. Ms. Newman, is there anything before we conclude?
MS. NEWMAN:
Q. No.
CHAIRMAN:
Q. Thank you very much. We'll see you on 9:00 on Monday morning and have a good weekend and hope the weather holds for our visitors from -
GREENE, Q.C.:
Q. Sorry, Mr. Chair, one last question. I really do want to leave too.
KELLY, Q.C.:
Q. You have to indulge her, it's her first day back. (laughter)
GREENE, Q.C.:
Q. I was only gone for a very short period. Nice to know that's I'm missed so much, it really

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is, especially by Newfoundland Power. (laughter).
KELLY, Q.C.:
Q. What would we do without you?
GREENE, Q.C.:
Q. The issue of the schedule for Monday, my colleagues were asking here, do we know--we had agreed to sit the longer days for Thursday and Friday, we were going to reassess the progress we were making and maybe we can leave that until Monday, I'm not sure.
MS. NEWMAN:
Q. Yes, perhaps we'll speak to it Monday morning.
CHAIRMAN:
Q. Fine by me.
Upon concluding at 4:12 p.m.

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CERTIFICATE

I, Judy Moss Lauzon, hereby certify that the foregoing is a true and correct transcript in the matter of Newfoundland and Labrador Hydro's 2003 General Rate Application for approval of, among other things, its rates commencing January, 2004 heard on the 14th day of November, A.D., 2003 before the Board of Commissioners of Public Utilities, Prince Charles Building, St. John's, Newfoundland and Labrador and was transcribed by me to the best of my ability by means of a sound apparatus.

Dated at St. John's, Newfoundland and Labrador this 14th day of November, A.D., 2003

Judy Moss Lauzon