Page 1

(9:21 a.m.)

CHAIRMAN:

Q. Good morning, ladies and gentlemen. We're late starting this morning. First of all I'd like to introduce the Panel members to you. Commissioner Gerard Martin on my right; Commissioner Don Powell on my left; my name is Fred Saunders. We have Barbara Thistle, who is the Assistant Secretary to the Board; Dwanda Newman, Board counsel; Mark Kennedy, Board hearing counsel. And that's all the Board people I see present.

The purpose of the hearing this morning is to consider an application by Newfoundland and Labrador Hydro for approval of its 2004 capital budget. I will start by asking the Board counsel to confirm the Board's authority to hear that.

MS. NEWMAN:

Q. Good morning, Mr. Chairman, Commissioners, and everyone else in the room. I did want to confirm that the Board has the authority pursuant to Section 41 of the Public Utilities Act to hear this matter and that notice was duly published on three occasions, firstly,

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for the hearing to begin on June 10th, which notice was published beginning on April 23rd in the Telegram, the Western Star, the Grand Falls Advisor, the Aurora, the Labradorian, the Northern Pen. Subsequently the matter was postponed to June 25th and notice was published again in the same papers beginning on June 7th. And for a third time the matter was postponed to today's date, July 7th, and notice was published in the same papers beginning on June 21st, 2003. I can also confirm that the Board has received several intervenor submissions, the first from Newfoundland Power and secondly from several industrial customers of Newfoundland and Labrador Hydro, including Abitibi Consolidated, Corner Brook Pulp and Paper and North Atlantic Refining Limited. And we have not to date, I understand, received any letters of comment.

CHAIRMAN:

Q. Okay. I would ask now if the parties agree that the Board is properly constituted to hear the matter?

HUTCHINGS, Q.C.:

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Q. We agree.

CHAIRMAN:

Q. Agree?

MR. HAYES:

Q. Agree, Mr. Chair.

HUTCHINGS, Q.C.:

Q. Agree.

GREENE, Q.C:

Q. Yes, Mr. Chair.

CHAIRMAN:

Q. I would note at this time that the matter is being recorded and transcribed and the transcripts will be available overnight, as far as I know. Through any other arrangements you want made, the parties will have to check with the transcriber during a break. We'll be sitting between nine and 1:30 with a break at 10:30 for 15 minutes and one at 12 noon for 15 minutes. The Board secretary will be maintaining a record of all of the exhibits and submissions. And the parties are asked to provide a sufficient number of copies for the Panel members and the parties that are registered as intervenors and the Applicant, of course. I would ask Ms. Newman now, if she

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would, to put on the record the record of the settlement conference and Rules of Procedure that were mailed out, I think, on the 2nd of July to the parties?

MS. NEWMAN:

Q. Yes, Mr. Chairman. The parties have had an opportunity to review the Rules of Procedure and I understand they are all in agreement with it. I therefore propose that the Rules of Procedure which have been circulated to the parties, and I believe to the Panel members this morning, be entered as a consent document to be Consent No. 1? Unless anybody has any objections.

MR. HAYES:

Q. No objections.

EXHIBIT ENTERED AND MARKED CONSENT NO. 1.

MS. NEWMAN:

Q. Secondly, Mr. Chairman, the parties agreed to attend a settlement conference and made every effort to resolve matters that were possible at that time, and I want to thank them for their generous cooperation. In respect of that, they have executed a Settlement Report which I have here and I will file with the

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Board and circulate a copy of. I don't have copies right now, it was just executed this morning, so we'll get copies out. But for our purposes this morning I did want to briefly explain that the first item in the Settlement Report sets out certain projects which the parties do not object to and so there's a specific list there, several projects.

The second item in the Settlement Report is there's a specific project which I understand Hydro needs relatively quick approval of because of the timing required in placing an order for this, and that's Project C2, the purchase and installation of a transformer at Happy Valley-Goose Bay. The parties have agreed--or have no objection to providing Hydro with an immediate order. And my understanding from Hydro is that they would need an order from the Board in the next several days in order to make this proposal be implemented in the way in which they suggest. So my suggestion is if nobody has any objection here today, that the Board in the next couple of days generate an order approving Project C2. I don't know if there

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are any objections?

GREENE, Q.C.:

Q. Excuse me, Mr. Chairman, Commissioners. There is no objection; I just wanted to explain. It's a timing problem. This is for a transformer to meet new load growth in Happy Valley-Goose Bay for 2004. In order to have the transformer available for the 2004 load growth, it is necessary to make a commitment with the manufacturer now for delivery in early 2004, so that is the rational or the reason why we're requesting that it be dealt with as soon as possible.

MS. NEWMAN:

Q. Okay.

HENLEY ANDREWS, Q.C.:

Q. Mr. Chairman, I think it's important for us to point out that there is a distinction between consent and not objecting. And by not objecting the Board obviously still has the job to analyze the various projects to which we have not objected, but we're just taking no position on them.

MS. NEWMAN:

Q. So, Mr. Chairman, I propose that we enter this

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settlement report as a consent document which would be Consent No. 2.

EXHIBIT ENTERED AND MARKED CONSENT NO. 2.

Q. Mr. Chairman, if I could just take a moment also to go through a couple of comments that I had. One is that my role here as Board counsel is mainly to address procedural matters and to assist the Panel in legal matters, as well. For this hearing my role will be limited to addressing the procedural matters at the start of the hearing for each day. So, I've spoken to the parties about this and advised them, to the extent that it's practical, if they could bring forward any procedural matters at the start of each day, that would be great. I will sit in for awhile and then I will excuse myself as the matter proceeds into more substantive cross-examination of the witnesses. Just so everybody is aware of how that's going to go. When I'm not here and something comes up on a procedural level, then Board hearing counsel, Mr. Kennedy, can address anything that needs to be addressed. Everybody is find with that, I understand.

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I did also want to mention that I've also spoken to the parties about this, but we're not able to sit on Thursday because the Board has another matter ongoing. But I have indicated that should it appear as though we may be able to get through the evidence we would be willing and we ask the parties to make themselves available to sit late on Wednesday, the 9th.

CHAIRMAN:

Q. Okay. Anything else, Ms. Newman?

(9:30 a.m.)

MS. NEWMAN:

Q. No. I understand--I've canvassed the parties and they don't advise that they have any preliminary matters. And that's it.

CHAIRMAN:

Q. No preliminary motions, okay. I wonder if we could ask now the Applicant and the intervenors to introduce themselves and to indicate the names of the witnesses they intend to call with a brief outline of the evidence you intend to put forward? We'll start with the Applicant.

GREENE, Q.C.:

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Q. Good morning, Mr. Chairman, Commissioners. I'll deal first with opening comment. This is an application by Hydro under Section 41 of the Public Utilities Act for approval of its proposed 2004 capital expenditures. As you know, under Section 37 of the Public Utilities Act, Hydro, as is any utility, subject to that Act, required to provide services that are reasonably safe and adequate and just and reasonable. To meet this obligation, as well as its obligation to serve customers, capital expenditures are required by Hydro each year.

Section 41(1) of the Act requires Hydro to file an annual capital budget by no later than December 15th in each year. In this particular case, with respect to the 2004 capital budget, Hydro filed its application on March 28th, 2003. In order No. P.U. 7 in June, 2002 the Board outlined the information and the justification that would be required by Hydro to be filed to support a capital project. Last year for the 2003 capital budget was the first year that Hydro filed the justification in compliance with Order No. 7. Hydro submits that with respect to the 2004

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capital budget application we have met the requirements of the Board as set out in Order No. P.U. 7 dated June, 2002 with respect to the justification that must be provided to support a capital budget. Looking at the specific 2004 capital budget, we filed and asked for approval of a budget of approximately $34.5 million. Since that was filed there has been one minor amendment. In correspondence dated June 24th Hydro agreed to defer seeking approval of one project dealing with the JDE Migration Study that was Project B70. So there is one reduction and Hydro, because of the uncertainty relating to the software supplier, JD Edwards and the announced purchase by another software company, we have agreed to await the outcome of that sale and if necessary to seek approval later for that study.

The budget that Hydro has submitted seeking approval of is the second lowest that Hydro has sought approval for. The average budget we've sought approval for has been approximately $38 million, but the amount has ranged from approximately 55 million down to

Page 11

33 million. We believe that this budget is a fairly routine type of capital budget. There are several categories applicable with respect to the budget.

The first I'd like to refer to is a continuation of ongoing programs where we have started a program and this is another year of the program. For example, the first few projects in Section B relating to the replacement of the exciter at Bay D'Espoir, for example, this is the last exciter to be done at Bay D'Espoir. There are a number of projects in that category, a continuation of ongoing programs.

The second type of category is where the project actually was reviewed by the Board last year and the Board approved the initial cash flow for 2003 dollars associated with the program, so the Board again has reviewed the justification for that particular project already.

The third type of project that I'll refer to are ongoing annual ones that we require each and every year such as distribution line extensions and service extensions.

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The final category would be a totally new project. And we will be looking at those and you will see there are very few new projects that the Board has not seen before.

In the discussions leading up to this hearing it became clear, based on the information requests and the discussions with other counsel that there is one project that has attracted the attention of the parties more than others, and that is the Project B71, the replacement of the VHF mobile radio system. And for that reason, we have determined that it would be appropriate to have a presentation this morning particularly with respect to that project.

Turning now to our witnesses, the first panel to be called is the production panel. There are five Hydro employees who are members of this panel. The first is Jim Haynes, who is the vice-president of production. And when the Panel members take the witness stand, I'll go through with each of them the areas that they will be speaking to. But principally, Mr. Haynes is responsible for all projects under the heading of "Generation and

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Information Systems and Telecommunications". As the executive responsible for those areas, he will speak to all policy matters. The second panel member is Eric Downton, who is the director of the information systems and telecommunications department in Hydro. And Mr. Downton can speak to the more technical aspects of the projects under the category of "Information Systems and Telecommunications." The third witness is Gerard Dunphy, and witness profile was filed for Mr. Dunphy on Friday past. Mr. Dunphy is a manager in the information systems department and he will be able to speak to the technical aspects of the VHF mobile radio project only. So Mr. Dunphy was added to the panel only for one project, the VHF mobile radio replacement project and his area of expertise is with respect to the technical aspects of that project. The last witness for the production panel is Ken McDonald who is a labour manager responsible for all of our line crews and other employees, field people who has worked with the VHF mobile radio system for his entire career at Hydro which is in excess of 30 years, and Mr.

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McDonald will be able to speak to the uses to which the mobile radio system is put by Hydro's crews in the maintenance and emergency repair of all of our assets.

After we finish with the production panel which will deal, as I said, with the generation projects and the information systems and telecommunications projects, the next witness will be John Roberts. John has appeared on a number of occasions as a witness before the Board as controller of Hydro and upon Derek Osmond's retirement at the end of the year John was--Mr. Roberts was promoted to the position of vice-president finance and chief financial officer. Mr. Roberts will speak to the financial aspects of the capital budget, including such things as the capital budget process at Hydro and the financing of the capital budget program.

The last area to be covered by Hydro to support its application is with respect to the transmission and rural operations projects. And here we had planned to call two members of the panel, Mr. David Reeves, who is the current vice-president of transmission and

Page 15

rural operations and Mr. Fred Martin, who is the current director of engineering in the transmission and rural operations division. Mr. Reeves has submitted a notice of his retirement from Hydro to be effective the end of July, and I'm pleased to announce today that Mr. Fred Martin has been appointed as the vice-president to replace Mr. Reeves effective August 1.

There is one slight timing issue that may be an issue for this week I'd like to advise the parties of now. Mr. Reeves' mother-in-law died this weekend and he has had to travel to Corner Brook today. And I'm not totally sure of the timing of that and hopefully it will not affect the schedule for this hearing, but I guess it depends on the timing of the calling of the evidence, etcetera. But as of now Mr. Reeves is in Corner Brook for that wake and funeral and he is to call me later today with respect to his schedule and the timing of that and I will have more information later with respect to that. And hopefully it will not be a problem for the timing of this hearing.

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The last thing that I wanted to speak to very briefly was with respect to the project Ms. Newman referred to which--and I referred to, as well, which is the purchase and installation of the transformer for Happy Valley-Goose Bay which is outlined in Section C to the capital budget. Hydro submits that it has filed sufficient documentation to support the need for this transformer which is required to meet the anticipated load quote in the Happy Valley-Goose Bay area. We believe that the information filed in Section C 2 clearly supports the need for this transformer and we seek the early approval of the Board so that we may proceed to place the transformer on order to have it available for the 2004 season. Unfortunately, there is that long a time period in order from the time of placing the order to the time of delivery to have it available.

Mr. Chairman, those conclude my opening comments, and the very brief outline of the witnesses. When the witnesses take the stand, we will do a little bit more of an outline of the projects to which they're speaking. Thank

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you, very much.
CHAIRMAN:
Q. Thank you, Ms. Greene. We're sorry to hear about the passing of Mr. Reeves' mother-in-law. Please extend our sympathies. The industrial customers, who's going to -
HUTCHINGS, Q.C.:
Q. Ms. Henley Andrews.
CHAIRMAN:
Q. Ms. Henley Andrews.
HUTCHINGS, Q.C.:
Q. Will speak to that, Mr. Chair.
HENLEY ANDREWS, Q.C.:
Q. Good morning, Mr. Chairman, Panel members. To my far right is Joseph Hutchings, who is co-counsel for the industrial customers. And the three industrial customers mentioned by Ms. Newman, which is Abitibi, Corner Brook Pulp and Paper and North Atlantic Refining are the entire group of island industrial customers. To my immediate right is Stephen Barreca, and Mr. Barreca is our witness, particularly with respect to telecommunications and IT issues. And he has already pre-filed his evidence.
With respect to the hearing itself, the

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industrial customers on Thursday filed a pre-hearing brief with respect to their position on the hearing. And the thing that is critical from our perspective is that the Board has the discretion under the legislation to approve or not approve any of Hydro's projects. And that discretion is limited by the provisions of the Electrical Power Control Act, particularly Section 3(b). So our focus during the hearing is going to be on the three provisions of Section 3(b) of the Electrical Power Control Act, and that is that the projects have to be assessed on the basis that they result in the most efficient production transmission and distribution of power, they result in consumers in the province having equitable access to an adequate supply of power and they result in power being delivered to customers in the province at the lowest possible cost consistent with reliable service. And the direction in Section 4 of the Act which says that the Board has to implement that power policy and apply tests which are consistent with generally accepted sound public utility practice.

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The position of the industrial customers is that with respect to a great many of the projects, an insufficient amount of information has been provided to the Board to be able to satisfy itself that these projects are the lowest possible cost. And we will be focusing our cross-examination and our evidence on those specific issues, and in some cases on the issues of reliability. But our predominant concern is with respect to lowest possible cost.
(9:45 a.m.)
Ms. Greene mentioned in her opening that some projects had received approval for some cash amounts in previous years, particularly in the 2003 capital budget. As noted in our pre-hearing submission on page 6, we quoted from your decision in P.U. 29 that during that hearing Board counsel, Ms. Newman questioned the witnesses regarding the inclusion of expected future years capital expenditures in the explanation sheets provided by Hydro. Mr. Haynes explained that approval of the expenditures projected beyond 2003 will be sought in future years' capital budget

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applications. He admitted that in some cases where projects are carried into future years before completion and bearing in mind that each years' capital budget required Board approval in the prior year there's a possibility of costs being stranded if future years' budgets are not approved. You will recall that during the hearing with respect to the 2003 Hydro capital budget the industrial customers attempted to ask questions particularly with respect to those projects for which only engineering approval or one to two percent of the total capital cost was projected for 2003 and where the bulk of the cost was projected for future years. That type of questioning was objected to on the basis that the future years' portions of the costs were not part of the hearing and the industrial customers therefore intend to fully explore the reasonableness of the substantive portions of those projects that are included for the 2004 capital budget.
Mr. Barreca will provide evidence focused on the VHF radio system, but also with respect to capital budgeting in general, the types of

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criteria that are used in other jurisdictions with respect to capital budgets and testimony with respect to some of the information technology and other technology related aspects of Hydro's budget.

And our presence here and purpose of calling a witness is to assist the Board in assessing its role, both from a legal and jurisdictional point-of-view and to also assist the Board in determining, through the analysis that Mr. Barreca will provide, not only the reasonableness of the projects which he specifically directs his mind to, but the reasonableness of other projects on which we will have some cross-examination. Thank you.

CHAIRMAN:

Q. Ms. Henley Andrews, in relation to that pre-hearing submission that you referred to, I have a question for you which I'm hoping you can answer for me in a clear and concise manner, and that is with respect to the statement you make there with respect to the Board. Are you making an allegation that the Board is bias?

HENLEY ANDREWS, Q.C.:

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Q. No, we are not. We are saying that we have felt, to some extent, disadvantages by a number of things that have occurred. We don't believe that it is deliberate and we do not believe that the Board is biased, but we felt, Mr. Hutchings and I and in consultation with our clients, sufficiently concerned about the outcome of the 2003 capital budget hearing, in particular, that we felt that it was important to advise the Board of the concerns that we had, but we are not, at this point, in any way suggesting bias.

CHAIRMAN:

Q. Okay. Mr. Alteen, are you going to be speaking on behalf of Newfoundland Power?

MR. ALTEEN:

Q. Yes, Mr. Chairman.

CHAIRMAN:

Q. Good morning, Mr. Hayes, as well.

MR. HAYES:

Q. Good morning, Mr. Chair.

MR. ALTEEN:

Q. We appear for Newfoundland Power, Mr. Chairman. Newfoundland Power is the principal purchaser of Hydro's production on the island

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integrated--or interconnected grid. That's our interest in the proceeding as the primary purchaser. Our primary focus in the proceeding, Mr. Chairman, will be on the VHF mobile radio, a budget item at approximately $8.8 million. We--I should say from the outset we do not challenge the need for Hydro to have reliable mobile communications. The question will solely be, from our perspective, whether at the end of the day the record before the Board indicates that the VHF mobile radio proposed by Hydro is a least cost alternative to providing the communication required. We do not intend to call any evidence, Mr. Chairman, and our cross-examination will largely but possibly not exclusively be directed to the issue of the VHF radio. Those are our opening submissions. Thank you, very much.

CHAIRMAN:

Q. Okay. Thank you, Mr. Alteen. Do you have anything, Mr. Kennedy?

MR. KENNEDY:

Q. No, Chair, no, no opening comments.

CHAIRMAN:

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Q. I see Mr. O'Reilly is back with us.

GREENE, Q.C.:

Q. Thank you, Mr. Chairman.

CHAIRMAN:

Q. Welcome.

GREENE, Q.C.:

Q. I should have introduced Mr. O'Reilly, while not a witness is a very important part of this particular application. And Mr. O'Reilly, as you know, Mr. Chairman, assisted during the last Hydro general rate application and will provide the same service for this hearing, which is the electronic document management system and he will be here to provide that assistance again with respect to bringing up any information that's required in the screen. As well we will be using this system for our presentation this morning on the VHF radio system.

CHAIRMAN:

Q. Thank you, Mr. O'Reilly. Are you ready to proceed, Ms. Greene?

GREENE, Q.C.:

Q. Yes. Thank you, Mr. Chairman. I just have one comment with respect to the industrial

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customers' pre-hearing submission which no specific relief was requested so there was no motion with respect to it. There is not provided for in the Rules of Procedure and I hadn't planned to speak to it because I had not been aware that industrial customers had intended to rely on it. I would simply like to state at this point that there are a number of issues in that submission with which Hydro disagrees and with respect to the role of counsel and counsel's obligation to be familiar with developments of law in an area of practice as opposed to an obligation of the Board to provide all parties with advance knowledged when the orders are publicly available. And also with respect to comments made with respect to the outcome of the 2003 capital hearing, I don't think it's necessary in the opening to make those comments. I'll leave those to closing argument if that is required. I simply wanted to place on the record that Hydro disagrees essentially with the pre-hearing submission of industrial customers.

CHAIRMAN:

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Q. Thank you.

GREENE, Q.C.:

Q. So we are ready to proceed, Mr. Chairman.

CHAIRMAN:

Q. We have room over there for your witnesses.

GREENE, Q.C.:

Q. It'll just take a moment. If I could ask my witnesses to come forward, please?

CHAIRMAN:

Q. While your witnesses are getting set up I'm wondering, I suppose you've discussed with counsel for the industrial customers how we're going to handle, particularly the cross-examination as to who is going to answer so we're all on board with that?

GREENE, Q.C.:

Q. Yes, Mr. Chairman. And the Rules of Procedure deal with the issue of cross-examination of panel.

MS. NEWMAN:

Q. Mr. Chairman, yes, I'll just mention that I have spoken to the parties and I've spoken to the transcriber. The sheer number of witnesses on this panel will pose a challenge, I think, to all of us here today and most

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especially the transcriber, so I've asked that everybody make every effort to assist us in clarifying who's to answer the question and who, in fact, is answering the question.

GREENE, Q.C.:

Q. Are you going to swear the witnesses?

CHAIRMAN:

Q. Yes. That's a bit of a task in itself. I've never had to swear in four witnesses before, but I guess we have to do it individually. We'll start with the gentleman on the far right.

GREENE, Q.C.:

Q. Mr. McDonald.

CHAIRMAN:

Q. Would you state your name, please?

MR. MCDONALD:

Q. Kenneth G. McDonald.

MR. KENNETH G. MCDONALD (SWORN)

MR. JAMES HAYNES (SWORN)

MR. ERIC DOWNTON (SWORN)

MR. GERARD DUNPHY (SWORN)

CHAIRMAN:

Q. Okay. Ms. Greene.

GREENE, Q.C.:

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Q. Thank you, Mr. Chairman, Commissioners, I have a few questions for each member of the panel to explain the evidence that they will be speaking to, and as I've indicated earlier, we then have a presentation on the VHF mobile radio replacement program. I'd like to start first with Mr. Haynes. Mr. Haynes, what is your current position in Hydro and what are the responsibilities of that position?

MR. HAYNES:

A. I'm currently the vice-president of production. The responsibilities of the vice-president's position are six functional groups within Hydro. It's the information systems and telecommunications; generation engineering; the thermal production section; the hydraulic production section; system planning, which looks after generation, transmission and distribution planning for Hydro; and lastly, the systems operations group which basically run the day-to-day operations of the bulk electrical system and major generation on the island.

Q. Mr. Haynes, how long have you been vice-president of production?

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A. A little over two years.
Q. And how long have you been with Hydro and what positions have you held prior to your current position?
A. I've been with Hydro for twenty-six years, starting as a graduate engineer, eventually moving to system planning as a planning engineer, eventually to manager of transmission planning, and worked on the construction of Holyrood No. 3 unit, and eventually, in 1989, I left Hydro and went to a subsidiary company, Churchill Falls Labrador Corporation, as the director of plant operations and maintenance, and in 1996, I assumed the position of general manager. In 1999, I returned to Hydro, and in 2001, I was appointed vice-president of production.
Q. Mr. Downton, what is your current position with Hydro?

MR. DOWNTON:

A. I am director of information systems and telecommunications department.
Q. And what are the responsibilities of that position?
A. I'm responsible for all short and long term

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strategy planning for the Hydro Group of companies, information technologies.
Q. How long have you been in your current position?
A. I've been in my current position now three years.
Q. How long have you been with Hydro and what positions have you held prior to your current position?
A. I've been with Hydro for twenty-four years. I started in 1979 as engineer programmer with Hydro's first computerized SCADA system. Then I moved into the position of senior supervisor control engineer. In 1985, I went to Holyrood Terminal Generating Station as the electrical plant engineer. In 1987, I was asked to go on the EMS Project as a systems engineer responsible for all hardware and software systems, and in '89, I became project manager for the Energy Management Project. When that project became operational, I became manager of the Energy Management System from an operational support perspective. In '95, I worked with the combining of the telecontrol and energy management groups. I became

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manager of those two departments, and then in 1999, with the merger of the telecontrol EMS and MIS departments into the now IS & T Department, I was manager of business solutions and support. And then in 2000, I became the director of information systems and telecommunications.
Q. Mr. Dunphy, what is your current position with Hydro and what are the responsibilities of that position?

MR. DUNPHY:

A. My current position with Hydro is manager of infrastructure and software support, and I am responsible primarily for the operations of our telecommunications and computing infrastructure.
Q. How long have you been in your current position?
A. I've been in the current position for approximately four months.
Q. And how long have you been with Hydro and what positions have you held prior to your current one?
A. I've been with Hydro for twelve years. I began as a communications engineer in the

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telecontrol department. In 2000, I was appointed as project leader and senior project leader in the same year. In 2002, I was appointed manager of network services, and early this year, appointed manager infrastructure and software support, which was a merger of the former network services computer operations and software applications departments.
Q. And what is your professional background?
A. I'm a professional engineer with thirteen years experience prior to working with Newfoundland Hydro. I had a position for approximately two years with the former Newfoundland Telephone Company.

(10:00 a.m.)

Q. And do you have your Masters in Engineering as well?
A. Yes, I do have a Masters degree in engineering.
Q. Mr. McDonald, what is your current position with Hydro and what are the responsibilities of that position?

MR. MCDONALD:

A. I am the labour manager for the Central

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Region. In that position, I'm responsible for the labour resource, the tradespersons. I am responsible for acquiring those people, hiring those people, for training and providing the tools and equipment associated with their particular trades.

Q. How many employees would report to you in that position?

A. Anywhere from a hundred and thirty-five to a hundred and sixty, depending on time of the year.

Q. How long have you been in that position?

A. I have been in that position for four years.

Q. How long have you been with Hydro and what positions have you held with Hydro prior to your current position?

A. I have been with Hydro for thirty-four years. I started as a line worker apprentice in Stephenville. I spent most of my career there as a transmission line worker. In about 1977, I was promoted to a transmission line supervisor, a little later than that, a senior supervisor of transmission and distribution for the Western area, and in about 1997, I was promoted to the area superintendent for the

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Stephenville area, the western area, and in 1999, my latest appointment to labour manager, Central region.

Q. Turning now specifically to the 2004 Capital Budget, I wonder, Mr. Haynes, if you could refer please to page A1. What are the areas of responsibility indicated on page A1 for which you are responsible?

MR. HAYNES:

A. It's not on the screen here. Should this be on the screen?

Q. Yes, page A1, Mr. O'Reilly, please.

A. On page A1, basically the production division is responsible for the section generation on page A1, as well as a large portion of the general property section, which basically is specifically the IS & T section.

Q. Okay. So we turn to page A2, where there is a little bit more of a breakdown. Could you indicate on page A2, what are the subject areas that you responsible for?

A. The subject areas are the hydro plant, construction projects, tools and equipment and the thermal plant property additions, construction projects, tools and equipment.

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Q. Similarly on page A3?

A. The information systems and telecommunications section, line one.

Q. Mr. Haynes, starting on page A4, there is more of a breakdown of each of the projects under the ones that you are responsible for, generation and IS & T. There's also a reference to a page number for each of the projects there under fifty thousand. Mr. Haynes, was the justifications for these projects under your areas of your responsibility that are set out in Section B prepared under your direction?

A. That's correct.

Q. Do you accept these justifications included in Section B for projects under generation and IS & T, or information services and telecommunications, as your evidence for the purposes of this hearing?

A. I do.

Q. Mr. Haynes, evidence was prefiled on May 16th, 2003 and July 4th, 2003 with respect to the evidence for the projects under generation and information services and telecommunications. Do you accept this pre-filed evidence as yours

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for the purposes of this hearing?

A. I do.

Q. Mr. Haynes, as the executive responsible for production, would you please explain what your role is in the capital budget process at Hydro?

A. Basically for the capital budget, both for IS & T as well as the Hydro and thermal plant areas and any other area which occasionally has a capital budget, we start off basically and we have proposals from various sections of the division. They are reviewed by the regional operations, the plant managers, for instance and the divisional managers. They are screened, if you will, at that level. They are presented to the vice-president. We go down through on a departmental basis and review these, and rationalize the approach, rationalize which projects need to be done and need to be done, you know, this proposal year. At the end of the day, we, as a division, sign off on those particular budgets and they are presented to management committee for furtherance from there.

Q. After approval by the Board of Directors of

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Hydro and submission and approval by the Public Utilities Board, what will be your role with respect to any Capital Budget proposed once it's approved?

A. Basically to ensure that they are completed on time and on budget.

Q. Mr. Downton, with respect to the 2004 Capital Budget, I think you've already indicated your area of responsibility for information services and telecommunications. Could you please turn to page A8 of the Capital Budget application? Could you please indicate what projects you are responsible for on this page?

MR. DOWNTON:

A. Basically all of the projects under headings, software applications, infrastructure replacement, new infrastructure, computer operations, infrastructure replacement and new infrastructure and I guess, upgrade of technology.

Q. Similarly on page A9, what are the projects prepared within your department?

A. Basically all of these projects which come under the headings network services, infrastructure replacement, network

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infrastructure and upgrade of technology.

Q. And the project justifications that are contained in Section B for these projects, were they prepared within your department and under your direction?

A. Yes, they were.

Q. Do you accept them as your evidence for the purposes of this hearing?

A. Yes, I do accept them.

Q. Similarly, with respect to the evidence in the pre-filed evidence that has been filed with the Board, were you involved in the preparation of the evidence in so far as it related to the information systems and telecommunications projects?

A. Yes.

Q. And do you accept that pre-filed evidence as your own for the purposes of the hearing?

A. Yes, I accept that evidence.

Q. As a director of the department, what was your role in the preparation of the 2004 Capital Budget projects in your area of responsibility?

A. I guess I worked with my management team to ensure that we have budgets put in place to

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support the business requirements. We review the technology direction and the Capital Budget proposals to ensure that there's consistency. After we do that review, I meet with the business directors to ensure that the proposals meet their requirements, and then after that, I basically submit my proposals to Mr. Haynes and we review those and then after that, we basically present them to executive management.

Q. Once the project is approved by the Public Utilities Board, what will be your role in 2004 Capital Budget project in your area of responsibility?

A. My responsibility is to ensure that the projects are executed properly.

Q. Mr. Dunphy. Mr. Dunphy, as we've already indicated, is called only with respect to the technical aspects of the VHF Mobile Radio Replacement Project. Mr. Dunphy, what was your role with respect to this particular project?

MR. DUNPHY:

A. From 2000, my appointment as a project manager until 2002 when I was appointed to manager of

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network services, I was the project manager responsible for this particular project. I was also a member of the technical team that evaluated the alternatives.

Q. Are you familiar with the technical aspects as outlined in the project justification for this project?

A. Yes.

Q. And are you familiar with the cost estimates that have been provided?

A. Yes.

Q. Mr. McDonald, as we indicated, has also been called only with respect to one project, the VHF Mobile Radio Replacement Project, and I wonder, Mr. McDonald, could you outline for the Commissioners what your experience has been with respect to the operation of the VHF Mobile Radio system currently owned by Hydro?

MR. MCDONALD:

A. My experience with the current system has been good. We use it for basic communications, talking to our work crews that are out there. We use it for switching lines in and out, obtaining our work protection so that we can safely go to work on those lines, and we would

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also use it in the event of an emergency to contact emergency services.

Q. And how long have you had experience with the VHF Mobile Radio System?

A. We have had a VHF Radio System for just about all of my career, so I would say perhaps thirty-three years. I do remember the first few years I was with the Power Commission, at that time we did have a different type of radio system. I'm not aware of the technical term, but it was not VHF. It was similar to CB perhaps, Citizen's Band. It was very ineffective, but since that time, we have had VHF Radio.

Q. Okay. Mr. Haynes, I'd like now to turn back to page A4, and I wanted to very briefly review the projects listed there under Hydro plant where the value is over five hundred thousand dollars. I wonder if you could give a brief outline, for the Commissioners, of the first project there, replace Unit No. 7 Exciter at Bay D'Espoir?

MR. HAYNES:

A. Okay. With a hydro plant, it's typical over the life of a plant to replace certain key

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components before, you know, during its normal useful life. The exciter is one of those. It's the seventh exciter to be replaced at Bay D'Espoir. It's slightly different than the ones on unit No. 1 to 6 as that particular unit was built in 1977. It basically entails just the replacement of that particular component and the funds required approved last year, basically are to do the specification, do the preliminary engineering assessment of any particulars for that particular project.

Q. Will that complete the replacement of all the exciters in the units at Bay D'Espoir?

A. At Bay D'Espoir, yes.

Q. The second project there is Gate Hoist No. 2 at Ebbegunbaeg. I wonder if you could please briefly outline that project?

A. At that particular structure, there are three gates and they are all a screw-type gate. Gate No. 2 is normally in use basically all the time to regulate the flows of water to the plant downstream to ensure that we have enough water and to maintain the head level so that we optimize the generation. We've had quite a history of problems with the screw-type gate.

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Every year we spent more and more money and they have not been reliable. Our plan is to only replace the centre gate, No. 2, to a gate hoist type mechanism, which, as I explained last year actually, is similar to what's used in Churchill Falls and quite successfully, and then basically the spare parts that we get from the replacement, we'll use to extend the life, long term, of gates number 1 and 3.

Q. The third project, also under Hydro, is the replacement of Unit 2 Governor Controls at Cat Arm. Could you please briefly outline that project?

A. Cat Arm, I guess Governor replacement is similar to the Bay D'Espoir. It is not as old as Bay D'Espoir. That particular manufacturer (unintelligible) slopes for Hydro has long since disappeared and bought by another company who no longer provide any form of service for that particular product, you know, card replacement or technical services. So basically it's being replaced because of unavailability of spare parts and as well, there are some continuing problems with the controls.

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Q. The last Hydro project shown there, over half a million dollars, is the replacement of an Exciter for Unit 2 at Cat Arm. Could you please outline that project?

A. That again is similar to the Governor on Unit No. 2. It basically is an obsolescence issue with the manufacturer no longer supporting and cutback. The company has basically been bought by others and their product line or some of their product line has been discontinued, and no support available.

Q. If we could turn now please to page A5. Moving to Holyrood, your Thermal Plant, the first project there, over half a million dollars, is upgrade the control system for Holyrood. Could you please outline this project very briefly, please?

A. The control system with Holyrood basically is, I guess, the central computing system and there are two or three there which basically controls the boiler, the turbine machinery. The particular product that's in place right now was provided by Westinghouse, which has been bought by a company called Emerson something, something. I forget their two or

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three words at the end of their company's name. However, they have maintained that particular product. They have a commitment to maintain products and they have a life cycle process whereby they guarantee maintenance and support for a certain period of time. For the control system on Unit No. 1 and 2, that particular support, it reached the end of that support in the end of 2002--sorry, 2001, and for Unit No. 3, that support expired at the end of the year 2002. Our plan is basically to replace that system with a system which is actively supported by the vendor and has an assurance of at least ten, if not fifteen years of vendor support and guaranteed spare components.

Q. The last project, under generation, which is also at Holyrood, is the ambient monitoring system enhancement. Could you please outline that project?

A. At the moment, we have four remote sites that have been installed, I guess, before 2000 and we are installing a fifth site this year, which was approved last year. The current sites basically measure total suspended

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particles, which basically is greater than forty microns, which basically is soot sort of thing, and sulphur dioxide. We have been pressured and have had quite a bit of dialogue with the Provincial regulator and a lot of pressure, coaching and insistence, in some cases, to enhance that monitoring system. And basically, the proposal is to measure fine particulents, which basically is breathing, two and a half micron fine particulents which is a health issue, as well as nitrous oxide. With that particular system, along with what we've installed to date, we will have the information that will be required, I guess, as we go down the road to further environmental regulation and direction to ensure that we are proposing capital projects on a future basis, which are fixing the problem and not (unintelligible) the real data.

Q. Turning now to your last area of responsibility, I wonder, Mr. Haynes, if you could turn to page A8, information systems and telecommunications. The first project there, over half a million dollars, is the replacement of the energy management system or

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the EMS system. Could you please briefly outline that project?

A. The Energy Management System that's now used is a GE--it's a Harris system, now GE Harris, who bought that particular entity. It was installed in, I think, 1989, when Hydro moved to the new building and it's been in use ever since, and provided, for the most part, reliable service. It's been expanded to incorporate the growth that we've achieved. It, however, is again at the end of its useful life. By the time it's replaced in 2006, I think it'll be finished, it'll be approximately fifteen years old, twelve to fifteen years old, and our intention is to continue with what we have and to--it's essential to maintain the day-to-day operations of the system, and I guess, just this year, we had one major failure, which caused considerable delay in returning power to particularly the west coast, and I think the timing, from that perspective, is more than appropriate to replace the system.

Q. The next project there, I'd like Mr. Downton, if you could please give a brief outline to

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the Board of the infrastructure replacement project called end-user and server Evergreen program?

MR. DOWNTON:

A. The end-user and server infrastructure replacement program really is comprised of four main areas. The first area is desk top evergreen, which basically 2004 will be the second year of the program to refresh the desk top infrastructure throughout Hydro, and the focus will be primarily to Bishop Falls office area and part of Hydro Place. Again, the first year of that program is 2003. There will be approximately two hundred and twenty units replaced in 2004. The actual cost for the equipment and installation costs are approximately seven hundred thousand dollars. Also, the second item in there is additional tools to support the help desk, which is approximately a hundred and thirty thousand dollars. As indicated in the evidence we filed, we will be looking at significant changes to our server infrastructure in 2004, and I guess, what we've proposed to executive management and to the business is to

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significantly shrink the number of servers that we have throughout the organization. Right now we basically have twelve what we call server farms located in all of our area offices, and our objective is to replace those such that we have centralized e-mail, file and database services done only from Hydro Place, and we will take advantage of our wide area network infrastructure to access that information. So the only servers that will be remaining outside of Hydro Place will be primarily for print services and also for anti-virus detection. That is a considerable effort. What will be done in 2004, we will be replacing ten servers in Hydro Place, as part of that server consolidation, and then through future years, we will be replacing the servers in the field that are providing print services on an as-required basis.

The server infrastructure portion basically is comprised of four different components. There is a Microsoft Quick Start program, which is really a planning initiative to plan out the changes of migrating from Windows NT to Windows 2003. Windows NT will

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see the end of its useful life in 2003, end of 2003. And also, the server to replace the ten units that will be taken out of Hydro Place will be single blade server, going in there at a cost of eighty-five thousand. And the actual cost to do the planning, detail planning and testing and installation of the software for the operating systems is about two hundred thousand dollars and training costs of about seventy-two thousand dollars.

The fourth component of the budget proposal is the replacement of the AS 400 computers. Both computers have reached the end of their useful life as the operating systems will not be supported in the near future, and what Hydro is proposing is to replace the existing 640 and 720 model 400 computers with a single, what is called now an I series computer, and that will result in about three hundred and fifty thousand dollars on licensing and software cost savings over the next five years.

(10:20 a.m.)

Q. So those four components comprise that project as outlined on page -

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A. That's right, and that will total of two point four million dollars, plus overheads and contingencies, et cetera.

Q. Turning now to page A9. There's one project there I'd like you to outline, Mr. Downton, before we get to the VHF radio, and that is the replacement of operational data and voice network there under upgrade technology. Could you please briefly outline that project?

A. Yes, as the project description indicates, this is phase two of a plan to replace the existing fifteen to twenty-year-old operational voice and data network equipment. The design and planning work completed in 2003. In 2004, it is proposed that the SCADA data network equipment be replaced with a router-based design using Internet protocol routing. The design will be compatible with the existing Energy Management System, since this is a fundamental component to support that system, but it will also be compatible with the protocol that will be supported by the new Energy Management System, which will be an IP based protocol, and basically from a design perspective, the design will be a ring

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architecture so that the single point of failure will be minimized in this new infrastructure.

Q. Mr. Chairman, that completes all the questions, except for the presentation on the VHF Mobile Radio Replacement Project which Mr. Downton will take us through. So I don't know if you want to start it now or wait until after the break?

CHAIRMAN:

Q. I think we'll have the break and we'll do that. Maybe you need some set-up time anyway, do you?

GREENE, Q.C.:

Q. No, I think we're going to run it from the system.

CHAIRMAN:

Q. You're going to do on there, okay. We'll break for fifteen minutes.

(BREAK - 10:23 a.m.)

(RESUMED - 10:43 a.m.)

CHAIRMAN:

Q. Anything further that you have, Ms. Greene?

GREENE, Q.C.:

Q. Yes, Mr. Chairman, we have the presentation -

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CHAIRMAN:
Q. Oh yes, you have the presentation, yes.
GREENE, Q.C.:
Q. Mr. Downton will take us through the presentation. We will be able to see it on the monitors and as well, hard copies of the presentation have been provided to the parties as well as to the Commissioners. There's 30 slides, it should take roughly 45 minutes.
MR. KENNEDY:
Q. Can we enter that as an exhibit, Ms. Greene, and it would be Consent number or exhibit--we can use initials for the panel members. Okay. Exhibit number 1.
EXHIBIT ENTERED ON HEARING AND MARKED EXHIBIT NO. 1
GREENE, Q.C.:
Q. Thank you. Mr. Downton, if you could, you can just start and take us through the presentation.
MR. DOWNTON:
Q. This is an overview of Hydro's telecommunications plan. It based primarily on the submission of 1997 of the telecommunications to the Board. And it's just an attempt to provide overall knowledge

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of some of the technologies from a telecommunications perspective that Hydro uses. And I guess bring some clarity to maybe some of the confusion on some of the technology terms. Terry, you can go to the next slide.

I guess Hydro's communications requirements are listed on the screen. The first and foremost and most important service from a communications perspective that we provide is teleprotection. Teleprotection is power system protection signalling and what that basically means is if the protection and control equipment finds a fault, say, on a transmission line, then that equipment will give a signal to the communications system and it will send a signal down the line to the next substation to open a breaker and breakers will be opened on both ends of the line and that will minimize the disruption to the power system and also to protect the equipment.

The second bullet basically talks about data communications and the primary focus here is communications that supports the energy dispatch centre. It brings back status of

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breakers, generating units and transmission lines, et cetera from the various terminal stations and generating stations across the Island and into Labrador back to the energy control centre and we basically refer to this as SCADA data; SCADA referring to Supervisory Control And Data Acquisition.

The next item, operational voice, this is telephone service between the terminal and generating stations and the energy control centre. And the primary focus of this communications medium is in support of the core business of power dispatch. Operational data refers to data that's not addressed by SCADA data, but is also used for other alarm and monitoring systems that Hydro has. And it brings back information on such things as fault recorders, et cetera. Administrative voice is voice which we typically look at for general administration purposes. And administrative data, we refer to data requirements to meet things such as e-mail, access to J.D. Edwards and that's again, across our system.

The communications systems used by Hydro,

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the first one is microwave and we'll talk a little bit about that in a few minutes. Power Line Carrier, often referred to as PLC and we're looking at high voltage PLC and the 230,000 volt and 138,000 volt range. VHF mobile radio which again we'll speak to on it further. Satellite communications, the only satellite network that we now have basically runs between St. John's and Churchill Falls and in addition to supporting CF(L)CO, basically brings back operational voice and data in support of the Happy Valley Terminal station and gas turbine.

Fibre optic cable, Hydro's use of fibre optic cable is pretty much limited to providing communications between our remote hydro sites and outlying structures such as spillways, control structures, spillway structures, et cetera. Wide area network, I'll just use that as an acronym, but wide area network is really a series of technologies which, I guess, consolidate information and bring it back over, primarily the microwave infrastructure back to the energy control centre and vice versa when the

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information leaves the energy control centre to go out to the various stations, the same thing happens in reverse.

Hydro also relies significantly on common carrier facilities to provide various requirements as defined earlier.

The next slide talks about microwave communication system. Microwave communications is a point to point communications system operating in the one gigahertz, 230 gigahertz radio bands. In particular, in Canada, the 7 gigahertz band is specified for the utilities sector. I guess Industry Canada recognizes the importance of the services that the utility sector provide and as such, within that band, utilities are allowed to use frequency diverse radios to provide additional reliability on the path designs. The common carriers are also allowed to use this when they request for special reasons.

The second bullet, I guess microwave really involves sending waves of information between a transmitter and receiver, each mounted on a tower. The true fact is the

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electronics are housed in a building at the bottom of a tower. And on your right is a picture of a microwave site and that is the Granite Canal Hill microwave site. And it basically provides the necessary information for the remote control of this unmanned plant. The microwave infrastructure is considered to be a medium capacity back haul transfer system. So, really it's meant for amount of bulk transfer of voice and data information. And it requires a clear line of site, so when you go from tower to tower, ideally there should be no obstructions. And microwave is not considered to be useful for mobile communications. Microwave functionality, from Hydro's perspective, primary source of communications we use it for is teleprotection. Again, it provides high speed teleprotection between the stations and it's basically more reliable, more robust than Power Line Carrier.

The next important function that it provides is it carries the supervisory control and data acquisition data in support of energy management. And also it provides operational

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administrative voice, operational administrative data and really the microwave infrastructure for Hydro's purposes really is the backbone communications infrastructure that we have and microwave is very common in the utility environment.

The Power Line Carrier characteristics, it's an older technology and again, it's a point-to-point system that is directly coupled to the high voltage transmission lines and again in Hydro's case we primarily use it on our 230 kV and 138 kV lines. It involves sending waves of information between adjacent stations. If you look at the picture to your right, basically you can see how the pedestal is coupled to the transmission lines and on top, the round cans are actually filters that filters off the signal as it comes in from the adjacent station, brings it into the electronics equipment that's in the substation and that will--the information will be disseminated. And then on another line, you will basically see the same kind of infrastructure for another Power Line Carrier on another transmission line.

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Characteristics of Power Line Carrier, basically is low speed, low capacity transfer system. State of the art for high voltage Power Line Carrier technology now is digital technology, basically 56 kilobits which really is equivalent to one voice circuit. You can compress 56 into multiple voice circuits, but it's considered to be one full voice circuit. Performance of Power Line Carriers affected by power line disturbances, in particular faults and lightening strikes. So, whenever there's a fault on the line or a lightening strike on the line, it also interrupts the flow of information on the power line using the Power Line Carrier technology. And often the protection signals are sent down the same transmission line which is also under the fault or receiving the lightening strikes.

Some line maintenance activities also affect the Power Line Carrier. For instance, when Mr. McDonald's nine crews are out working on the lines, they may take a line out of service and as part of taking a line out of service to work on it, they will also ground the transmission line. When they ground the

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transmission line, the Power Line Carrier becomes ineffective for carrying a voice--well, you don't need teleprotection and your data, so you have to find alternate means around those particular lines. And also icing, one of, I guess a significant environmental concern in Newfoundland, considerably affects the performance of power line carrier. As ice builds up on the transmission lines, the performance of the Power Line Carrier significantly degrades and it will basically affect the voice and data. And even with the new digital technology, it affects that more than the analog technology. And again, Power Line Carrier is really not considered to suitable for mobile communications.

Power Line Carrier, from Hydro's perspective is used for teleprotection, SCADA, operational voice and operational data and again, it's very common in the utility environment. And as much as it is common, it's becoming less common because of the technology restrictions that it brings in band width.

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The next slide is a picture of Hydro's proposed telecommunication plan and I'll try to speak to this. Up in the top left hand corner under the legend, there basically are--the first three legends indicate Power Line Carrier Systems. The green one basically indicates the Power Line Carrier Systems that have been installed between 1997 and 2003 as part of the telecommunications plan. And the primary focus has been on the west coast and also on 202 and 206 between Bay D'Espoir and Sunnyside. The red lines indicate, these are existing Power Line Carriers that have not been replaced, nor are there any plans to replace those within the filing of Hydro's--well, basically without our five year capital budget. And most of the Power Line Carrier systems on the Northern Peninsula were installed in the 1995 time frame. And the third legend which basically is like a brown colour. Those are the Power Line Carriers which run between Deer Lake terminal station and Cat Arm generating station and those Power Line Carrier systems are proposed to be replaced in the 2004 capital budget. and then

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that would be the end of Hydro's Power Line Carrier replacement and upgrade project. The black line which shows is like a broken lightening strike, basically is the microwave infrastructure and it runs from--on the west coast, from Deer Lake terminal station through to what we call Stony Brook which is by Grand Falls and down through Bay D'Espoir and then goes into Upper Salmon plant and the Granite Canal plant and basically provides back haul facilities for Hydro's information requirements.

If you look on the east coast going from the energy control centre out to approximately Sunnyside, the project is under construction. That was done in 2001, sorry. And then the next portion which runs from approximately Sunnyside through to Grand Falls is under construction this year and that will complete the microwave built infrastructure as part of the telecommunications plan. The blue broken line indicate some of the lease services that we lease from Aliant which is the common carrier here on the Island. And the solid blue line goes from the energy control centre

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through to Churchill Falls and again that is primarily used for Churchill Falls interaction with Hydro place and Hydro also uses a very small part of that band to back haul operational voice and data from Happy Valley to Churchill and then back to the energy control centre.

So, in summary that is just a quick overview of Hydro's telecommunications plan looking at Power Line Carrier, microwave and lease services as well as satellite services.

Mobile communication systems are required for voice communications between personnel performing switching operations, maintenance, emergency repairs and it can be used for mobile to a fixed location or mobile-to-mobile. And VHF allows one-to-one communications or also it allows one to many to support work groups. And if you'll just look over to the side again in the picture, the person standing next to the pole has a portable radio and he's either in communications with the energy control centre or another work crew further down the line and he also has someone up on the transmission

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line doing line work that maybe Ken can speak to that.

MR. MCDONALD:

A. At that stage it is the installation of the grounds, you mentioned earlier, which is part of our work protection to earth the line (phonetic).

(11:00 A.M.)

MR. DOWNTON:

A. For mobile radio systems, there's typically four frequencies of choice, there's what we call VHF, UHF and 800 megahertz and I'll speak to those in a few minutes. Again, the ideal path for mobile communications is obstruction free and the limiting factor in generally the mobile transmitter talk back range. So, the portable or the base station that someone will have is really the limiting factor of how far back that particular work group can reach. Classes of service, there's typically three classes of service recognized in mobile radio systems. There a public safety system and that's pretty much used by the police in Newfoundland it's the RCMP and RNC that basically have a public safety system. Quite

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often it's also used by ambulance, civil defence, fire and rescue.

The next class of service is public service and typically power utilities fall into that category and I guess, Newfoundland Hydro and Newfoundland Power have VHF mobile radio systems as part of its work requirements. The forestry sector also falls within that grouping and typically you have different forest companies doing forestry work involved. And also different manufacturing environments use mobile radio systems as well. And basically the North Atlantic Refinery use a mobile radio infrastructure at their site. And then also you can have private individuals who use VHF or mobile radio systems as well, but those are considered to be the classes. The primary differences between the classes is the public safety system is a more robust design primarily because of the safety issue from an emergency response perspective. It's typically designed to a more robust standard in a sense of availability, access and also coverage. And it's designed a little bit more rigorous than one for public service system

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which typically looks at 90 percent coverage and 90 availability of the staff being able to communicate.

The next slide speaks to mobile communications frequency bands and the only reason I put this slide in was to give you some sense of the fact that depending on the technology, it basically fits very specific uses. Across the top we have VHF which is considered to be 150 to 170 megahertz, UHF is 450 to 512 and then 800 is 800 to 866 and then cell phone and satellite technologies are typically in the 900 megahertz range. From the columns down to the left, general use, VHF is considered to be good for rural and suburban areas and then as the frequency goes up, it's more focused on more of a metropolitan city type of environmental use. The next one, general building losses, what this one speaks to is that VHF in particular is less impacted by terrain and buildings being the path of the communication signals and again, as you go higher in frequency, buildings and terrains will greater impact those technologies. As far as penetration

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into buildings, the higher frequency will work better as far as penetrating into buildings. And moving down to foliage losses, what that basically means is VHF is better for out in the bush than UHF, 800, cell or satellite. They're less impacted by the foliage on the trees. And the multi-path effect which is the last one, really speaks to getting echo on the communication infrastructure. VHF, it is a little bit noticeable, but the higher frequency, you go typically, you do get a little bit more echo on the higher frequency equipment than on the lower frequency equipment.

Next one, Terry. The next slide just tries to speak to the ranges of the technologies, and again, the same heading across the top. We have VHF, UHF, 800 cell and satellite. For a base-to-mobile, what that basically means is if I have a base station--this is typically what's considered to be a base station and this base station could be in a helicopter or it could be in a truck or it could be in a muskeg or it also could be in a terminal station, and all this

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refers to, base station to mobile to base station, base is also considered to be your tower. So this is high-power unit, so this will reach further than a portable unit, which Mr. McDonald has there. And then the last one talks about mobile-to-mobile. So if you just go across the top, a base-to-mobile is typically about forty miles. For UHF range, it's goes thirty. 800 goes twenty. Cell will go probably a little bit less than twenty, and satellite really is unlimited because as long as you can basically see the satellite, then basically, you can--you are not limited. And likewise, for mobile-to-base, it's thirty miles, twenty miles, fifteen, less than fifteen, and again for satellite, as long as the satellite can be seen, it's unlimited. And for mobile-to-mobile, which would allow Mr. McDonald to communicate to his line crew using either this device or this device, it's ten miles for VHF, seven for UHF, five for 800 and cell phone technology does not allow cell phone to cell phone unless it goes through a repeater, and whereas these units here do not require a repeater, these can go unit to unit,

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and the same thing applies for satellite. Even though you may have satellite phones, if you cannot see the satellite, then the two phones cannot work in a local fashion.

Mobile communications systems for power utilities. Power utilities rely on effective wireless communication systems for switching, live line, troubleshooting, emergency repairs and general maintenance work. When these systems do not work, life and property will be endangered. I put in a couple of pictures just to illustrate some of the working conditions. On your left is--Ken, maybe you can speak to that one?

MR. MCDONALD:

A. On the left, we're replacing a part of the cross arm on a 230 kV structure, and essentially, the energized conductor has been lifted away by a crane and now we're in the vicinity of the energized conductor and we're using different tools, live line tools, the orange ones you see here, to be able to support this portion of cross arm that we're taking away because it's damaged and it will be replaced.

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On the right-hand side is a picture of a relocation of an osprey nest that was built. The nest was built directly over our centre conductor and was giving us some problems in that the portions of the nest would fall away from time to time and cause an outage and can actually cause a fire as well when the nest is active in the summertime. So when the young ones had left the nest, we relocated it to an adjacent tree that's just out of view on the right-hand side, and that was a very successful relocation. The next year, the ospreys, they came back into their tree and were quite happy with the new location.

GREENE, Q.C.:

Q. And excuse me, I wonder Mr. McDonald, if you could explain how a VHF mobile radio system would be used by your crews in either one of those work that you just described.

A. In the first job, the one on the left, they would typically be used, this would be in a remote section of the country, so it would be used to establish communications with our energy control centre, to ensure that it's okay to go to work on the line at that time of

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the day, that there's no lightning in the area. They would be aware of this type of thing. Also, they could contact us at any time to get us away from the line if there was something in particular going on. As well, if it's a still day, we can communicate in those towers by sort of half shouting back and forth, but on days when it's windy and most times at heights a hundred feet above ground, there is quite a difference in the amount of wind that's there, compared to at ground level, so quite often then, the lead hand, who is in the structure doing that job, would communicate with ground crews and crane operators through using a small VHF up in the tower communicating below.

In the one on the right, there would be a person on the ground that would communicate with the helicopter and advise the helicopter when our crew is ready to actually connect the slings, that everything's okay. He's an observer from the ground that would direct the helicopter and essentially, most of the direction is done with the helicopter. The person on the structure, at that time, is

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pretty much out of communication because of the noise from the helicopter, that type of thing, so someone stands away approximately about two hundred feet, where he's got a good view of everything and will bring the helicopter in, advise the helicopter when things are hooked up and it's okay to lift away.

MR. DOWNTON:

A. I guess the next slide, it was a survey that Hydro did in 2001 of all of the generation and transmission utilities in Canada, and what it shows is that each major utility in Canada does have a mobile radio infrastructure. It varies between conventional to trunk to logical trunk, light trunk radio or combinations. From a frequency perspective, it also looks at some people use VHF, some people use UHF, some people use 800. So depending on the application. Do they use satellite or cell phones? The answer is some utilities do use it and is really used to extend the coverage that the UHF--sorry, that the VHF system provides, and in summary, that's what the results of the survey were.

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Hydro's VHF mobile communication system, as Mr. McDonald already mentioned, is a mandatory communications link between the field and the energy control centre personnel. It's also a communications link between the work crews and/or the area offices. Allows them to communicate to the area offices if they need materials that they don't have with them as well, and also it provides paging and on-call requirements, and it's a general communications link between Hydro's fleet vehicles, and I guess, Hydro also allows Work, Services and Transportation road maintenance crews on its system and that the primary focus of that is the snow clearing operators.

The existing VHF system was manufactured by a company called ATI and placed in service in 1989. ATI is a subsidiary of Alberta Government Telephones, which is now become Telus. The system was a single central switch with twenty-nine repeaters to provide Hydro's coverage across the island. Twenty-six repeaters are at Aliant sites and three are at Hydro sites. It's a single-channel system operating in the VHF range, a hundred and

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fifty megahertz, and basically it has twenty-five kilohertz channels, which is just a requirement at that day. The system also provides access to the public switch telephone network so that if the line crews are out there and they actually need to call someone, they can actually access the public switch telephone network and likewise, someone from the office can use the telephone with a special combination of coding to broadcast over a repeater to access a line crew. There's also paging capable from the ECC and also from the field. The switch and repeater equipment is maintained by Aliant. Hydro has approximately two hundred and seventy-five mobiles and seventy-five portables and Work Services has approximately three hundred and fifty mobiles.

The next slide is a picture of Hydro's existing VHF mobile communications system and it basically shows the twenty-nine sites around the island and the--as you see, the red lines coming back from the sites come back to a central location in Gander, and that's where the central switch is located, and again,

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Aliant supports all of that infrastructure.

The existing VHF system technology issues, the system that Hydro currently has in service is one of only four systems placed in service by ATI prior to their exit from the business in 1991. The site controller and the central switch are a proprietary design and the primary issue that we have is inadequate spares to maintain the central switch and site controllers. We have not been able to secure additional spares since 1997, and--could we just go back for one second, Terry? And the picture to your right is just a picture of the central switch in the Gander central office, and really it's difficult to see from this perspective, but it's the row of equipment between the two sets of four cans, what we call cans or cylinders on the side. That's correct, Terry. Okay, next slide.

(11:16 a.m.)

Continuation, I guess, of the technology issues, the Motorola repeater equipment was manufacturer discontinued in '96, and the production of additional spares for those units ceased in 2000. The only spare repeater

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that Hydro had has been placed in service and primarily so that we can scavenge parts from the decommissioned unit to use elsewhere. We are basically seeing an increasing failure rate of the power supplies that support the site controller because, again, they were proprietary design. The Motorola radios which are the ones that I showed to you that are in the vehicles and substations, et cetera, were manufacturer discontinued by Motorola in the early 90s and parts were not manufactured to support those units after, I believe, it's 1997. So it's been ten years--well, six years since any parts were manufactured to support those radios. And before Terry moves on, the picture to your side, the top part of the picture is the NRS 2000, what we call repeater radio, for transmitting and receiving, and in the bottom portion is really the site controller and it's very much a computer, a proprietary design computer for specific application. Okay, Terry.

The existing VHF system, looking back over the last number of years, looking at the various types of problems that we've had with

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the infrastructure, I guess what we note is that the yellow bar which shows the failures on the switch have pretty much gone from zero in 1998, up to a significant number in 2003, and I guess we're also seeing increasing failures on the repeater/site controller equipment, which is the blue arrows--sorry, the red one, as well.

CHAIRMAN:

Q. Excuse me, that yellow line, Mr. Downton, for 2003 and I see your note that it represents two months.

A. Yes.

Q. Is that a projection based on the two months?

A. No, that's -

Q. Actual?

A. - that's actual for two months.

Q. Okay.

A. Okay, Terry. The existing VHF system, business issues and concerns, I guess the maintenance of the VHF system is by Aliant, and currently within Aliant, there are no trained staff remaining knowledgeable about the switch. Again, it was installed in 1988/89 and I guess through attrition and

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changes within the Aliant organization and the fact that ATI does not--are not in the business any more, there really is no one who's knowledgeable about the maintenance of the switch. System expansion is not possible to support the existing additional coverage requirements that we have for Granite Canal, Happy Valley, southern Labrador area, and the Great Northern Peninsula, primarily because the technology cannot be bought and basically, the software cannot be upgraded on that particular central switch. Lack of ability to increase coverage will affect work, does affect work. I guess, if Mr. McDonald were to speak to it, he would say at the end of the day, work will get done. It will just not get done the same as if we had the coverage in those areas. The switch failures have and will extend outages and system failure will greatly impede, I guess, Mr. McDonald's ability to get his work done, and will increase restoration times. If the central switch does fail, what it basically does, it severs communications from the field back to the energy control centre and it also severs

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communications from a repeater to a repeater. The only thing that will remain is that you will have local talk around at the repeater site for the people in that particular area. And from Hydro's perspective, replacement time after complete or partial failure of the system will be eighteen to twenty-four months, and we consider that to be unacceptable from the impact it will have, not only on our customers, but also on the safety of our personnel.

In summary, the anticipated life of information technology is determined by three factors. If you look at physical obsolescence, which occurs when equipment is damaged or worn beyond repair, and this is the case for Hydro's VHF system. From a functional obsolescence occurs when equipment, although working, no longer provides useful service under current conditions. This is not the case for Hydro's system, and what I mean by that is that the functionality that we have in the existing system is the functionality that we require in any future system as well, and we are not changing out to improve

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functionality, but primarily because of a physical and technical obsolescence. Technical obsolescence occurs when equipment can no longer be maintained or upgraded because regulations, industry standards, manufacturing priorities no longer support it, and again, this is a case for the VHF system that Hydro currently has. The proposed system is a VHF mobile communications system. Satellite and cell phone technologies, from our perspective, are not suitable because of functionality and coverage reasons. We're also looking at a system which will support the coverage requirements which we estimate at thirty-five sites, plus it must be expandable for future needs, and what we're also looking at is a system which we will move repeaters from Aliant sites, where appropriate, to include coverage and decreased operating costs, and there are no new sites being planned as part of this build. We'll use all existing, either Hydro and/or Aliant sites.

The proposed VHF communications system will provide radio--radio access will be expanded to meet Hydro's existing

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requirements, plus expandable to meet future needs. The system will be designed to meet Industry Canada's new channel requirements of twelve and a half kilohertz, which is, just for your information, it's Industry Canada wants to shrink the band width of the channels because of spectrum congestion issues within Canada and I'm sure the same thing is for the United States and elsewhere. So this system, when it's designed, will meet the new requirements for Industry Canada. We're looking at a trunk design. A trunk design is more efficient for future channel requirements and there are different types of trunk mobile radio systems. There is a distributed architecture which has no central switch, and an example of that is what we call a passport technology, which is what the costing for this proposal was based on, versus technologies which have a central switch. And there are various technologies which have a central switch. If you look at the consultant's report, there's MPT, Tetra and LTR all have a central switch. We look at the central--the lack of a central switch as being a plus

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because it does not lead to the same single point of failure considerations and it also provides a system which will be more expandable, because central switches typically have a break point. So once you go beyond a certain number of repeaters, you have to put in another switch. However, the final decision by Hydro will be made upon the tender evaluation, what makes the most sense technically and from a cost perspective, and the cost of the various trunk mobile radio systems for public service system are approximately the same, and I put that distinction in there, public service system, because the costs for a public safety system are significantly more.

The proposed system will support Hydro's and Work Services' existing requirements, which is six hundred and twenty-five mobiles and seventy-five portables. It will also allow integration of Hydro's mountaintop repeaters. We have a mountaintop repeater VHF mobile radio system between Churchill and Happy Valley is used to support the 138 kV transmission line and maintenance on that

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line, and we look at being able to integrate that at some future time. And also, what we are proposing is that the system will be able to support data at some future time.

The next picture is a picture of the proposed VHF mobile communications system. It consists of thirty-five repeater sites and all I'll basically say is that the red circles are lease sites, Aliant sites, and the black squares are Hydro sites, and we basically look at being able to take advantage of about fourteen Hydro sites, which will leave twenty-one Aliant sites to be required to provide the overall coverage requirements to meet Hydro's business needs.

The proposed VHF mobile communications system, Hydro has unsuccessfully pursued shared joint build lease options for a VHF mobile communications system with Aliant and the RCMP and RNC. I guess in the 1997/98 time frame, for about three years, we worked with Aliant to basically see if we could bring the major users of mobile communications to the table in Newfoundland so that there would be one system which everyone would use and that

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was unsuccessful. The primary reason, to make it viable, you would need about four thousand users province wide, to make that a viable option. I guess we've had discussions with the RCMP and the Department of Justice over the last number of years to see if we can either share infrastructure with them or basically lease infrastructure with them, and I guess the summary of the decision from the RCMP, for us to go onto the RCMP/RNC system would be in the order of about twenty to twenty-five million dollars, again primarily because it's a public safety system and the repeater and radio costs are significantly more than that for a public safety system.

Hydro is not committed to an own-only mobile communications infrastructure, and I guess we've shown that by, I guess, what we've pursued over the last five to seven years. We are proposing a shared cost agreement between Hydro and Works Services and Transportation, and we are proposing that capital and operating costs to be shared between Hydro and Works Services and Transportation, and the important thing to note is whether Works

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Services are part of the proposed system or not, the cost for this system are required for Hydro's use. Works, Services and Transportation coverage requirements over and above Hydro's will be at Works Services' expense and any cost recovery from Works Services of capital and/or operating contributions will result in a reduction of Hydro's revenue requirement, whether that be capital, and in the case of its operating, it will just go into a general revenue and the rate holder will be held harmless from this initiative.

With regards to Newfoundland Power, we basically--the system will be expandable to accommodate Newfoundland Power when, and if, it is a viable alternative for Newfoundland Power. And at that time, Industry Canada and the CRTC will also be required to intervene because there are certain restrictions with regards to Hydro becoming a common carrier, unless Newfoundland Power actually buys into the cost of the infrastructure, which is our interpretation of Industry Canada and CRTC regulations.

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Summary of the proposed alternatives, a complete replacement of the existing infrastructure is the least cost option and based on the information that we sent out on Friday, Friday past, we have shown that. The additional functionality offered by the trunk alternative outweighs the small incremental cost over the conventional alternative. Currently, a leasing option does not exist. However, with that said, when Hydro goes to tender at some future time for this system, a leasing option will be put in the tender, as it is in most of our tenders, to see if indeed a leasing option is viable at that particular time. I should also note that in 1989 when Hydro--or 1987, when Hydro went to contract for the existing system, basically a leasing option was proposed by Newtel at that time, and also Terra Nova Tel, and the leasing cost option was not a viable option, from a financial perspective.

And the last side, I believe, is a summary of proposed alternatives. There is no cost advantage to do a phased implementation of the proposed system, and what we've shown

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there is a phased implementation of Hydro moving forward with the proposed system in 2004/2005 and delaying all but twelve repeater locations until three to five years out versus a complete rebuild over the infrastructure in 2004/2005. And if you look at the information that was sent out on Friday, you'll find that there's about a hundred thousand dollars difference on over a thirteen million dollar project. I believe that's the last slide, Terry.

Q. Mr. Downton, the proposed VHF mobile radio system project you've just described, that's the project that is set out on page B-71 in the application, is that correct?

A. That's correct.

Q. And it's also the one that's described in the Business Case analysis that was attached in Section G, Appendix F to the application, is that correct?

A. That's correct.

Q. Can you please summarize Hydro's position with respect to the overall proposed mobile radio system project as outlined with our application?

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A. First and foremost, the proposed system is critical to Hydro being able to carry out its business in the future. And with the existing technology issues we have with the current infrastructure, from my perspective, Hydro is at risk to continue being able to provide mobile communications in support of its core business. The trunked radio alternative that Hydro has presented, from our perspective, provides the least cost option for Hydro and is the best technology solution that we've proposed.

(11:32 a.m.)

Q. Mr. Haynes, as the executive responsible for this project, could you please advise what your position is with respect to the project from Hydro's perspective?

MR. HAYNES:

A. From the--Newfoundland and Labrador Hydro does need an effective VH mobile communication system. I think in the--I shouldn't say I think. In the proposed--we have proposed to spend a very moderate amount of money in excess of the least cost long-term alternative in the order of, I think, $200,000 or so, and

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we feel that there's enough unquantifiable benefits in the proposal that makes that more than justified from the point-of-view of expendability. I guess future involvement of Newfoundland Power, if it so chose, is it's easy to expand, and a lot of unquantifiable benefits by proceeding that way. We need it, we have to have it to ensure our--that we deliver power and repair damaged lines or stations or whatever in an effective manner. Any delay from the energy control centre providing, you know, permits to Mr. McDonald's crew, if you go back to some of these photographs that were in the presentation, if the VHF was not there, then basically the lines would have to be de-energized when they depart or you would look for a cell phone if that works or whatever. And those things are not reliable in remote areas, so it is required.

Q. Mr. Haynes, the particular project that has been proposed, can you comment with respect to Hydro's perspective on whether it is the least cost option available?

A. As I just mentioned, in the analysis that we

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had done and the various responses to requests for information responding to comments made in the submission by the Industrial Customers we had reviewed all those things and we are quite confident that our proposal is the best alternative for Newfoundland and Labrador Hydro. And as I mentioned, the only different in the cost from a least cost is roughly $200,000 which we feel is justified based on the unquantifiable benefits of the radio.

Q. Thank you. That completes my direct examination of this panel.

CHAIRMAN:

Q. Okay. Thank you, Ms. Greene. Are you ready to proceed?

GREENE, Q.C.:

Q. It's Newfoundland Power first, Mr. Chairman, under the Rules.

CHAIRMAN:

Q. I'm sorry. I should have looked at my sheet here.

MR. KENNEDY:

Q. Mr. Chair, it's Newfoundland Power followed by the Industrial Customer.

CHAIRMAN:

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Q. Yes, it is.

HUTCHINGS, Q.C.;

Q. But thank you for thinking of us.

CHAIRMAN:

Q. Mr. Alteen, do you have any questions of the witnesses?

MR. ALTEEN:

Q. Yes, we do.

CROSS-EXAMINATION BY MR. PETER ALTEEN

MR. ALTEEN:

Q. Your panel--Mr. McDonald, I don't think we'll have many questions that will involve a lot of input from you, so you can rest easy for the period that we'll be questioning, anyway. And in terms of the questions, Mr. Downton, I'm going to direct them to you, but obviously Mr. Dunphy or Mr. Haynes can add anything that they think is useful or you can pass the ball to them as the quarterback, if that's satisfactory to you.

MR. DOWNTON:

A. Okay.

Q. Good. Let's start out with the costs. Mr. O'Reilly, can we see B-71, please? Just scroll down a little bit there, Mr. O'Reilly.

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That's fine. Now, Mr. Downton, the 8.850 million that's there in the total is the total cost, the forecast cost of the system, correct?
A. That's correct.
Q. That's what we're working with. Now, can we go to NP-2, Terry? And you might as well keep B-71 around because we'll be coming back to it. I'm sorry, NP-5, excuse me, Terry--Mr. O'Reilly. And in NP-5 we asked some questions in relation to the financial analysis filed in support of the Business Case for the VHF mobile radio system and a little bit of differences in cash flows?
A. Yeah.
Q. And you're familiar with that question?
A. Yes.
Q. And if you can scroll to page 2? You see there the trunked radio system we have capital costs of the total $5.7 million, correct?
A. Yes.
Q. And what's the difference in that and the capital cost of 8.8 that's shown in B-71?
A. When we did the cash--or I should say the evaluation, net present value of the

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alternatives, the 2.7 and 3 million for a total of 5.7 million were what we estimated to be the cost of supply of the system. What were not added into the 5.7 million, were basically project management, internal engineering and our usual overheads escalation and contingencies.
Q. Is it fair we'd call those internal Hydro costs?
A. Internal Hydro costs.
Q. And they're about 3.1, 3.2 million dollars?
A. Yes.
Q. Okay. The $5.7 million capital costs that's shown in Appendix A-1 here and is shown consistently in your description of the trunked radio, your analysis of the trunked radio, that comes from the consultant's report?
A. Those costs are consistent with what was in the consultant's report. When the consultant's report was generated in 2001, he looked at various technologies and basically he looked at the MPT, LTR and some of the other technologies. I guess after 2001 we basically kept continuing our search for

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different alternatives and we basically found another product, I guess, another technology called the passport technology and the pricing that was done for the--based on the 5.7 million is based on the passport technology.
Q. That's based on the passport technology, it's not based upon the custom system--let's do it this way, let's go to Appendix C to the Business Case, Mr. O'Reilly. And I'm looking for Attachment 5. No.
MR. HUTCHINGS:
Q. That's Appendix 5. He needs Attachment 5.
MR. ALTEEN:
Q. Yes. The consultant's report is Appendix C, Mr. O'Reilly, I believe, and we're looking for Attachment 5 to that report, yeah. We're getting there. Scroll along. Okay, one more. Here we go. Now, go back one page. There you go. Thank you, very much, Mr. O'Reilly. Now, when we look at this Attachment 5 to your consultant's report, we see there under the LTR, which is the second column, we see the costs associated with the LTR technology. And they approximate $5.7 million. Is that fair?
A. That's fair.

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Q. That is not the source of the $5.7 million that is in your financial analysis, is that what you're saying?
A. Basically, I guess, the short answer is no, it's not exactly the same. We basically looked at other technologies and I guess the passport technology was consistent with that offer by the transcrypt LRT and the tetra technologies.
Q. Yeah. The passport technology is something I understand--I'm trying to stick within the walls of your consultant's report right now, Mr. Downton. Your consultant reviewed four different technological alternatives here, didn't he?
A. Yes.
Q. And all of them are trunked technologies, are they not?
A. Yes.
Q. And the cost variance for these four different trunked technologies was between 5.7 million to 11.7 or 11.8 million, is that correct?
A. Yes.
Q. So the range was almost two times in cost from least cost to the highest cost of these four

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trunked technologies?
A. Yeah. And I guess in particular of note is the smart zone and EDACS are considered to be considered to be public safety systems, and that's primarily why you see the significant increase in cost there whereas the tetra and transcrypt systems are more of a public service system.
Q. Fair comment. And even between the tetra and the LTR, though, there's a significant difference. You're looking at a difference of over $2 million, are you not?
A. Yes.
Q. Okay. Now, can we go back to B-71, please, Mr. O'Reilly? Thank you. This is the total project cost, again, Mr. Downton. And we've agreed that the difference between the 5.7 million that you've called external costs or projects costs and this 8.8 is about 3.1 or 3.2 million of Hydro internal costs. What's in that internal cost of 3.1, 3.2 million, can you explain that to the Board?
A. Basically what would be in there would be our own internal engineering, any insulation that we would have to do outside what the contact

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would have to do, any materials that are outside of what the contractor would do, and did I say project management and engineer.
Q. Well, what labour are you presuming that you would do outside of what the contractor will do, or do you just make a general allowance for it, Mr. Downton? How do you sort of determine that and get your head around that?
A. Well, basically, for a contract of this size we would do an approximation of what we felt based on other projects that we've done of what the labour costs would be. As much as the vendor has the primary responsibility to do the design, we also have the responsibility to ensure consistency of the design and provide overall project management from our perspective in addition to the project management that they would do.
Q. Okay. Well, what kind of materials would there be in terms of materials that Hydro would use that the contractor wouldn't supply, just give us some sense of what that might include?
A. I don't know, maybe some additional coupling equipment that had not been taken into

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consideration in the detail design and those sorts of things. I don't know if Mr. Dunphy can comment further, if you don't mind?
MR. DUNPHY:
A. Normally that's miscellaneous materials. It could be cable, it could be mounting equipment. There's a variety of things that that covers.
Q. But it's not going to be repeaters or any of those major technological components. Is that a fair assumption?
A. No. That is a fair assumption, yes.
MR. DOWNTON:
A. Now, what would be included in there may be spared, would be spare equipment and test bed for the equipment. And that's fairly common for what Hydro does.
(11:45 a.m.)
Q. I notice that the $3.15 million for internal costs for Hydro never changes across all of the alternatives that you considered in your financial analysis of alternatives to arrive at your least cost solution. Is that a fair observation, is that correct?
A. That's a fair observation.

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Q. So does that reflect Hydro's conscious sort of thinking that no matter which solution it takes, its internal costs will be the same? Is that something you've thought through or is that just sort of what I'd call a gross assumption that you decided to hold the same through all analysis?
A. It is an estimate and it is also an assumption that we decided to hold it through the analysis. And I guess one of the reasons that we decided that is until you get into the detail design and know what particular technology you're looking at, it's difficult to estimate to that degree of detail at this point-in-time what your own internal labour costs are. So that's why we basically held it consistent across the technologies.
Q. Is it fair to say that--is it a fair observation that the internal costs associated with technology change would be material, is a substantial part of that $3 million?
A. Would the material be substantial?
Q. No, no. The organizational costs, your internal costs of dealing with a change in technology is going to be a big chunk of that

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$3 million, is that fair?
A. I'd have to look at the detail costs. But, I'd have to look at the detail costs, to be honest. I thought we had provided that information in one of the R--one of the Requests for Information.
GREENE, Q.C.:
Q. You're talking about the breakdown of costs provided in response to NP, right? Actually, I missed the--what level of costs you were looking for.
MR. ALTEEN:
Q. We're looking at the $3.2 million of Hydro's internal costs.
GREENE, Q.C.:
Q. Yes. But then you asked organizational costs or something.
MR. ALTEEN:
Q. Okay. Then I asked whether those costs would change if you were moving from one technology to the other, to another technology. Is that a big influence of that $3.2 million worth cost? And it would seem to me that that's a big part of it, going from one technology to a new technology poses costs on your business,

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is that fair?
A. Yes.
Q. That's fair, is it?
A. Yes.
Q. Okay, then. Is it also fair not changing technologies would tend, by comparison, to reduce the cost to your organization?
A. Not really--not necessarily. I guess in particular with the VHF mobile system, mobile radio system, which is what we're talking about now, what we have is a hybrid between a conventional and a trunk radio system. And I guess what we're asking for from a functionality perspective for the proposed system is basically the same type of functionality, but it will not be the same primarily because the technologies have changed in the last 15 years. So, as much as you're not changing, you are basically changing the technologies, you're also putting people in there that didn't exist before. So from my perspective, I don't necessarily agree that the costs would not increase. I don't know if you understand where I'm coming from?
Q. No, but that's fine. I might at the end of

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it. For the conventional option that you evaluated, you do not think that your internal costs would be lower to implement a conventional system versus an LTR system?
A. Yeah. As much as we call it a conventional system, it's a conventional system based on providing the functionality that we have now, which, if you talk about conventional systems, what we have is not "a conventional system". So we basically have a hybrid, if you want to call it that, of a conventional/trunking system.
Q. So you have a hybrid of an LTR and a conventional system, now you're moving to a completely LTR system, that's your evidence, really, is it?
A. Yes.
Q. In a nutshell?
A. Yeah. So we looked at the same functionality of a conventional system that we have now and basically the same functionality in an LTR system.
Q. When I looked at B-71--can we see that again, Mr. O'Reilly, please? One of the things that struck me, Mr. Downton, is the high proportion

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of labour costs in this project. This project is 8.85 million and almost 6.4 million of it is labour. And I'm just wondering, 70 percent labour for this type of contract seems a little bit -
A. Yeah, well, it is.
Q. - odd to me.
A. It is, in a sense. I'll speak to that. Typically, when we do up our capital budgets, we have the classification of material supply and labour. We really don't have a contract heading. And the engineer who basically put together this cost summary looked at this is a project that someone else is going to supply and what he did, he basically put it in the labour component. So as much as it's the labour is high, it really is the supply of the system.
Q. So looking at that justification sheet B- 71 there now, the labour for 2004 and 2005 would contain the 3 million and 2.7--or 2.7 and 2 million dollar respectively that you have as an estimated contract cost?
A. Yes.
Q. And that conforms with your conclusion in NP-

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5, I believe that the timing of the costs had changed from 2004 and 2005? If we go back to NP-5, the capitals were different in your revised schedules?

A. Go back to NP-5.

Q. Okay. Here's NP-5. 2.7 million in 2004 and 3 million in 2005.

A. Yeah. And I guess what I was trying to explain there, the 2.7 million, really, if you want to go back to the B-71, really comes out of that pieces that we've called labour.

Q. Okay. So -

A. And then likewise, for 2005 the 3 million comes out of the component called labour there, as well.

Q. The only difficulty I have with all of that is when I look at the labour for 2004, it's 2. 52 million and you've got 2.7 million coming out of it. And I'm just sort of wondering how that would work.

A. And again, it's basically it's the way that the engineer who did this put together the costs. From his perspective he looked at those three and used them interchangeable. He looked at material supply and labour and

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basically engineering and from his perspective. When he did it, he did not differentiate between internal and external when he put together those labour costs.

Q. Yes. But your external costs are 2.7 million in 2004, that's all I'm saying, and your labour is only 2.5 in this justification.

A. Yeah. And I guess what I'm saying is that the contract costs of estimated to be 2.7 really will touch on material supplies, labour and engineering.

Q. Material supply, labour and engineering.

A. I guess if we had another heading called "Contract", or "Supplier Contract Amount", then we would have had a $2.7 million figure in there. And I guess when the engineer did this cost estimate, he allocated the $2.7 million for material supply, labour and engineering.

Q. That's a good time to break, Mr. Chairman.

CHAIRMAN:

Q. Okay, fine. We'll break for 15 minutes.

(BREAK - 11:54 a.m.)

(RESUMED AT 12:13 p.m.)

CHAIRMAN;

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Q. Okay, Mr. Alteen.

MR. ALTEEN:

Q. Thank you, Mr. Chairman. Thank you, gentlemen. Mr. O'Reilly, can we go to page 28 of Appendix C to the Business Case. That's page 28 of the Technical Report of Custom Systems Electronics Limited.

CHAIRMAN:

Q. Carry on, Mr. Alteen, I'll find it eventually. It's already on the screen, but I have trouble focusing on that.

MR. ALTEEN:

Q. This page 28, Mr. Downton, those are the mobile system recommendations of your consultant, Customs Systems Electronics?

MR. DOWNTON:

A. Yes.

Q. And if we look at line 11.3.4, is it a fair and I put to you correct conclusion that the preferred mobile radio system recommended by your consultant is the LTR system?

A. That's correct.

Q. That LTR system is the LTR system that is evaluated in the technical report?

A. I'll ask Mr. Dunphy to speak to that since he

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did most of the analysis.

MR. DUNPHY:

A. Are you referring to the Consultant's Report?

MR. ALTEEN:

Q. Yes, I am.

A. I believe that is true, yes.

Q. If I speak to Technical Report, Mr. Dunphy, just so we're clear, it's Custom Systems Electronic's Report I'm referring to. So that is what he has recommended. Now the introduction to the Technical Report, can we go to page 2 of this report, Mr. O'Reilly please? I mean the Technical Report, Mr. O'Reilly, that report we were in, the Consultant's Report. It's Appendix C to this. Go to page 2. And here there's a general discussion by the consultant where he describes the most important requirement of a made mobile radio system as being access, and he determines it by two factors: geographical area coverage and adequate channel capacity. Do you agree with that general assessment of the consultant?

A. Yes.

Q. From your comments this morning, is it a fair

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conclusion for the Board to make that the conventional system alternative would meet the access requirements of Hydro?

A. Yes.

Q. And it's fair to say that the conventional mobile radio system that you've analyzed provides all the functionality you require, there's no dispute about that, is there?

A. No.

Q. Okay. Now, the financial analysis, we can go to the business case, Mr. O'Reilly and I think we go to page 10 of the business case, that's Tab 4. The financial analysis is summarized on page 10 of the business case. It compares the cost of the proposed trunked radio system with the conventional radio system, is that correct?

A. Yes.

Q. And the financial analysis as been frankly spoken to by Mr. Haynes shows a conventional radio system to be lower cost option by approximately $230,000.00, is that a correct reading of that?

A. Yes.

Q. So, it's fair to say that on a strict basis,

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Hydro is not proposing the least cost option; they're proposing the next to least cost option, is that fair?

A. Based on conditions right now, that is correct.

Q. And the evidence of the panel has been that you believe that the softer or less -

A. The intangibles.

Q. Yes, the intangibles justify that additional $230,000.00, is that your position?

A. Yes.

Q. Yes, okay. Now, when we looked at those numbers, the capital cost of the conventional radio system is over--it's $925,000.00 higher, if you look around the capital line in the first graph, than the proposed trunked radio system. Why does a conventional radio system have a higher capital cost? What's in that? What's driving that?

A. I'll defer that to Mr. Dunphy.

MR. DUNPHY:

A. Net estimate is an assumed hypothetical, I suppose, configuration for a conventional system that it was felt met the reliability and availability requirements for Hydro.

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Q. So there's no type of component that drives that or there's no piece of equipment, it's not repeaters, it's not a switch, it's not the -

MR. DOWNTON:

A. It's basically the switch. Because the trunked radio alternative that we've looked at proposing is, does not have a central switch. The conventional system does have at least one switch.

Q. And I guess, could we go to NP-2 please? If you look at NP-2, there's a phrase in there which I'd ask you to provide an interpretation for the uninitiated, and it starts at line 15. Could you read the sentence that starts "As well", at line 15, Mr. Downton or Mr. Dunphy?

MR. DOWNTON:

A. I'll let you read it Gerard.

MR. DUNPHY:

A. The sentence that begins on line 15?

Q. Yes.

A. "As well, the distributed design topology of the proposed system and the known channel efficiencies of a trunked radio system in a multi-channel environment both lend to

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increased overall efficiency."

Q. Okay, the first question, what is distributed design topology?

A. Refers to a design wherein there's no single central point of failure, my interpretation.

Q. Okay, and are we to take it that the distributed design topology here is a reference to what you refer to as the passport system in your presentation?

A. Yes.

Q. What are the increased overall efficiencies?

A. The increased overall efficiencies referred to?

Q. Yes.

A. In instances where traffic dictates that multiple channels are required, a trunked radio system allows better reuse of radio channels than a multiple channel conventional system would.

Q. Does that result in cost efficiency?

A. Yes, it does result in cost efficiency in depending on the number of channels required, there would be a reduced repeater requirements, reduced channel requirements and reduced interfacility requirements.

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Q. Has Hydro quantified those cost efficiencies? Are they in a position to inform the Board as to what they are?
A. No, we have not quantified those cost efficiencies. That will depend on the detail design of the system that's installed.
Q. Is it fair to say that the passport mobile radio system you referred to this morning is the option that Hydro is leaning towards, in terms of its mobile VHF radio?
A. It appears to be the most cost-effective solution that meets our requirements.
Q. You will agree with me that it's not explicitly evaluated in the Technical Report done by Custom Systems Electronics?
A. No, it is not, in fact, it's not mentioned in the Technical Report to the best of my knowledge.
Q. Yes. And is it evaluated in the Business Case?
A. It's not specifically mentioned in the Business Case, I do not believe.
Q. No, it's not mentioned in the Business Case, either, okay.
MR. DOWNTON:

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A. I should just add to that, I guess when Custom Systems did the technology review in 2001, the passport product, if we can call it that, did not--was not on the horizon, as such, and I guess it's only through additional research over the last two years in particular that basically the Passport product has come forward as a viable technology alternative.
Q. Yes, in your Technical Report, I believe it was dated December of 2001, is that correct? I don't want to -
MR. DUNPHY:
A. February 2001.
Q. February 26, 2001, okay. So at that time, Passport or the system that you're leaning towards now, was not commercially available? Is that a layman's way of putting it?
A. No, that's not true. I do not believe it was not available, I would say that the consultant was not aware of it.
Q. Okay. Mr. Downton or Mr. Dunphy, you reach a conclusion in your presentation this morning that the costs are approximately the same. How do you get to that conclusion? Have you done a detailed cost analysis of this Passport

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System?
MR. DUNPHY:
A. We've obtained order of magnitude estimates on the cost of this system and believe that it is within the budget that we've shown.
Q. Okay, bear with me for a second. Order of magnitude cost estimates, would they be more detailed cost estimates than the ones reviewed in the technical report by your consultant?
A. No.
Q. They'd be less detailed?
A. Yes.
Q. And I guess it's a fair observation that the cost estimates have not--no detail of the cost estimate is currently before the Board?
MR. DOWNTON:
A. That's correct.
Q. Can we go to NP-7? This response was to a specific request by Newfoundland Power asking when the cost estimates employed in the financial analysis were most recently confirmed and it indicates the most recent estimate was in late 2001. Is that late 2001, is that the estimate for the Passport System?
MR. DUNPHY:

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A. Yes.
Q. Can we go to page two of the Business Case, please, Mr. O'Reilly? No, I'm thinking of the Business Case, that's the technical report, I'm sorry to confuse you like this, Mr. O'Reilly. And if you go to page two, scroll down if you wouldn't mind, Mr. O'Reilly. Thank you very much. If I'm looking at the next to last paragraph there, there's a phrase, "the transmitters and receivers were MD'd"--which is, I presume, manufacturer discontinued in 1996.
MR. DOWNTON:
A. Discontinued.
Q. "But can be replaced with compatible equipment." Does this mean that Hydro can purchase new repeaters that are compatible with their current mobile radio system? Is that what that means?
MR. DUNPHY:
A. I'm sorry, I'd have to read the whole paragraph to get the context.
Q. Oh feel free, feel free, Mr. Dunphy.
A. And, I'm sorry, the question was?
Q. Does this mean that new repeaters can be

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purchased by Hydro that are compatible with Hydro's current mobile radio system?
A. Yes, that is true.
Q. And such repeaters and new repeaters that you bought would be supported by the manufacturer, is that a fair extension?
A. Yes.
Q. And there'd be spare parts available for those new repeaters that you're buying or if you wanted to buy?
A. Presumably.
Q. Could we go now to the response to NP-3, Mr. O'Reilly? And this question starting at line 6, asked "Did Hydro evaluate the alternative of replacing the switch in 2004 and staging the replacement of transmitters, receivers and repeaters over time. If Hydro performed such an evaluation, please provide the results. If Hydro did not evaluate such an alternative, why did it not do so?" Can you read the answer, gentlemen, either of you would be fine.
MR. DUNPHY:
A. "The existing repeaters have been manufacturer discontinued since 1996 and with the

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increasing failures, it is prudent for Hydro to replace the complete infrastructure. Also with the implementation of a new system, Hydro will be required by Industry Canada to utilize 12.5 kilohertz radio channels. The existing repeaters utilize 25 kilohertz radio channels and are not compatible with the new system and thus, the existing radios will not be compatible. As a result, the stage replacement of the current repeaters, radios and switch is not considered a viable option and this was not evaluated."
Q. And is that your evidence here today before the Board?
A. Actually, I believe supplementary evidence was entered on Friday discussing exactly that alternative.
Q. And what is that evidence, Mr. Dunphy?
A. You will have to forgive me, I'm not familiar with how these things are referred to.
GREENE, Q.C.:
Q. Supplementary evidence, dated July 4, 2003 that was filed on Friday. It's called Production Supplementary Evidence.
A. Thank you. I'm sorry, is there a question?

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MR. ALTEEN:
Q. That modifies your evidence as in NP-3 then, does it?
A. I suppose it does, yes.
Q. So you can buy the new repeaters and transmitters?
A. Yes. We subsequently found out that that option is available.
Q. Let's go back to NP-3. Now the other reason you said that you, at this point, at the point of answering NP-3, and I realize you've done the analysis now, Mr. Dunphy, so I'm not--but the other point you made was the implementation of a new system by Hydro would be required by Industry Canada to utilize twelve point five kilohertz radio channels and the existing repeaters utilize twenty-five kilohertz radio channels.
A. Yes.
Q. It's my understanding that if you were to change a portion of your system, such as repeaters, Industry Canada would not require you to change the frequency of your radio channel. Is that a fair assumption?
A. That is my understanding right now, yes.

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Q. They would prefer if you installed a new system that you should utilize twelve point five kilohertz radio channels, but if you're building or replacing parts of a current system, it is considered satisfactory, at least for the time being, to use the higher frequency?
A. For the time being, yes, that is our understanding, as of today.
Q. So in terms of being something to measure the viability of staging the replacement of your VHF system, mobile radio system, is it fair to say that the twelve point five kilohertz versus twenty-five kilohertz distinction is really not that material?
A. At this point in time, it does not appear to be a major issue.
Q. Okay.
A. We've spoken to Industry Canada, and as you said, we are not required, at this point in time.
Q. Okay then. Thank you. Mr. O'Reilly, if we could go to the Technical Report again, which is Appendix C to the business case, and I want to go to Attachment 4. That's it. Just

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scroll up, just a little bit, Terry, centre of the page. Thank you very much, Mr. O'Reilly. Now this is a mobile traffic summary for the year 2000, and I'm going to ask some basic questions on this. What is a PEG, P-E-G?

A. A PEG is an industry term for a single use of the system. So for instance, when a call is initiated, counted and that call is called a-- referred to as a PEG.

Q. The time you use the system, regardless of the duration of the use, when you are connected?

A. Yes.

Q. Is that fair?

A. Yes.

(12:35 P.M.)

Q. Okay. And when I look at this, and if I call them calls, Mr. Dunphy or Mr. Downton, please bear with me, I'm talking about PEGS. When I look at this chart, and if we could take January for one second and we can look at the PEGS. Mr. O'Reilly has got his hand on the PEG for Newfoundland and Labrador Hydro, you see that there? That chart would indicate the number of calls or that column would be the Bay D'Espoir hill repeater, there were nine

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hundred and fifty-nine calls. Is that the correct way to read that?

A. Yes.

Q. That is, okay. And as you go down, you have, I believe, it's six repeaters there listed. That's not all your repeaters or all your repeater traffic, is it?

A. No, it's not.

Q. That would probably be the six most active or something of that nature, is it?

A. I can't say for sure. It probably is.

Q. When you go to all sites total, which is in bold -

A. Um-hm.

Q. - that would indicate all of the calls in that month?

A. Right.

Q. By Newfoundland and Labrador Hydro?

A. Yes.

Q. Okay. When we look at the minutes, that is just the amount of time in minutes that the system is being used?

A. Yes.

Q. And again, the all sites total would indicate the total usage of the system in minutes?

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A. Yes.

Q. Okay. And if you add the calls for Works Services and Transportation PEGS and the PEGS for Newfoundland and Labrador Hydro, you get the total PEGS over in the total column? Is that how that's supposed to work?

A. Yes.

Q. The same for the usage in minutes?

A. Yes.

Q. Okay. Now I'll point out something. I'm not going to make a big point of it, because I don't think it matters for the line of questioning. When we get down in September and October and November and December, the totals don't seem to add up and it looks like it's some sort of spreadsheet here. You may want to take a look at that. It's not material for where we're going today, but you'll find that the totals don't add up?

A. Yes, totals seem to be low on first examination.

Q. Yes. But you can check into that and if you want to refile it, then that's up to you. But according to our calculations, which are rough, this document, which is the mobile

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traffic summary for the year 2000, indicates that on a total minutes of usage, Works Services and Transportation used the system approximately sixty-six percent of the time, as compared to Hydro's thirty-four in total minutes. Does that seem in the ballpark to you? And you can take those numbers subject to check, Mr. Dunphy and Mr. Downton.

A. Those are reasonable numbers.

Q. And it's roughly the same for the PEGS or the calls?

A. Yes.

Q. That rough split of usage, isn't it?

A. Yes.

Q. About sixty-five, thirty-five, two-thirds, one-third, roughly?

A. Yes.

Q. Now can we go to the request for information that's PUB 21, please? And I think there's a letter attached to that, Mr. O'Reilly, and the letter is to Mr. Downton. This letter, I think, is dated February 27th, 2001. Is that correct?

MR. DOWNTON:

A. That's correct.

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Q. Okay then. And is this the first--the latest correspondence with Works Services and Transportation regarding their participation with this mobile radio?
A. That is the latest in the sense of a document correspondence, but we've had meetings on this particular issue.
Q. Okay then. Now I want to explore a little bit of that, Mr. Downton. The letter says "the degree of participation and the funding process remains to be decided." Is that still where we are?
A. Well, we basically have given Works Services the costs, as per what had been submitted, and they are, I guess through their channels, currently identifying how they will fund this, whether they will fund it from a capital perspective or whether they will fund it from an operating perspective or some combination thereof.
Q. Okay. You've given them the costs and they'd be costs consistent with the costs that are before the Board here today for this system?
A. Yes.
Q. That's a fair comment?

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A. Yes.
Q. Okay, good. And you say that there may be choices in how they determine their contribution. Could you give me a little bit more detail? If they intend to contribute on a capital basis, are you implying that it will be a lump sum upfront payment to cover capital?
A. I guess discussions that we've had with them, there is that possibility, plus also there could be a possibility of say two lump sum payments towards capital through the life of the project.
Q. Okay.
A. And in the life of the project, I mean through 2004/2005.
Q. So they would invest at the time that Hydro is required to invest?
A. Yes.
Q. That's what you're--is that where that is?
A. Yes.
Q. Okay. And that's where it is now. What's the current situation with Works Services and Transportation? What are they paying today? Do you have any idea?

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A. They are paying approximately sixteen thousand seven hundred and fifty dollars a month.
Q. And in here, it says that it is estimated in this letter that's on our screen in front of us, "it is estimated that the Department's level of participation would be as per the present system, provided the costs are as presented in last week's meeting between officials of both agencies." Now respecting that this letter was in 2001, is it fair for me to say that the conversation between Works Services and Transportation and Hydro today is based upon a sharing of the costs as presented in this application?
A. Yes. That's the sharing of capital and sharing of operating.
Q. Okay. And in your proposal before the Board today, in terms of the capital contribution of Works Services and Transportation, and let's leave apart that nuance about timing, Mr. Downton, about 2004/2005, but your proposal is that Works Services and Transportation pay one-half of the external costs or the five point seven million as a capital contribution?
(12:45 p.m.)

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A. You're looking at them paying fifty percent of the total capital cost of the project.
Q. Fifty percent of the total -
A. That's the discussions that we've had with them.
Q. - total capital costs. And what are the total capital costs? Is that the eight point eight million?
A. Yes.
Q. Is it a fair observation to observe that that isn't what is currently reflected in the net present value or cumulative present worth analysis that you've used for financial analysis in your business case? I think you've used the five point seven.
A. We've used the five point seven, and I guess we ran the full follow-up costs for the net present value as well.
Q. Is it fifty/fifty basis as you've proposed of total capital costs, is that fair given the usage of the system in your estimation, in Hydro's estimation?
A. Yes. There's two ways to look at it. When the existing arrangement that we have with Works Services is based on per user basis. We

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do not look at actual minutes being used as a reflection of costs, and the main reason is because all of that infrastructure is common. So no matter how much you use it, the costs are not going to change between the parties anyway. So whether you hit the repeater site with two hundred and fifty PEGS or whether you're going to hit it with five hundred PEGS, the actual cost is not going to change. So from our perspective, we looked at the--it's a fixed cost and we elected to go the route of looking at a cost share based on a per user basis.

Q. High fixed cost, virtually no variable cost. Is that where--is that how this system operates more or less?

A. Well pretty much, yes. I mean, basically after you--high capital cost to install it, actual operating costs, not that it's consequential, but the operating costs over the life of the project is consistent.

Q. Is it also another way to look at it, and due regard to the explanation you've given, to say that the person or the party that uses the system should pay the proportional amount of

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their use in costs?

A. I think in a common carrier environment, that would be more applicable. I guess with regards to the relationship that we have with Works Services and the fact that, I guess, Newfoundland Hydro is an agency of the Government, and that's the only reason that Newfoundland Hydro and Works Services can collaborate on the existing system, as well as the proposed system. I guess what Industry Canada specifically says that Hydro cannot charge a fee for use, and I guess our interpretation of that is that what we are looking at is splitting, on an appropriate user basis, the capital costs and then, from an operating cost perspective, share that based on a per user basis as well. If Hydro were to become, let's say, a private company or if the things should change, then basically the ability for Newfoundland Hydro and Works Services to continue to carry on as with the present agreement would be null and void.

Q. Okay. But is it fair to say that if the capital contribution, and you've proposed fifty/fifty, and I understand the reasons

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you've proposed, but if the capital contribution were say sixty-five percent, that's not going to change that common carrier sort of relationship, I don't think, is it? That's not your contention that that would make you a common carrier because they paid sixty-five percent of the capital costs.

A. I guess where you're coming from is based on, I guess, charging a fee based on actual usage.

Q. User pay.

A. Yes, user pay, and I'm not sure, and to be honest, I'm not sure on that particular item, however, with that said, whether Works Services are on this system or not, basically the total capital costs of what's proposed is what's required to meet Hydro's requirements.

Q. One final question. Where are you with Works Services and Transportation in terms of settling this? There was an RFI that it indicated you're still at a period of negotiation. We don't need to go there. Has that advanced to the point where there's any firm commitment on the part of Works Services and Transportation that Hydro can share with the Board at this time?

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A. I guess we have a letter from Works Services which indicates that they are still committed to participation in this system and that they will be seeking funding through their appropriate channels and I guess, at the end of the day, whether it's capital or operating, that's really not under our control.

Q. And first, is that letter subsequent to this letter that we have on the screen in front of us?

A. This is basically a letter just from, I guess, Mr. Campbell communicating that Works Services requires this system for them to be able to do their business and they are committed to continuing down this road of, let's say, a joint build, if you want to call it that.

Q. But there's still a certain level of -

A. There's still a certain -

Q. There's still a material level of uncertainty associated with all this. Is this a fair way to leave it today? Because I realize negotiation isn't concluded.

A. It's a fair way to leave it today because it's difficult to, I guess, to commit to detailed negotiations when you don't know if you have a

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profit to negotiate on, from our perspective, but from Works Services, they are committed in turn within government to fund their portion of this particular project.

MR. HAYNES:

A. If I could, our intention was, in one of the previous RFI's, I don't recall the number offhand, there was a question of how we're going to treat the capital contribution by Works Services and Transportation. And we had said that in the next capital hearing that we would actually revise those numbers depending on how that worked out. If there was a lesser capital contribution that we anticipated, that we would like to get, then basically that would be covered in the operating costs. At the end of the day, the rate payer would be saved harmless. You know, it should be transparent to the rate payer, that's the intent of our involvement with Works Services and Transportation. The rate payer benefits, regardless, because even without Works Services and Transportation, we would still be here today with 8.9, 8.85 million capital budget.

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MR. ALTEEN:

Q. And from an incremental cost recovery basis, I think we'd have to agree with you, however, from a fairness basis of the benefits of a capital investment by a utility that is shared by people who are not utilities, that are related parties, different considerations may arise, Mr. Haynes and we'll leave that for another day because it's uncertain--you grant me that that's another aspect that the Board would have to consider.

A. I understand.

Q. Do you agree with that, generally, conceptually.

A. I agree, except that, I agree generally, yes, however, if you look at contribution in aid of construction, there's no--which is sort of what this is--it doesn't necessarily, one doesn't necessarily look at the use of the system if you're looking at interconnecting a bunch of cabin owners, whether they have electric heat or whether it's just lights and so on. You still have fixed portion to hook up. So, there are some analogy which are appropriate. And one of the concerns

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expressed by Mr. Downton was that we do not want, in any way, shape or form, for Industry Canada to come back and say that we're a common carrier, that introduces a whole pile of other regulatory things that we're not interested in.

Q. I suspect you probably had your fill of regulatory right about now. Thank you gentlemen, you've been very, very helpful, thank you very much. That's our cross-examination of the panel, Mr. Chairman.

CHAIRMAN:

Q. Thank you, Mr. Alteen. Industrial customers.

MS. HENLEY ANDREWS:

Q. Mr. Chairman, we're going to divide up our cross-examination pretty much along the following lines with respect to this panel. And that is that I will ask the questions on production portion of the capital budget and Mr. Hutchings will ask the questions with respect to information technology and telecommunications. And there is one section of the general properties budget which deals with vehicles.

GREENE, Q.C.:

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Q. That would be for the transmission panel.

MS. HENLEY ANDREWS:

Q. Okay, that's fine. So, I'll start.

CHAIRMAN:

Q. Okay.

CROSS-EXAMINATION BY MS. JANET HENLEY ANDREWS

MS. HENLEY ANDREWS:

Q. I guess the best thing for me to do, Mr. Haynes, is to direct all of my questions to you and if there is somebody on the panel that who you feel is better able to answer that particular question, you can suggest to which you would re-direct it to.

MR. HAYNES:

A. That's fine.

Q. Now, if you take a look at Schedule A, the application. The generation budget which is proposed for 2004 is $5,079,000.00, is that correct?

A. That's correct.

Q. With another $3,036,000.00 expected to complete some projects in future years?

A. Correct.

Q. In this hearing, are you looking for approval of those future years capital costs?

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A. No.
Q. Now, if you look at A2, under the construction project for the hydro plants, all of those are single year projects for 2004, correct?
A. With the exception of approximately $20,000.00 which was approved last year for some preliminary engineering work.
Q. That's right, but -
A. All those projects in the hydro plants are expected to complete by the end of 2004.
Q. And with respect to some of the projects that are dealt with under thermal plant, some will be overlapped between 2004 and future years?
A. That's correct.
Q. And if you look at the thermal and add up the thermal amounts, the portion of those projects for 2004 is actually less than the portions of those projects for future years. There's 2.38 million -
A. 2.28, I'm sorry, yes.
Q. - versus 3,036,000.
A. That's correct.
Q. Could you refer to IC-5?
A. Yes.
Q. Now, IC-5 contains a letter dated August 19 of

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1999 from the Board to Hydro, but also the guidelines for minimum filing requirements for new generation and transmission projects.
A. Yes.
Q. Did you have any involvement in the development of the guidelines that are in the joint submission?
A. No, I did not.
GREENE, Q.C.:
Q. I don't know if it's helpful, Ms. Andrews, Mr. Reeves, who's on the TRL panel was going to speak to these guidelines because the only project here is the transformer which meets those guidelines and he was involved in the development of the guidelines.
MS. HENLEY ANDREWS:
Q. Okay. If you look at the summary--but these are guidelines that Hydro is working with today, correct?
A. For minimum filing requirements, yes.
MR. HAYNES:
A. Which are specific projects.
MS. HENLEY ANDREWS:
Q. Now, if you look at the summary, the bottom of the first page of the summary -

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MR. DOWNTON:
A. Of the report?
Q. Of the report.
A. Minimum filing report?
Q. Yes.
A. Okay.
Q. Well, first of all, look at the first paragraph and the last sentence says, "the filing requirements apply only to capital works related either to new additions or to capacity upgrades for existing plant on either the transmission or the generation facilities".
A. Yes.
Q. What do you understand a capacity upgrade to be?
A. If we were going to--if you go back to the late '90s when we were to upgrade the generating plant from, take units 1 and 2 from 150 to 175 megawatts, that would be generation upgrade, a capacity increase. If we were to present to the Board, at some future year, to replace the runners, for instance, on Bay D'Espoir unit number 7 to increase the megawatt capacity or the energy capability of

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the plant, that would be a capacity upgrade. None of these projects that are in here would actually increased to megawatt rating or the energy capability of the plant. We may be able to get some efficiency gains, but there is no specific thing considering the justification would actually increase the capacity of the plant.
Q. Now, at the bottom of page 1 of the summary, the last sentence says, "that the minimum filing requirement will also specify the tests and guidelines used to justify the proposed project both in terms of the technical and the economic financial evaluations used", correct?
A. Yes.
Q. But would you agree that notwithstanding these guidelines, that the Board's role is to evaluate each project that you put forward?
A. Yes.
Q. Both with respect to need and cost?
A. Cost is not always considered, sometimes there are very few options to do all that, but typically we look at--we do not always do a cost benefit analysis for each and every project that we undertake. In many situations

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we do, but not all.
Q. But is it your understanding of the legislation of the Electrical Power Control Act that the Board's mandate is to ensure least cost?
A. That is what's in the Act, yes.
Q. And can I interpret your answers as saying that with respect to the generation projects that are proposed, none of them would be regarded as either a capacity upgrade or new project?
A. That's correct.
Q. Now, could you take a look at IC 9?
A. Yes.
Q. And is it fair to say that all of the generation projects are Island Interconnected Projects?
A. I think they're all common.
Q. Yes. So, they would all be assigned as common for cost purposes?
A. To benefit all customers.
Q. Now, I'm going to start with the project at B-5 which is to replace the unit number 7 exciter.
A. Okay.

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Q. If we look at the project description, it says that it's the continuation of a project which the Board has approved funds for 2003.
A. That's right.
Q. But you would agree that all that the Board approved for 2003 was engineering and associated overhead?
A. That's correct.
Q. If you look at F-4 of the supplementary evidence that was filed on Friday. As of May 31st, none of the funds that had been approved for 2003 had been spent with respect to this project, correct?
A. That's correct, yes.
Q. Is that still the case today?
A. I suspect it still is the case, basically this is--basically we're applying our engineering resources, right now, we have a fair number of people in the Granite Canal project, that work will be done by the end of the year. The scope of work is basically to identify the technical requirements and prepare a specification and hopefully go to tender and be in a position to award. We see no reason why we will not attain that objective by the

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end of 2003.
Q. So, the actual project itself has not yet started?
A. No.
Q. And what was approved in the 2003 budget does not include any of the actual, physical -
A. Commitments to a supplier, it's not intended to make any commitments to a supplier until the 2004 capital budget is approved.
Q. Now, 6 exciters have already been replaced at Bay D'Espoir since 1995, correct?
A. Yes.
Q. When these are installed in 1977, what was their expected useful life?
A. Typically, based on consultant information that we've had and industry practice, 25, 20 to 30 years is a typical useful life of an exciter. You may be get more, you may get less, depending on the vein of support and how many are in the market place.
Q. Depending on what?
A. Depending on vein of support, the availability of spare parts, how much specifically, I suppose, electronics were there, which we can no longer get parts for or even the

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manufacturer cannot source suitable components.
Q. So, 30 years would have brought it to 1997--20 years would have brought it to 1997, but 30 years would have brought it to 2007?
A. Yes.
Q. And that would be true with all seven exciters?
A. Typically, a 20 to 30 year time frame, there's obviously variability depending on the age, the use, the number of equipment problems there were, utilization of spare parts and so on.
Q. Some of them were replaced prior to 20 years?
A. Not Bay D'Espoir, I don't think, no. Bay D'Espoir, I think all had 25, 27 years. Bay D'Espoir units, number 1 to 4 were installed very early, number 5 and 6 a little later, number 7 in 1977.
Q. When the unit number 7 was installed, over how many years was it to be depreciated?
A. I am not exactly sure of the depreciation for exciters.
Q. Can you check that for me? (Undertaking)
A. Yes, I can do that.

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Q. Now, I'd like you to be shown, I think Mr. O'Reilly has this available to him, the 2003 capital budget, Appendix G, Tab 1.
MR. ALTEEN:
Q. Appendix G?
HENLEY ANDREWS, Q.C.:
Q. Appendix G, Tab 1 is a document called "A Condition Assessment of Exciters Within the Bay D'Espoir Powerhouse No. 2, Hinds Lake Generating Station". Now, if you--it's my-- I'm sorry.
GREENE, Q.C.:
Q. I believe we didn't use the electronic system last year for the capital budget application and I don't believe that reports that were attached have been entered electronically for the purposes of this hearing. As in the GRA, not all documents were filed electronically if they were prepared for other purposes.
HENLEY ANDREWS, Q.C.:
Q. Ms. Greene -
CHAIRMAN:
Q. Do you have many sheets that you're referring to there?
HENLEY ANDREWS, Q.C.:

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Q. No, I don't. But over the course of my cross-examination generally I will come back to this document and several others. I had--my understanding, which was--was that when it came to hearings prior to 2001, if we had documents that we wanted to show the witnesses, we should bring extra copies, but that for hearings subsequent to 2001 they would be available.
CHAIRMAN:
Q. I'm not sure. Do you know, Barbara, what the -
HENLEY ANDREWS, Q.C.:
Q. Perhaps the best thing to do, Mr. Chairman, in order not to waste any time is I'll move on to something that doesn't require the reference and I can come back to this tomorrow morning.
CHAIRMAN:
Q. Yes. That'll allow us time to check and see what's available electronically.
GREENE, Q.C.:
Q. Mr. Chairman, I can advise now it's not available electronically. As I said, what -
CHAIRMAN:
Q. On your system, yeah.

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GREENE, Q.C.:
Q. We had only agreed with Ms. Newman last week that Mr. O'Reilly would come and it was for the purpose of the 2004 capital budget application. We didn't have an electronic last year. And if you'll recall, even in the 2001 GRA it wasn't every report that was available electronically. I'm sorry if Ms. Andrews misunderstood or whatever.
HENLEY ANDREWS, Q.C.:
Q. Oh, it wasn't a question of misunderstanding in terms of what was available electronically. The question--misunderstanding what would be available to put to the witnesses. That's okay.
CHAIRMAN:
Q. Maybe after we break you might want to sort that out with the Board staff, Ms. Henley Andrews.
HENLEY ANDREWS, Q.C.:
Q. I'll do that.
CHAIRMAN:
Q. So we can be ready tomorrow morning.
HENLEY ANDREWS, Q.C.:
Q. Yeah. I'll go on to B-8, which is the gate

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hoist number 2 at the Ebbegunbaeg Control Centre.
A. Control structure.
Q. And this is another one where engineering or development of specifications was approved in 2003, but the actual project itself is what you're now proposing for 2004, correct?
A. Correct.
Q. And the cost is--for 2004 is $507,000?
A. Yes.
Q. And is it also correct that if you look at page F-4 that was filed on Friday, no expense has been incurred with respect to the 2003 portion of this project to May 31st?
A. Yes, to May 31st.
Q. Now, my understanding, from the material, but also from what you said--what was said earlier today is that gate number 2 is one of three gates?
A. That's correct.
Q. And it's the middle gate?
A. Yes.
Q. The information that's contained in this submission for the 2004 budget is almost the same as what was contained for the 2003 budget

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with the exception, from what I can determine, of three sentences. And one of those sentences is obviously the very first sentence, "This project for 2004 is a continuation of a project." The second is under "Operating Experience", and there seems to be a sentence added that, "Since then slight bends have developed and drive nuts had to be replaced again."

A. Yes.

Q. Now, is that with respect to gate 2 or with respect to other gates?

A. Just gate number 2. There are deficiencies on one of the other gates which is operable but not totally reliable. There is a bend. Basically we are expecting that when we do, we do that gate number 2, we'll take some of those components to fix up in a little bit better shape gate number 1 or 3, I don't recall which one.

Q. But gate number 2 is operational?

A. It's operational because we have replaced--we have spent, you know, additional monies to go back and replace the nuts and the screw.

Q. Okay. Now, in 2000 you had spent $52,000 to

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replace two screw stems, drive nuts and extensions?

A. Yes.

Q. Is that exactly the same work that was done subsequently?

A. What we will attempt to do is we will attempt to straighten the screws, if at all possible, before we replace as opposed to go out and buying more. One of the reasons that we'd like to take the parts that we get from gate number 2 to fix up gate number 1 or 3, whichever one it is, but basically the initial attempt is to straighten then out, depending on how much they're bent.

Q. And when was the repair--when you say "since then", when was the repair done to gate number 2, the most recent repair?

A. Well, the most recent repair was in December of 2002 when we had the bent screws and we replaced the nuts. Each year we go in, basically, as a matter of course. Now, we replace the drive nuts because of wear and tear. Anyway, the most recent repair was December of 2002, but it would not have been to replace the screw, it would have been to

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straighten it.

Q. And when you refer to the screw, is that the same thing as the screw stem?

A. Yes.

Q. Okay.

A. I'm sorry.

Q. And what was the cost associated with that repair?

A. I would suggest it was less than five or ten thousand dollars for the repair and maybe some transportation, because we did not replace the, you know, the screw stem itself. We would have straightened it. It would be mostly labour.

Q. And you would replace the drive nuts every year anyway?

A. Yes. We've gotten to that point because of wear and--these are all brass and they do wear. It's a very heavily used gate.

Q. Now, the other sentence that has changed is on page B-9. And at the end of the paragraph that runs over from the previous page there's a sentence that says, "The value of this lost production is equivalent to approximately 3200 barrels of oil per day at Holyrood." But in

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your submission to the Board for 2003 the reference was to 3600 barrels of oil per day from Holyrood. Do you know why that would have changed?

A. Actually, I don't know offhand. I didn't check that particular reference last night as to why it would have been changed. Basically, well, basically the energy production at the plant.

Q. Can you check and find out why that number has changed? (Undertaking)

A. Yes.

Q. Because it's obviously not a typographical error because -

A. The math works.

Q. - the next sentence which says that at $29.20 per barrel, this would represent a loss of $93,000 per day is contrasted to the old one which said $28.00 a barrel would be 100,000, so at the lower price it was more. So obviously the higher number was--I mean, the numbers have been changed.

A. These particular numbers are not used in any economic analysis. They're just as a for example.

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Q. Okay.
A. And obviously there is a--we'll explain the 32 versus 36.
CHAIRMAN:
Q. Could be you became more efficient last year.
HENLEY ANDREWS, Q.C.:
Q. Actually, that is -
A. Well, we have a little bit more efficiency. I'm not sure if it would go that high. It would be nice if Holyrood were to jump that much.
Q. If you -
GREENE, Q.C.:
Q. That actually is the primary answer, I understand, Mr. Chairman, so--but we will provide an explanation, yes, of course.
HENLEY ANDREWS, Q.C.:
Q. Yeah. And I'd rather have the evidence from the witness.
GREENE, Q.C.:
Q. Well, the Chairman, it's nice to know that he's understanding our system.
HENLEY ANDREWS, Q.C.:
Q. If you look, last November I asked you some questions about maintenance costs associated

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with the three dates. Do you recall that?
A. I vaguely recall.
Q. And you didn't have the numbers at that time. Have you calculated the maintenance costs for these gates since that time?
A. Not specifically, no, other than to ask the question what's been the most recent failure and what's happened.
Q. Now, your current proposal is for a wire rope type hoist at a cost of $507,900 in 2004?
A. That's correct.
Q. The existing gates have been pretty reliable, correct?
A. No, that's not correct. That is why we are proposing to change it to a hoist mechanism as opposed to a screw stem mechanism.
Q. Yes. But you did say, in 2003, that the gates have been pretty reliable?
A. They're reliable but they do require a fair bit of O and M. Every year we have to go change the nuts. That's helicopter time, that's people time, camp time. And with a gate hoist mechanism, based on the experience I believe I mentioned last year from Churchill Falls--and I did not dictate or ask that these

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things be changed to a wire rope hoist, basically that was--that came from the plant. The experience in--across Canada is that there are about 50/50 of screw stem hoists versus cable systems. And from my Churchill Falls experience, we have, occasionally have trouble with those, as well, but it does not require as much maintenance or -
Q. But that leads in to my next question, which is that screw stem gates are very common, aren't they?
A. They're not uncommon.
Q. Yeah. Well you said if it's roughly 50/50, they are as common as the other type?
A. Yes.
Q. And what would Hydro's projected cost be of maintaining the existing gate number 2 over the next three to five years?
A. We did not undertake that exercise.
Q. And what is the cost of replacing the gate with a new screw stem hoist mechanism?
A. I'm unsure. We did not do that estimate other than the fact that we replaced the screw stems for roughly 15 odd thousand dollars, which is only part of the mechanism.

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Q. But these type of gates are still available?
A. They are available. However, all these things are typically specifically designed for the installation. We go back to a manufacturer and you would have to give a fair bit of technical parameters on the weight of the gates, the pressure of the water and so on. So you don't go into, you know, a -
Q. They're not off the shelf?
A. They're not off the shelf. They are specifically designed for the specific application.
Q. But if you've been having trouble with the screw stem bending, then one of the pieces of information, presumably, that you would provide is that you need screw stems that are--a gate that would have sturdier screw stems than the current gates?
A. Which would--possibly, depending on the material. It would also have to go back and re-engineer the whole mechanism, as well, so.
Q. If one gate is out of service and closed, can the others be used?
A. Yes, they can.
Q. When you refer to the incident in 2000 when

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the two screw stems in the drive nuts and extensions were replaced, was there a spill associated with those replacements?
A. No, not at that time.
Q. Was there a spill associated with the repairs in December of 2002?
A. No, I don't think so, no.
Q. Was there any cost to consumers associated with those repairs, in other words, any loss of hydroelectric production that would have caused an increase in fuel?
A. If we did not spill, other than maybe a little bit less efficient operation of the hydro plant or the thermo plant, you know, just which are very marginal numbers, there would have not been any direct impact to the consumer.
Q. The existing gates are remotely operated, right?
A. That's correct.
Q. And the new gate would also be remotely operated?
A. That's correct. I'm sorry. Ebbe. No, I'm sorry, Ebbe it is not remotely operated.
Q. So it's not remotely operated?

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A. I should probably clarify that. I don't know all the mechanics down in the Bay D'Espoir watershed area, but there are a couple of structures that are not remotely operated, we have manned caps.
Q. Well, I assumed it was because at the bottom of page B-8 it says if a screw stem were to break or a brass drive nut strip during gate closure, the gate indication would be closed at the energy control centre -
A. That's correct.
Q. - while the gate is actually in the open position.
A. I apologize. There are two structures that are not remote control, but this one is remote control. It's basically used daily. I should know, I only checked our internet thing the other day and basically the control centre noticed it, acknowledged that it was moved a meter or two for water control. My apologies.
Q. And a new gate would then also be remotely operated?
A. Yes. The actual electronics, etcetera, etcetera, remote control system would not be changed of any consequence.

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Q. So for normal operation only one gate is used so you have two extras?
A. The system is designed to handle flood situations as well and that's where basically you have more capacity to release water, to avoid spills and so on, but under normal routine, average precip information, not the spring run off or, you know, moderate use of Bay D'Espoir plant, one gate would normally do it. It depends on--it's a planning role within the control centre to determine how much water has to be in transit to meet the next days production needs or whatever the water transit time is. But normally one gate does--gate number two does--I wouldn't care to make a guess at the percentage, but it does most of the regulation for that particular water shed release.
Q. Now, you would agree that the $52,000.00 repair cost in 2002 is pretty low compared to close to 514,000.00 cost of putting in the new gate that you're proposing?
A. On a dollar for dollar basis, yes, cost the consumer, not necessarily.
Q. How did you develop your cost estimate?

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A. Basically done estimates by engineering personnel, basically, contacted the suppliers of these things, gave them some rough numbers or some rough dimensions and so on and came back with a preliminary estimate on the cost.
Q. But am I correct that there were no other options other than this type of gate that were costed out?
A. That's correct, we did not cost to go and rehabilitate and redesign from the ground up a screw stem mechanism. Their opinion was that this was the better route to go, a more reliable route to go.
Q. And you also didn't cost out the repair cost associated with keeping what you got?
A. Not to the extent I think that you're--not to do with long term present work analysis of status quo versus fixing or changing.
Q. So, what is it, Mr. Haynes, that the Board has in front of it to demonstrate that this is the least cost option?
A. This particular project, like many others there, basically, what the conclusion was, that from based on the preliminary engineering work that was done, that the most reliable

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method to replace and repair these gates for the long term benefit is to basically change it to a hoist mechanism. There is no detail cost analysis from the point of view of status quo and continued ONN or to go back and redesign the current system. It was their engineering judgment that this was the appropriate technology and that's all that we put forward.

Q. So, there's an engineering analysis, but not cost analysis?

A. There's an engineering review done based on their experience and their--and a review of the records that were there on the maintenance issues, but it was not detailed and time was not taken to go down through all the meanderings that would lead you to one or the other conclusions. This was done up to the most appropriate solutions and that is what's been proposed.

Q. But my question to you was what does the Board have in front of it to demonstrate that this is the least cost option?

A. Well, I guess they really don't have anything specific, other than our view that this is the

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most appropriate and the best approach.

Q. Thank you. That's a good place to break.

CHAIRMAN:

Q. Okay, Ms. Henley Andrews, we'll break until 9:00 in the morning. There were some undertakings, I think, that came out of this mornings session.

GREENE, Q.C.:

Q. I believe there's two for Ms. Andrews, one on the depreciation and life of exciters and the other is on the change numbers and efficiencies for Holyrood and I believe there's only those two, Mr. Chair.

MS. HENLEY ANDREWS:

Q. Yes, that's my understanding.

CHAIRMAN:

Q. Yes, okay.

GREENE, Q.C.:

Q. And I think we probably will be in a position to report on both on the commencement of tomorrow if that's satisfactory.

CHAIRMAN:

Q. Very well. Okay, we'll see you at 9:00 in the morning. Thank you.

Upon conclusion at 1:27 p.m.

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CERTIFICATE

I, Judy Moss, hereby certify that the foregoing is a true and correct transcript in the matter of Newfoundland and Labrador Hydro, 2004 Capital Budget Application, heard before the board of Commissioners of Public Utilities, Prince Charles Building, St. John's, Newfoundland and Labrador on the 7th day of July, A.D., 2003 and was transcribed by me to the best of my ability by means of a sound apparatus.

Dated at St. John's, Newfoundland and Labrador
this 7th day of July, A.D., 2003
Judy Moss