(9:30 a.m.)

MR. NOSEWORTHY, CHAIRMAN: Thank you and good morning everybody. We're into week seven, for those who are counting, of twelve. We're on the back side of the schedule that we set initially, in any event, by way of order, and I guess looking at where we've come from and where we're going it looks like we're reasonably on schedule, I would think. We have set aside this week for staff witnesses, if I may refer to them as that, versus the cost of capital that we would have been involved with last week, and I guess next week we have set aside for ourselves cost of capital, hopefully to conclude that. Before we begin I'll ask counsel if indeed there are any preliminary matters.

MR. KENNEDY: I don't believe so, Chair, nothing this morning.

MR. NOSEWORTHY, CHAIRMAN: Okay. Having heard none, I'll ask Ms. Greene if she could proceed with her next witness, please.

MS. GREENE, Q.C.: Thank you, Mr. Chair. Our next witness is Hubert Budgell, the Director of System Planning for Newfoundland Hydro.

MR. NOSEWORTHY, CHAIRMAN: Good morning, Mr. Budgell, and welcome.

MR. BUDGELL: Good morning.

MR. NOSEWORTHY, CHAIRMAN: It's good to get to meet you. I've heard your name quite often throughout the course of the hearing. I wonder could you take the Bible in your right hand, please? Do you swear on this Bible that the evidence that will be given by you shall be the truth, the whole truth and nothing but the truth, so help you God?

MR. BUDGELL: I do.

MR. NOSEWORTHY, CHAIRMAN: Thank you very much. Would you be seated? I'll ask Ms. Greene to proceed, please.

MS. GREENE, Q.C.: Good morning, Mr. Budgell. Could you please give your full name for the record?

MR. BUDGELL: Hubert Budgell.

MS. GREENE, Q.C.: And what is your position at Newfoundland and Labrador Hydro?

MR. BUDGELL: I'm Director of System Planning.

MS. GREENE, Q.C.: How long have you been in that position?

MR. BUDGELL: I've been in that position since 1989.

MS. GREENE, Q.C.: And how long have you been with Newfoundland Hydro?

MR. BUDGELL: I've been with Hydro since 1975.

MS. GREENE, Q.C.: You filed pre-filed evidence with this application on May 31st, 2001. Do you adopt the pre-filed evidence filed on May 31st as your own evidence for the purpose of this hearing?

MR. BUDGELL: I do.

MS. GREENE, Q.C.: Supplementary evidence in your name was filed on September 26th, 2001. Do you adopt that supplementary evidence as your evidence for the purpose of this hearing?

MR. BUDGELL: I do.

MS. GREENE, Q.C.: And a second supplementary evidence was filed in your name, both dated and filed on October 31, 2001. Do you accept that second supplementary evidence as your evidence for the purpose of this hearing?

MR. BUDGELL: Yes, I do.

MS. GREENE, Q.C.: Thank you, Mr. Budgell. That completes the direct examination of Mr. Budgell.

MR. NOSEWORTHY, CHAIRMAN: Thank you, Ms. Greene. I'd ask Ms. Butler now if she could begin her cross-examination of this witness, please.

MS. BUTLER, Q.C.: Thank you, Mr. Chairman, and good morning, Mr. Budgell. It is the **second supplementary to your pre-filed testimony** that I'd like to start with. Perhaps if Mr. O'Rielly could show us that on the screen and specifically page three? Mr. Budgell, at line four you indicate the first of the schedules which are attached to your most recent revised pre-filed. You said that Schedule A provides the changes in the energy supply forecast for the island interconnected system for 2001 and 2002 from the pre-filed forecast of Mr. Henderson's Schedule 5. I wonder if we might look at your **Schedule A**? I think that's Schedule 5(A), (inaudible) Schedule A.

MR. O'RIELLY: (inaudible) available.

MS. BUTLER, Q.C.: Okay, thank you. And the lines of course that I'm interested in here are for hydroelectric revised forecast for 2002 filed and 2002 revised forecast, the 4,271.67 gigawatt hours. Is that correct? I'm just curious whether you're aware that Mr. Henderson in his testimony indicated that those numbers had been revisited as a result of including the 2000 year data in Hydro's calculation?

MR. BUDGELL: I believe they were.

MS. BUTLER, Q.C.: They were? So I'm just wondering why you're still ...

MR. BUDGELL: I would have to confirm that with him but I believe they are.

MS. BUTLER, Q.C.: Can we look at ... we'll come back to that in a second. Can we look at **Mr. Henderson's supplementary testimony, page two, line 26**? There you go. I think he says there, starting at line 22 maybe, "The long-term average based upon the full available historical record up to and including 2000 information is 4,285 gigawatt hours per year for a difference of 140 from the 30-year average. Hydro will be changing its hydraulic production forecast to 4,285 gigawatt hours for the final cost of service filed at the end of the hearing." Is that correct?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. So can we just go back to your **Schedule A** then, and I'll ask you why it is that you're carrying the 4,271.67 instead of the 4,285.

MR. BUDGELL: I would have to assume that the difference between the two numbers would have to reflect our current storage position as of the time which a new Schedule A was produced. I'm not aware that there's any other reason.

MS. BUTLER, Q.C.: Do you agree with me, Mr. Budgell, that if Mr. Henderson's figure, revised figure, were put in for the 2002 revised forecast, that of course the hydroelectric forecast would be higher than what you're showing?

MR. BUDGELL: Yes, it would.

MS. BUTLER, Q.C.: And therefore the thermal would be lower?

MR. BUDGELL: Yes, it would.

MS. BUTLER, Q.C.: When we look at your **Schedule B** then, which reflects the energy supply costs in millions of dollars, I assume that this reflects the 4,271 hydraulic production forecast from Schedule A as opposed to the updated figure of Mr. Henderson of 4,285?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: So again the costs would have to be adjusted as well to reflect Mr. Henderson's new figure?

MR. BUDGELL: This is ... the Schedule A is what I'm assuming is Mr. Henderson's new figure. Are you referring to ...

MS. BUTLER, Q.C.: 4,285.

MR. BUDGELL: 4,285, which is a figure in the supplementary evidence. Yes, it would change if, were that the number. I'm assuming that this is his most current projection of the hydroelectric production for 2001.

MS. BUTLER, Q.C.: Okay. Well perhaps I'm a little confused then because, as I understand it, Schedule B, which is on the screen, represents energy supply costs using the figures that were in your Schedule A.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And your Schedule A uses four thousand two hundred and ...

MR. BUDGELL: 71.

MS. BUTLER, Q.C.: ... 71.67, where as Mr. Henderson is clearly stating that the full available historical record up to and including 2000 will cause Hydro to change its hydraulic production forecast to 4,285.

MR. BUDGELL: This is an updated schedule prepared by Mr. Henderson, which I'm, which is submitted under my name, so it is his ... these are the most update numbers.

MS. BUTLER, Q.C.: But they don't reflect the 4,285.

MR. BUDGELL: They don't reflect the 4,285, that's correct.

MS. BUTLER, Q.C.: Finally, Mr. Budgell, in **Schedule C** to your testimony filed October 31st, this reflects the cost of fuel of course that you indicated in your verbal, I'm sorry, the pre-filed testimony, the text portion, that this spoke as of August 31st, 2001.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: So this does not reflect the events of September the 11th. Can you tell me, please, whether you're continuing to follow the price of fuel following the events of September 11th?

MR. BUDGELL: Yes, we are.

MS. BUTLER, Q.C.: And is that specifically you or somebody else within Hydro who is charged with that?

MR. BUDGELL: It's within my department, one of ... the Manager of Economic Analysis directs or deals directly with PEERA (phonetic) in the preparation of fuel forecasts for the Hydro Group, and I understand the latest indications are, I haven't got the final schedules or anything, but the numbers they're looking at, for 2002, are going to be lower than what's currently in these schedules.

MS. BUTLER, Q.C.: And is it your intention to file a revised forecast then?

MR. BUDGELL: I believe it is Hydro's intention at the end of this hearing to provide the most updated, update information that we have available at that time.

MS. BUTLER, Q.C.: Thank you very much. Now, Mr. Budgell, I don't think I'll be going back to the second supplementary evidence that you filed, so we can take that off the screen. I want to ask you first about your position within the Hydro organization and how you sort of fit. Can we look at **NP-5** for the appropriate flowchart, which I think is **D-1**? I'm not certain that it's electronically entered. We

have that? Thank you. As Director of System Planning of Hydro you answer directly to Mr. Haynes, who's the new Vice-President, Production?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And looking at the flowchart, to see the areas for which you are responsible, Transmission Planning?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: That would be the island interconnected grid and also Labrador?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And Generation Planning ...

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: ... would be the island interconnected grid and Labrador as well?

MR. BUDGELL: And the isolated systems.

MS. BUTLER, Q.C.: Being the rural systems.

MR. BUDGELL: The rural systems.

MS. BUTLER, Q.C.: Right. And do you agree, Mr. Budgell, that the cost of generation on an electrical system typically account for over one-half of customers' bills?

MR. BUDGELL: I don't know the exact number but it is a significant part of customers' costs. Of course it would depend on the system too.

MS. BUTLER, Q.C.: Sure. I'm interested in understanding how Hydro's system planning process works, so we can leave the flowchart and for purposes of my cross-examination I wonder can we focus on the island interconnected system?

MR. BUDGELL: On the chart or ...

MS. BUTLER, Q.C.: No, no.

MR. BUDGELL: Okay.

MS. BUTLER, Q.C.: Just for the purposes of cross-examination.

MR. BUDGELL: Okay.

MS. BUTLER, Q.C.: We'll look at your **pre-filed, starting on page two, lines 13 to 18**. So the process starts with the development of a load forecast for each system.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And three of the load forecasts that you list there are referred to as operating load forecasts.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Would you consider those to be short-term forecasts?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And they would be five-year?

MR. BUDGELL: Those are five-year forecasts.

MS. BUTLER, Q.C.: And the fourth forecast at line 18 is your long-term planning load forecast for the provincial electrical system.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Is it fair to say that it is that fourth one that is used for generation system expansion planning?

MR. BUDGELL: It is.

MS. BUTLER, Q.C.: And the long-term planning load forecast, can you look at **Schedule 8 to your testimony**? That was revised, I believe. No, just underneath that. There you go. Does Schedule 8 reflect the long-term load forecast, Mr. Budgell?

MR. BUDGELL: It's the first ten years of that long-term forecast, yes.

MS. BUTLER, Q.C.: Yes. Because you did describe in your testimony that it was 20-year forecast.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: So what we have here is part of it.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Now, I want to just hand out Schedule 8, because I'm going to be referring back to another schedule for the moment, because we can't get two of them on the screen. I'm just going to hand out a hard copy of Schedule 8. As we're doing that, Mr. O'Rielly, can we have a look at **Schedule 5**, please?

(9:45 a.m.)

MS. GREENE, Q.C.: Schedule 5 to the pre-filed evidence as well.

MS. BUTLER, Q.C.: Uh hum. I must say I was a little confused when I first looked at Schedule 5 in comparison to Schedule 8, so just so that we're clear, Mr. Budgell, the megawatt and gigawatt hour values in Schedule 8, which is the hand-out, are significant higher than those found on Schedule 5.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And that is because Schedule 5 reflects only Hydro's generation and not the generation from Newfoundland Power or the industrial customers?

MR. BUDGELL: They reflect Hydro's, the requirements

which customers put on Hydro. It may not just be Hydro's generation. It could be also purchases which Hydro makes as well.

MS. BUTLER, Q.C.: So, for example, on Schedule 8, which is the hand-out, the megawatts for 2001 were 1,576?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: But on Schedule 8 they're shown as what figure, 1,316.7?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay. And likewise the gigawatt hours for 2001 on Schedule 8 were 8,240 and on Schedule 5 they're 6,392.5.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay. Now, the long-term forecast, Schedule 8, was completed in January of 2001?

MR. BUDGELL: I believe the date is given in my pre-filed testimony. I believe it was ...

MS. BUTLER, Q.C.: Yeah, page seven.

MR. BUDGELL: Page seven.

MS. BUTLER, Q.C.: Lines 10 and 11.

MR. BUDGELL: I'll accept that that's what's said there. Yes, January.

MS. BUTLER, Q.C.: Okay. Can you turn now to **page eight of your testimony, lines 4 to 16**?

MR. O'RIELLY: (phonetic)

Would this be the supplementary?

MS. BUTLER, Q.C.: I think for the balance of the cross-examination, Mr. O'Rielly, we'll be in his pre-filed, the very first version.

MR. BUDGELL: Page eight? I'm at that.

MS. BUTLER, Q.C.: Line four. And here you're addressing Hydro's criteria for determining the timing of a new source of generation. Perhaps you could just read the opening paragraph of line four to line eight?

MR. BUDGELL: "Hydro has established criteria related to the appropriate reliability of the generation level for the island interconnected system which sets the timing of generation source additions. These criteria set the minimum levels for reserve capacity and energy installed in the system to ensure an adequate supply for firm load." Will I read on?

MS. BUTLER, Q.C.: Sure.

MR. BUDGELL: "They are stated as follows: For energy, the island interconnected system should have sufficient generating capability to supply all of its firm energy requirements with firm system capability and for capacity the island interconnected system shall have sufficient generating capacity to satisfy a loss of load hours, expectation target of not more than 2.8 hours per year."

MS. BUTLER, Q.C.: Okay. I'm going to be addressing each of those two criteria in some detail, but while we have that on the screen and comparing with what you've said there to the hand-out, which was Schedule 8, correct me if I'm wrong, Mr. Budgell, but Schedule 8 does show the energy and capacity factors criteria.

MR. BUDGELL: Schedule 8 is used, is the forecast, the megawatts and the, or ... you refer to it as capacity. Capacity is the capacity of the generation.

MS. BUTLER, Q.C.: I'm sorry, I misspoke.

MR. BUDGELL: So this is actually the megawatts of the load and the energy on the system.

MS. BUTLER, Q.C.: Right. So, Mr. O'Rielly, can you just put the page back on, sorry, because we have that one actually in front of us as a hand-out? There you go. So energy, looking at the paragraph there, and comparing it to the hand-out, and is addressed in terms of the gigawatt hours?

MR. BUDGELL: Yes, that's correct.

MS. BUTLER, Q.C.: Okay. And capacity, as described there, is addressed in terms of your megawatts.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Now still looking at page 8, line 11, in the energy section, can you tell us what's meant when you refer to firm energy requirements?

MR. BUDGELL: Our firm energy requirements are the energy capability of the generation facilities on the island interconnected system that can be delivered under the most onerous hydraulic sequence. It also includes the thermal generating capability at average capability level, I'm sorry, at the maximum capability level as well.

MS. BUTLER, Q.C.: So that we're clear then, firm energy requirements, when you say for hydraulic, most onerous, is there a standard?

MR. BUDGELL: It's the worst hydraulic sequence of events that can occur or have occurred in history and it's the average production level that could be achieved by our hydraulic sources, not only ours but it's Hydro's and our customers' hydraulic sources during that sequence, and for the purposes of our system, it's more or less the Bay D'Espoir system, I guess, dictates the actual timing and the sequence, and it's the '59 to '62 period. I believe it's a 34-

month period in that time frame.

MS. BUTLER, Q.C.: Okay. So again looking, focusing on what you've said about energy, the first of the two criteria, the system should have sufficient generating capability to supply all of its firm energy requirements, which you've now defined for us as under the most onerous conditions.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: With firm system capability. Can you tell me what's meant by firm system capability?

MR. BUDGELL: Well, that's what I've just ... that's what I've described. It's firm system capability. It's the capability that the system will have within that time period.

MS. BUTLER, Q.C.: Okay. Let me try it again then. Just looking at ...

MR. BUDGELL: It's firm energy, supply all firm energy requirements is the load.

MS. BUTLER, Q.C.: Load.

MR. BUDGELL: The firm system capability is what we just described in regards to the sequence and the hydraulic. The two are, one is load, the other one is the system's ability to meet the load.

MS. BUTLER, Q.C.: Yes, and we'll see that on one of your schedules in a moment in terms of the comparison.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. Perhaps with that in mind we can look at **Schedule 9**, and again focusing for the moment on energy as the first of the two components. The last two columns on this schedule relate to energy, correct?

MR. BUDGELL: Yes, they do.

MS. BUTLER, Q.C.: Okay. And just explain to us for a moment the difference between firm and average.

MR. BUDGELL: The firm numbers would be based on the onerous hydraulic sequence in the case of the hydraulic plant. In the case of a thermal plant, you'll see there's no difference between average and firm. We assume the same number, and that is essentially, these plants are not fuel limited, so it's just a matter of the fuel, I guess the thermal fuel you put into those plants, whereas a hydraulic plant, it's fuel is water, so it is limited, and the numbers you see for firm are the numbers that the, are the capability of those plants under the most onerous hydraulic sequence with regard to that particular plant.

MS. BUTLER, Q.C.: Can I suggest, Mr. Budgell, that the "Firm" column, when we're talking about energy here, relates to capability of the reliability component of generation planning?

MR. BUDGELL: Not reliability from a capacity ... reliability from the purpose of delivering energy, yes.

MS. BUTLER, Q.C.: Yes, okay. And the average represents the economic component of generation planning?

MR. BUDGELL: It's the normal ... it's the production level which these plants can produce in an average year in the case of a hydraulic plant.

MS. BUTLER, Q.C.: In the cause of hydraulic plant. And you've already explained that in the case of the Holyrood plant the number is the same.

MR. BUDGELL: Yes, it is because it's not affected ... I'm not saying that this is the average production by thermal plant. Obviously the thermal plant's production would be dictated largely by the output of the hydraulic plant. It's a leftover on the system. But from a capability point of view, on an average basis and for production costing, what have you, this is the number we would say would be the capability of that particular facility.

MS. BUTLER, Q.C.: Again, when you talk about ...

MR. BUDGELL: For planning purposes.

MS. BUTLER, Q.C.: Right. So when you talk about the costing part, that was what I was suggesting when I said the economic component of generation planning.

MR. BUDGELL: Okay.

MS. BUTLER, Q.C.: Okay. Now, on **Schedule 9**, I wonder can you reduce it slightly, Mr. O'Rielly, so we can get the whole thing on screen? Thank you. The 8,275 gigawatt hours shown as total system capability is under the "Firm" column, so that should represent maximum thermal and minimal hydro available out of the system as it existed in January 2001?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And that's what you refer to when you say the most onerous or worst-case scenario?

MR. BUDGELL: Well, you said 2001. As of that particular date that's our estimate of it.

MS. BUTLER, Q.C.: As of ... yes.

MR. BUDGELL: It's not for the year obviously 2001.

MS. BUTLER, Q.C.: No. As of January ...

MR. BUDGELL: As of that time frame, yes. It's ours and also you'll notice that the make-up of that number is not only Newfoundland Hydro, it's Newfoundland Power, Corner Brook's and Abitibi's hydraulic facilities.

MS. BUTLER, Q.C.: Correct, yeah. And then the 9,177

gigawatt hours shown in "The Average Annual Energy" column represents average hydraulic but thermal capability number the same.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay. And it's the 8,275 gigawatt hours of firm annual energy that you then carry over to **Schedule 10**. You might look at that.

MR. BUDGELL: Yes, you're right.

MS. BUTLER, Q.C.: And for the benefit of my cross-examination here, there are seven columns if you include the year as column one.

MR. BUDGELL: Yes, there is.

MS. BUTLER, Q.C.: And the figure that we've carried over, 8,275, appears consistently in column five under "Existing System Firm Capability in Gigawatt Hours."

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Alright. Now, this Schedule 10 also has at column two the numbers which I believe were carried over from the hand, Schedule 8, in megawatts.

MR. BUDGELL: Yes. Starting at ... it doesn't have the 2000 actual but starting at 2001 they are the same numbers. It's the load forecast.

MS. BUTLER, Q.C.: And in the third column, column three, "Firm Energy in Gigawatt Hours," the figures we see there are also carried over from Schedule 8.

MR. BUDGELL: They are.

MS. BUTLER, Q.C.: Now, again focusing on energy only for the moment, this Schedule 10 then in terms of energy allows us to make a comparison between column three, "Firm Energy in Gigawatt Hours," and column five, "Firm Capability in Gigawatt Hours"?

MR. BUDGELL: That's right. The requirements of the customers and our capability to serve those requirements in those two columns for energy.

MS. BUTLER, Q.C.: Okay. Now when you say requirement of the customers, which is a good term, just tell me which column you're speaking of.

MR. BUDGELL: That's the load forecast.

MS. BUTLER, Q.C.: Column three?

MR. BUDGELL: Column three, yes.

MS. BUTLER, Q.C.: Okay. So column three, requirements of the customers being compared to column five, and you call that ...

MR. BUDGELL: Capability system under firm conditions to deliver those requirements.

(10:00 a.m.)

MS. BUTLER, Q.C.: And when you compare column three to column five, we should get the figure that's in column seven, "Energy Balance in Gigawatt Hours"?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And if I understand your testimony correctly, concern in terms of the system's ability to meet demand becomes relevant when the figure in column seven turns negative.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. So we see that on this schedule being reflected in the year 2002.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. So that addresses the first of the two components that you had referred to at page two of your pre-filed. Can you go back now and look at the second component, which I believe was capacity? I'm sorry, it wasn't page two. It was page eight.

MR. BUDGELL: Page eight.

MS. BUTLER, Q.C.: Lines 4 to 16. Okay. So can you just read what you said there on lines 14 to 16 again for me?

MR. BUDGELL: "For capacity, the island interconnected system should have sufficient generating capacity to satisfy a loss of load hours expectation target of not more than 2.8 hours per year."

MS. BUTLER, Q.C.: Okay. What is "L-O-L-H" really?

MR. BUDGELL: It's the number of hours in a year that system capacity is unable to meet system load requirements, measured in time of course, hours.

MS. BUTLER, Q.C.: And how many hours are there in a year, do we know that offhand?

MR. BUDGELL: 8,760.

MS. BUTLER, Q.C.: Right.

MR. BUDGELL: For a 365-day year.

MS. BUTLER, Q.C.: Okay. So of the 8,760 hours in a year, the capacity LOLH factor here is basically measuring how many of those hours you won't meet?

MR. BUDGELL: It's a probability assessment. It's not necessarily you won't meet but it's just a computer program which performs a probability assessment of the system compared to the load, the system capability versus load.

MS. BUTLER, Q.C.: And can you tell us why a target of 2.8 hours per year was set?

MR. BUDGELL: 2.8 hours happens to be consistent with our previous target of .2 days per year that Hydro had used up to, I guess, the mid-1990s, and that target was essentially chosen based on, I'm assuming, judgement back in the, I think it dates back to the 1980s.

MS. BUTLER, Q.C.: Is this what you're talking about when you address at the same page, lines 21 to 25, that you've changed the unit of measure for the capacity criteria from LOLH, I'm sorry, from LOLE to LOLH?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay. But can you be clearer in terms of how the 2.8 is actually calculated?

MR. BUDGELL: I'll try ...

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: ... if you want. Essentially what the computer program does, it's a model of the ... every generator on the system is modelled explicitly with its capacity, its maintenance, its forced outage rate, and the system load for each year is modelled on a seasonal basis, and I refer to seasons here as being months, and we have a load (inaudible) and we have system capability, and what the program does it, there's a convolution, if I might use the term, and I'm not going to get into the details of that ... I don't think it would be helpful in this forum ... but essentially the system generation are stacked or convolved with the load duration curve for each month until at the end of the sequence there's always a probability of not meeting load. Essentially what happens is that when the first unit is convolved with the curve, it meets a certain amount of load, but there's a forced outage rate that that unit can't meet load which has to be picked up by the successor unit, which is following, and that sequence continues on until essentially you've exceeded or you've, from a capacity point of view, you put all the capacity of the system on, and at the top of the curve there's a percentage of time or probability that the system capability won't be able to meet the load because units are forced off or they're off for maintenance or whatever reasons, and that's what's expressed in the month, and then for each month these are added up and what you see reported here is the hourly, I'm sorry, I said hourly but I meant yearly assessment for that year, and it's done for each year.

MS. BUTLER, Q.C.: Is Hydro's methodology here any different from the industry norm?

MR. BUDGELL: The methodology is not very different. Most of the utilities ... I believe there's a question, there's a demand for particular that asked, and I think in that demand for particular you'd see that the, most of the utilities use a similar type ... the numbers would be different, the criteria, but the methodology wouldn't be different, very different.

MS. BUTLER, Q.C.: Do most use LOLE as opposed to LOLH?

MR. BUDGELL: I don't know whether it's most. Quite a few do. The only difference between LOLE and LOLH is the actual, the load shape that you use. The LOLE is based on a load shape developed on daily peaks, so in other words, like I say, there's 31 days in months, you're working with a load shape of 31 data points. When we work with an LOLH, we're working in that same month with 720 data points. That's the only difference between the two.

MS. BUTLER, Q.C.: Okay. Can we look at **Schedule 9** then as we discussed, the capacity factor, or capacity criterion? And again, can we try and get the whole page on the screen there? And again, in terms of capacity criterion, you're talking about the first column of the three?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. So just explain to us what is being expressed here when you say, "The total system capability from all of these different sources is 1,831 megawatts."

MR. BUDGELL: That is the capacity of Hydro's and our customers' resources, the net capacity, net meaning net of station services or any other restriction on the capacity of output at a plant, that is available to meet system load.

MS. BUTLER, Q.C.: Okay. And again from **Schedule 8**, which is the hand-out, and we'll keep this on the screen, Mr. O'Rielly, comparing what's on the screen to the hand-out, Schedule 8, then, the total system capability is 1,831 megawatts, can be compared to column two of Schedule 8?

MR. BUDGELL: It can be compared from the context that that's the capacity that's used to meet that demand, yes.

MS. BUTLER, Q.C.: Can you look at **Schedule 10** then and see how this is done? Looking at Schedule 10, I think we saw already the column two number, peak megawatts, came from your Schedule 8.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And then in your existing system, yeah, capacity in megawatts has come now from Schedule 9.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: When you compare column two to column four, what are we comparing then, Mr. Budgell?

MR. BUDGELL: We're not ...

MS. BUTLER, Q.C.: In terms of capacity.

MR. BUDGELL: We're not directly comparing the columns.

The relevance of the two columns are expressed by the LOH *(sic)* hours per year target in column six.

MS. BUTLER, Q.C.: Six, correct. How is that comparison done? For example, it's not a simple mathematical subtraction as well as the energy components, which we compared a moment ago at column three and column five ...

MR. BUDGELL: No.

MS. BUTLER, Q.C.: ... which gave you the pure, looking at 2001, the 8,240 minus 8,275 gave you the 35. Just tell us how the actual math works when you're comparing megawatts for the same year, say, in 2001, to come up with an LOLH factor.

MR. BUDGELL: Well, for ... first I'll take it from the forecast part, which is column one. It's column two, I'm sorry.

MS. BUTLER, Q.C.: Yes, peak.

MR. BUDGELL: Column, peak, that peak is distributed through the year on a per unit basis to each month. It's the energy ... in order to do this calculation you had to also give credence to the energy that's required in each month. That is also distributed through the year on a per unit basis, and that then forms a model of the load, in a computer model. The firm capability, the 8,275 in column seven, is ...

MS. BUTLER, Q.C.: I'm sorry, I think that's column five.

MR. BUDGELL: I'm sorry, column four, 1,831.

MS. BUTLER, Q.C.: Column four, right.

MR. BUDGELL: The 1,831 is, that number is not used per se. What's used is models of each one of the generators that you've seen earlier in column, in Schedule 9. So there's a model of each generating plant and its respective capability and these are entered into a computer program which does a standard LOLH or LOL ... it's a loss of load expectation. Just the units are different.

MS. BUTLER, Q.C.: Right.

MR. BUDGELL: But it ... both of those are submitted into a program and the calculation, the probability assessment produces the numbers that you see in column seven for each year.

MS. BUTLER, Q.C.: I think it's column six, LOLH.

MR. BUDGELL: Column ... I should mark it down here.

MS. BUTLER, Q.C.: Yeah. That's okay. You can go ahead and mark on your copy. Just so that we're clear then, while the firm energy, I'm sorry, while the energy calculation was a simple one, a matter of just taking the difference between column three and five and coming up with your column seven, the LOLH calculation is not that simple, but you are still comparing forecast versus capability.

MR. BUDGELL: Yes, you're right.

MS. BUTLER, Q.C.: And again when we're looking at column six, which is the LOLH, and based on your pre-filed testimony and your text format, once you hit 2.8 you know that that's the factor that alerts you to the fact that there's a concern.

MR. BUDGELL: Yes, that there's a concern in the context of the criteria. Obviously we have to exercise some judgement on these numbers.

MS. BUTLER, Q.C.: Okay. And as a comparison of course, when we see a negative figure in column seven, you've got your concern on the energy side.

MR. BUDGELL: That's right.

MS. BUTLER, Q.C.: So Schedule 10 then to your testimony is a pretty significant piece of information relevant to your area of work at Hydro.

MR. BUDGELL: Yes, it is.

MS. BUTLER, Q.C.: Looking at **Schedule 10** then, the figures in column seven are negative consistently after the year 2002.

MR. BUDGELL: Yes, they are.

MS. BUTLER, Q.C.: I'm sorry, after 2001 really. It's for every year ...

MR. BUDGELL: Starting 2002, yeah.

MS. BUTLER, Q.C.: Yeah, starting in 2002. So Hydro here predicts a need for additional energy on the electrical system.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. In terms of LOLH, all the numbers exceed 2.8 in each year including 2001.

MR. BUDGELL: Yes, and essentially this is happening because we're not changing the capability of the system whilst load is growing.

MS. BUTLER, Q.C.: Can you look then to **Schedule 11** to see what sources of generation you are considering to meet the need which has been reflected by your Schedule 10? And these, I understand, Mr. Budgell, are sources of generation to which you've committed yourselves.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: So between Granite Canal and the two proposed agreements with the paper mills, which are indicated there as ACIBE and Bishop's Falls Upgrade, and the Corner Brook Pulp and Paper Co-Generation ...

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: ... Hydro forecasts it will have 87.3 megawatts of additional capacity and 426 gigawatt hours of additional firm energy available in 2003.

MR. BUDGELL: The capacity will be available in 2003. The energy won't be available till 2004. Those are average ... those are annual numbers ...

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: ... so it's only a part year for 2003.

(10:15 a.m.)

MS. BUTLER, Q.C.: Okay. So the energy won't be available till 2004. Now, **Schedule 12**, I think, pulls together Hydro's current view of generation planning.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And I might just go back for a moment to **page 11 of your testimony, lines 10 through 14**, and perhaps you might read that paragraph for us, Mr. Budgell.

MR. BUDGELL: Could I have that line reference again, please?

MS. BUTLER, Q.C.: 10.

MR. BUDGELL: "Based on the latest load forecast beyond the 2003 additions, the island system is expected to experience capacity and energy deficits starting in 2006 and 2007 respectively. Schedule 12 presents a summary of these capacity and energy deficits. Hydro does not consider the deficit in 2006 significant and would normally plan to add capacity in 2007."

MS. BUTLER, Q.C.: Okay. So that's the last sentence there that I wanted to focus on as we look at **Schedule 12** again, Mr. O'Rielly, please. "Hydro does not consider the deficit in 2006 significant and would normally plan to add capacity in 2007." Schedule, I'm sorry, Schedule 12 showed energy and capacity deficits in 2002 in the sense that the energy column has a negative figure of 36 in 2002, and your loss of load hours for the same year exceeds 2.8.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Are we to understand from that, Mr. Budgell, that the 36 negative, that is gigawatt hour balance for 2002, could, if it does occur, be overcome by gas turbines and other thermal-generating plants?

MR. BUDGELL: That could be but also the issue is we, when this table was prepared ... I referred to a little earlier ... let me step back a second.

MS. BUTLER, Q.C.: Sure.

MR. BUDGELL: The firm energy criteria was roughly a three-year cycle, so the 36 is essentially next year in a three-year cycle.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: So with starting storages at the beginning of 2001 in our system, it was unlikely that a firm sequence were to occur, would cause a problem in 2002. This is just a mathematical result of the calculation of the sequence, but you'd have to look at where you sit right now versus if the sequence (inaudible) occur, so what I'm trying to say is that 36 is highly improbable to occur in 2002. We should be able to meet the energy of the system without resorting to gas turbine energy, for instance.

MS. BUTLER, Q.C.: Okay. I wonder could we just leave that screen for a moment then and just have a look at **CA-116**, which was a request for information? It's actually in the attachment, page 31.

MR. O'RIELLY: That's not available (inaudible).

MS. BUTLER, Q.C.: Okay. Mr. Budgell, while we're looking for **page 31**, this is a document which was prepared by your department.

MR. BUDGELL: Is that the Granite Canal ...

MS. BUTLER, Q.C.: It's a generation expansion study.

MR. BUDGELL: Okay. I have it.

MS. BUTLER, Q.C.: Yeah. Was it prepared by your department?

MR. BUDGELL: Yes, it was.

MS. BUTLER, Q.C.: Okay. And looking then at the page 31 ...

MR. BUDGELL: I have that page.

MS. BUTLER, Q.C.: Thank you. 3.5.1, the paragraph there which sort of forms an "L" shape around the table, perhaps for the benefit of the transcript if you could read that for us, Mr. Budgell?

MR. BUDGELL: The section refers to cost of firm water year. "In a generation plan with Granite Canal and Island Pond added prior to the Labrador infeed, an energy deficit of 69 gigawatt hours occurs in 2006, see Table 3-4, the year immediately before the inservice date of the infeed. With the large amount of energy capability being added in 2007, NLH would not commit to the construction of the new energy resource to meet the small 2006 deficit, rather NLH would run the risk of a firm water year occurring in 2006 and having to run combustion turbines for energy. This plan therefore should include additional costs associated with the probability of a firm water year estimated at approximately seven percent occurring in 2006."

MS. BUTLER, Q.C.: Okay. Perhaps, Mr. O'Rielly, we could just get **Schedule 12** back on the screen again?

MS. HENLEY ANDREWS, Q.C.: Sorry, what page were you referring to in CA-116?

MS. BUTLER, Q.C.: 31. Now I recognize that the report that we just read from prepared by your department was speaking about the year 2006, but now I'm asking you about the deficit shown for 2002 and whether in fact you wouldn't run the combustion turbines for energy to meet that energy balance.

MR. BUDGELL: If you needed to, you would run it. I'm just saying that the likelihood of doing that is not likely because what would likely occur being that close now, next year, would be a higher Holyrood thermal, but if Holyrood hits its maximum, the 2,996, then you're in combustion turbine.

MS. BUTLER, Q.C.: Thank you.

MR. BUDGELL: Or if an event happens obviously where you lose generation, you would have to rely on gas turbines.

MS. BUTLER, Q.C.: Okay. Still on Schedule 12, Mr. Budgell, certainly we've just seen from the report we read that if your long-term load forecast proves to be accurate by 2007, Hydro will have to add additional generation facilities.

MR. BUDGELL: That's in reference to Schedule 12?

MS. BUTLER, Q.C.: Yeah.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And I believe President Wells in his testimony indicated, and you can have a look at this, **September 27th transcript, page 9, line 42** ... now, I've got the hard copy reference so we have to take a moment to see if it matches electronically here. Yeah, that's right. You see here your president indicates, it's a long sentence, so maybe we can start with line 38. "We also said that if we take the normal approach under the existing legislation and issued a request for proposals, got them in, vetted them, appeared before the Public Utilities Board and get a final decision made, that could take us as long as five years." With that in mind, in giving that it may take five years to seek approvals, and given your Schedule 12 showing a need for generation facilities in 2007, can you tell us where you are in terms of your generation planning process for the 2006 or 2007 addition?

MR. BUDGELL: Well, once we get through ... I'm sorry. Once we get through this hearing and we get back to normal business, I would expect that we would be having a hard look at our load forecast. I should indicate that the load forecast that we're referring to here on Schedule 12 was a forecast that was prepared in January of this year, which is essentially based on information we received and developed from our customers during the fall of 2000, so we'd be preparing a new forecast soon and based on the results of that new forecast we'll be doing a very similar assessment than what you see here to identify whether 2007 is still the date, and then we'll be taking decisions on where we'd head from there.

MS. BUTLER, Q.C.: Once you've done your new forecast, Mr. Budgell, do you then develop a number of generation expansion alternatives?

MR. BUDGELL: We can only do that based on our own alternatives currently. If we ... I would expect that in the context of the requirements coming in 2007 or whenever, that we would have to first issue an RFP ...

MS. BUTLER, Q.C.: Right. But I guess I'm looking at ...

MR. BUDGELL: ... and then develop ... and then do as you just indicated, develop the expansion alternatives, but that would be part of an assessment process.

MS. BUTLER, Q.C.: Right. And then you move into the economic analysis phase?

MR. BUDGELL: That's right.

MS. BUTLER, Q.C.: Okay. So a new forecast first to see if 2007 is still the target, then the consideration of alternatives and then the economic phase of those alternatives, okay.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: What economic criterion do you use to select successful alternative?

MR. BUDGELL: The lowest revenue requirement.

MS. BUTLER, Q.C.: And would that obviously mean an assessment of the rate impacts of the alternative?

MR. BUDGELL: Yes, in some way, but we'd be looking at, from a generation expansion perspective, would be just looking at cost, the cost of the expanded system.

MS. BUTLER, Q.C.: So when you say in some way, can you just explain what you mean?

MR. BUDGELL: Well, any financial and rate impacts would be performed by our financial group in the Rates Department.

MS. BUTLER, Q.C.: Correct, but how are they factored into the selection of the ...

MR. BUDGELL: Well, we would have to, once we made a decision on what the best course of action is, they would take that information and reflect it in their models to come up with the impact on rates.

MS. BUTLER, Q.C.: So that I'm clear, the selection of the best alternative is not based on the rates to consumers, it's based on lowest revenue requirement.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Now, at **page 11 of your testimony** you address the four options for future developments.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. Can you just scroll down there? Thanks. Lines 24 to 27, you're considering Island Pond, combine cycle plant at Holyrood, Holyrood Unit Four conventional steam, and some gas turbine units.

MR. BUDGELL: Yes. These are options that Hydro maintains in its own portfolio.

MS. BUTLER, Q.C.: And does your pre-filed evidence, Mr. Budgell, address the cost benefit analysis of either of these?

MR. BUDGELL: No, it doesn't.

MS. BUTLER, Q.C.: And can you enlighten us as to when plans for either of these options might be brought to the Board?

MR. BUDGELL: Once a decision is made. It may not be these options. It could be other options.

MS. BUTLER, Q.C.: Uh hum.

MR. BUDGELL: When the decision is made that we need to seek approval to meet the inservice date dictated by the generation expansion analysis.

MS. BUTLER, Q.C.: So what I'm getting at here of course is President Wells' suggestion that it may take as much as five years to get approval.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And given that we're almost at the end of 2001, whether in fact you're getting tight on time.

MR. BUDGELL: Well, if you look at 2007 ...

MS. BUTLER, Q.C.: If it's still correct.

MR. BUDGELL: If it's still correct, we could be moving next year but I don't know. I wouldn't ... I would have to wait and see what the forecast says.

MS. BUTLER, Q.C.: I want to turn now, if I might, Mr. Budgell, thank you, to some discussion of specific assignments and common assignments from your evidence, **Schedule 13**, I think, may be helpful here. If we try and reduce it to 100 percent, Mr. O'Rielly, we might get the full thing in, and I'm interested in the bottom lower corner, left lower corner. Okay. Scroll just down, just slightly, so we can get it on there. Thanks. Mr. Budgell, what I'm interested in here concerns the Hope Brook Gold Mine, which is shown on the screen in the bottom left-hand corner.

(10:30 a.m.)

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. There is a 138 kV transmission line from Bottom Brook to Grandy Brook. Is that correct?

MR. BUDGELL: That's right.

MS. BUTLER, Q.C.: And that was built in the late 1980s?

MR. BUDGELL: I believe that's correct. I don't know the exact year.

MS. BUTLER, Q.C.: Okay. Mr. O'Rielly, can I just get you to move the hand symbol over to the right there, further over there? You've got Grandy Brook goes up to Bottom Brook. That's the line we're talking about, right?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay. And this line was built to serve the Hope Brook Gold Mine?

MR. BUDGELL: It was the Hope Brook Gold Mine and Burgeo, the Town of Burgeo.

MS. BUTLER, Q.C.: Was there a cost benefit analysis done in relation to 138 kV line to service Burgeo?

MR. BUDGELL: I believe there was analysis done at that particular time. I remember specifically doing an analysis associated with an option of a small hydro plant near Burgeo versus a transmission line.

MS. BUTLER, Q.C.: I guess what I'm getting at here is, is it likely a cost benefit analysis would justify building that transmission line for Burgeo? Wouldn't it have been just as ... wouldn't it have been more likely that it would have been cheaper to serve Burgeo on a diesel system but for Hope Brook Gold Mine?

MR. BUDGELL: I don't recall what the results of that analysis, but I thought it was nip and tuck between a hydro development in that area and a transmission line, and I think the Hope Brook Mine sort of cinched it and I think as well there was a contribution from Government at that particular time ...

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: ... that enabled us to go ahead with that project.

MS. BUTLER, Q.C.: Alright. And the line then to Hope Brook is, I'm sorry, first of all the line from Bottom Brook to Grandy Brook is called 250.

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And that's approximately 120 kilometers?

MR. BUDGELL: I don't have the distance on this map but it's, yes, it's certainly in excess of 100 kilometers.

MS. BUTLER, Q.C.: Okay. Now the line from Grandy Brook to Hope Brook is labelled, I think, 255, is it?

MR. BUDGELL: Yes, it is.

MS. BUTLER, Q.C.: Approximately 30 kilometers long?

MR. BUDGELL: It's that or less.

MS. BUTLER, Q.C.: Okay. And Hope Brook Gold Mine closed in 1997?

MR. BUDGELL: Yes. Well, they ceased operations. There's still a clean-up operation ongoing at that site.

MS. BUTLER, Q.C.: Okay. Prior to the mine closing, Mr. Budgell, am I correct in suggesting that the full cost of that line, TL-255, was being recovered from the operators of the mine?

MR. BUDGELL: I believe that was, that's correct. No, I'm sorry, there's a ... this particular line serves a dual purpose. It would serve the Hope Brook Gold ... as well there's the community of Grand Bruit, and I believe more recently there's another community which the name escapes me right now. There's two isolated communities fed off that line, Grand Bruit being one of them.

MS. BUTLER, Q.C.: I'm sorry, can you spell that, Grand what?

MR. BUDGELL: Grand Bruit, B-r-u-i-t.

MS. BUTLER, Q.C.: Okay. So do you know in terms of the cost of that line, TL-255, what proportion of the line was being covered by Hope Brook Gold Mine?

MR. BUDGELL: I don't know right now.

MS. BUTLER, Q.C.: But Hope Brook Gold Mine was an industrial customer.

MR. BUDGELL: Yes, it was. The Grand Bruit part of it was very small. It's a very small load. I think the line was specifically assigned to them but I'm not sure. If we had a single line from a previous hearing, I would be able to know. Right now I can't remember.

MS. BUTLER, Q.C.: Well when the Hope Brook Gold Mine closed, were there any abandonment charges recovered from the operators of the mine?

MR. BUDGELL: I'm not aware that there were or not.

MS. BUTLER, Q.C.: Is it possible to check or ...

MR. BUDGELL: I can have somebody undertake to find out ...

MS. BUTLER, Q.C.: Okay. If you could.

MR. BUDGELL: ... whether there were.

MS. BUTLER, Q.C.: I'm going to proceed on the assumption that my belief is correct and that is that there were no abandonment charges recovered from the operators of the mine.

MR. BUDGELL: That could be the case. I personally don't know.

MS. BUTLER, Q.C.: Okay. And we'll just record an undertaking to advise whether that was the case. There was information provided at the 1999, sorry, 1995 rural rate inquiry, about the cost of transmission lines, TL-250 and TL-255, and the terminal stations that were built there. Now we have that in **NP-40A**. 40A ... I don't think it's 40. Oh, yeah, okay. No. It was from 1995. It's probably not entered into the system.

MR. O'RIELLY: (inaudible).

MS. BUTLER, Q.C.: Yes.

MR. O'RIELLY: (inaudible)

MS. BUTLER, Q.C.: I think what we'll do, if it's okay, Mr. Budgell, I didn't realize that that one wasn't electronically entered, perhaps we'll just get that copied and handed out, because nobody will have it in front of them. Mr. Chairman, would you mind if we broke slightly early this morning so that we could accommodate ...

MR. NOSEWORTHY, CHAIRMAN: No, that's fine, Ms. Butler. We'll break now until five to eleven.

MS. BUTLER, Q.C.: Thank you.

MR. NOSEWORTHY, CHAIRMAN: Thank you.

(break)

(11:00 a.m)

MR. NOSEWORTHY, CHAIRMAN: Thank you.

MS. GREENE, Q.C.: Excuse me, Mr. Chair, if I might?

MR. NOSEWORTHY, CHAIRMAN: Sure.

MS. GREENE, Q.C.: I have a preliminary point. I just wanted to clarify something for the record. It's with respect to Schedule A attached to Mr. Budgell's second pre-filed evidence relating to the hydraulic forecast, and I wanted to confirm that that schedule does not include the hydraulic production forecast referred to on page 2 of Mr. Henderson's supplementary evidence, which Ms. Butler referred to. Mr. Henderson, in his pre-filed evidence, said that the hydraulic production would be changed in the final cost of service. Because it's one of the first inputs it wasn't

available for the update done for the end of October because it wasn't known at the time we started the process, but it will be in the final cost of service. I don't know if that's helpful for clarification.

MR. NOSEWORTHY, CHAIRMAN: Thank you, Ms. Greene. Ms. Butler, could I ask you to proceed, please?

MS. BUTLER, Q.C.: Thank you, Mr. Chairman. Rather than count out the information from another inquiry Mr. Budgell decided to go at this a little differently. We were talking about, of course, the proposed reassignment of the lines from Bottom Brook to Hope Brook, from specific to common, essentially, and I think you've already acknowledged that it is reasonable to assume that the transmission line to Burgeo would not have been built if Hope Brook Gold Mine were not constructed?

MR. BUDGELL: I don't know whether it would, but let's say having both of it there certainly aided in doing it, yes.

MS. BUTLER, Q.C.: And you've already acknowledged that there was a contribution in aid of construction. Perhaps you know the amount that was paid to Hydro?

MR. BUDGELL: I don't know the exact amount, but I had some speculation that it was in the vicinity of around $9 million, but that would have to be confirmed, and from what I understand from other people is that the TL 255 portion which we referred to was contributed.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: Fully contributed.

MS. BUTLER, Q.C.: But so that we understand, perhaps, where I'm going with this, when the company (inaudible) the decision to close the facility there was undepreciated costs remaining of the facility?

MR. BUDGELL: If you're speaking about the 255, and the terminal station they were fully contributed, there wouldn't have been any ...

MS. BUTLER, Q.C.: No, I don't believe they were fully contributed. My understanding is that there was some unrecovered undepreciated cost.

MR. BUDGELL: Well, I'll have to wait until we get that information available.

MS. BUTLER, Q.C.: Okay. Well, that's fine, and can I have your undertaking though to get that for us?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And let's go forward, then, just on the assumption that there was unrecovered costs of the line. As I understand the proposal in this application, it is to take the assignment now and cause it to be assigned to Hydro rural interconnected?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Which would increase the rural deficit?

MR. BUDGELL: That would be the end result, I believe, yes.

MS. BUTLER, Q.C.: Okay. And the rural deficit is allocated between Newfoundland Power and the Labrador interconnected customers?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay. So, what we have with the effect of an industrial customer leaving the system, Newfoundland Power and the Labrador interconnected customers pay addition costs?

MR. BUDGELL: Yes. If that's the case, yes.

MS. BUTLER, Q.C.: Okay. Now, there is a second example that I want to come back to on that Schedule 13, but for the moment I'd like to look at your testimony. This is your original testimony, page 16, lines 16 to 18 where you address the cost of service methodology. Could you just read those lines in for us, please?

MR. BUDGELL: "A cost of service methodology requires that the cost, capital and maintenance, of each component of the plant be assigned to customers in a fair and equitable manner. For the purpose of plant assignment customer includes Newfoundland Power, individual industrial customers and Hydro rural. Plant is assigned as either common or specifically assigned".

MS. BUTLER, Q.C.: What I'm addressing here, Mr. Budgell, is the assignment of the cost of unrecovered capital which we have your undertaking to advise the Board whether in fact there was indeed the cost of unrecovered capital as well as the cost of the maintenance of a line which was constructed primarily for an industrial customer to Newfoundland Power and the Labrador rural interconnected customers and how that meets the requirement of fairness and equity which you've addressed in this paragraph?

MR. BUDGELL: I'm sorry, I didn't ... was there a question there?

MS. BUTLER, Q.C.: Yeah. How does the reassignment of the cost of undepreciated capital and maintenance of a line constructed by an industrial customer to Newfoundland Power and Labrador rural interconnected customers meet the concept of fairness and equity in the cost of service methodology?

MR. BUDGELL: Well, the costs were assigned to Hydro rural, who is the ... specifically assigned to that customer group who are the ones that are receiving benefit. The fact

that it involves Newfoundland Power and the Labrador interconnected system occurs by fact of the fallout of the non-recovery of total cost of Hydro rural.

MS. BUTLER, Q.C.: So payment of the rural deficit?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Uh hum.

MR. BUDGELL: So, I'm just trying to think. It's a two-fold issue, right. If Hydro rural were paying the full cost, obviously there wouldn't be any follower to those two groups of customers.

MS. BUTLER, Q.C.: And if there were abandonment charges payable by the industrial customer as it left the system ...

MR. BUDGELL: Yes, if there were abandonment, if the customer did leave and the contract provided for abandonment charges, then that would save customers from paying those ... our remaining customers from paying the cost.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: That's true.

MS. BUTLER, Q.C.: Okay. And back to the Schedule 13 for the second example. What I want to ask you about now is the Albright and Wilson Americas, and the line that we need to look at now is towards the right-hand side of the page. There you go. Western Avalon, you see the large pink block there to the right?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Thank you, Mr. O'Rielly. The line from western Avalon to Long Harbour terminal station was built to serve Albright and Wilson?

MR. BUDGELL: Yes, it was.

MS. BUTLER, Q.C.: And that is line TL 208?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And you indicated, at page 4 of your pre-file, that Albright and Wilson left the system in `98?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And they were an industrial customer?

MR. BUDGELL: Did you say `98? I think it was earlier. `89, wasn't it?

MS. BUTLER, Q.C.: It could be a typo. Do you want to check page 4 of your pre-filed?

MR. BUDGELL: Oh, I'm sorry. The actual operations discontinued in, they continued as a customer after, but the phosphorus facility as an operation continued.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: Okay.

MS. BUTLER, Q.C.: So we're correct?

MR. BUDGELL: Yes, you were correct.

MS. BUTLER, Q.C.: They left in `98, okay. And prior to that time, of course, while they were on the system the cost of the line was specifically assigned to Albright and Wilson?

MR. BUDGELL: Yes, it was.

MS. BUTLER, Q.C.: Now, we have a specific information request relevant to this, it's **NP-213**.

MR. BUDGELL: Okay.

MS. BUTLER, Q.C.: Are you okay to follow it on the screen there, Mr. Budgell?

MR. BUDGELL: I think I ... I don't believe I have a copy of that one.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: Okay.

MS. BUTLER, Q.C.: On the screen then the question that was put was "Provide details of any amounts that may have been paid to Hydro by Albright and Wilson Americas resulting from the abandonment". And the answer given at line 9, perhaps you could read it for us?

MR. BUDGELL: "On December 9th, 1996 a written note of termination was given to Hydro by Albright and Wilson Americas stating that they were terminating the electrical supply agreement as of midnight, December 15th, 1997. No amount was paid to Hydro as a result of this termination".

MS. BUTLER, Q.C.: Okay. So that's similar to the Hope Brook Gold Mine situation. Now, back to Schedule 13, that line TL 208. It's now serving Hydro rural?

MR. BUDGELL: There is a general service customer, I believe, served from the terminal station.

MS. BUTLER, Q.C.: General service and Hydro rural, are we talking two different things, Mr. Budgell?

MR. BUDGELL: It says Hydro rural, yes, general service within Hydro rural. I'm sorry.

MS. BUTLER, Q.C.: That's okay. I'm not as familiar with the language as you are, so when you tell me something that's a little different than what I expect ...

MR. BUDGELL: I'm sure we're confusing each other.

MS. BUTLER, Q.C.: Well, hopefully in the long-run not so, but that's fine. So was it possible to have that area serviced by extending the distribution service to

Newfoundland Power?

MR. BUDGELL: Yes, there was an alternative looked at in doing that, yes.

MS. BUTLER, Q.C.: And, as I understand it, Hydro now proposes to treat that line, TL 208, as common?

MR. BUDGELL: Yes, it did. Yes, it does.

MS. BUTLER, Q.C.: With the result that Newfoundland Power will pay a significant portion of the common costs?

MR. BUDGELL: Yes, and our reason for doing that is because of the capacitor bank at that location, the 24 megavar *(phonetic)* capacitor bank at the station which has been there since the service to ... well, it was to ERCO previous to Albright and Wilson Americas. It's still in service and still required by the system.

MS. BUTLER, Q.C.: Okay. We can actually see that if we go to another information request, that was **NP-130**. Okay. So Hydro proposed to treat as common a 230 kV transmission line that was built to serve Albright and Wilson Americas. And as you've pointed out, Mr. Budgell, that is because Hydro maintains that a 24 megavar ...

MR. BUDGELL: That's right.

MS. BUTLER, Q.C.: ... is providing voltage to the 230 kV system?

MR. BUDGELL: Yes, voltage support to the system.

MS. BUTLER, Q.C.: Okay. Now, so that I understand this, Albright and Wilson left the system in `98 and had undepreciated value of assets left as of December 2000 of some $323,000?

MR. BUDGELL: I don't know the exact number, but if that was **R-5** ...

MS. BUTLER, Q.C.: I think we can scroll down and see that a little further in the **R-5**. Yeah. Line 11 of page 2 of 2. The net book value of the transmission line built to serve Albright and Wilson $323,000 as of December, 2000?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. So it would have been higher in `98?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. From Hydro's perspective it could have removed the infrastructure and Newfoundland Power would have constructed a line to service the area?

MR. BUDGELL: Hydro would have to, not only remove the infrastructure, it would have to install that bank elsewhere, and I think that's part of the **R-5** as well.

MS. BUTLER, Q.C.: Right. You would have moved the 24 megavar capacitor bank to another location to service the line?

MR. BUDGELL: To service the system.

MS. BUTLER, Q.C.: To service the system, yeah. So you chose to leave it there?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Which precludes Newfoundland Power building the line to service the area, but the result is that this $323,000 has to be eaten by those customers that are covering the deficit, right?

MR. BUDGELL: The decision was basically ...

MS. BUTLER, Q.C.: Oh, before you get into the decision, though.

MR. BUDGELL: Yeah.

MS. BUTLER, Q.C.: What I've suggested to you is correct, isn't it?

MR. BUDGELL: Can you repeat it, please?

MS. BUTLER, Q.C.: Yeah. By deciding to leave the 24 megavar capacitor bank at Long Harbour, and because it's there Newfoundland Power doesn't build a distribution line. The result is that the net book value of that line of $323,000 has to be eaten by those customers covering the rural deficit?

MR. BUDGELL: It's recovered by all customers because it's common.

MS. BUTLER, Q.C.: I'm sorry, all customers including Newfoundland Power?

MR. BUDGELL: Including Newfoundland Power.

MS. BUTLER, Q.C.: Okay. And again, if Albright and Wilson's contract had had an abandonment clause that cost wouldn't have to be recovered from them, would it?

MR. BUDGELL: No.

MS. BUTLER, Q.C.: Okay. Thank you, Mr. O'Rielly, I'm finished with that information request. I want to turn now, if I can, Mr. Budgell, to some capital budget and capital expenditure issues. And in your pre-file testimony you indicated that you can speak to capital budget issues for the production division, is that correct?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Let's look at page 22 of the pre-filed? Can we scroll to the bottom of that page until we see the table? There you go. Now, I accept that these numbers may have changed as a result of the filing on October 31st.

MR. BUDGELL: That's correct.

(11:15 a.m.)

MS. BUTLER, Q.C.: But as of the time that you filed this testimony in May you were able to speak to a production division capital budget for 2002 of $20.4 million?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay. And that was comprised of generation of 6.7 million and information systems of 13.7?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Now, the new number for generation, I believe, is the same?

MR. BUDGELL: Yes, I don't believe there's any changes.

MS. BUTLER, Q.C.: And what is the revised number now for information systems and telecommunications as a result of the re-filing?

MR. BUDGELL: I don't have the exact number here right now, but it's reduced because of the change to the VHF.

MS. BUTLER, Q.C.: Okay. Maybe I can help you with that. Can we go to **A-1** of the capital budget application? Is this the original or is there a revised?

MR. BUDGELL: This is October 31st, so I'm assuming that's the revised at the top.

MS. BUTLER, Q.C.: Okay. Perhaps, just to explain the earlier figure though and to do this slowly, we'll go back, Mr. O'Rielly, if we can, to the original capital budget application, page **A-1**. Okay. Now, in the evidence ... I'm sorry, Mr. Budgell, you let me know when you ... are you there? You got your documents?

MR. BUDGELL: I'm looking at the numbers on the screen.

MS. BUTLER, Q.C.: Okay. There's the generation number that you are responsible for which has remained unchanged, it's $6,697,000?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And of the IT information systems, the number that you were responsible for, that is actually buried in the general properties number, is that right?

MR. BUDGELL: Yes. I think you have to go to a later page to just pick up the IT portion. I was going to have a look and see if I could find it.

MS. BUTLER, Q.C.: Well ...

MR. BUDGELL: I believe it's **F-12**.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: No. That's 2001, I'm sorry.

MS. BUTLER, Q.C.: That's okay. Can we just accept that of the ... I'm sorry, Mr. O'Rielly, just go back to the **A-1** again? It's one screen back. There you go. Okay. So of the general properties of $15,684,000 your division is responsible, or was responsible at the time of the original filing, of $13.685 million?

MR. BUDGELL: Yes.

]MS. BUTLER, Q.C.: Okay. Now the new number for general properties on the revised Schedule **A-1**, there you go, has been reduced to $10,392,000. Is that primarily because of the VHF split over two years?

MR. BUDGELL: That's entirely because of that.

MS. BUTLER, Q.C.: Okay. And of that figure now of $10,392,000, correct me if I'm wrong, but I understand you are responsible in the production division for $8,393,000?

MR. BUDGELL: If that's the IS & T amount, yes.

MS. BUTLER, Q.C.: Yes, okay. So the new figure, then, for the total production budget that you're responsible for is, looking at that screen, is 6697 plus 8393 of the general properties section?

MR. BUDGELL: I'll accept your numbers.

MS. BUTLER, Q.C.: Okay. About $15 million?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. And $15 million represents approximately 35 percent of Hydro's total capital expenditures for the test year 2002, $43 million?

MR. BUDGELL: Yes, I'll have to accept your calculation.

MS. BUTLER, Q.C.: Okay. I wonder if we might take a look then at **NP-97**? Mr. Budgell, what follows in the nine pages behind page 1 here are a number of schedules. Maybe you should just scroll through them, Mr. O'Rielly, and see. They compare the budget versus the actual for each year from `92 to 2000. So for purposes of comparison, we've actually run them off on a one page exhibit so that we can follow it easier. So the hand-out has two sections. The first is generation, which you spoke of a moment ago, currently budgeted for $6.697 million, and the second is the general properties because that's how it appears on the actual budget. And looking at the history, first for generation, Mr. Budgell, from 1992 to 2000, this indicates that Hydro has underspent its generation capital budget by an average of 24 percent?

MR. BUDGELL: Yes, that's what this table shows.

MS. BUTLER, Q.C.: And in the general properties section has underspent its budget by 25 percent?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Can you offer any explanation to the

Board as to what has caused Hydro to consistently be underspending its generation and general property portions of its capital budget over the last eight or nine years?

MR. BUDGELL: I think most of the reasons why this has occurred has been explained in the subsequent demand for particulars and the variance explanation **NP-178**, but I don't think we'd necessarily have to go there to explain it for each year, but the differences happen primarily because of, for three reasons, carryovers, cancellations of projects and budgeting error itself. And I think the earlier testimony of Mr. Reeves to this matter would indicate that from a bottom line perspective Hydro on a total budget, excepting for the carryovers and the cancellations, that Hydro's budget over these time periods, on accuracy, has been over budgeted by roughly around five percent. I think it's important to point out that for the time period which we're looking at here, the emphasis that Hydro, from a budget perspective, for most budgets ... budgets are ... I guess I should go back. Normally budget estimates are prepared with an accuracy of plus or minus ten percent. And when you have multi-year budgets you add an extra complication because it calls upon the project manager or the budget preparer to budget each and every year of the budget correctly. And I don't think that was a requirement which Hydro had imposed upon its staff in prior years, which obviously now is important. Carryovers, as a matter of fact, can happen for many reasons, and some of those are explained in **NP-178**. They can range from not having a window of opportunity to complete a capital budget at a plant, let's say Holyrood, to strikes by contractors and contractor people to the late arrival of equipment. There was many reasons.

MS. BUTLER, Q.C.: Mr. Budgell, in addressing my question you've correctly pointed out that Mr. Reeves addressed similar portions of the total capital budget for which he was responsible, but you suggested, I think, that overall in terms of the total capital budget, Hydro has been over by about five percent?

MR. BUDGELL: He indicated for the capital that was completed in the area, with the exception of carryovers and cancellations, that the accuracy of what got completed versus the budget for those items, the figure is roughly around four to five percent, in that range.

MS. BUTLER, Q.C.: Can we just see what Grant Thornton said about the total capital budget though in its 2001 report? Are you familiar with the 2001 report in Hydro by Mr. Brushett of Grant Thornton?

MR. BUDGELL: Yes, I've read that section.

MS. BUTLER, Q.C.: Okay. Page 14. Now granted this paragraph deals with a shorter time period, but the author does suggest that from `96 to 2000 total capital expenditures were lower than budget by 15 percent?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: I think that's inconsistent with what you're saying, is that correct?

MR. BUDGELL: Well that includes the carryovers and cancellations. So I'm saying excepting for carryovers, excepting, taking cancellations and carryovers.

MS. BUTLER, Q.C.: As I understand it though Grant Thornton has normalized their figures.

MR. BUDGELL: I believe the normalization occurred in the transmission, or the rural systems and transmission area. I don't believe any normalization occurred in general properties or in generation.

MS. BUTLER, Q.C.: Okay. You'd see it in the bullet there towards the bottom if Mr. O'Rielly can scroll down for us a bit? There's transmission, the first bullet, transmission the second bullet, and in the third bullet there was rural systems adjustment as a result of the delay?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. Do you accept, however, Mr. Budgell, that if Hydro overstates its capital expenditures in a test year it does have a direct impact on rate base?

MR. BUDGELL: Oh, of course, yes.

MS. BUTLER, Q.C.: Thank you. And if Mr. Brushett's figures are accepted of 15 percent overstatement in capital expenditures will mean, according to the information request that we've seen, approximately 327, $328,000 in reduced revenue requirement? Are you aware of that calculation?

MR. BUDGELL: I'm not aware of that calculation.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: But I'll have to accept that it's ...

MS. BUTLER, Q.C.: Well I won't ask you to accept it without seeing it, but you'll see here on Grant Thornton's page they talk about 15 percent, and perhaps we can look at **NP-258**? In reference to page 15 of the report of Grant Thornton, provide the reduction of the 2002 revenue requirement assuming a 15 percent reduction in forecast expenditures for 2002 and the calculation is $328,000?

MR. BUDGELL: Yes, if it was a 15 percent reduction that's what you would end up with.

MS. BUTLER, Q.C.: Can we look in fact at the most recent figures for 2001 which were given in your October 31st, 2001 pre-filed, **Section F, F-1**, I believe?

MR. BUDGELL: This is the revised October 31st?

MS. BUTLER, Q.C.: Yes, sir, it is, yeah. Mr. O'Rielly, can we enlarge that just slightly? Thank you.

(11:30 a.m.)

MS. BUTLER, Q.C.: The expected total expenditures in 2001 are $53.164 million?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Which is a decrease from the original filing of $55.897 million which is shown below?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: What I'm interested in here though, Mr. Budgell, if I might, is go back to the $53.164 million? You've only spent, according to column 3, $24.147 million of that amount to August 31st?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Which is eight out of 12 months or 67 percent of the year?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: But you've actually spent less than half of the budget?

MR. BUDGELL: Up to August 31st, that's correct.

MS. BUTLER, Q.C.: So I guess what I'm suggesting to you here is that a similar pattern is emerging with respect to underspending your capital budget for the year 2001?

MR. BUDGELL: I'm not sure if I would agree with that statement.

MS. BUTLER, Q.C.: Why not?

MR. BUDGELL: Most of the capital budget items, the majority of the work in many areas start up in the summertime after the winter and continue through the summer into the fall. So it is conceivable that the line share of the capital program will be spent in the fall period, which I expect that these figures are showing.

MS. BUTLER, Q.C.: So you would expect, then ... or perhaps to restate it, you would not expect that you're going to be under budget for the year 2001 in terms of your capital expenditures?

MR. BUDGELL: I would expect that the numbers right now, the current projects show that from a total perspective that Hydro is going to be about 4.9 percent under its budget by the end of this year, that's the current projection at the time when this document was prepared.

MS. BUTLER, Q.C.: Okay. So you're predicting under budget by five percent?

MR. BUDGELL: 4.9.

MS. BUTLER, Q.C.: Okay. Can I round it to five? With Hydro's history, Mr. Budgell, and with this prediction for 2001, can you offer any reason to the Board that it should not reduce your forecast capital expenditures for 2002?

MR. BUDGELL: Well, I can only offer the fact that, which I indicated earlier, that people managing the budgets were not managing the budgets on the basis of what effect it would have in regards to rates, because as you can maybe agree, we had not had to have our capital budgets approved by the Board until about 1996/'97 time period. So essentially our budgets would have been included in the rates at each hearing, our capital program. And since that particular time, or this particular time is a special case because now I think it's become abundantly clear to Hydro and their staff the importance of ... and I'm not going to use the term "spending money" because I think that's an inappropriate message to give our staff, that hey, if you budget a particular amount make sure you spend it because we're going to get in trouble if you don't.

MS. BUTLER, Q.C.: Uh hum.

MR. BUDGELL: Because I think the staff still try to ... I think the message that they should have is that you prepare your budgets adequately, properly, and you try to stay within the budgets and within the schedules that you have. So I think the onus is on us, and I think it's showing in this particular year that Hydro is making some attempt and having some success in approving the numbers.

MS. BUTLER, Q.C.: Mr. Budgell, I wonder if I might turn now to a specific capital expenditure, and that is certainly capital expenditures anyway that are all justified on the same basis, and that is manufacture and non-supported equipment. This is an area that you can speak to, I assume?

MR. BUDGELL: We have several items in that category, yes.

MS. BUTLER, Q.C.: Okay. When we reviewed your capital budget application there was nine capital expenditures justified on the same basis of manufacture and non-supported equipment, and I think you'll see these at **NP-98**.

MR. BUDGELL: I have that.

MS. BUTLER, Q.C.: Thanks. Do you accept, Mr. Budgell, that all nine of these were justified on the basement (sic.) of manufacture and non-supported equipment?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Can we just scroll down there slightly, Mr. O'Rielly, so that we can see the total, please? At the time that total was actually $13.351 million, which is a

significant portion of the capital budget, right?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: I wonder if we can just scroll up to the top of the page again? You'll see that what was happening here was Newfoundland Power asked some specific questions which then follow on page 2. Okay. And the questions are asked ... going to have to find A and B, I think. Yeah, there you go. Thank you, Mr. O'Rielly. Failure statistics for the equipment over the past five years, what spares were purchased initially, what spares were purchased as you became aware that spares were not going to be supplied, details on the spares and inventory, Hydro's with respect to spares, whether the parts could be used as spares, benefits and causes of training an employee to maintain a supply of spares and a substantial ... of whether Hydro had changed its practices with respect to purchasing spares. Do you agree, Mr. Budgell, that for the most part all of these sub questions A to H were answered consistently for all nine projects in terms of Hydro's practices?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: I'm not sure what you mean by "consistently" though. I'm not ...

MS. BUTLER, Q.C.: Okay. We can look at pages 13 to 15 as an example, perhaps.

MR. BUDGELL: Page which?

MS. BUTLER, Q.C.: 13, 14 and 15. Here is an example of B-66, capital budget, item B-66. Okay. Have you got that page?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: When I say answered consistently, that in each of the cases Hydro gave us a table for failure statistics, and consistently said that in B Hydro had purchased manufacturers' recommended spares?

MR. BUDGELL: Yes, I'd agree.

MS. BUTLER, Q.C.: And then in C consistently said that when Hydro became aware the manufacturer was to cease support some additional spares were purchased. And then in D they listed the spare parts, etcetera. In E suggested what Hydro's practice was in terms of sourcing additional spares on discontinued equipment. That answer was given for all nine projects. And just scroll down a bit further so we can get F, G and H there. F indicating how parts removed from the system could be used. G, indicating that it was not practice to maintain spares through employee training. And H, Hydro has not changed its practice with respect to purchasing spares.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. Now the total capital budget now is $43.11 million, and I think we saw that a moment ago from the revised page **A-1**?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And these nine projects now all justified on the basis of manufacture and non-supported equipment no longer total $11 or $13 million in the test year because of the reduction in the VHF radio?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: So I think now the figure that we're dealing with is $6 million?

MR. BUDGELL: Yes. I was going to subtract roughly around $6 million.

MS. BUTLER, Q.C.: Okay. So what we need to look at really is the new page, B-66 from the revised filing on October 31st. Oh, you just passed it. There you go. Okay. Now in this filing which came less than a week ago, I wonder if you might read for us the nature of the project, the two paragraphs there?

MR. BUDGELL: "This project involves the replacement of the existing VHF mobile radio system. The existing system consists of a single, non-redundant switch located at Alliance Gander central office, site controllers and radio repeaters located at each of 29 sites across the island and approximately 350 mobile and portable radios. The original system designer, ATI, ceased operation in 1991 after manufacturing four other systems. The switch and site controllers manufactured by ATI are obsolete and have not been supported by ATI since 1991. Also, the existing system is not Y-2K compliant cannot be expanded to meet Hydro's existing coverage requirements and does not allow configuration changes for additional functionality".

MS. BUTLER, Q.C.: Okay. Now when we had originally seen the justification for that capital expenditure B-66 in the original filing the total was budgeted at 8.373 million for 2002?

MR. BUDGELL: It was a little less than what you see there, yes.

MS. BUTLER, Q.C.: Yeah. It was 8373, right?

MR. BUDGELL: Yes.

]MS. BUTLER, Q.C.: Okay. If we add these two figures together now for 2002 and the future, 2003, you'll get another $348,000 added?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay. So since May this replacement

of the VHF mobile radio system has actually increased by $348,000. Can you explain why?

MR. BUDGELL: The major reason for that change is because of the fact that we're into a different ... it's a two year program, so now IDC and escalation are reflected in those numbers.

MS. BUTLER, Q.C.: Would that cover the full $348,000, just simply deferring it over two years?

MR. BUDGELL: I don't know. It's the only reason that I can, off the top of my head, explain the difference.

MS. BUTLER, Q.C.: I wonder would it be possible to find out for certain if that ...

MR. BUDGELL: Yes, I can ...

MS. BUTLER, Q.C.: ... accept an undertaking to do that?

MR. BUDGELL: ... have an undertaking to show what the difference is.

MS. BUTLER, Q.C.: Okay. That would be fine. Thank you. Now, again, when the original B-66 justification was filed for the replacement of this mobile radio system we asked certain questions about it, and we can see these at **NP-117**.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: The first thing that was asked in paragraph A at line 8 was to provide a copy of the cost benefit analysis conducted, if any, when purchasing the existing system. And can we just look at the answer to that on the next page. Hydro indicated that a cost benefit analysis was not done at the time of the purchase in 1989. Is that correct?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Even though there were other alternatives?

MR. BUDGELL: I'm not aware of what that alternative was back then. Can you suggest to me what those would have been?

MS. BUTLER, Q.C.: No. Are you suggesting to me that there was no other alternative?

MR. BUDGELL: There would have been a ... a cost benefit analysis would be, if you're referring to an analysis to determine whether you need this thing or not, it's one cost benefit analysis. Are you referring to if you have different tenders and you do an evaluation of different technologies?

MS. BUTLER, Q.C.: I think the question ...

MR. BUDGELL: That's another cost benefit analysis.

MS. BUTLER, Q.C.: Sorry. I think the question was broad enough to cover both.

MR. BUDGELL: Well, the answer there is that there was no cost benefit analysis.

MS. BUTLER, Q.C.: Okay.

(11:45 a.m.)

MR. BUDGELL: The VHF was required so we had to have a VHF system.

MS. BUTLER, Q.C.: You had to have a VHF system?

MR. BUDGELL: We had to have one.

MS. BUTLER, Q.C.: Uh hum. And was there a cost benefit analysis completed in terms of the options, if any, for the purchase of a VHF system in 1989?

MR. BUDGELL: I would assume that if it was tendered there would have been some analysis on the tender, but I'm not ... the answer says there was no cost benefit analysis done at that time.

MS. BUTLER, Q.C.: Can we look, now, at **NP-231** in relation to the new proposed system? Page 1, line 8. And again, here, further to that **NP-117** we asked if you could provide a copy of the cost benefit analysis of alternative considered replacement of the current system.

MR. BUDGELL: That's right.

MS. BUTLER, Q.C.: Sorry, I was ahead of you, sorry. Can we look at your answer, please? Scroll down to A. And the answer, could you read that, Mr. Budgell, please?

MR. BUDGELL: "A formal cost benefit analysis was not performed for this system as it is a direct replacement for a currently operating system. The existing system is critical to operation needs and therefore must be replaced with a system of similar capabilities". If you look at B, there was the other type of analysis that we would have performed where we looked at alternative means of meeting that requirement. We've chosen the trunk, the LTR, which was the least expensive.

MS. BUTLER, Q.C.: Can we go back, Mr. Budgell, please, to your **NP-98** page 13 where we started? Okay. The specific questions that were asked on each of the capital budget items that were justified on this basis. Now we have the particular answers to the questions as it related to the VHF mobile radio system. Here we show, I think, lower failure statistics than ever in the last five years. Is that right? And it talks about the number of tickets issued and the number of equipment failures?

MR. BUDGELL: Yes. The numbers show the numbers going down.

MS. BUTLER, Q.C.: And we know underneath that that

Hydro purchased some manufacturers' recommended spares originally?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And in C, had purchased additional spares upon becoming aware that the manufacturer was ceasing support of the system?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And then in the last couple of lines there it indicates that when spares from a decommissioned system became available three years ago you purchased site controller spares but you weren't able to get spares for the switch?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay. Can we just scroll up so that we've got the table on that page again? So the equipment is functioning well, as I understand it?

MR. BUDGELL: They're maintaining the system but the problem is that we just referred to the switch.

MS. BUTLER, Q.C.: Uh hum.

MR. BUDGELL: If we have a failure of that component we're out of luck, we don't have any VHF, and we then have a big problem in doing our maintenance and contacting and keeping in touch with our personnel.

MS. BUTLER, Q.C.: But are we talking about a capital item costing $8 million over two years which is justified simply because you were not able to get spares for the switch?

MR. BUDGELL: We have to replace the equipment. The switch is the main guts of this, it's the controller of the overall system, and the manufacturer doesn't support the switch, doesn't support the controllers that are in every one of the repeaters, so if we have ... if this system goes down we're not able to repair it.

MS. BUTLER, Q.C.: Well ...

MR. BUDGELL: And we're not willing to take the risk of operating without a VHF system.

MS. BUTLER, Q.C.: I guess at issue here is whether the entire system has to be replaced or whether you can replace merely components of it?

MR. BUDGELL: If we were able to replace it and have the system back where it's compatible it would be done with difficulty, from what I understand.

MS. BUTLER, Q.C.: I'm sorry ...

MR. BUDGELL: These are electronic components.

MS. BUTLER, Q.C.: I'm sorry, can you just repeat the first part of that again for a second?

MR. BUDGELL: Your reference to if we were going to replace just one part, we'd have to make it compatible with old technology.

MS. BUTLER, Q.C.: Uh hum.

MR. BUDGELL: In other words, we'd have to go out and buy, let's say, the switch, and the switch would have to operate with older discontinued repeaters.

MS. BUTLER, Q.C.: Uh hum.

MR. BUDGELL: For controllers in the repeater stations with older radios. Now we're talking about what happens when they have to be replaced. The switch then will be no longer compatible with the new equipment.

MS. BUTLER, Q.C.: Right. Now in answering my ...

MR. BUDGELL: This radio industry is like all electronic industry, it's moving ahead very quickly, so you have to, you have to upgrade all the equipment to have it compatible to have a system which you can then provide the functionality and be able to expand and grow on.

MS. BUTLER, Q.C.: Alright. In answering my question you said "As I understand it". Is this somebody else's area or are you relying on information from somebody else in advising us on which components of the system are being replaced this year or next year?

MR. BUDGELL: The responsibility for this area is our IS & T department. I'm not the director, obviously, of that department.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: But I'm relying on the information provided to me from that group.

MS. BUTLER, Q.C.: And if there ... sorry.

MR. BUDGELL: In particular, the tele control group.

MS. BUTLER, Q.C.: Is there anybody else testifying to whom these questions are better put, Mr. Budgell, or is it your area?

MR. BUDGELL: I'm here on behalf of Hydro to answer the questions as I can or get the answers if I don't know them.

MS. BUTLER, Q.C.: Okay. This item was originally estimated at $1.269 million?

MR. BUDGELL: And that was just for the switch back in 1996.

MS. BUTLER, Q.C.: Okay. And in terms of the explanation of the variance between the $1.269 million and what is now $8.6 million **PUB-46** is the RFI that was put to Hydro.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. So we showed the VHF system controller at $1.269 million there under the column for 2000?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: And that's just the switch.

MS. BUTLER, Q.C.: And that is what you call a switch, okay. But we are comparing an apple with an apple when I say to you that now the capital budget for 2002 with 2003 having a portion split out into there, we're now talking about $8.6 or $8.7 million instead of $1.269?

MR. BUDGELL: Those are not ... it's not an apple and apple comparing back to what was proposed in `96 versus what's being included in the budget right now, but what we have in the October update was a two year project and what was in the pre-filed evidence is a one year project, it's the same.

MS. BUTLER, Q.C.: Yes, I accept that.

MR. BUDGELL: That's apples.

MS. BUTLER, Q.C.: With the exception of $368,000 or $348,000.

MR. BUDGELL: Yeah, with the exception of those differences.

MS. BUTLER, Q.C.: But on the screen what we have is the proposal to replace the switch and now we've gone to a proposal to replace the entire system?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: So to the extent that this question was put to Hydro by the Public Utilities Board, is there any justification shown here in the answer to why you went from $1.269 for the replacement of a switch to 8.3 to 8.6 it now is for the replacement of the entire system? Because, to be honest with you, when I read the answer I didn't see that the variance was explained.

MR. BUDGELL: The variances were explained in regards to the capital where it had been completed or changes in the estimates of the ongoing system up to 2001. This was a comparison of the capital budget. What was being shown here was the June, `97 report on the telecommunications plan as well as a table that was presented to the Board, from what I understand, in the 2001 capital budget hearing which would have occurred last year.

MS. BUTLER, Q.C.: Alright. Well, let's go back then to **NP-231**. While we're waiting for that to come on the screen, Mr. Budgell, as I understand it, and I think you've already said this, this system has three components. It's got the radios in the trucks, it's got the repeater system in the towers and it's got the switching system. Is that right?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay. Now this question asks for a breakdown of budget item by mobile, portable, base station radio, switch and site controller, repeater and other equipment. That's question B. So can we have a look at your answer to B, please? I don't see a breakdown there.

MR. BUDGELL: Can you drop down to C, let me see what's the ... can I go back to the question for B again, please?

MS. BUTLER, Q.C.: Sure, absolutely.

MR. BUDGELL: Okay. Next page. Those were the breakdowns showing here ... were the breakdowns of the overall system using the different technologies.

MS. BUTLER, Q.C.: That's the other alternatives?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Yes. But that wasn't ...

MR. BUDGELL: Those are alternatives.

MS. BUTLER, Q.C.: ... really the question, was it?

MR. BUDGELL: It doesn't appear to me to be fully answering that question, no.

MS. BUTLER, Q.C.: No. So I wonder could you undertake to provide an answer to the question of the breakdown between the components?

MR. BUDGELL: I could undertake to do that.

MS. BUTLER, Q.C.: Grand. So really what we're going to get now is an explanation of how that 8 point, because it's now $8.6 million, is being split between the radios in the trucks, the repeater systems and the switching system and the other?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Just scroll down to question C, please, incremental cost attributable to new coverage and a breakdown, and we look at your answer for C. Here's where you did give some figures. When I say "you" of course I mean Hydro, and the figures only added to $775,000. So it appears that the only justification given was for $775,000 of the $8.6 million, am I correct or am I missing something?

MR. BUDGELL: That's the explanation as, I guess, asked for in that particular question for new ... the incremental cost of providing new coverage.

MS. BUTLER, Q.C.: Okay. So we have that much.

MR. BUDGELL: Based on the six sites. You have that much, yes.

MS. BUTLER, Q.C.: We have that much but we are missing the balance of the $8.6 million?

MR. BUDGELL: Yes, for sure.

MS. BUTLER, Q.C.: Okay. Now can we look at **NP-117C**? Okay. Again, for the same capital budget item, "Can components of the system be replaced to defer the need for the bulk of the capital expenditure to a future time, if not, why not, if so provide details". And the answer? And I wonder, Mr. Budgell, maybe, could you be kind enough to read that answer for us?

MR. BUDGELL: "There were several equipment replacement options. In summary, the switch and the site controllers have to be replaced. Depending on the technology selected the mobile radios and portable radios may be reusable. However, the radios would require ongoing replacement as the majority will be 25 years old by 2003 and are beginning to reach the end of their useful life. This would decrease the overall reliability of the system and increase maintenance costs. As well, the replacement, as planned, includes the provision of repeaters to provide improved system coverage in selected areas. It is felt that replacing the system piecemeal may be a less than optimal solution. In 2002 the repeater equipment will be 14 years old and this is the only portion of the equipment that may be able to be retained apart from the radios. This is still being assessed by the repeater manufacturer, Motorola."

(12:00 noon)

MS. BUTLER, Q.C.: In fairness, I'm not certain that this answer address the question of what component could be deferred and at what savings.

MR. BUDGELL: Well, the question here was answered in the contexts that we were looking at. We were looking through the current manufacturer, Motorola, whether some of the equipment could be retained and combined with the new equipment, and I understand we've had that answer and we can't.

MS. BUTLER, Q.C.: Okay. So the question now in terms of deferral and at what cost savings, from the time this originally filed in May when it was anticipated $8 million ... $8.3 million would be spent in 2002, the new capital budget or revised capital budget application suggests that you're going to defer $5.3 million of it to 2003?

MR. BUDGELL: That's only because we couldn't do it in one year.

MS. BUTLER, Q.C.: Yeah, and I'm coming to that in a second. You've decided that you couldn't do it because engineering was going to be provided by another company and you now have to do that yourself?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay, but I think the Board is going to be interested in whether further deferral is still an alternative and ...

MR. BUDGELL: Not a risk that we want to take.

MS. BUTLER, Q.C.: Not a risk that you want to take. And can you refer me to any least cost analysis.

MR. BUDGELL: It's not a cost issue. It's just a matter is that this is a very important system, this is a critical system to our operations. If we lose this ... if we say we're going to defer and we're not going to go ahead with this expenditure and the system goes because a component breaks down we're without a system for two years.

MS. BUTLER, Q.C.: So it's not a ...

MR. BUDGELL: So I don't know how we'd be able to maintain to do our maintenance, how we would be able to contact and stay in contact with our employees in the field. We just wouldn't be able to do it.

MS. BUTLER, Q.C.: Okay. Well, I guess what I'm ...

MR. BUDGELL: So it's not a cost ... the issue here is if you go back to the original premise that's in the budget here of items that, from our view, don't require cost effectiveness studies, this is one of them.

MS. BUTLER, Q.C.: I got two points flying from that, I think. The first is that Hydro had originally intended that it all be spent in 2002.

MR. BUDGELL: And we would have preferred to do that.

MS. BUTLER, Q.C.: And now you can't because of the engineering issue, so it's got to be deferred?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: So, can you refer me to any evaluation that was done on deferral of any of the other components of the system?

MR. BUDGELL: No, I can't.

MS. BUTLER, Q.C.: Okay. Can we look at **NP-143**, page 2, line 12, please? And again, dealing with this new VHF system, if I understand it, Hydro is indicating that 66 percent of the capacity will be spare when the system goes into service at that time?

MR. BUDGELL: Sorry, this question doesn't seem to be pertaining to VHF. Are you sure ... can I go back to the question, please?

MS. BUTLER, Q.C.: Sure, yeah.

MR. BUDGELL: This is digital radio, this is microwave.

MS. BUTLER, Q.C.: Oh, I'm sorry. This is not related to the VHF?

MR. BUDGELL: No.

MS. BUTLER, Q.C.: Okay. Sorry. Can you just scroll down that page a bit? Mr. O'Rielly, I haven't got my hard copy here. Can you just go to page 2 of it for me so I can have a look at something? Okay. That's fine, thank you. Mr. Budgell, in light of the fact that the VHF project will exceed the original plan by $7 million, that is going from the replacement of merely the switch to the replacement of the entire system, and given that there was no cost benefit analysis, can you tell me whether in fact the deferral can be further evaluated or whether in fact the project itself can be reconsidered in any fashion to potentially save some of that $8 million?

MR. BUDGELL: Hydro does not want to reconsider the project. Our proposal is to go forward with the project, and we would leave that decision to the Board, but we would maintain our requirement that we need this system and we won't be able to maintain the equipment without it and we would be running a very high risk.

MS. BUTLER, Q.C.: The only other question I have in relation to that VHF is what I believe to be a typo that you can correct for me. In your pre-filed ... this is the revised, I'm sorry, Mr. O'Rielly, the revised pre-filed testimony, page 4. Now can you scroll down for me? Thank you. Here you're referring to deferring $5.740 million of the VHF to 2003?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: But, on page B-66 the amount given was actually $5.640 million, so I'm wondering which of the two is correct?

MR. BUDGELL: This should be the same number.

MS. BUTLER, Q.C.: Yeah. Which of them is right, is it 5.7 or 5.6?

MR. BUDGELL: I would say what's in the schedule and what's in my evidence is wrong, because I put those figures in off another schedule. Perhaps ... what was submitted in the budget application, I'm sure, is correct.

MS. BUTLER, Q.C.: Can we look at the revised capital budget, then, page B-66? 5.640 should be the correct figure, you think?

MR. BUDGELL: Yes, I believe so. I think that's a typo. I got one of the two numbers right.

MS. BUTLER, Q.C.: Okay. Can I turn now, Mr. Budgell, to some information services questions aside from the VHF and have a look at **PUB-42**, it's a question put to Hydro by the Board, and these questions, of course, relate to capital project B-61 which is the purchase of additional corporate applications. Could you read lines 14 to 18, please?

MR. BUDGELL: "The technology strategic plan referred to in response to **PUB-66** of the 2001 capital budget has not been finalized. The architectural portion of the plan is scheduled to be completed by October, 2001. The application overview portion of the strategic plan will be completed by December of 2001".

MS. BUTLER, Q.C.: Okay. The architectural portion of the plan scheduled to be completed by the end of last month, has that been completed?

MR. BUDGELL: I asked that question just the other day and I understand it's not been yet completed.

MS. BUTLER, Q.C.: Okay. And will Hydro undertake to provide a copy when it is completed, if it's completed before the end of this hearing?

MR. BUDGELL: I assume so, yes.

MS. BUTLER, Q.C.: In the application overview portion of the strategic plan still on schedule for December if the architectural plan is delayed?

MR. BUDGELL: That's my understanding.

MS. BUTLER, Q.C.: It is on schedule. In the absence of a strategic IT plan how do you, that is, how does Hydro assess the need for additional information technology?

MR. BUDGELL: The monies that I believe that were allocated in this particular budget covers off two items. The first item was an identified item from this year, or identified this year which was the short-term load forecasting module. The numbers are not shown here on this particular question but I believe they're in another RFI. And the remainder of those funds were just an allocation for add on software to our current applications, and those needs and requirements have yet to be identified.

MS. BUTLER, Q.C.: I guess what I'm addressing here, Mr. Budgell, is that if no information technology strategic plan has been identified, or is in place, then what principles currently underlay your decisions to invest in information technology, how do you decide when to purchase hardware and software and why, at what cost?

MR. BUDGELL: Well, the application is ongoing. If we didn't put any monies or requests from the board monies for next year and we waited for this plan to be completed by December of this year we would have missed the window of opportunity of asking for the money until the 2003 budget year.

MS. BUTLER, Q.C.: Uh hum.

MR. BUDGELL: Obviously, we have to have funds available for information technology system requirements in the year 2002 to meet the requirements of the corporation or add on software.

MS. BUTLER, Q.C.: But I'm not certain that you've really answered my question. I'm asking what principals underlay your decisions to invest if you don't have a strategic IT plan?

MR. BUDGELL: I can't answer that question, I'm sorry.

MS. BUTLER, Q.C.: Okay. B-60. I don't think that was a revised page so we can go to the original capital budget. Okay. Acquire document, management and imagining system of $104,000. Can you just read "Nature of project" there for us?

MR. BUDGELL: "This project involves the development of the corporate document management and imagining system. An electronic document management solution is required to provide the corporation with effective control management and access to such documents".

MS. BUTLER, Q.C.: Okay. Is this similar to what we've done here at the Public Utilities Board to control the paper in this application?

MR. BUDGELL: I understand it's very similar to that, yes.

MS. BUTLER, Q.C.: So what types of documents are you referring to and how are they controlled, managed and accessed at present at Hydro?

MR. BUDGELL: I can give you an indication of the type of documents. I'm not sure I can give you an indepth discussion on how they're managed right now except to say that they're different for every document, and that's part of the problem. But what we're talking about is Autocad type drawings, GIS data, electronic documents and mail, customer (inaudible) service correspondence, billing information, financial information, contracts and normal correspondence. I think every department in Hydro has different needs of accessing, retrieving and archiving these documents. Not that everyone has the same documents now, mind you.

MS. BUTLER, Q.C.: No. At the bottom of that justification, future commitments you say that this is the first phase of implementation and that there will be requests for approval of additional phases in future submissions?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Do you know what will be required in subsequent phases or how much the subsequent phases are going to cost?

MR. BUDGELL: Not at this time. I think the intention for this budget item is to hire a consultant to perform that analysis to identify those costs.

MS. BUTLER, Q.C.: So that would be ...

MR. BUDGELL: And also to do ...

MS. BUTLER, Q.C.: Sorry.

MR. BUDGELL: ... do one pilot.

MS. BUTLER, Q.C.: Okay. So that would be out sourced and there will be one pilot?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And the benefits, according to this, have not yet been identified?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: And for the moment we don't know the anticipated total cost of the implementation of the full system?

MR. BUDGELL: No.

MS. BUTLER, Q.C.: In B-61, then, which is the one we were looking at a moment ago that $517,000 is broken down, I believe, in two components. A question was asked about this in **NP-114**.

MR. BUDGELL: Yes. That's the one, I think, I referred to a short while ago.

MS. BUTLER, Q.C.: Right. So the $517,000 is broken down as $117,500 short-term software and $399,000 appropriate applications software?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: What, specifically, is proposed to be purchased as part as that $399,000 corporate application software?

MR. BUDGELL: I think it's indicated on the next page, lines 11 to 16. It's at page 2 of 2.

MS. BUTLER, Q.C.: J.D. Edwards, uh hum.

MR. BUDGELL: It's not the J.D. Edwards per se, but the J.D. Edwards meets the bulk of our computing needs. But the corporate application budget provides funds for the purchase and implementation of speciality software add-on modules and third party solutions to cover off items that J.D. Edwards does not cover off.

(12:15 p.m.)

MS. BUTLER, Q.C.: What I'm getting at, I think, Mr. Budgell, here, is what need is this particular corporate software addressing?

MR. BUDGELL: It would address types of items like ... I haven't got an item in mind, but Lotus Notes, for instance, if we have to get an update to Lotus Notes, which is our e-mail software then that would be covered off under this particular item, or if there was some applications that another department requires maybe ... let's say Holyrood wants a tool management program, they want to look after

something, then this is the funds that we would use or that the IS & T Department would use to buy those speciality software.

MS. BUTLER, Q.C.: In terms of the benefit that will flow from the purchase of the software at a cost of $399,000, has there been identification of the benefits for that?

MR. BUDGELL: Obviously, if the exact software hasn't been identified then the cost benefit hasn't been, either.

MS. BUTLER, Q.C.: Mr. Chairman, before I get into another area I wonder if it might be appropriate to break there? And I can indicate that perhaps when we return after lunch I might be another half an hour or so with Mr. Budgell.

MR. NOSEWORTHY, CHAIRMAN: Thank you, Ms. Butler. We'll reconvene at 2:00.

(break)

(2:00 p.m.)

MR. NOSEWORTHY, CHAIRMAN: Thank you and good afternoon. Before we get started again, Counsel, are there any preliminary matters?

MR. KENNEDY: Not that I'm aware of, Chair.

MR. NOSEWORTHY, CHAIRMAN: Okay, if you could continue, Ms. Butler, please?

MS. BUTLER, Q.C.: Thank you, Mr. Chairman. Mr. Budgell, I wonder if we might look now at **B-64**, which is another portion of the capital budget, and I don't think this was revised. Do you have your hard copy?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay, I wonder if you could, excuse me, read nature of the project for us?

MR. BUDGELL: This project involves the replacement of two existing AS-400 computers which support the corporate integrated applications. The five year lease for the existing AS-400 computers will expire during 2002. An assessment will be made in 2002 whether to purchase or lease.

MS. BUTLER, Q.C.: Okay, excuse me, Mr. Budgell, can you explain to us why there is a need for AS-400 computers as opposed to any other type of hardware?

MR. BUDGELL: No, I can't get into the detail, I'm not knowledgable on that.

MS. BUTLER, Q.C.: In NP ... or perhaps before we leave that screen, I'll just get you to note that there was indicated under the cost benefit study referenced, I thought that no formal cost benefit study was required.

MR. BUDGELL: Which question was that? Let me step back a bit to your earlier question. I have to assume that the AS-400 is the level of computing power that we would require to perform the applications, i.e., JE Edwards, that Hydro would require.

MS. BUTLER, Q.C.: Right.

MR. BUDGELL: But beyond whether there is another computer manufacturer, or another type of computer that can do that particular job, I wouldn't be able to speak to that aspect. That's the answer, that's what I meant by the answer when I said I couldn't speak to it.

MS. BUTLER, Q.C.: Yes.

MR. BUDGELL: I'm assuming that this is the level of computing power that we require.

MS. BUTLER, Q.C.: Okay, I understood that, and under cost benefit study, Hydro indicates that a formal cost benefit study was not required, correct?

MR. BUDGELL: Correct, but that, again, I have to go back to, I think, a point that I made a little earlier on. We talk sometimes about cost benefit studies versus what I would refer to as a, more aptly, a cost effectiveness study. The cost benefit study means it's a study whether you should do it or not do it, i.e., go without, whereas a cost effectiveness study would be a study about what, once you made the decision this is the item that you want to go with and what's the best alternative amongst many that you select, so this item would have a cost effectiveness study done, and I think that's referred to in the answers to some of the questions here, because we'd be looking at leasing or purchasing a new computer.

MS. BUTLER, Q.C.: Okay, well clearly you have AS-400 computers at Hydro now, because this is the replacement of two existing.

MR. BUDGELL: That's right.

MS. BUTLER, Q.C.: Okay, so can we look at **NP-116** please, and I think here we'll see further detail given on the justification for the replacement of these two.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay, just scroll down to the details of the cost estimate and we'll see how it's broken down, and into the next page, lines 1 to 6, I wonder if you could just read starting, Mr. Budgell, with "In particular".

MR. BUDGELL: In particular the existing AS-400 system cannot adequately support the migration of the JDE financial suite to the upgraded version of the product, One World. In 2002, Hydro will be initiating a One World pilot in order to assess the technology and business implications of moving to One World.

MS. BUTLER, Q.C.: So what exactly is One World?

MR. BUDGELL: From my understanding, One World is the next, or the most current version of the JDE financial suite of applications, and we're using an earlier version of that that came out a number of years ago.

MS. BUTLER, Q.C.: Okay, and what exactly does it do?

MR. BUDGELL: I don't know all the bells and whistles that are associated with One World, but what I understand is that this particular application will permit, I guess, updating of various parts of the application over the internet, for instance. It allows us to do different things with the financial suite that we can't do right now. Our capabilities are not there. And another important aspect is, what I understand is that I think it's, if it's not 2002, it's 2003, the JD Edwards group will not be supporting the current application as we have it, so we have to move, we have to move up to the next suite of applications.

MS. BUTLER, Q.C.: Okay, so that's the software, of course, you're talking about now.

MR. BUDGELL: This is software, all software, I'm sorry.

MS. BUTLER, Q.C.: And the $2.1 million is essentially the hardware, isn't it?

MR. BUDGELL: That's correct.

MS. BUTLER, Q.C.: Okay, do you know whether this One World system is client server technology or web based technology?

MR. BUDGELL: I understood it's web based.

MS. BUTLER, Q.C.: Okay, I'm going to leave that for the moment, Mr. Budgell, if I might.

MR. BUDGELL: And by the way, I think that's answered in (d), isn't it, on line 15 there on the answer ... migrate the JD Edwards One World product which provides a web based ... I'm sorry, it said both, didn't it, but it's web based, I understood.

MS. BUTLER, Q.C.: Okay, leaving that capital budget item for the moment. I want to, just if I might, go back to something that you had expressed to me very strongly before we broke lunchtime over the VHF system.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And that was the thought that this was not something that you wanted to readdress from Hydro's perspective because the issue of the switch was significant enough that you were concerned about basically loss of communication on the system.

MR. BUDGELL: Yes, we are concerned that if we lose the switch or we can't, if the manufacturer is not supporting or we can't maintain the switch, or the controls that are in repairs, then we'd have a difficulty of maintaining the system, and we would then have a very large safety concern with our employees.

MS. BUTLER, Q.C.: Okay, having raised the issue with respect to a loss of service which is significant, I wonder can you tell me, is there a contingency plan?

MR. BUDGELL: We would have to, I'm trying to think ... the contingency, in areas where we can avail of other communication media, i.e., cellular, which you can in some areas of the province, mostly close to the Trans Canada Highway, and maybe here on the Avalon, but certainly not in all the areas that we serve, we'd be able to use that media to the extent possible. Outside of that, in the more remote areas, I don't know, outside of satellite phones, of anything else that we'd be able to use.

MS. BUTLER, Q.C.: So there is no contingency plan in place then?

MR. BUDGELL: I'm not ... there may be, I'm not aware that there is one, but that's the only two technologies, other than the VHF that we could avail of.

MS. BUTLER, Q.C.: Well, given that the VHF falls in your area, wouldn't it be anticipated that if there was a contingency plan that you would know about it?

MR. BUDGELL: I'm sorry, it's not in my area, it's the telecontrol, the IS & T department. I'm with the planning department. I'm here appearing for Hydro on behalf of that particular department, but I wouldn't know whether they had a contingency plan. I'm not aware that they do.

MS. BUTLER, Q.C.: Okay, the last area that I want to address with you is the continuous emission monitoring, and this was covered by the **Capital Budget, B-19**.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay, if we can just wait for that to get enlarged. There you go, thanks. Maybe you could just read the paragraphs under nature of project for us please?

MR. BUDGELL: This project involves the installation of a continuous emission monitoring system on each of the three stacks at the Holyrood generating station. Air emissions from the Holyrood generating station include (inaudible) matter, nox, sox, and acid aerosols. Although the emissions are below the statutory limit, a recent health risk assessment concluded that the quantification of the emissions should be undertaken. A continuous emission monitoring system, CEM, will allow direct quantification. A CEM will enhance control of the combustion process and will permit management of emissions which is currently not available.

MS. BUTLER, Q.C.: Okay, this justifies the cost of, excuse me, $801,000. Can you just explain for me what you mean when you say a continuous emission monitoring program will enhance control of the combustion process?

MR. BUDGELL: Well, in order to, the relationships that were established in regard to the nox and sox, in order to control that output, we've got to change the way fuel is burned, and the way that's done in the combustion process is by such things as excess air, or how you burn, or how the combustion process is occurring, and the people who had done the emission monitoring study for us recommended, they operated on the basis of a ratio, like our sites that do do ambient monitoring do record certain information but the other information that was required here was based on the ratio which an assumption, and they needed to, I think in the recommendation they were recommending to us you should establish or at these sites measure the ratio accurately so we can tell what sox, what nox is being released at this particular, at the facility, and what we are proposing here is that this is a lower cost alternative than to do what they were recommending because we'd have to go out and install measuring devices at all of the ambient stations, so we thought it was a lot better to put it in the stacks where our people at the plant can monitor the output, stay within acceptable standards, and know exactly at that particular time, because every time we change the fuel or the type of fuel, this factor changes and if you were using ambient monitors, you would have to wait until somebody reads it and say, oh, by the way, you were over yesterday or last month, and now we're going to change this month, but we just changed fuel, so how did this change. So this is what we're recommending is a real time means of doing this, and it is a process which we understand, or I understand, is being used elsewhere were there are legislation requiring it.

MS. BUTLER, Q.C.: Okay, a few things flowing from your answer. First of all, there is no legislation in this province requiring it, is there?

MR. BUDGELL: I agree, there isn't.

MS. BUTLER, Q.C.: Okay, and the justification you have given here is health.

MR. BUDGELL: Yes, that was from the health assessment report.

MS. BUTLER, Q.C.: Okay, and the consultant's report that you referred to, I believe is Can-Tox Environmental?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And can we have a look at that report at **NP-104(a)** please, and we have to look at the hard copy. Mr. Budgell, do you have your copy yet?

MR. BUDGELL: Yes, I have my copy.

MS. BUTLER, Q.C.: Okay, grand, it's actually page 18, I believe that I wanted to refer you to.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: This is the recommendations?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And can you just read the first bullet, recommendation, please?

MR. BUDGELL: To assess nitrogen oxide and nox, a ratio of sulphur dioxide to nox and stack emissions was used. It is therefore recommended that ambient air monitoring data be collected for nox to assess the validity of the sox to nox ratio calculation, excuse me, using risk assessment.

MS. BUTLER, Q.C.: Okay, the recommendation of the consultant was for ambient air monitoring.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: But Hydro decided not to do that and instead to go with in-stack monitoring?

MR. BUDGELL: Yes.

(2:15 p.m.)

MS. BUTLER, Q.C.: And you maintain that in-stack monitoring is more cost efficient than ambient?

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: And can you give me the figures for both?

MR. BUDGELL: I don't have the, with me right now what the actual figures for ambient, but I could undertake to get that if you wish.

MS. BUTLER, Q.C.: Okay, that would be grand, because I think this $801,000 is for the purchase and installation of in-stack.

MR. BUDGELL: It is, yes.

MS. BUTLER, Q.C.: Okay, and I know that we did have one request for information that talked about the maintenance or installation of the ambient, but I didn't see any reference to the purchase. Okay, so I can accept your undertaking on that, but clearly, the recommendation of the consultant hired doesn't support the method that Hydro has taken. This report doesn't support the ...

MR. BUDGELL: No, the report recommended that Hydro do something to quantify that and they used ambient. That's what the consultant thought the best route. Hydro, after looking at the, at the issue thought that the stack measurement, if we go that route, would be more cost

effective to do, and would also give us a lot more functionality. Like in other words, you see, what would happen if, if we were using ambient measurements, and the ambient measurements indicated that we were out of whack, or something was wrong, then you have to make an adjustment at the plant to bring it in line, and that adjustment would be done at another time level, and we wouldn't know the direction that you'd have to go. You would have to assume, and then you would have to test, measure again, and see whether that was giving you the right figures, and the ambient would only work if the plume from the plant was directed toward the ambient devices, so any time the wind is blowing in a different direction than we have monitoring equipment ...

MS. BUTLER, Q.C.: Uh hum.

MR. BUDGELL: We wouldn't know where we sat, so we felt that the all around best solution, and of course, you brought up the point that certainly legislation is not here yet, but that's not to say that at some future timeframe it might be brought here, where it is in other areas, so we thought that this was the best solution.

MS. BUTLER, Q.C.: Okay, so you didn't accept the recommendation of Can-Tox to use the ambient air monitoring data.

MR. BUDGELL: That, we accepted the recommendation that we should, we should establish what the ratio is more accurately in-stack, but we wanted to do it by a different method.

MS. BUTLER, Q.C.: I guess, simply from a layperson's perspective on this issue, ambient air monitoring simply means that somewhere miles away from the site, the air quality is being tested to determine the level of nox or sox that's in the air that people are breathing.

MR. BUDGELL: That's exactly ... well at a set distance, the impingement of the emissions at that particular point is measured. It doesn't give you an accurate indication of what's actually going up the stack.

MS. BUTLER, Q.C.: Exactly.

MR. BUDGELL: And where it actually disperses.

MS. BUTLER, Q.C.: But what you've done is you've installed continuous emission monitoring instruments, but proposed to do that in the stacks, which will tell you what's actually burning in the stacks.

MR. BUDGELL: At that particular time, yes.

MS. BUTLER, Q.C.: Yeah, see, to me they're quite different.

MR. BUDGELL: And the important thing as well is that the operator at the plant would be able to see and he'll be able to react to it right then, you know, he'll be able to adjust the emission, and there's a trade-off that occurs here, is that the, it is to improve the situation in regards to emissions might affect our efficiency at the plant, so and we have to, when you're moving around emissions like, I use the example of excess air, if he emits excess air into the combustion, to control or to change the nox ratio, then that will affect the efficiency of which the unit is operating at, so in other words, like when we had discussions of a couple of weeks ago with Mr. Henderson in regards to the efficiency of the plant at the end of the year, if we were just paying attention to just that value, and operating the plant, the best efficiency, we might not be doing what's best for emissions, and if you're doing what's best for emissions, you're not doing what's best for efficiency, so this was what we thought to be a tool which we can use to quantify and to do what's best for both.

MS. BUTLER, Q.C.: But the Can-Tox report doesn't suggest that measuring what's in the stack is going to be a fair indicator of what you would otherwise pick up from ambient air monitoring.

MR. BUDGELL: You will get the same measurement, it's just a matter of the technique in which the measurement is done. I think the differences between what Hydro wishes to do, or proposes to do, and Can-Tox is proposing, is just the method. It's not the fact that there is a requirement to have the measurement done.

MS. BUTLER, Q.C.: Okay, and once we see the figures for comparable costs, we'll know how they compare to the $801,000.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay.

MR. BUDGELL: There is, you mentioned a little earlier, I didn't ... but there is also an issue of maintenance as well, so between the ...

MS. BUTLER, Q.C.: Well, we'd want to make sure that we were comparing an apple with an apple, because I don't think the $801,000 has maintenance figures in it.

MR. BUDGELL: No, that's just purely capital, I agree.

MS. BUTLER, Q.C.: Right, okay.

MR. BUDGELL: I agree, but what I'm trying to say is that maintenance issue only comes down to where you ... if you're putting it in the stack, and there's three stacks, if you're putting measurement equipment out in ambient, there may be a lot more than three measuring devices, and I think that's part of what it comes down, why the costs are that much higher.

MS. BUTLER, Q.C.: Okay, I note that in **PUB-11.1**, which perhaps Mr. O'Rielly could get up for us on the screen,

Hydro indicated that your current practice is testing every two years?

MR. BUDGELL: That's my understanding with this particular consultant, they have somebody in every two years to do these tests.

MS. BUTLER, Q.C.: And that currently satisfies your requirements under the regulations.

MR. BUDGELL: I assume so, yes.

MS. BUTLER, Q.C.: And you see the answer there, Mr. Budgell, at line 14, I believe, on the screen.

MR. BUDGELL: Yes.

MS. BUTLER, Q.C.: Okay, Mr. Chairman, those are my questions for Mr. Budgell.

MR. NOSEWORTHY, CHAIRMAN: Thank you very much.

MS. BUTLER, Q.C.: Thank you, Mr. Budgell.

MR. BUDGELL: Thank you.

MR. NOSEWORTHY, CHAIRMAN: Thank you, Mr. Budgell, we'll proceed now to the Industrial Customers, and I would assume, Ms. Henley Andrews, it's you who will be conducting the cross on this one?

MS. HENLEY ANDREWS, Q.C.: Yes, Mr. Chairman.

MR. NOSEWORTHY, CHAIRMAN: Thank you, I'd ask you to begin please?

MS. HENLEY ANDREWS, Q.C.: Mr. Budgell, you indicated this morning in the answer to some questions that you started in your current position in 1989?

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS, Q.C.: And has your position changed at all, the job requirements of your position, have they changed at all since 1989?

MR. BUDGELL: Yes, they have.

MS. HENLEY ANDREWS, Q.C.: In what ways?

MR. BUDGELL: I have assumed the responsibility for the economic analysis section in 1999.

MS. HENLEY ANDREWS, Q.C.: And what is the economic analysis section?

MR. BUDGELL: That group was formerly with the customer services department, and they do the monitoring and short-term growth forecast, fuel budgets, and the forecasting of economic parameters that Hydro uses for its, for its normal activities in the economic area.

MS. HENLEY ANDREWS, Q.C.: Okay, prior to 1989 what position did you hold?

MR. BUDGELL: I was Manager of Generation Planning, was the title, I believe, at that time. It was similar to right now, the title is Supervising Engineer of Generation. Well, it's a little different, it's generation and rural, but generation planning.

MS. HENLEY ANDREWS, Q.C.: And how long were you in that position?

MR. BUDGELL: I was in that position from 1982 to 1989.

MS. HENLEY ANDREWS, Q.C.: And you said you were with, you've been with Hydro since 1971?

MR. BUDGELL: '75.

MS. HENLEY ANDREWS, Q.C.: '75, and what positions did you hold between 1975 and 1982?

MR. BUDGELL: I was Systems Operations Engineer in Bishop Falls, Bay d'Espoir, and in St. John's, and I also served on a commissioning of unit three in Holyrood for about a year and a half.

MS. HENLEY ANDREWS, Q.C.: What is a Systems Operations Engineer?

MR. BUDGELL: A Systems Operations Engineer is the individual that does work similar to what Mr. Henderson reported on earlier. It comes under his area. Water management, and the day-to-day operational questions, hydro-thermal splits, those type of things.

MS. HENLEY ANDREWS, Q.C.: Your educational background is in engineering, correct?

MR. BUDGELL: That's correct, Electrical Engineer.

MS. HENLEY ANDREWS, Q.C.: What training have you had in your time with Hydro in budgeting?

MR. BUDGELL: In budgeting? I don't recall any specific budgeting training, other than using the current software for entry of budget into the process, but I wouldn't call that academic budgeting.

MS. HENLEY ANDREWS, Q.C.: Have you had any training in estimating?

MR. BUDGELL: In estimating? No, I don't. I should remind you, I don't do budgets and I don't do estimates.

MS. HENLEY ANDREWS, Q.C.: But you are responsible for the capital budget.

MR. BUDGELL: I am reporting on behalf of the corporation of the generation part of the corporation in regard to the generation budget, yes, but I'm not responsible for the preparation of budgets.

MS. HENLEY ANDREWS, Q.C.: Okay, but you say in your evidence that part of what you are giving evidence on is

the 2002 capital program for the production division.

MR. BUDGELL: Yeah, but I would not have produced those budgets myself. We have engineering groups within Hydro that prepare budgets.

MS. HENLEY ANDREWS, Q.C.: What training do you have in system planning?

MR. BUDGELL: In system planning, I have done various courses in system planning.

MS. HENLEY ANDREWS, Q.C.: What kinds of courses?

MR. BUDGELL: Well, the usual ... those would be courses in regards to the system planning type economic analysis, and one that comes to mind is from a group called PTI in (inaudible) New York.

MS. HENLEY ANDREWS, Q.C.: And what is covered in those types of courses?

MR. BUDGELL: Economic analysis, system planning type issues.

MS. HENLEY ANDREWS, Q.C.: What do you mean by economic analysis?

MR. BUDGELL: Well, the setting up of the analysis and the comparisons of alternatives.

MS. HENLEY ANDREWS, Q.C.: Alternatives to what?

MR. BUDGELL: To whatever you're looking at. Cost effective types of analysis.

MS. HENLEY ANDREWS, Q.C.: Okay, and what then is your overall function in carrying out, or in the carrying out of a capital project in the production division?

MR. BUDGELL: Well, the system planning department itself would be responsible for capital budgets arising from meeting customer load requirements, and if we identify that there is a requirement, and we identify there are alternatives, we will make a request of our ... let's say if it's generation, for instance, we would make a request of our engineering people in the TRO, I'm sorry, in the generation area, to provide us those estimates, and they would either prepare those estimates directly, if they have the expertise, or if they have studies in house, or go out and get a consultant and do the study. In the case of transmission, we have a similar exercise but deal with a different engineering department to prepare estimates. So estimates normally are not prepared within my department directly. We do the analysis on the estimates, do the cost effectiveness analysis.

MS. HENLEY ANDREWS, Q.C.: How does a capital ... I'd like you to describe from sort of start to finish how a capital project that you would be responsible for would be initiated and reach the approval stage within the company.

MR. BUDGELL: Okay, I can use, well I could use a transmission alternative. We can have the normal monitoring of the system, loads, voltages, identify that there is a deficiency in the system. It doesn't meet our criteria, and once we recognize that there is this deficiency, we can then, our people will come up with alternatives that could address that deficiency, and that could be a new line, it could be a capacitor bank, it could be a number of alternatives. Once these alternatives are arrived at, we would then make a request for capital costs for these alternatives, or any analysis or studies or consultant reports to identify the costs of those alternatives. Now, we need to, as well, determine whether these, what these alternatives will provide us, how much bang, I guess, we get for the buck in regards to how they address the problem, so we have to identify that issue as well. Once we have the alternatives available, both from a technical and from a cost perspective, we will do technical studies through various software to identify the technical constraints and solutions that can be availed of through the use of this particular device, and we would do economic studies to look at the cost effectiveness of each one of those alternatives. Once we complete these studies, we would then put a report together and make a recommendation to our vice-president and to management on what the recommended plan would be for that problem or that issue, and that can, the same process would hold for whether it's distribution, generation, or transmission.

(2:30 p.m.)

MS. HENLEY ANDREWS, Q.C.: I want to go back to step one that you've outlined for a minute, and that is, you said the first thing that you would do, or the first thing that would happen in connection with your process is that somebody, if you take transmission as an example, which you have used, somebody would identify that either your system was not meeting certain criteria, or that it might not meet those criteria in the future, who sets the criteria?

MR. BUDGELL: We do.

MS. HENLEY ANDREWS, Q.C.: And who is we?

MR. BUDGELL: System planning.

MS. HENLEY ANDREWS, Q.C.: And how do you go about setting the criteria?

MR. BUDGELL: Well, it's, these criteria are pretty standard across the industry.

MS. HENLEY ANDREWS, Q.C.: And how do you find out what those criteria are or should be?

MR. BUDGELL: Well, we canvass and we speak, we attend meetings with people from the industry, and generally through conferences and courses, there are contacts.

MS. HENLEY ANDREWS, Q.C.: And if there are different standards out there that different utilities utilize, and there are variances, how do you determine which one to pick?

MR. BUDGELL: Well, we have to make some judgements based on what we can afford, or what we think or believe that the system can afford.

MS. HENLEY ANDREWS, Q.C.: And what do you mean by based on what you think the system can afford?

MR. BUDGELL: Well, there are criteria that would be imposed upon some of the larger systems that are connected into the North American network which we know that if we were to apply those criteria to our system, we'd have a very large capital program.

MS. HENLEY ANDREWS, Q.C.: And similarly, in the systems that are in the North American grid, I presume that there are some criteria that they might have that would be lower because they are a part of the grid.

MR. BUDGELL: Exactly, yes.

MS. HENLEY ANDREWS, Q.C.: Now does every project, every capital project receive the type of analysis that you've described?

MR. BUDGELL: From a system planning perspective, I would say yes. Most of our analysis lends itself pretty simply to cost effectiveness type of analysis.

MS. HENLEY ANDREWS, Q.C.: And when you talk about cost effectiveness, what do you mean?

MR. BUDGELL: What I mean is that if we've identified that there is a requirement, we identify that there are alternatives, and then through those costing and technical analysis of those alternatives, we would identify which one is least cost and recommend it.

MS. HENLEY ANDREWS, Q.C.: When I look at the replies to the questions that were put to Hydro with respect to capital projects that are proposed here and in questioning by Ms. Butler you indicated that roughly, I think, $13 million or $14 million of the $43 million is within your department. Almost none of them, I mean two out of all of the projects have cost benefit analysis required.

MR. BUDGELL: Yes, I should correct ... I am speaking in the context of system planning right now. Are you asking the question from a generation, from the generation division perspective?

MS. HENLEY ANDREWS, Q.C.: Well, I asked you how you developed for any given item how a capital project would come into existence.

MR. BUDGELL: And I answered the question in the context of a generation, or in regards to system planning.

MS. HENLEY ANDREWS, Q.C.: Okay.

MR. BUDGELL: In that perspective.

MS. HENLEY ANDREWS, Q.C.: And what's the difference?

MR. BUDGELL: Well, we don't happen to, in this group, have any ... or very few of these projects are ours, but there is a description in the front of the budget which outlines what projects and when we do cost effectiveness analysis.

MS. HENLEY ANDREWS, Q.C.: Yes, I've read that.

MR. BUDGELL: Yes, well that's the context which these proposals that you just referred to that didn't require cost effectiveness analysis in the first place.

MS. HENLEY ANDREWS, Q.C.: Okay, so the, in terms of the answers that, the answer that you gave to the question that I asked, the process that you outlined for identifying capital projects and then proposing them and having them accepted by the board varies depending on the type of capital project.

MR. BUDGELL: Yes, it does, yes, and if the projects were amongst the categories of protect human life, to meet projected customer load demand, to prevent imminent interruption, to comply with regulations, to protect Hydro's assets, those are the types of items where we've indicated in the beginning that we would not necessarily prepare a cost-effectiveness analysis. If we were to do a project, let's say for generation to meet load, then we have the example provided here, because I think we provided the, the particular analysis was done in support of Granite Canal. We also presented the analysis which was done in support of some of the other projects.

MS. HENLEY ANDREWS, Q.C.: During the course of a capital project that's within your department, who monitors the costs?

MR. BUDGELL: We ask the, we, from a system planning perspective again now, and I'm not talking about the big generation department overall, but from a system planning perspective, once we've got the cost of the project, we've done our analysis, we've made our recommendation, we would, under our umbrella, submit the budget proposal as part of system planning, two managements, and if the project gets approved it's usually assigned to the particular department that implements. So in other words, if it's in the generation area, the engineering people that did the budget estimates would be the proper, they would be the people who would do the generation job. If it was in the TRO engineering area, if it was a transmission job or a distribution job, those engineering people would then bring forth a job cost and they would administer and do the project.

MS. HENLEY ANDREWS, Q.C.: Okay.

MR. BUDGELL: So we, I don't have staff that can manage projects.

MS. HENLEY ANDREWS, Q.C.: And within the company, within Hydro, after a project has been approved and implemented, who is responsible for monitoring the outcome to make sure that it achieves what it was supposed to achieve?

MR. BUDGELL: Well, the monitoring in regards to the project itself, and getting the project done, is done by the project manager which comes from one of the engineering departments, and they would bring the project into service, have it commissioned. From a, let's say if it was a project in the planning, I was the originator of the project, then I would be, or our people would be looking at whether that project delivered what we thought it was going to deliver and we would do that through analysis. If it was a hydro project, for instance, it would be the capacity of the project (inaudible). We have, if it was a 40 megawatt generating unit, it's 40 megawatts. If it can deliver energy, it can deliver the energy that we projected that it could do.

MS. HENLEY ANDREWS, Q.C.: On smaller projects, I mean obviously a generating project is, you know, if you're going to be designing a system ...

MR. BUDGELL: Well, if it's a transformer, a transformer is purchased, it's put in place, and it's connected up, and it's serving the customer. There's no, there's no further need to do on that particular project.

MS. HENLEY ANDREWS, Q.C.: But if the ...

MR. BUDGELL: The monitoring after ...

MS. HENLEY ANDREWS, Q.C.: But if you decided to change out transformers because you felt that you were going to get greater efficiency out of a different type of transformer, as an example. I'm just creating an example. Who within Hydro would be responsible after the transformers were changed out to monitor and check to see if, if that efficiency has been achieved or to what extent it has been achieved?

MR. BUDGELL: I would assume it would be the originator of the project.

MS. HENLEY ANDREWS, Q.C.: Okay, so if you were the originator, if your department was the originator of the project, then that would be the responsibility.

MR. BUDGELL: Yeah, if I was the originator, I created the justification, I brought it forward, I justified it, management approved it, the engineering department built it, the onus would be on me to go back and ensure that that project delivered.

MS. HENLEY ANDREWS, Q.C.: Is there a specific policy or practice within Hydro that demands that this type of follow-up and evaluation be done?

MR. BUDGELL: I can't speak to one specific, but there are processes in place to the commissioning ... let's say if a project is commissioned onto the system, that is exactly what you're doing, you're testing that particular project that it meets the requirements that it was intended to do, so before the project is energized and brought in service, and released for what we call, released for operation, the commissioning is complete, then that's the test.

MS. HENLEY ANDREWS, Q.C.: But if you forecast ...

MR. BUDGELL: But it doesn't solve, I agree, your example, the one that you are proposing, but I'm just saying those are, I can't think of us changing out transformers for efficiency but I can think of us changing out transformers for the perspective that the current one didn't meet the load requirements of a customer, well then obviously we would take one of the transformers, if there was two, or we would take the one out and put the new one there, but before the new one went in service, then somebody would ensure, the commissioning team would ensure that that transformer is working as it was intended to.

MS. HENLEY ANDREWS, Q.C.: But if that transformer was also intended to give you capacity to grow, in other words, that transformer was expected to handle, because you were putting it in new ... not just the existing needs of the customers, but also the customers, the expected load on the system five years from now ...

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS, Q.C.: Or to achieve a certain amount of efficiency, I think what you're telling me is that there is no specific plan in place that monitors every capital project in order to ensure that it does what it was supposed to do.

MR. BUDGELL: No, because it's part of the process. The example you just used, if you were buying a transformer, if you want to ensure that it's going to meet future load, you would buy it of adequate capacity to meet the future load requirements.

MS. HENLEY ANDREWS, Q.C.: Okay.

MR. BUDGELL: So when you got supplied that transformer you look at the name plate, and if you wanted a 40 MBA transformer and it was set to 40, it's a 40 MBA transformer. That's what the consultant will give it to you ... you don't need to all of a sudden put 40 MBA on it to test and see if it can. There are tests to ensure that this is, that the transformer both works coming out of the factory, and it works when it goes into operation. It's the same

thing is true of transmission lines, insulators, there's ... what I'm trying to say is that every specific instance would have a different test at the end of the day and it would be done by different individuals, so I don't, I can't point to just one sort of policy statement that sort of says you'd go back and do something particular that would cover all of these things.

MS. HENLEY ANDREWS, Q.C.: Okay, now if you had a capital project that system planning was putting forward that did require a cost benefit analysis, what do you mean, or what would you mean by the term "cost benefit analysis"?

MR. BUDGELL: I would normally refer to a project as a cost effectiveness analysis from a system planning perspective.

MS. HENLEY ANDREWS, Q.C.: And what does that mean to you?

MR. BUDGELL: Cost effectiveness analysis says that there is an identified requirement that, i.e., the option of doing nothing is not an option, you had to do something, and you have a number of alternatives drawn to do the job, and you just decide which is least cost.

MS. HENLEY ANDREWS, Q.C.: Okay, and how do you decide which is least cost?

MR. BUDGELL: You do a present working analysis of the costs of purchasing and operating that piece of equipment.

MS. HENLEY ANDREWS, Q.C.: Okay.

MR. BUDGELL: And it could be just that piece of equipment and it could be some other related equipment as well. It's like a long-term expansion plan, for instance.

MS. HENLEY ANDREWS, Q.C.: You also, in some circumstances would expect to recover your costs over a period of time, isn't that right?

MR. BUDGELL: Not necessarily in the case of doing the analysis because the analysis could be built on, there are different ways of doing an analysis. You can use a capital cost method and reflect your costs upfront. Obviously, rates will recover the cost later on, but the alternative here to decide which is cheapest doesn't necessarily have to preclude that you're going to recover those costs over time. Obviously they would, they're going to be blended in with the rest of the assets that we have in service and recovered in rates.

(2:45 p.m.)

MS. HENLEY ANDREWS, Q.C.: Okay, let me just, let me sort of approach it from a slightly different perspective. When you have a project, the one that comes to mind as perhaps the easiest to identify with is the Great Northern Peninsula interconnection, and it's my understanding that at the time that that project was being looked at, a number of alternatives were assessed, including continuing the St. Anthony, Roddickton area as an isolated system, isn't that right?

MR. BUDGELL: That's correct.

MS. HENLEY ANDREWS, Q.C.: And one of the criteria that was applied to the Great Northern Peninsula interconnection was looking at whether costs could be recovered over, within a 15 year period, for example?

MR. BUDGELL: No.

MS. HENLEY ANDREWS, Q.C.: No?

MR. BUDGELL: No.

MS. HENLEY ANDREWS, Q.C.: It's in the study.

MR. BUDGELL: The 15 years had nothing to do with cost recovery.

MS. HENLEY ANDREWS, Q.C.: Okay.

MR. BUDGELL: It was a payback period.

MS. HENLEY ANDREWS, Q.C.: Okay, well that's ...

MR. BUDGELL: That means you're equalized. When you talk about cost recovery, I think of revenue and rates, but we're not saying that we're going to pay back, pay off the project in 15 years. We're going to recover the costs. In other words, at that particular time, if you had two alternatives, it's the point which the two projects were equal from a cost perspective.

MS. HENLEY ANDREWS, Q.C.: Okay.

MR. BUDGELL: Customers at that point, a project ... if I had a Project A and Project B, and Project A was higher than Project B, the payback, if I decide to go with Project A, would be the point at which the cost of operating Project A equals Project B if both had proceeded.

MS. HENLEY ANDREWS, Q.C.: Oh.

MR. BUDGELL: So what I'm saying is that they're equal. We haven't paid the project off, it has nothing to do with revenue at all.

MS. HENLEY ANDREWS, Q.C.: Alright.

MR. BUDGELL: So I'm saying, right, we're moving ahead with the project that gives a payback against its alternative in that time period, and again, the 15 years is not a, it's just a selected threshold which we apply to projects to manage risk.

MS. HENLEY ANDREWS, Q.C.: Okay, well having said that, who is monitoring whether the actual costs deliver that payback?

MR. BUDGELL: Well, it's impossible to monitor.

MS. HENLEY ANDREWS, Q.C.: Well, if it's impossible to monitor it, how is it possible to create the figures in the first place?

MR. BUDGELL: It's easy to create it in the first place because we're heading out into the future based on load forecasts and proposed capital programs to make a decision. When you come back and monitor and let's say you're going to use the example which you are proposing, which is the Great Northern Peninsula interconnection, in order to monitor that I'd have to make some supposition on what the isolated system would be at this particular time and going into the future.

MS. HENLEY ANDREWS, Q.C.: That is correct, you might have to make those certain assumptions, but ...

MR. BUDGELL: That's correct.

MS. HENLEY ANDREWS, Q.C.: But as long as you make certain assumptions, it is possible to compare what your assumptions were at the time that the project was put in place with what your expected result is, isn't it?

MR. BUDGELL: And compare reality against my dream over here of what I think would have happened if we didn't do that.

MS. HENLEY ANDREWS, Q.C.: Exactly.

MR. BUDGELL: I see what you're saying, yeah.

MS. HENLEY ANDREWS, Q.C.: But you don't do that?

MR. BUDGELL: No.

MS. HENLEY ANDREWS, Q.C.: In terms of load forecasting, what training do you have in load forecasting?

MR. BUDGELL: None, my people that do the load forecasting, the ... I don't do the load forecasting. People under me do it.

MS. HENLEY ANDREWS, Q.C.: Have you ever done it?

MR. BUDGELL: There was a time, yes, I did the short-term load forecast, one aspect. This is for the interconnected system, and also for the Labrador system. I was a little more closely involved with that.

MS. HENLEY ANDREWS, Q.C.: What background do you have in hydrology?

MR. BUDGELL: Only what I've learned through work and experience, and from others that preceded me, and from consultants that we've hired to do work for us, and from any training or courses for ...

MS. HENLEY ANDREWS, Q.C.: But do you have any hydrologists inhouse?

MR. BUDGELL: Inhouse? We have civil engineers, I don't know if any of them have hydrology specialization, but it's most ... some of them would have a fair bit of experience with hydrology.

MS. HENLEY ANDREWS, Q.C.: On page two of your evidence, sorry, page one of your evidence, you indicate that you are responsible for the development of load forecasts?

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS, Q.C.: What do you mean when you say that you're responsible for the development of load forecasts?

MR. BUDGELL: My department or a section of my department develops the load forecasts so I am ultimately responsible for that forecast, from a management perspective.

MS. HENLEY ANDREWS, Q.C.: Okay, but do I take it from what you're telling me that you, yourself, don't have any background in load forecasts?

MR. BUDGELL: Well, other than I've done load forecasts in the past, and I'm familiar with ...

MS. HENLEY ANDREWS, Q.C.: That's short-term.

MR. BUDGELL: ... short-term forecasts.

MS. HENLEY ANDREWS, Q.C.: You also say that you're responsible for the completion of planning studies which result in the recommendation of new generation, transmission, and distribution facilities?

MR. BUDGELL: That's correct.

MS. HENLEY ANDREWS, Q.C.: What is your role in completion of planning studies?

MR. BUDGELL: Well, as Director of the department I would ensure that the resources of the department are, whether it be generation, transmission, or distribution areas, are assigned to the areas which require attention at that particular time, and the studies would be done. I would be also responsible for reviewing the study that has been completed, reviewing preliminary reports before the would go to management to ensure the completeness of the analysis.

MS. HENLEY ANDREWS, Q.C.: Who provides the expertise on forecasting water?

MR. BUDGELL: Forecasting water is not in my area.

MS. HENLEY ANDREWS, Q.C.: No, but that's not my question. My question was who provides the expertise in forecasting water?

MR. BUDGELL: I am not aware of who provides the

forecasting, the expertise for forecasting ... was it water you asked?

MS. HENLEY ANDREWS, Q.C.: Yeah.

MR. BUDGELL: Yeah, I am not aware of who.

MS. HENLEY ANDREWS, Q.C.: And who provides the expertise on forecasting demand and load?

MR. BUDGELL: If I may step back to that, the forecasting perspective in regards to the rate hearing comes out from Mr. Henderson's shop, so I rely on his, or the corporation relies on his expertise, and his department's expertise in regards to forecasting.

MS. HENLEY ANDREWS, Q.C.: And who provides the expertise on forecasting demand and forecasting load?

MR. BUDGELL: Members of my department, from our economic analysis section.

MS. HENLEY ANDREWS, Q.C.: This would be a good place to break.

MR. NOSEWORTHY, CHAIRMAN: Okay, thank you very much, Ms. Henley Andrews, we'll reconvene at ten after please.

(break)

(3:15 p.m.)

MR. NOSEWORTHY, CHAIRMAN: Thank you. Could I ask you to continue, Ms. Henley Andrews, please?

MS. HENLEY ANDREWS: Yes. Mr. Budgell, I'm still on page 1 of your testimony and in terms of your function as Director of System Planning, on average what would be your estimate of the percentage of your time that you spend dealing with load forecasts, development of load forecasts?

MR. BUDGELL: Under ten percent.

MS. HENLEY ANDREWS: And how much of your time would be spent dealing with planning studies?

MR. BUDGELL: I would say the other 90 percent.

MS. HENLEY ANDREWS: And your planning studies would include, amongst that 90 percent, how would you break that down?

MR. BUDGELL: I said 90 percent, but other than obviously time that I have to do my administrative responsibilities within the department, but pretty well the remainder, 90 percent.

MS. HENLEY ANDREWS: And that would be in relation to new generation, new transmission, and distribution?

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS: What percentage of your, of your time would be devoted to dealing with issues of load requirements for the various systems? I realize there's overlap here. I'm not going to add them together.

MR. BUDGELL: Yeah, that's difficult to say because that obviously talks to load forecast and there are times, in the past, that I've also participated in visits with some of our customers to give load forecast information at meetings and stuff like that. I think it's in that 10 percent.

MS. HENLEY ANDREWS: That would be within the 10 percent we talked about earlier in terms of development load forecasts?

MR. BUDGELL: Just can I go back to your original question so I just understand it exactly?

MS. HENLEY ANDREWS: Okay. Which is ... the original question said what percentage of your time would be devoted to development of load forecasts?

MR. BUDGELL: Yes, I meant the once since that. I've said 10 percent on that and I said 90 on planning.

MS. HENLEY ANDREWS: Okay. Alright the next question was what percentage of your time would be involved in completion of planning studies?

MR. BUDGELL: Me personally doing studies or within the department as a whole?

MS. HENLEY ANDREWS: No, with you doing it.

MR. BUDGELL: I don't directly do very many planning studies, if any, in my, in my position. I have staff to do the studies.

MS. HENLEY ANDREWS: Okay. Do you review planning studies?

MR. BUDGELL: Yes, I do.

MS. HENLEY ANDREWS: And do you make suggestions with respect to revisions to planning studies?

MR. BUDGELL: Yes, I do.

MS. HENLEY ANDREWS: So you do spend some time in completion of planning studies.

MR. BUDGELL: Yes, I do.

MS. HENLEY ANDREWS: But would that be under 10 percent?

MR. BUDGELL: I don't know. It would vary from year to year, depending on the, both the degree and the extent of planning studies that are on the go at that time.

MS. HENLEY ANDREWS: And with respect to the load requirements of the Island and the Labrador interconnected systems and the isolated rural systems, on average what

percentage of your time would deal with those types of issues?

MR. BUDGELL: It wouldn't be a major percentage. It would be in that 10 percent. Mostly my involvement there is sitting with the individuals once the exercises were complete and reviewing the forecast with them.

MS. HENLEY ANDREWS: Your evidence also covers the issue of assignment of hydro plant to customers for cost of service purposes.

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS: Is that an ongoing ...

MR. BUDGELL: No. No, that's an activity that normally arises at the time of an application.

MS. HENLEY ANDREWS: So the last time it would have arisen is about 10 years ago?

MR. BUDGELL: For me yes, you'd be right on, '92.

MS. HENLEY ANDREWS: And what percentage of your time would be involved in dealing with capital programs?

MR. BUDGELL: Again that's associated with the capital, our capital program in the system planning area originates, our capital program originates straight out of the studies so that's all part and parcel of that exercise.

MS. HENLEY ANDREWS: But, however, the system planning itself is one part of the exercise and development of the capital budgets and the bringing them through the system is another part.

MR. BUDGELL: Yeah, internally within our own department we have ongoing activities on our own capital program that feed into the generation group's capital program and we start that consistent with the rest of the organization with load, we participate, we supply the load forecast the people use to develop their budgets back in, I believe, it's December of one year for the next year and then in January we start initiating meetings with other departments to go over what activities that we had ongoing from the previous year to get updates on it and also let them know about what our projects that we are going to look at for a particular year and get their feedback on that and to alert them that we're going to be coming for capital costs estimates, and then we would have meetings directly with individual departments after that when we get the estimates to discuss them and understand them, and then we would do our analysis and that normally goes on in the winter time period leading up to the budget which is normally submitted to our management committee in about May, I think. So between December of one year and May of the following year we would do most of our analysis, carry out our studies and complete the load forecast.

MS. HENLEY ANDREWS: And would a large part of your time be devoted to that in the period from December to May?

MR. BUDGELL: The department's, whether my, my time would be spent in administrative activities and review of the reports and meetings with the department and other, there's, there's many types of activities that are ongoing.

MS. HENLEY ANDREWS: And what are your administrative responsibilities?

MR. BUDGELL: In regards to monitoring my, the budgets of the department?

MS. HENLEY ANDREWS: In the department, in your job as a whole.

MR. BUDGELL: Yes, the systems planning operating budget. I would have to administer that budget.

MS. HENLEY ANDREWS: And any other administrative responsibilities?

MR. BUDGELL: Well there's sick leave, time reporting, and stuff for people, I approve their time sheets of individuals in my department ... that report directly to me, not all the individuals obviously.

MS. HENLEY ANDREWS: And roughly how much of your day would be devoted to ...

MR. BUDGELL: Not a lot, that's something that's done once a week.

MS. HENLEY ANDREWS: So your administrative responsibilities are a fairly small portion of your job, time wise?

MR. BUDGELL: I would say that, unless there's some problems develop, which often do sometimes.

MS. HENLEY ANDREWS: It's my understanding and you can correct me if I'm not right, that you basically have two types of planning cycles ... you've got a five-year short-term planning cycle for new production needs, and a long term one, is that correct?

MR. BUDGELL: There's a ... yes, there's a short-term ... we prepare forecasts for the use of the Corporation for what I consider, what I consider near term planning for five year plan, and that would be the five, and normally for capital budgets we do, Hydro does maintain a five year plan and we do the long term, or the long term forecast is utilized mostly for generation and expansion planning.

MS. HENLEY ANDREWS: In looking at five year plans, are those load and demand type plans? Is that what you're talking about?

MR. BUDGELL: In my area, I would have responsibility for

developing any, any alternatives that are requirements, or load requirements of customers, whether it be additional generation, or additional transmission, or upgrading or reinforcement of existing transmission, and similarly with distribution, and when I spoke of generation, it is also generation in the isolated areas, of course.

MS. HENLEY ANDREWS: What is different about the five year plan versus the 20 year plan?

MR. BUDGELL: Well the, they're developed on different forecasts.

MS. HENLEY ANDREWS: And...

MR. BUDGELL: The, it's illustrated here in the, in the document on page two. The operating load forecast at the middle of the page there, page 15, or lines 15 to 17, those three forecasts are five year forecasts, and those forecasts sort of establish over the near term are, or permit our operating entities to look at their budgets and look at their forecasts for costs going out over five years. The item 4 is an item that we can use for generation expansion planning and Hydro can use if it wishes for long term financial planning.

MS. HENLEY ANDREWS: When you're looking at the operating load forecast, which is the short term planning, is the same data used for that as it would be used for the long term planning load forecast?

MR. BUDGELL: Yes and no. It, in the case of the, the long term load forecast that's indicated here is only for the, is for the ... I'm sorry, let me step back a bit. There's a short term forecast for the Island interconnected system and this is the one that essentially we're using right now for setting rates for the Island. There's a similar one produced for the Labrador interconnected system and there's one produced for hydro rural system and we use those for budgeting. They're used for fuel budgeting. Mr. Henderson uses them for his hydro thermal split going out into the future, and those numbers get worked on by others. The last item is the long term planning and I indicated what those uses were. For instance, in the short term forecast for the industrial customers we would use the same information consistently and that shows up in the interconnected Island and Labrador forecast. There's obviously no industry in the rural systems and that same forecast feeds into usually the current forecast for the long term forecast. In the case of hydro rural, interconnected and Newfoundland Power, the exercise of developing the forecast in the long term is separate, it's a different forecast methodology, it's an econometric methodology, rather than what's used in the operating load forecast is Newfoundland Power's own load forecast. So essentially what I'm saying is that what, when you it in items one and two, the operating load forecast for the Island and Labrador, as much as is possible we try to reflect the customers' views of the forecast, and for the industrial customers, those forecasts flow through to the future.

MS. HENLEY ANDREWS: And, but for Newfoundland Power and Hydro rural, those forecasts do not flow through for the future?

MR. BUDGELL: They're not the same forecast because they're developed separately.

MS. HENLEY ANDREWS: Why are they developed separately?

MR. BUDGELL: The long term forecast relies on an econometric model, whereas the short terms are deterministic. They're just based on trend analysis from past forecasts with the exercise, (inaudible) some judgement.

MS. HENLEY ANDREWS: I thought you indicated a few minutes ago that the short term is based upon the information that Newfoundland Power provides to you.

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS: So do you do any analysis of the reasonableness of what they provide to you?

MR. BUDGELL: To some extent, yes, but we, we for the most part accept the forecast.

MS. HENLEY ANDREWS: And in terms of the long term forecast, you indicate you use an econometric model ...

MR. BUDGELL: Newfoundland Power doesn't produce a 20 year long term forecast, so we have to rely on our own model.

MS. HENLEY ANDREWS: So do you use their short term data as input data for the ...

MR. BUDGELL: No, we, we have a look at it versus our output but there's, there's, we don't attempt to try to match it one for one.

MS. HENLEY ANDREWS: Okay. So, what data do you put into the process for the econometric forecasting on the long term?

MR. BUDGELL: I believe that was addressed in one of the RFI's. It was a list of economic assumptions for the province, GDP, disposable income, population.

MS. HENLEY ANDREWS: I understand that. I guess what I'm trying to get to, I'm obviously not asking my question clearly enough, is what's your starting point? In order to develop a model into the future you have to provide a certain amount of historical data, or current data ...

MR. BUDGELL: Oh yes, you'd start from the day (inaudible), just your, your, some analysis of looking at

what you're just coming out of, the history, but you'd have to, of course, apply some judgement to that.

MS. HENLEY ANDREWS: Uh hum. I'd like you to take a look at your **Schedule 7**. It should be **Schedule 8**, I'm sorry.

MR. BUDGELL: Is that the, as pre-filed?

MS. HENLEY ANDREWS: That's the correct one, it's on the screen there now, which is the, the pre-filed evidence, yes.

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS: Did you generate this data?

MR. BUDGELL: The economic analysis section of the system planning generated this data.

MS. HENLEY ANDREWS: Who's in charge of that division?

MR. BUDGELL: It's not a division, it's a section of system planning, Stephen Goudie.

MS. HENLEY ANDREWS: What I'd like you to look at in particular is the 2000 actual is shown in terms of demand first, is shown as being 1,443 megawatts.

MR. BUDGELL: That's correct.

MS. HENLEY ANDREWS: And the 2001 forecast is a demand of 1,576 megawatts.

MR. BUDGELL: That's correct.

MS. HENLEY ANDREWS: Is that a maximum demand?

MR. BUDGELL: No, it's the expected, it's the expected demand.

MS. HENLEY ANDREWS: Okay.

MR. BUDGELL: Whereas the 1,443 was the actual demand in that particular year.

MS. HENLEY ANDREWS: And where does the 1,576 figure come from?

MR. BUDGELL: It comes, it's a fallout from our econometric forecast based on various assumptions of a winter peak day.

MS. HENLEY ANDREWS: Now we've had our winter peak day in 2001, isn't that right?

MR. BUDGELL: Well, we had a peak day in that year ... in this past winter, yes.

MS. HENLEY ANDREWS: Yes, and do you know whether the actual peak was at the same level as that forecast?

MR. BUDGELL: For 2001?

MS. HENLEY ANDREWS: Yes.

MR. BUDGELL: No, I doubt it was.

MS. HENLEY ANDREWS: Why do you doubt that it was?

MR. BUDGELL: Because the, the weather conditions this past winter did not generate the situation whereby the normally expected maximum peak would have occurred.

MS. HENLEY ANDREWS: However, the forecast that you're using is assuming that the demand is going to go from 1,443 megawatts in 2000 to 1,576 in 2001?

MR. BUDGELL: That's right. Now 2001 peak here covers the winter period from, the peak here is from December 2001 to March of 2002, the winter season.

MS. HENLEY ANDREWS: Yes.

MR. BUDGELL: So the energy number you have here, there's a little bit of a, it's a little bit of a difference in time period. What's being forecast here, if you get it straight, is the winter peak.

MS. HENLEY ANDREWS: Yes.

MR. BUDGELL: And that spans over the, the two year period, over the winter period starting December of this year, next month, till March of the following year. So what we're forecasting here is 1,576, is the peak that would occur if we have the normal winter peak conditions that drive our peak, and there's a combination of temperature and wind speed.

MS. HENLEY ANDREWS: When you are looking at 2000 actual, what time period does that cover?

MR. BUDGELL: That would have been the peak that occurred in December to March period of '99/2000.

MS. HENLEY ANDREWS: Okay, so that 2000 actual covers the period from December of 1999 to the end of March of 2000?

MR. BUDGELL: I believe so, yes.

MS. HENLEY ANDREWS: And if we're looking at the 2001 number of 1,576, then that should be the number from December of 2000 to March of 2001?

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS: And as you've already indicated the actual peak in 2001 for that time period is already known.

MR. BUDGELL: For this past winter.

MS. HENLEY ANDREWS: Yes.

MR. BUDGELL: Yes, it's the 1,443 is an actual.

MS. HENLEY ANDREWS: Yeah, for the period December

'99 to March of 2000.

MR. BUDGELL: That may not have occurred in that time period. It could have, it could have occurred in the winter just previous to that, looking at the calendar year.

MS. HENLEY ANDREWS: Okay, let's go back because it's really important that we understand, for the questions that I've got it's really important that we understand the time period. I understood from you a few moments ago that the figure of 1,443 megawatts reflects the system peak, the actual system peak in the winter which started in December of 1999 and finished in March of 2000.

MR. BUDGELL: I understood it, yes, and it occurred on December 10th, 12 noon, 2000.

MS. HENLEY ANDREWS: December 12th of 2000?

MR. BUDGELL: December 10th, 12 noon. The 1,443 megawatts occurred on December 10th, 12 noon of 2000.

MS. HENLEY ANDREWS: Well if that's the case then the answer that you just gave me to the question isn't, couldn't be correct, because if the 1,443 megawatts covers the winter from December 1999 to March of 2000, then the peak on December 10th of 2000 would have been outside.

MR. BUDGELL: I understand, I think I mis-spoke myself. It is, I'm just looking at the numbers and it must be on a calendar basis.

MS. HENLEY ANDREWS: On a calendar basis?

MR. BUDGELL: Calendar basis.

MS. HENLEY ANDREWS: And that's what I had previously understood so that was ... alright, so in the year 2000, calendar year 2000, the peak occurred on December 10th, is that right?

MR. BUDGELL: That's right.

MS. HENLEY ANDREWS: And in the year 2001, which is the year that we're currently in, there has not been to date a peak anywhere near 1,576 megawatts?

MR. BUDGELL: Yes, you're correct, and the reason for my confusion, or leading confusion here, when I indicated that from a planning perspective, not a load forecast perspective, we normally plan on the basis of the peak occurring sometime in the winter period and the winter period starts in December, but for the forecast here obviously they're being presented on the basis of calendar year peaks.

MS. HENLEY ANDREWS: Because otherwise everything doesn't match up.

MR. BUDGELL: Yes, I realize that.

MS. HENLEY ANDREWS: So this, this number of 1,576 that's forecast for 2001, you said that that's based on an econometric model?

MR. BUDGELL: That's right, and the results of econometric model and the, a regression on the, the peak that might be expected, the combination of utility and industrial loads, but normally driven mostly by utility load, with the combination of wind speed and temperature.

MS. HENLEY ANDREWS: Is it a worst case scenario?

MR. BUDGELL: It's not the absolute worst case, but it's a, it's the average worst.

MS. HENLEY ANDREWS: Define how you would come up an average worst case scenario.

MR. BUDGELL: I had distinctly, I'd have to take it as an undertaking. I couldn't, I don't remember the actual. There's a windspeed value and there's a temperature value, associated with it, and they're based on a historical record.

MS. HENLEY ANDREWS: And what I would like to know is what, what portion of the historical record, what are the input data for that and is it a worst case scenario or is it, like what criteria ...

MR. BUDGELL: I know it's not a worst case. I know that, but I don't remember the actual. It's an average of the average peak day, so if we look back in the past and look when peaks occurred and the conditions which peaks occurred on, you took an average of those peaks, that's what this would represent.

MS. HENLEY ANDREWS: And it has nothing to do then with what the combination of the industrial customers and Newfoundland Power and hydro rural would forecast to be their demand in 2001?

MR. BUDGELL: It may not be the same number, I agree, but the peak, this peak is only the weather sensitive portion of the load, we're still using industrial. I already indicated that the industrial peak is being used. So it's the weather sensitive portion of hydro rural and Newfoundland Power's that drive this peak.

MS. HENLEY ANDREWS: And that's because their peak is actually very weather sensitive, wouldn't you agree?

MR. BUDGELL: Exactly, yes. It's the electric heating.

MS. HENLEY ANDREWS: And the industrial is not weather sensitive?

MR. BUDGELL: There is some degree of it, but it's not as pronounced.

MS. HENLEY ANDREWS: How often do you do these forecasts?

MR. BUDGELL: The, this particular one, the long term?

MS. HENLEY ANDREWS: Yes.

MR. BUDGELL: This is done yearly, and is normally reviewed mid-year. There's, there's a time period where we do it in the fall and then we look at it again mid-year.

MS. HENLEY ANDREWS: Okay, and what happens when you look at mid-year?

MR. BUDGELL: If we would produce, the economic analysis section would produce a, an update or revision to the forecast if it's deemed to be very different than what was originally assumed.

MS. HENLEY ANDREWS: What type, what types of factors could change that would cause that forecast to change?

MR. BUDGELL: Well it could be anything from information received from a customer that his load requirements are going to change or new loads developing on the system that we weren't aware of back when we started the forecast.

MS. HENLEY ANDREWS: With respect to your hydro rural and your Newfoundland Power component, let's call them the utility components, that doesn't change?

MR. BUDGELL: That would change too because we, if we have an update in the economic parameters feeding into that particular forecast, that would change those components.

MS. HENLEY ANDREWS: What about an update with respect to the weather components?

MR. BUDGELL: The weather component would be picked up. I don't know whether there's an update between the time period in the fall of one year when we do the first cut at, when the forecast is done, the official version of it, and the review in the spring, let's say, time period whether there would be the one year, if they have another year's information whether that would change materially numbers, I don't know.

MS. HENLEY ANDREWS: I'd like you to, I'd like, I'm going to ask some questions on your **Schedules 4, 5 and 8**, and from what I can see of your pre-filed evidence and your supplementary evidence, Schedule 4 and Schedule 8 have not changed as a result of some of the changes in assumptions, is that correct?

MR. BUDGELL: Four hasn't changed. I'm not sure 5 has. Is 5 one of the ones you just asked?

MS. HENLEY ANDREWS: Yes.

MR. BUDGELL: I believe it was. Five has changed and I believe 8 is Labrador. No.

MS. HENLEY ANDREWS: No, 8 ...

MR. BUDGELL: No, 6 is Labrador, so 6 is changed. 8 is ...

MS. HENLEY ANDREWS: 8 is the Island interconnected system, demand and energy requirements that we were just looking at.

MR. BUDGELL: Yeah, that's not changed. The long term forecast has not changed.

MS. HENLEY ANDREWS: You're, I'm going to be going back and forth between these two but I see you've got the hard copy in front of you anyway.

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS, Q.C.: With respect to Schedule 4, it's my understanding that this shows the peak and the energy forecasts submitted by Hydro in 1991.

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS: And compares it to what actually happened, is that right?

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS: And you can see that the actual peak for 2000 is lower than the actual peak in 1991, is that correct?

MR. BUDGELL: That's correct.

MS. HENLEY ANDREWS: And the forecast peak for 2001, which we can see in **Schedule 8**, the 1,576 megawatts, is actually less than what Hydro had in 1991 forecast for 1993, is that right?

MR. BUDGELL: Yes, that's correct.

MS. HENLEY ANDREWS: And the forecast in **Schedule 8** for 2010 for peak which is 1,741 megawatts is, in fact, less than what Hydro had in 1991 forecast to occur in 1997?

MR. BUDGELL: I'm sorry, I didn't catch the first reference, the forecast in Schedule 10, or...

MS. HENLEY ANDREWS: The forecast for 2010...

MR. BUDGELL: 2010, which is the megawatt feed.

MS. HENLEY ANDREWS: Yeah.

MR. BUDGELL: The 1,741 ... yes.

MS. HENLEY ANDREWS, Q.C.: Which is the 1,741 megawatts is, in fact, less than what Hydro in 1991 was forecasting to be the demand in 1997.

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS, Q.C.: Which was ...

MR. BUDGELL: 1,750.

MS. HENLEY ANDREWS, Q.C.: 1,750.

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS, Q.C.: Now by my calculation, and if you have a calculator you can verify it or you can trust my math, in 1991 Hydro was forecasting a 26.2 percent growth in its peak over the period to 2000, from 1,480 to 1,868?

MR. BUDGELL: That's the calculation, yes.

MS. HENLEY ANDREWS: But the actual, if you pick the highest amount in column 2 of **Schedule 4** which occurred in 1996, which is 1,563, that is only 5.04 percent higher than the actual in 1991.

MR. BUDGELL: If that's the calculation.

MS. HENLEY ANDREWS: So the forecast as presented to the Board in 1991 is significantly different with respect to total Island peak than the actual turned out to be, would you agree?

MR. BUDGELL: That's right, and there are reasons.

MS. HENLEY ANDREWS: And what are those reasons?

MR. BUDGELL: Well, a number, there are two reasons actually. There's the economic downturn in the economy. Nobody back in 1991 expected the downturn, the fisheries problems that generally occurred, and also we've gone through a period combined on top of this of warmer than average conditions through the winter. We haven't had a real cold winter, with the exception of 1996, and that's why you see that peak shows up.

MS. HENLEY ANDREWS: We had a pretty long winter and ...

MR. BUDGELL: Yeah, but we didn't have the cold snap that drives peak. It's not long winters that drive, long winters drive energy, it doesn't drive peak.

MS. HENLEY ANDREWS: Now, if you were making a decision on generation additions ...

MR. BUDGELL: Yes.

MS. HENLEY ANDREWS, Q.C.: ... on the basis solely of the 1991 forecast, then in light of what actually happened, more generation would be added than would actually have been needed, would you agree? If you were making the decision solely on the basis of the 1991 forecast?

MR. BUDGELL: Well, we wouldn't, we wouldn't necessarily be making a decision in '91 for the 2000 requirement.

MS. HENLEY ANDREWS: No, but ...

MR. BUDGELL: But normally back in 1991, since we didn't have to come to Board for capital approval prior to our committing to generation, we would be looking maybe three years out from that and we would have to try to establish confidence in that time period. So it's the initial period that is more important.

MS. HENLEY ANDREWS: However, if you, the question is a hypothetical one which is that if you were making decisions on generation based on the 1991 forecast and solely on that, then you might have added generation that you wouldn't, as things turned out, have needed.

MR. BUDGELL: If we committed to generation at that particular time, to construction, yes, but I'm saying, it wouldn't be all the generation requirements as shown in this table.

MS. HENLEY ANDREWS: And if you were making decisions in 1991, based on the forecast in 1991 for the next five years, then whatever you put in place should be adequate to meet the 1995 peak and the 1996 peak, is that right?

MR. BUDGELL: Yeah, I'd have to go back and qualify. If we're in 1991 and we're just at, in other words we had a balance between what the system capability was and the requirements at that time were exactly in balance, and we needed to make a decision then on the future, your premise would be correct, but if we were in 1991 and in a position where we had additional capacity over and above what we needed in that particular year, then we would not be making a decision. It would depend on what the current capability of the system is in the year in which you make a decision.

MS. HENLEY ANDREWS: When you're making those, when you were making those capital or those generation addition decisions, in the early 1990's, you would agree that you would have had to start that planning cycle at least three years in advance in most ... in order to have the system in place, wouldn't you agree?

MR. BUDGELL: Yes, we would have to do our study and analysis at that particular time about a year in advance of releasing our, having a project released for construction. Most projects were three to four years to build.

MS. HENLEY ANDREWS: That's right, so you're really talking about a four to five year process from the realization that you are going to need the additional generation until the additional generation is operating.

MR. BUDGELL: That's correct.

MS. HENLEY ANDREWS: So in 1991, if you were sitting in 1991 looking at the forecast, we're just focusing here now on demand for the moment, you would be looking at your existing generation, correct?

MR. BUDGELL: That's correct.

MS. HENLEY ANDREWS: You would be looking at what

the demand was forecast to be over the next five years.

MR. BUDGELL: That's correct.

MS. HENLEY ANDREWS, Q.C.: To make sure that you had enough generation in place to meet the forecast demand five years down the road.

MR. BUDGELL: Yes, but I wouldn't just look at demand, I'd be looking at both components ...

MS. HENLEY ANDREWS: Yes.

MR. BUDGELL: Demand and energy.

MS. HENLEY ANDREWS: Okay.

MR. BUDGELL: I would have to look at both.

MS. HENLEY ANDREWS: Exactly.

MR. BUDGELL: That's right, and up to the time when we actually make the decision, I would be reviewing that decision as closely as possible until the time that you have to release the project.

MS. HENLEY ANDREWS: And I realize that, so that when you're in 1991, and you're looking at a forecast for a demand requirement of 1,666 megawatts in 1991, or 1995, and an energy requirement of 8,331 gigawatts hours in 1995, you would already be planning, or have planned your system additions for being in place for 1995. Isn't that right?

MR. BUDGELL: I would be looking at, not necessarily in 1995. This is just the load part. I'd have to look at capability of the system to meet that load forecast, i.e., I'd have to look at the generation, that's in table, I guess, 9, we went through that this morning, Table 9, and what the capability of the system is. If the capability of my system in 1991 was such that I can make it to 1995 without any addition, I wouldn't.

MS. HENLEY ANDREWS: That's right.

MR. BUDGELL: If the capability was such that I can make it to 1993 without any addition, I wouldn't until that time period. Actually in 1991, I think we were, about that time, looking at some very modest changes to the system, runner replacements in Bay d'Espoir being one, an interruptible contract with Abitibi in '93 being another, so we were making some fairly modest plans at that particular time that wouldn't incorporate these increases as you're indicating here now. Like in other words, we weren't making decisions in 1991 for the difference between the 1991 number of 1,480 and the 1995 of 1,666, which is almost 150 megawatts of additional generation. I don't want to the Board....

MS. HENLEY ANDREWS: No, and I'm not suggesting, I'm sorry, I'm not suggesting that that's what you were doing, was planning for an additional 150 ...

MR. BUDGELL: Yeah, I just wanted to make that clear so that the Board understands that that's not necessarily the decision. Our particular plans in 1991 were very modest.

MS. HENLEY ANDREWS: So, if we wanted to know what Hydro thought in 1991 was sufficient, going to be sufficient generation to meet the demand and energy requirements in 1995, we would have to look at what was in place in 1991 and what Hydro was looking at doing in 1991, or planning in 1991 to make sure that it could meet that forecast demand.

MR. BUDGELL: Whenever the requirement was identified, the year that a requirement was identified to do something.

MS. HENLEY ANDREWS: But even, for example, if you're talking about the runner replacement which are small things rather than a major development like Granite Canal, we would look at what Hydro told us in 1991, it expected to have to generate in order to meet that demand, isn't that right?

MR. BUDGELL: That's right.

MS. HENLEY ANDREWS: It's a good place to break.

MR. NOSEWORTHY, CHAIRMAN: Thank you, Ms. Henley Andrews, very much. Thank you, Mr. Budgell. We'll adjourn and we'll reconvene at 9:30 tomorrow morning.

(4:00 p.m.)

(hearing adjourned to November 6, 2001)