(9:30 a.m.)

MR. SAUNDERS, CHAIRMAN: Good morning ladies and gentlemen, some familiar faces, some not so familiar. I'd like to begin by introducing the panel members. On my left is Gerard Martin, Q.C., and on my right is Donald Powell. My name is Fred Saunders and we have Cheryl Blundon who is the Director of Corporate Services and Board Secretary; Dwanda Newman, who is Board Counsel; Robert Byrne, who is the Director of Regulatory and Advisory Services; and Doreen Dray, the Economic and Financial Analyst. The purpose of the hearing this morning is to consider Hydro's application for their, for approval of their 2003 capital budget, and I'll leave it to Board Counsel to elaborate on that. Also the Board Counsel will confirm the Board's statutory authority to hear this matter, and that notice was published in accordance with the requirements of the Public Utilities Act and Regulations. I would like to now ask the Applicant and the Intervenors to introduce themselves and any witnesses that they intend to call.

MS. GREENE, Q.C.: Good morning, Mr. Chair, Commissioners. My name is Maureen Greene, I am counsel for the Applicant. We will be calling five witnesses for this application. In the opening statement I plan to give a little overview of the subject matter to be covered by each of the witnesses, so at this time I will simply state the names of the five witnesses for Hydro. The first witness is Derek Osmond, the Vice-President of Finance and Chief Financial Officer. The next two witnesses we plan to call as a panel. They are Mr. Jim Haynes, who is the Vice-President of Production who replaced Dave Collett who retired last year, and Eric Downton, the Director of Information Systems and Telecommunications. Both of those individuals will be called as a panel to speak to all the projects under the broad heading of generation. The last two witnesses that we plan to call as a panel are David Reeves, the Vice-President of Transmission and Rural Operations, and Gordon Holden, the Director of Engineering and Transmission, Rural Operations Division, so there will be five witnesses, and during the brief opening statement, I will give more detail as to the subject matters each of those will cover.

MR. SAUNDERS, CHAIRMAN: Ms. Henley-Andrews?

MS. HENLEY-ANDREWS, Q.C.: Mr. Chair, Janet Henley-Andrews and Joseph Hutchings on behalf of the Industrial Customers.

MR. SAUNDERS, CHAIRMAN: Good morning.

MS. HENLEY-ANDREWS, Q.C.: Good morning.

MR. SAUNDERS, CHAIRMAN: You will note too that the proceedings are being recorded and they will be transcribed, and if we go beyond the day there will be a transcript available tomorrow morning, as I understand it. The sitting hours and break times will be 9:30 to 12:30, 11:00 ... I'm sorry ... 2:00 to 4:30, and we will hope to have a break in the morning between 11:00 and 11:15 if that's convenient, or some approximate time to that, and the same in the afternoon between 3:00 and 3:15. The Board's secretary will maintain a record of all the exhibits and submissions that are put forward, and the parties are asked to submit sufficient number of copies for panel members, other parties, and the press if they are present. Before I ask Ms. Greene to begin her witnesses, are there any questions with respect to the procedure or the process?

MS. NEWMAN: Mr. Chair, perhaps first I'll list out the notices and then we can make sure that everybody is in agreement with what we've set out in that respect as well as the other procedural items they may raise. I will confirm that the application was received, an application was received from Newfoundland and Labrador Hydro on September 18th, 2002. In their application they were seeking approval of their 2003 capital budget, approval of the 2003 capital purchases and construction projects in excess of $50,000, and approval of leases in excess of $5,000 per year. I can confirm that the Board has the authority to hear and decide upon this application pursuant to Section 41 of the Public Utilities Act. Notice of this application and the hearing was published in newspapers throughout Newfoundland and Labrador starting on October 5th, 2002. The particular newspapers where this notice was published include The Telegram, the Western Star, Grand Falls Advertiser, The Aurora, The Labradorian, and the Northern Pen. This notice is on file with the Board secretary and forms a part of the record of the proceedings. The Board did receive intervenor submissions from Abitibi Consolidated Inc., Stephenville and Grand Falls Division, October 17th, 2002, from Corner Brook Pulp and Paper Company Limited on October 17th, 2002, and North Atlantic Refining Limited on October 21st, 2002. No other interventions or requests to make oral submissions have been filed. Various information requests were filed both by the Board and the Intervenors, and the requests for information as well as the replies were filed

within the schedule set out by the Board. Those are all the matters that I wanted to raise.

MR. SAUNDERS, CHAIRMAN: Thank you. Do you have any questions on procedure or process?

MS. GREENE, Q.C.: No, Mr. Chair.

MS. HENLEY-ANDREWS, Q.C.: No, Mr. Chairman.

MR. SAUNDERS, CHAIRMAN: And I assume there aren't any other parties in the room that wish to have any say in this matter. Any preliminary motions?

MS. GREENE, Q.C.: No, Mr. Chairman.

MR. SAUNDERS, CHAIRMAN: Okay, Ms. Greene, if you're ready to proceed.

MS. GREENE, Q.C.: Yes, thank you very much, Mr. Chair and Commissioners. I thought it would be helpful if I gave a very brief opening statement to outline the evidence we plan to call today to support the application. First, as you know, this is an application under Section 41 of the Public Utilities Act for approval of the 2003 capital budget of Hydro. This, the proposed 2003 capital budget, is the only issue before the Board in this application. Section 37 of the Public Utilities Act requires Hydro to provide services and facilities which are reasonably safe and adequate and just and reasonable. In order to meet this statutory obligation, certain capital expenditures are required each year, and under Section 41(1) of the Public Utilities Act, Hydro is required to file its capital budget by December 15th for approval for the following year. This application, as Board Counsel has already pointed out, was filed on September 18th. The proposed new capital expenditures for 2003 are $33 million, are the lowest that Hydro has submitted to the Board since Hydro first became regulated in 1996.

We view this budget as a fairly routine type, which includes in our view the minimum level of capital expenditures required in 2003 to provide reliable safe power at least cost. All of the proposed projects were screened using four broad evaluation criteria, namely safety. That is, if the project was required for public safety or the safety of employees, we have included it. Number two, environmental requirements, and here I include environmental legislation as well as commitments and agreements with the Provincial and Federal regulatory authorities. The third broad criteria was to maintain or to improve reliability and acceptable service to our customers at an appropriate level. The fourth broad criteria was to reduce costs and improve efficiencies. These four broad criteria will be explained further by the witnesses.

The recent decision of the Board effected in Order No. PU-7, outlined 12 guidelines and conditions to be met by Hydro in future capital budget applications. We were very cognizant of those in filing this application and we believe that we have addressed these requirements with respect to each of the projects that have been submitted for approval.

I will be calling five witnesses, as I already mentioned. The first will be Derek Osmond, the Vice-President of Finance and Chief Financial Officer. Derek has been a witness many times before the Board. In fact, he is Hydro's veteran and has been involved in all of Hydro's hearings back to 1976 in one way or another. Unfortunately, this will be Derek's last hearing. Derek has submitted his resignation as of the end of this year, and as much as we've tried, we couldn't persuade him to stay for our next hearing in 2003. As I said, Derek is the only person left at Hydro who has been involved in every single one of our hearings, right back to '76 in one capacity or another, mostly as a witness. Derek will speak as the Chief Financial Officer on such issues as the capital budget process at Hydro, the financing of the proposed capital budget, the impact it will have on Hydro's future revenue requirements and rate base.

The next two witnesses we plan to call as a panel, that was one of the suggestions during the last general rate application and we thought that we would try it at this time, and after discussions with Board Counsel, I understand that that's acceptable to the panel, so the next two witnesses will be called as a panel with respect to production and information services and telecommunications projects. These broad projects are the responsibility of Jim Haynes who is the current Vice-President of Production, so Mr. Haynes will be one of the witnesses on the panel, and the second witness will be Eric Downton, the Director of Information Systems and Telecommunications. They will speak to all projects that are included in the application under the heading of generation, and that covers all hydro and thermal capital projects. They will also provide evidence on the information systems and telecommunications projects that are listed under the broad heading of general properties in the application.

The last two witnesses will also be called as a panel. They are Dave Reeves, the Vice-President of Transmission and Rural Operations, and Gordon Holden, the Director of Engineering within that division. They will speak to all projects under the heading of transmission and rural operations in the application and the subheading, administration or administrative under the general heading of general properties, so that's a very general outline of the witnesses that we plan to call to support this application, and a general overview of the subjects they will be speaking to. Thank you, that concludes my opening statement.

MR. SAUNDERS, CHAIRMAN: Thank you, Ms. Greene. Do you have an opening statement that you wish to make, Ms. Henley-Andrews?

MS. HENLEY-ANDREWS, Q.C.: Mr. Hutchings will.

MR. SAUNDERS, CHAIRMAN: Mr. Hutchings?

MR. HUTCHINGS, Q.C.: I can speak to that, thank you, Mr. Chair. Just very briefly, we're here to represent the interests of the Industrial Customers, and obviously their interest lies in obtaining reasonable electricity service at the least possible cost. The capital budget projects that are approved under this application will have direct impact upon the rate base and hence the rates that our clients pay and since they pay in the range for $40 to $50 million a year for electricity, they obviously have a significant interest in anything that's going to affect the rate at which they pay for such electricity. As we indicated in the general rate hearing which was last year, our clients are bottom line people. They wish to have this proceeding carried out in the most expeditious fashion. We intend to address issues that make a difference, whether by reason of the number of dollars involved, or by matters of principle that may need to be addressed in order to ensure a fair and reasonable regulation of Hydro and bearing in mind always that it is not our intention, or should it be the Board's intention to micro-manage the Hydro operation, but rather to deal with matters on a level of generality that will provide protection to the consumer and at the same time give Hydro the ability to manage its business.

In terms of a division of labour, Ms. Henley-Andrews will be dealing with the projects under the heading of generation, and generally speaking, I'll be dealing with the projects under general properties. That will mean that I expect Ms. Henley-Andrews will deal with Mr. Osmond and the panel as regards generation matters except for the IS and T items which I'll deal with, and we'll, we may have some overlap as well with the second panel, but most of that, I suspect, will be falling under the general properties, which was the heading that I was intending to deal with. So if there are any difficulties with that, I know that there have been some debates here previously about splitting the cross-examination between two counsel, but I think we have a manageable situation here in terms of headings and we'll try to ensure that one of the counsel finishes before another counsel starts in respect of any panel. Thank you, Mr. Chair.

MR. SAUNDERS, CHAIRMAN: Thank you, Mr. Hutchings. Ms. Greene?

MS. GREENE, Q.C.: There's only one issue that I would address, and that's the issue of cross-examination. As you know, this was an issue during the last general rate application and there was rules agreed upon with respect to the process of cross-examination. If I understand what Mr. Hutchings has just outlined, it may not ... their proposal may not be strictly in accordance to the process we have followed before. However, we are calling panels, this is different for Hydro and for the Board with respect to a Hydro application, so I will not object to the manner in which the cross-examination is proposed. I understand it is with respect to discrete subject matters, so I don't think I can call it the tag-team approach, which I used to refer to the other method, and I assure you that if I think they're straying over the line I will object at that time, so I don't have any ... subject to that, I do not object to the proposed method of cross-examination.

MS. NEWMAN: Can I just ask ... transmission and rural operations, where would you, where does that fit in the division of responsibilities?

MR. HUTCHINGS, Q.C.: Most of that will, I think, fall under my consideration. We had ... essentially Ms. Henley-Andrews will be dealing with the generation projects. There are not a lot of transmission and rural operations projects that affect the Industrial Customers, and I should have mentioned this as well. Obviously, things that are specifically assigned to Hydro Rural obviously have no impact on us, so we won't be dealing with those, so primarily I'll be dealing with mostly TRO and general properties.

MR. SAUNDERS, CHAIRMAN: Okay, so the, as you referred to, Ms. Greene, the system we employed last time, and which was agreed on by the parties, seemed to work well, as I recall, without too much difficulty, so we'll proceed on anyway and see how we do. Are you ready to call your first witness?

MS. GREENE, Q.C.: Yes, I am, Mr. Chairman, the first witness for Hydro is Derek Osmond.

MR. SAUNDERS, CHAIRMAN: Mr. Osmond, would you take the Bible in your right hand please? Do you swear that in the evidence you are about to give you will tell the truth, the whole truth, and nothing but the truth, so help you God?

MR. OSMOND: I do.

MR. SAUNDERS, CHAIRMAN: Thank you, now would you be seated and state your name and your position please?

MR. OSMOND: My name is Derek Osmond and I'm the Vice-President of Finance and Chief Financial Officer at Newfoundland Hydro Group.

MR. SAUNDERS, CHAIRMAN: Thank you, Mr. Osmond. Seeing this is your last appearance, you now have an opportunity to make a lasting impression *(laughter)*.

MR. OSMOND: That's quite a challenge.

MS. GREENE, Q.C.: I'll just give Mr. Osmond a moment to set up his papers. Mr. Osmond, could you outline please for the Commissioners, the responsibilities of your current position?

MR. OSMOND: In my current position as Vice-President of Finance, I'm responsible for the controllership function, that's all the financial reporting, the general accounting, activities of the general ledger and so on, as well as the treasury activities, financing activities that we have to finance from the organization, long-term bond issues as well, and also responsible for customer services, the customer services we provide to our customers, as well as the financial planning and rates and regulatory issues ... and also corporate affairs and risk management, which would cover the insurance of all of our assets and the public relations aspect as well.

MS. GREENE, Q.C.: One of the responsibilities of your position includes the annual capital budget process, is that correct?

MR. OSMOND: That's correct.

MS. GREENE, Q.C.: Could you please describe the process followed by Hydro to prepare an annual capital budget?

MR. OSMOND: I guess the overriding objective of the 2003 capital program is to maintain the integrity of the electricity system, and to provide a reliable service to our customers while minimizing both operating and capital costs over the longer term. Hydro serves Newfoundland Power and we also serve approximately, well we have five industrial customers, and approximately 35,000 rural customers, and in our review of the capital budget, Ms. Greene alluded to the four major categories that we looked at that we use in consideration of reviewing each application and proposal. The first one obviously is safety, to protect human life; maintain power system reliability and availability, comply with environmental regulations as well as other regulations, be it regulatory or whatever, and to reduce costs and improve efficiency, so these are the four key criteria.

The process basically starts, the actual capital budget process starts in January, and I guess even prior to that if the load forecasts, the long-term load forecast starts in December to determine what generation projects we have, but the actual capital budget process starts in January. The budget instructions go out at that time and the field staff review those. They review the proposals that they have considering the criteria we've outlined. That goes to the next level of supervision, which would be their managers and the directors. After that review is finished, it goes to their vice-presidents for review, and that normally takes place probably around April. After that review is completed and changes made, it goes to the Management Committee for a complete review of all projects. Each VP is responsible with the director to review each proposal, to have them reviewed and revised. After that's finished, in May the Management Committee normally has a second look at those, which is probably around August to see if there's anything that needs to be revised or edited or added or taken off the list, and then it's submitted to our Board of Directors in August, and then submitted to the Public

Utilities Board for review for this application, which was September, I believe, of this year.

MS. GREENE, Q.C.: What was your personal involvement in the preparation of the 2003 capital budget?

MR. OSMOND: My personal involvement was as, it started off first with the actual budget instructions, and reviewing those with the controller and his staff, what the guidelines were, what we're trying to accomplish; the timeframes and the schedules, because they were very tight; and ensuring that they were properly explained so the Management Committee, the directors, and all the way back to the supervisor level as to what the plans were; and then reviewing the capital budgets with our staff and participating with the Management Committee in reviewing those, in May and in August; then making the presentation to our Board of Directors in August, I believe, of the actual capital budget, and answering any questions they may have had, and then after that was over, putting ... or working with our staff to put the final document together for the submission to the Public Utilities Board.

MS. GREENE, Q.C.: Once the capital budget is approved, what is the role of the Vice-President of Finance with respect to an approved capital budget?

MR. OSMOND: Once it's approved, it's to make sure that the systems we have in place are adequate, and they are, to ensure that there's proper reporting of the capital budgets on a monthly basis through the supervisor staff, through the directors and managers, right up to the vice-presidents, and up to the Management Committee, and then on a monthly basis, or I should say as and when our Board of Directors meet, which is probably every three months, advise the Management Committee of where we are with regards to our capital expenditures versus budget; and then also reviewing and participating in the quarterly reports that come to the Public Utilities Board as well, and they're filed every quarter.

MS. GREENE, Q.C.: How does Hydro determine the level or the amount of any annual capital budget?

MR. OSMOND: One of the things that Hydro looks at in addition to the four key criteria that Ms. Greene mentioned and I just mentioned as well, is the, what we can actually afford, and one of the things we look at is the cash flow from what we call operations, how we finance these expenditures, and we usually look at those expenditures in relationship to the cash flow generated, what we call internally, and that's usually generated from our net income, depreciation and other items. The target we used this year and other years is to try and keep our capital expenditures to the level of depreciation, which is a non-cash item as a target, and that's what we've done this year. Our depreciation is approximately $33 million, that's where we have submitted our capital budget now at $33 million. The original submission, I think, when we looked at it back in May, that was probably close to $40 million, so we made some changes to it to make sure it ties in with our target of the $33 million, so it's primarily geared to internal cash flow. Hydro doesn't finance any specific assets as such, it just goes into one big pot, so we try to use a guideline, and depreciation is a good guideline for us as to what the capital program needs to be to keep it self-financing.

MS. GREENE, Q.C.: Let's look now at the specific 2003 capital budget. How does the total amount of $33 million for new capital projects compare to the previous years' levels at Hydro?

MR. OSMOND: The $33 million, if you go back and look at 1996 is the first year, right through to 2002, the average of those seven years is approximately $40.8 million, the budgets, and if you go to Section A-1, even on an actual expenditure basis, from 1997 to 2002, those averages, the average of those six years would give you $37.3 million, so we're lower than what we were for the previous seven years budgeted, and also on an actual basis.

MS. GREENE, Q.C.: Can you now please give a very general overview of the components of the 2003 capital budget?

MR. OSMOND: Okay, perhaps if you could just look at Section A, and I'll very quickly just take you through that.

MS. GREENE, Q.C.: And that's page A-1, is it?

MR. OSMOND: I'm sorry, A-1 of the filed document, 2003 capital budget, and this document basically shows the expenditures in 2002 which are projects that span more than one year, so it's money to be expended in 2002, approved by the Board, and carried over to 2003. 2003 then is our actual capital budget, $33.1 million. The categories we have, generation, this is primarily

expenditures on our hydro and our thermal plants, and Mr. Haynes will explain those as we go through later. And some of the most significant items in the $4,961,000 covers such things as upgrading the civil structures at Holyrood and replace turbine and electrohydraulic control systems for (inaudible). That's two of the most significant. Those are approximately $3 million of that amount. Transmission and rural operations, that transmission and distribution systems in the rural areas that we have, and serving the 35,000 customers as well as our transmission lines and terminal stations, and providing systems performance and projection, and in the $10 million there's probably two or three key items there. One is service extensions, annual service extensions for $1.5 million, distribution upgrades which are ongoing, another $1.5 million, and then we have pole replacements for $900,000, and protection upgrades for approximately another $700,000. General properties, this is a category which covers IS and T, and administration, which the biggest part would be the IS and T expenditures that Mr. Haynes will refer to and Mr. Downton, of $17 million, and some of the largest items in there would be install the new microwave system for approximately $8.7 million, and an enterprise storage management infrastructure, and also commencing the replacement of our energy management control system, starting in 2003 for $1.2 million.

MS. GREENE, Q.C.: You mentioned IS and T, what is that short for?

MR. OSMOND: Information Systems and Telecommunications.

MS. GREENE, Q.C.: How will the proposed 2003 capital budget be financed?

MR. OSMOND: The 2003 capital budget, as I mentioned, we don't borrow specifically for any asset, so we look at the source of funds we have available, which are basically our net income adjusted for non-cash items like depreciation and other charges like that. Our promissory notes which we can use, which will go up to $300 million before we actually have to go to the bond market, so we're basically financing our assets from internally generated funds. Once the $300 million is getting close to for promissory notes, we'll go to the bond market and we're anticipating next year probably having to have to go to the bond market in the first half, or even July or August, for about $100 million, so that's looking at all the funds that are available from income, to depreciation, other non-cash items, plus the maximum utilization of our promissory notes, up to the maximum of $300 million, and once that's determined, then issuing a long-term bond issue to replace those promissory notes, because that's the cheapest source of financing ... money internally, promissory notes are lower, and then when you raise a bond issue, it's a higher rate, so it's trying to maximize each one of those before we actually go to the marketplace.

MS. GREENE, Q.C.: I wanted to move now to the impact of the 2003 capital budget on certain financial issues. The first is the rate base. What impact would approval of this budget as submitted have on Hydro's rate base?

MR. OSMOND: Well, I guess as such it won't impact on the approved rate base that the Board has approved under PU-7, and any changes we have in rate base, once the Board approves this application, whatever the numbers are, will form part of Hydro's rate application when we come back in 2003 for 2004, it will be included in rate base at that time, so it doesn't change the revenue requirement immediately. That will be subject for discussion and review at our next rate application.

MS. GREENE, Q.C.: With respect to the revenue requirement, could you just elaborate on what you said about the impact that this will have on Hydro's general revenue requirement? Could you just elaborate on what you said about the impact this will have on Hydro's general revenue requirement?

MR. OSMOND: Yeah, it won't affect the 2003 rate application, but items that relate to the capital proposals basically relate to, as it goes into rate base, it will be the way that average cost of capital impacts on your interest. It also affects depreciation and what your operating and maintenance costs would be, so these are elements that will form part of our revenue requirement, which would, we would include in our 2004 application. It would not form part of the rate base, I should say, at this point in time, until we actually come back for a hearing. These other costs will hit Hydro in 2003 and 2004 and form part of our rate application, whatever changes they would have, in 2004.

MS. GREENE, Q.C.: And I wonder now, Mr. Osmond, if you could turn please to Section F that was filed with the application, the status report on the 2002 capital budget projects, and could you please give an

overview for the Commissioners of the current status of the 2002 capital program?

MR. OSMOND: Okay, this table, and I'll just take you through the headings shortly, shows the ... the first column on the left, the expenditures prior to 2002, these are expenditures we have in multi-year projects, so it's monies that we had to approve in 2002 that will also continue over into 2003. The next column, PUB approved budget, is the budget approved by the Public Utilities Board with the exception of certain things that were approved in 2002, and you can see the last two items, specifically projects approved by the Public Utilities Board, $969,000, the second last item. These were approved by the Board and there's a listing at the back, during 2002, and then other projects less than $50,000, so it's basically the PUB approved budget that we had last year with rate base, plus the other items approved during the year. The expenditures to June are just those actual expenditures for the first six months of the year, and the next column, expected remaining, that's just from July to December, and the total expenditures, obviously, is the combination of those two. The last column is the variations from approved expenditures, and that's just the difference from, if we take the expected expenditures, which is the second last column, from the approved budget. In other words, if we go down through expected total expenditures, 2002, you see $39,093,000, and you deduct that from the PUB approved budget of $40.0 million, there's a variance of $1,853,000, and that's comprised of two things. One, it includes $1,180,000 as carry over projects from 2002 that we carried over to 2003, and the remaining $673,000, which will tally up then to your $1,853,000, are overall changes in the capital program in 2002, some up, some down, to a net of $673,000.

MS. GREENE, Q.C.: And Mr. Haynes and Mr. Reeves will give explanations if required on these variances, is that correct, Mr. Osmond?

MR. OSMOND: That's correct.

MS. GREENE, Q.C.: Okay, I'd like now to turn to Section E in the application, which is the ten year outline of the capital budget, including historical and future, and I wonder if you would give a brief overview of this please?

MR. OSMOND: Yes, this sheet, the first, I guess, seven columns, 1997 up to 2001, and the forecast for 2002, basically shows the actual expenditures in the year, including any carry-over projects, so it's dollars that we actually spent in the year as opposed to the budgets we just looked at a minute ago, so you'll see in 1997 the total expenditures of $30,161,000, and you can see that in 1999 it was $36,600,000; 2001, $47,501,000; and the forecast this year, we're expecting to spend $39.1 million as far as expenditures. The next four columns, the budget is as we just discussed, the $34 million, adjusted for the carry-overs of $1.1 million, and what we expect to spend in 2004 to 6, now those three years, these are just projections at this time and are very rough. They have not been reviewed by our Management Group or our Board of Directors. That's part of the process they're going through now for our next rate application, so they're just best estimates at this point in time and may be revised upward or downward.

MS. GREENE, Q.C.: Thank you, Mr. Osmond. That concludes the questions that I have for Mr. Osmond in direct examination.

MR. SAUNDERS, CHAIRMAN: Thank you, Ms. Greene. Ms. Henley-Andrews or Mr. Hutchings?

MS. HENLEY-ANDREWS, Q.C.: It's me, Mr. Chairman. Mr. Osmond, you mentioned in your direct examination that Hydro has attempted this year to keep its capital budget to roughly its depreciation expense, did I understand you correctly?

MR. OSMOND: That's correct.

MS. HENLEY-ANDREWS, Q.C.: Is that a new guideline for Hydro?

MR. OSMOND: That's a guideline we tried to have for the last four or five years to use as a target to try and keep our capital program, as we refer to as internally generated funds, and we use the capital ... we use the depreciation, sorry, as a target for that as best we can. Now if we have a major generation source, like a Granite Canal, it's very difficult. Other than major generation sources, but for other capital items, we try to use that as a benchmark, or as best we can.

MS. HENLEY-ANDREWS, Q.C.: But your capital budget, your proposed capital budget for previous years has exceeded depreciation in many cases?

MR. OSMOND: It has in some cases. As I say, we use it as a benchmark unless there's something specific that

has to be done for reliability, we try to keep it in the range of the depreciation number.

MS. HENLEY-ANDREWS, Q.C.: As a result of the Board's decision on the 2003 rate hearing, which also ... the 2002 rate hearing, I'm sorry, which also dealt with the 2002 capital budget, has Hydro made any internal changes or adopted any new policies with respect to its capital budget process?

MR. OSMOND: As to the review process, you mean?

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. OSMOND: As far as the guidelines Ms. Greene outlined, eight or nine or twelve items, we certainly have adhered to those, but as far as the actual process involved in the budget exercise, that process, as far as starting off from square one in the field that you're referring to, that process is the same. We've also gone back to have the details and explanations explained fully as to what's required in proposals to make sure they tie in with our guidelines that we had identified, the four specific ones, to make sure that they were adhered to as well, and the guidelines are outlined in PUB-7.

MS. HENLEY-ANDREWS, Q.C.: And some of those are new, and some of those are guidelines that you've used in the past, correct?

MR. OSMOND: That's correct.

MS. HENLEY-ANDREWS, Q.C.: Has Hydro, in coming up with its new guidelines, looked at private industry as, for indications of what is a reasonable guideline for capital budgeting purposes?

MR. OSMOND: We haven't done a survey or gone out to other entities, other than what we know that's generally happened in the utility industry, we haven't gone out to private enterprise. We try to use the four major guidelines and it's difficult, because even when I was in private enterprise, it's hard to determine some of the guidelines, utility versus industry, especially the utility industry, you have to have reliability of service, and some things we could do in industry, you can't always do in utility because you have to put the lights on right away. When I was back 30 years ago in another life, there was some things you could put off for another year or another two years and just wait because your bottom line is going to be impacted, but if a pole comes down or a line comes down and it requires replacement, you have to do that, so you don't have the same degree of flexibility that you might have in industry.

MS. HENLEY-ANDREWS, Q.C.: However, if you were in a manufacturing industry, anything that would impact on your ability to manufacture would obviously be quite critical.

MR. OSMOND: That's where I was.

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. OSMOND: I was in the manufacturing industry, and we had to put a hold on a lot of things.

MS. HENLEY-ANDREWS, Q.C.: But would you agree that the types of items that you'd be able to put a hold on in private industry would generally be non-revenue generating items, versus revenue generating? In other words, in a manufacturing industry, if you're manufacturing tires, for example, you're not going to compromise your ability to actually produce your product, but you might not include your building shell, for example.

MR. OSMOND: A lot of it depended where you saw things going over the next 12 to 24 months.

MS. HENLEY-ANDREWS, Q.C.: Now in looking at the impact of the capital budget on revenue requirement, you specifically mentioned depreciation expense, interest expense, and operating and maintenance. Would you agree that the capital budget also has an impact on the level of profit, since it impacts on the rate base?

MR. OSMOND: That's right. A better way of saying it would have impacted the rate base, which affects your weighted average cost of capital, which has interest and margin.

MS. HENLEY-ANDREWS, Q.C.: And all of these costs are costs that Hydro then either ends up cutting into its profit, or passes on to its customers?

MR. OSMOND: That's correct.

MS. HENLEY-ANDREWS, Q.C.: Now, I'd like you to take a look at Section B, and in particular page B-1.

MR. OSMOND: Uh hum.

MS. HENLEY-ANDREWS, Q.C.: If we look at the general properties budget for 2003, the total amount for 2003 is $16.844 million, correct?

MR. OSMOND: That's correct.

MS. HENLEY-ANDREWS, Q.C.: But at the same time, you're looking for approval to spend $12.717 million in 2004.

MR. OSMOND: We're not asking for approval of 12.7, these are future expenditures.

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

MR. OSMOND: The Board will have to approve every year's expenditures, we'll come back to the Board. What we're asking for approval for is the 2003 column.

MS. HENLEY-ANDREWS, Q.C.: But you would agree that once on a particular project, a certain amount has been spent, then in future it's pretty hard to turn it down in a future year, so once a project is approved, it's pretty well approved.

MR. OSMOND: Well, I can't speak for the Board. The Board still has the prerogative to review those expenditures and what's required in that year.

MS. HENLEY-ANDREWS, Q.C.: And if we look at the bottom line on page B-1, the total of the projects that you're proposing is $48.65 million?

MR. OSMOND: Of all those, that's correct.

MS. HENLEY-ANDREWS, Q.C.: But you're asking for $31.406 million be approved for 2003.

MR. OSMOND: That's right.

MS. HENLEY-ANDREWS, Q.C.: Which is roughly two thirds of what you expect the total of those projects to cost, 31 over 48.

MR. OSMOND: That's correct, but we're only asking the Board for the one current year. Yes, it does span other years, but they'd be reviewed separately in each application.

MS. HENLEY-ANDREWS, Q.C.: Now, when you ...

MR. OSMOND: Which (inaudible) it has been, I must say, since 1996.

MS. HENLEY-ANDREWS, Q.C.: No, no, I realize that. When you go to F ... or E-1, and you see the budget for 2003 as the $34,250,000.

MR. OSMOND: That's correct.

MS. HENLEY-ANDREWS, Q.C.: And a budget for 2004 as $33,202,000.

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: Included in that $33,202,000, which you're anticipating for 2004, does that include $16.939 million which on page B-1 is forecast for future years?

MR. OSMOND: I think on B-1, that's future years over ... I'm not sure if it all relates to 2004. On E-1 there would be some expenditures in 2004 that were in ... there are projects in 2003 that span more than one year, right?

MS. HENLEY-ANDREWS, Q.C.: Yes, yeah.

MR. OSMOND: It may go out over 2004 and 2005, I don't have that level of detail.

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. OSMOND: But there would be some that would span, once they're ... if they're approved in 2003, would have implications in 2004, and maybe beyond that.

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

MR. OSMOND: But as I said, all these numbers from 2004 up, that's a process we'll be starting this fall as part of our 2003 rate application, firm up capital numbers. These are just preliminary numbers at this point in time. The real emphasis has been on 2003.

MS. HENLEY-ANDREWS, Q.C.: Oh no, and I understand that.

MR. OSMOND: Okay.

MS. HENLEY-ANDREWS, Q.C.: But what I'm trying to get a handle on is that when you look at what you think your capital budget is going to be for 2004, which is the

$33.2 million shown on B-1, and given our discussion with respect to what you're seeking approval of here, which is the $31.4 million, and yet there are future years' expenses of $16.939 million, most of those, I've gone through them, almost all of those are expected to be spent in 2004, and there might be a little bit that runs over to 2005 ...

MR. OSMOND: Uh hum.

MS. HENLEY-ANDREWS, Q.C.: ... but what I want to know is when you're looking at your projects, your potential capital budget for 2004, does that $33.2 million include this $16.939 million, or is that $16.939 million on top of what you are projecting here?

MR. OSMOND: It would be part of that $33 million, part of it, and I don't have all the details. The $16.9 million, which then may be more than one year, but it wouldn't be 33 plus 16. The 16 would be part of the $33 million in 2004 we're showing on Schedule E-1.

MS. HENLEY-ANDREWS, Q.C.: In terms of the process itself, are you the person who would ultimately be responsible for determining which expenses, which depreciation would be done on a sinking fund basis, and which would be done on a straight line basis?

MR. OSMOND: I guess that's been established, I guess through several hearings with the Board, the most recent one being in 2001 and 2, and Mr. Roberts raised that with regards to the study that was done by, I believe, KPMG, and that was an update to the one we did, I think, back in the early nineties as to what the appropriate methods would be, sinking fund versus straight line, so yes, it falls under finance, but it had been reviewed on two separate occasions and approved by the Board just last year, as well as some change in the service lives *(phonetic)* as well, that Mr. Roberts had in his evidence, and I can't recall what they were, but there were some changes there that the Board had approved based on our recommendation, and the continuation of straight line and sinking fund ... the theory with sinking fund, obviously, if you have assets that have a long period of time, you try to stretch that out, your depreciation and interest, to have them matching over a 40 or 50 year period as opposed to a straight line, it's just, you know, one amount per year. The sinking fund gives you that level stream, level expense of interest and depreciation over a long period of time, like generating assets, like Bay d'Espoir or Cat Arm or Holyrood.

MS. HENLEY-ANDREWS, Q.C.: I guess the point of my question was that if I have questions with respect to depreciation and the choice of terms for depreciation, then you're the person that they should be directed to?

MR. OSMOND: You're looking at me, I can answer them.

MS. HENLEY-ANDREWS, Q.C.: Okay, and before I move on to that, just on E-1 I have one more question, and that is that when we look at these capital expenditures and budgets from 1997 to 2006, do these numbers include exempt projects such as Granite Canal?

MR. OSMOND: Yes, they do. Yes, they do, because certainly generation, Granite Canal itself is, it will be $134 million, so that would have been in generation ... this is excluding the Granite Canal project, yes.

MS. HENLEY-ANDREWS, Q.C.: Excluding Granite Canal?

MR. OSMOND: Excluding, yes.

MS. HENLEY-ANDREWS, Q.C.: Could you take a look at IC-1, and basically that ties into IC-3(a) in particular. In looking at the answers to IC-1 and IC-2 and IC-3, with the exception of return on rate base, which is not calculated, we can get an appreciation of the cost to the ratepayer associated with the 2003 projects over time, is that right?

MR. OSMOND: Uh hum.

MS. HENLEY-ANDREWS, Q.C.: With respect to the proposed capital budget for 2003, is it fair to say that all of the $34.3 million would be included in the rate base if the full capital budget is approved?

MR. OSMOND: I believe the answer is yes, but when you go through the calculation of rate base, as you know, it goes to your rate base, but then you have ... you know, you take the previous year's rate base plus the current and you divide it by two.

MS. HENLEY-ANDREWS, Q.C.: So it's the previous year's plus the current and divide it by two?

MR. OSMOND: Yeah, to get your average rate base for the year.

MS. HENLEY-ANDREWS, Q.C.: So that would be for 2003, correct?

MR. OSMOND: That's correct.

MS. HENLEY-ANDREWS, Q.C.: And then the 2004 rate base would include the full amount?

MR. OSMOND: Yes, take 2003 plus expenditures for 2004, divided by two.

MS. HENLEY-ANDREWS, Q.C.: Okay, if we look at IC-2, I take it from the combination of the answers that depreciation expense will increase by $2,059,000 in 2004, over 2003, just related to this capital budget?

MR. OSMOND: Just for this, a little nuance there that twigged me yesterday when I was going through it with some of our staff, is that when you go back to these detailed schedules, you'll see, you'll probably see the 15 to 25 pages there, it also would include the depreciation in 2003, right, that has to be taken into account. This is the incremental amount related to 2003 capital budget.

MS. HENLEY-ANDREWS, Q.C.: That's right, it's the incremental.

MR. OSMOND: Just the incremental only, just for those, right.

MS. HENLEY-ANDREWS, Q.C.: Which is what the question was, so that's what ...

MR. OSMOND: Yes, just I won't try and be helpful ...

MS. HENLEY-ANDREWS, Q.C.: And similarly the depreciation expense is expected to increase by, incrementally by $191,000 in 2004 as a result of the Granite Canal.

MR. OSMOND: That's right.

MS. HENLEY-ANDREWS, Q.C.: So on depreciation alone when we look at 2004, the cost would increase by $2.25 million for depreciation associated just with the 2003 capital budget plus the impact of Granite Canal?

MR. OSMOND: $2,250,000.

MS. HENLEY-ANDREWS, Q.C.: $2,250,000, yeah, I thought that's what I said.

MR. OSMOND: You said $2.5 million, I think, I might be, my hearing might be going.

MS. HENLEY-ANDREWS, Q.C.: Alright, $2,250,000, okay. And then on top of that there's the interest expense?

MR. OSMOND: Well, it's the weighted average cost of capital for rate base, right.

MS. HENLEY-ANDREWS, Q.C.: Yeah, okay, and when we look at IC-3, and in particular, page one, the second item there is design and construction, the Granite Canal hydroelectric plant, and I notice that the service life associated with that is ten years, and yet when we look at page 13, the depreciation of the Granite Canal hydroelectric plant is over 50 years. Page 13, the third item.

MR. OSMOND: Maybe I should take a minute and explain why this was put together, if that might be helpful for you?

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. OSMOND: Okay, these sheets are trying to identify, trying to respond to the question what would the assets be, and what would the depreciation be using sinking fund or straight line, and in our existing system, we didn't have the level of detail to go back through our capital assets system to input all these items, so what we did, we had a special program written to identify what might the depreciation be using existing lives that we had, so there is some minor inaccuracies in this, okay, and I'll be the first one to acknowledge that, and I'll show you some of them. You probably picked some of them up too, but it was intended to give the Board an order of magnitude as to what we expected the depreciation to be in 2004 and beyond, due to Granite Canal, and also due to the 2003 capital expenditures. So in some cases you see the captions there, it mentions Granite Canal, it says 50 years, but within Granite Canal there is some, like the transmission line and other assets have different service lives, so we sort of put the same brush on them all, so it doesn't necessarily mean that everything in there would be over the 50 year life. There are some assets in there that would have a shorter life than the 50 years, and you'll even find as you go down through some other assets, like Holyrood, you've got some emission equipment there, some we're writing off over 17 years, the previous one said 20. That's just where

this program hasn't been that fine tuned, and I'm just trying ... as I just said, we're just trying to say this would be the order of magnitude as to what the number would be, but it's not the exact number that we'd file with the Board. It may be out five or seven percent, something like that, in depreciation. It's not going to double it, but it will give you an order of magnitude as to what you might expect to see in 2004, and what the impact would be on our costs, but it's not 100 percent exact and I have to acknowledge that right up front.

MS. HENLEY-ANDREWS, Q.C.: And in trying to understand that, am I correct that the shorter the amortization period, on the whole, the greater the depreciation expense in any given year?

MR. OSMOND: Are you talking sinking fund or straight line?

MS. HENLEY-ANDREWS, Q.C.: Straight line.

MR. OSMOND: Oh yes, the shorter the life span for an asset, the higher the depreciation charge would be in that period.

MS. HENLEY-ANDREWS, Q.C.: So if, in your example, using Granite Canal, which has the 50 years is what's used here, if there are some assets in that number that would be depreciated over 20 years or 30 years rather than 50, then that would serve to increase the depreciation expense?

MR. OSMOND: Yeah, and it could go the other way, like some of our generating plant is depreciated over 50 to 75 years, right.

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. OSMOND: So this is just at 50, you may have other assets there that may have a longer period of time. We can even stretch it out, which may or may not offset some of the other ones.

MS. HENLEY-ANDREWS, Q.C.: So I was going to get to the second part, but it does work both ways.

MR. OSMOND: Oh, sure.

MS. HENLEY-ANDREWS, Q.C.: The shorter the amortization period, the more the costs are loaded up in the ... the costs are loaded into a shorter period of time, and if you spread it out, they're spread out and therefore lower over that period of time.

MR. OSMOND: Well, obviously, it would have to.

MS. HENLEY-ANDREWS, Q.C.: What other, so are you telling me that with respect to this one here, this ten years, that that's not correct?

MR. OSMOND: Which page are you on now?

MS. HENLEY-ANDREWS, Q.C.: Sorry, page one of IC-3(a).

MR. OSMOND: I think that's probably one in our IS and T area, the equipment that we have in there.

MS. HENLEY-ANDREWS, Q.C.: The design and construction, okay, so you think that's IS and T?

MR. OSMOND: I think so. There's not a lot of detail written here, but I think it is.

MS. HENLEY-ANDREWS, Q.C.: So you indicated that ...

MR. OSMOND: That would be the tele-control equipment, I believe.

MS. HENLEY-ANDREWS, Q.C.: Okay, you indicated in answer to my question on this initially that Hydro had picked up some errors.

MR. OSMOND: I just picked up two yesterday going through that, so ...

MS. HENLEY-ANDREWS, Q.C.: Okay, do you want to tell me which ones they are?

MR. OSMOND: ... I didn't ... (inaudible) the question. No, just the one just down from that, purchase and install continuous emission monitoring.

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. OSMOND: And I'm not sure if it's an error or not but they looked to be inconsistent when I went through yesterday, and I haven't had a chance to go through it with our fellows. You will see that we're saying a 20 year life.

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. OSMOND: And you see the next one, very similar to that, control systems at Holyrood for 17.

MS. HENLEY-ANDREWS, Q.C.: Uh hum.

MR. OSMOND: I think in that, we're writing it off with the remaining life of Holyrood which is 17 years, which sort of says to me that maybe the previous one should be 17 too, so I think they're within the realm of the service life period, they're not going to double, but there are some, there are fine-tunings to be done on this. This is just done to give you an order of magnitude. It is not our depreciation model, it's a specific run that we did and we were lucky to be able to run that to show what the service lives would be and what the anticipated depreciation would be, but it certainly isn't our fixed asset model, and it isn't our depreciation model that we would use for the next application.

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

MR. OSMOND: And just to give you the sensitivity and a feel for what the numbers may be.

MS. HENLEY-ANDREWS, Q.C.: So your best estimate is that the numbers that we've just talked about for depreciation are plus or minus five to seven percent?

MR. OSMOND: That's just a gut reaction for me, plus or minus five percent. I wouldn't see them materially changing.

MS. HENLEY-ANDREWS, Q.C.: Okay, if we look at ... what's the second one that you picked up?

MR. OSMOND: No, it was just those two, I'm sorry.

MS. HENLEY-ANDREWS, Q.C.: Okay, those two, alright. One of the questions that we had was relating to page five, and that's install the fencing at Bay d'Espoir, and it's shown as depreciated over ten years.

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: But when I look back at the 2002 capital budget regarding the Holyrood fence, that was proposed over 40 years.

MR. OSMOND: Four or 40?

MS. HENLEY-ANDREWS, Q.C.: 40, can you explain what the difference would be?

MR. OSMOND: Not offhand, no.

MS. HENLEY-ANDREWS, Q.C.: And what should it be?

MR. OSMOND: I don't know. I'd have to go back and see what we have in our plant records for that. 40 seems like a long period of time for a fence.

MS. HENLEY-ANDREWS, Q.C.: Ten seems short to me.

MR. OSMOND: I hope it's not wooden, but 40 sounds like a long period of time.

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. OSMOND: I would expect it to be closer to ten or fifteen as opposed to 40, if it's a chain-link fence.

MS. HENLEY-ANDREWS, Q.C.: Yeah, it's supposed to be chain-link as I understand it. Can you check that out?

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: Can we get an undertaking to check that out?

MR. OSMOND: Yeah.

MS. HENLEY-ANDREWS, Q.C.: If we got to page 9, the second item on page 9 is the Deer Lake building improvements.

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: And again, the depreciation period that's used here is ten years, and yet the depreciation of most of the buildings seems to be done over 30 to 40 years, and I just wondered why ten years would be chosen for building improvements?

MR. OSMOND: Because, I'm guessing, it depends on the nature of what those improvements are. I don't have the details with me.

MS. HENLEY-ANDREWS, Q.C.: I think it's an addition to the building, was what I understood.

MR. OSMOND: Okay, and as I say, when this was done they would, when the model was written it would have tied back to the service lives we had on our assets. There may be some (inaudible) may be out of sync, but the majority of those should have taken into account the service lives we had. We can check that.

MS. HENLEY-ANDREWS, Q.C.: Yeah, could you check that one as well?

MR. OSMOND: Sure.

MS. HENLEY-ANDREWS, Q.C.: On the, I'm trying to find it here now, but on the transmission line, page 13 ... here it is ... page 13 of 3(a), on the modifications to TL-203, the Sunnyside to Western Avalon, why would that transmission line be on a sinking fund basis rather than straight line? I thought most of the transmission lines were on straight line?

MR. OSMOND: Sinking fund to the best of my knowledge.

MS. HENLEY-ANDREWS, Q.C.: And I notice that there's three years is the depreciation, is that an indication that the line is expected, the remaining life of the line is three years?

MR. OSMOND: I think the original lines that we had there were to be fully depreciated, yes, in three years time, that's my understanding, so we'd write it off, the remaining life.

MS. HENLEY-ANDREWS, Q.C.: I don't know if you're the right person to ask this question to, and if you're not, you can tell me, wouldn't the improvements extend the life of a line?

MR. OSMOND: It depends on the dollar value, the materiality of it. It may or may not.

MS. HENLEY-ANDREWS, Q.C.: In general terms, are assets, in terms of Hydro's practice, are assets generally replaced or proposed to be replaced once they've been fully depreciated?

MR. OSMOND: No.

MS. HENLEY-ANDREWS, Q.C.: So ...

MR. OSMOND: If that was the case, one of the units at Holyrood would have been replaced, so we do spend money on it. Even though it's written off and fully depreciated, we look at some money we can put into it to extend the life, and I think that was in the report that Mr. Roberts had this year as well, the extension of service lives, and we had some revisions to those.

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. OSMOND: Right.

MS. HENLEY-ANDREWS, Q.C.: No, I guess I'm just questioning the three years here, it's a very, very short period of time over which to depreciate, and I'm just wondering if, and it ties into the project as a whole, but your understanding is that the three years would be the remaining ...

MR. OSMOND: Life on those lines. If you look at the main facility, what life is remaining on the bigger situation and write if off for the remaining life.

MS. HENLEY-ANDREWS, Q.C.: Can you check that one as well just to be sure?

MR. OSMOND: I'm almost 100 percent sure.

MS. HENLEY-ANDREWS, Q.C.: Okay, well in that case you don't need to check it.

MR. OSMOND: Thank you.

MS. HENLEY-ANDREWS, Q.C.: The reference to the fence, by the way, the Holyrood fence, if you look at page 14, item 2, that's the reference to the 40 years depreciation for replacing the fence at Holyrood.

MR. OSMOND: Okay.

MS. HENLEY-ANDREWS, Q.C.: Versus the 10 for Bay d'Espoir.

MR. OSMOND: Yeah, we'll check that one out.

MS. HENLEY-ANDREWS, Q.C.: On page 15, the second last item, the (inaudible) ice monitoring for Granite Canal, does that belong in this budget, or should that be with the Granite Canal budget?

MR. OSMOND: There are several items in here related to Granite Canal.

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

MR. OSMOND: That tied into one of the responses, either IC-1 or IC-2, that's what the depreciation would be and that's why we showed them separately, so Granite is in here, I think it actually shows $134 million, plus this item, plus the $10 million we referred to earlier, so there are several items here for Granite.

MS. HENLEY-ANDREWS, Q.C.: And why would they not have been included in the original budget for Granite Canal?

MR. OSMOND: Oh they were, as I mentioned earlier, this report was just put together as a simple IS and T report, so it just took all the details and just showed them independently, it could have been grouped up in the one total. It's still all part of the $134,500,000 capital budget for Granite Canal.

MS. HENLEY-ANDREWS, Q.C.: Now, if we go back to IC-2, and particularly the answer to question (b).

MR. OSMOND: Uh hum.

MS. HENLEY-ANDREWS, Q.C.: The $191,000 that is referred to as the depreciation expense as a result of the Granite Canal project, that relates to the items that are proposed to be done in 2003 in relation to Granite Canal, is that right, the ones that we just talked about, or is that overall?

MR. OSMOND: It's all costs related to Granite Canal, the depreciation related to all costs associated with that project.

MS. HENLEY-ANDREWS, Q.C.: Okay, regardless of when they were incurred.

MR. OSMOND: That's right.

MS. HENLEY-ANDREWS, Q.C.: Okay, I just wanted to clarify that.

MR. OSMOND: Because once it goes in service, that's when you start to depreciate it, sorry.

MS. HENLEY-ANDREWS, Q.C.: Uh hum, and what was the increase in 2003 over 2002 in depreciation associated with Granite Canal?

MR. OSMOND: I don't have that here unless you go back and start adding up all the numbers. We didn't break that out in response to IC-2. I'm sorry, did you say depreciation for Granite Canal?

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. OSMOND: There wouldn't be any depreciation of Granite Canal. Granite Canal will be depreciated once it goes in service which is June of 2003.

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

MR. OSMOND: I had a lapse that time, sorry.

MS. HENLEY-ANDREWS, Q.C.: Okay, so as far as you're concerned, there's nothing in your 2002 depreciation related to Granite Canal?

MR. OSMOND: No.

MS. HENLEY-ANDREWS, Q.C.: And so in 2003, the total amount associated with depreciation for Granite Canal, if it goes into operation in June, there would still be some amount, isn't that correct?

MR. OSMOND: There would be a small amount, from whenever it goes into service in June for that last part of the year.

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. OSMOND: With the full year effect in 2004.

MS. HENLEY-ANDREWS, Q.C.: Okay, so if June, say, is halfway through the year, because your fiscal year is ...

MR. OSMOND: December.

MS. HENLEY-ANDREWS, Q.C.: Okay, if it's halfway through the year, then would it be roughly half of $191,000?

MR. OSMOND: Order of magnitude, it probably would be. That's a very rough order of magnitude. The sinking fund starts off very, very low.

MS. HENLEY-ANDREWS, Q.C.: And if we go to page 13 of 3(a), if you look at the third item down, it seems to me that that indicates that there is $151,764 in depreciation associated with Granite Canal in 2003.

MR. OSMOND: Uh hum.

MS. HENLEY-ANDREWS, Q.C.: And that the number that we're talking about here in IC-2(b), the $191,000, is the difference between 2003 and 2004.

MR. OSMOND: It's the increase.

\MS. HENLEY-ANDREWS, Q.C.: That's right, so that's the incremental amount.

MR. OSMOND: Right.

MS. HENLEY-ANDREWS, Q.C.: And but if you want, if I wanted to look at, when I asked you what the difference was between 2002 and 2003, in fact, that's based upon IC-3(a), page 13, that's $151,762.

MR. OSMOND: It would, it would be the depreciation for the last six months of the year.

MS. HENLEY-ANDREWS, Q.C.: Okay, and the current rates which were set for 2002, there's no depreciation associated with Granite Canal, correct?

MR. OSMOND: No, sorry, no, that's 2003 ... the hearing, the hearing just completed for 2002 test year, so there wouldn't be anything there for Granite in depreciation.

MS. HENLEY-ANDREWS, Q.C.: So when we look at $243,322.36, on page 13 of 3(a), which is what the depreciation expense associated with the Granite Canal is expected to be in 2004, that is an amount that, the entire amount that's there is an amount that is currently not included in Hydro's rates to its customers, correct?

MR. OSMOND: Nor is the 151 in 2003.

MS. HENLEY-ANDREWS, Q.C.: That's correct.

MR. OSMOND: That's right.

MS. HENLEY-ANDREWS, Q.C.: So when we look at IC-2, and rather than ... if the impact of depreciation on ratepayers, if there's an application for a rate increase for 2004, it's going to be $2,059,000 that's referred to in your answer to IC-2(a), plus the $243,000 and some odd dollars shown under 2004 in, on page 13 of 3(a).

MR. OSMOND: For a 12 month period. This is showing an increase of 2004 over 2003, and part of the cost was in 2003.

MS. HENLEY-ANDREWS, Q.C.: Could you take a look at IC-10? The answer to the question in terms of how Hydro proposes to finance the capital projects, and I understand that you don't borrow for particular projects, but is it fair to assume that if you had half of the capital projects, then you would have less need to borrow?

MR. OSMOND: If you had half the capital projects, I mean that's like, that's the same thing as saying if you half the fuel bill, or half the dividends, or half of our salaries, and the obvious answer is you wouldn't have as much to finance.

MS. HENLEY-ANDREWS, Q.C.: That's right.

MR. OSMOND: Right.

MS. HENLEY-ANDREWS, Q.C.: Okay, there's not a direct relationship to ...

MR. OSMOND: There is no correlation. I mean this goes into one big pie, you take all of our revenues, all of our fuel bills, our dividends, our power purchase costs that we have, and our salaries, and our capital, and then you try to finance it through internal funds first, and whatever you need through promissory notes, until you get to the cap of $300 million, and then you finance it long-term. That's the stages we go through.

MS. HENLEY-ANDREWS, Q.C.: And obviously the lower your expenses, the less need to borrow, and the higher your expenses, or the lower your revenues, the more you need to borrow.

MR. OSMOND: Well, it's like our homes, yes, that's right.

MS. HENLEY-ANDREWS, Q.C.: Yeah, now in IC-11, we asked about the projected interest expense in 2004 associated with the proposed capital budget, and the answer, as I understand it, is that the cost of capital would be roughly $2.5 million?

MR. OSMOND: Yeah, I need to qualify that to make sure everybody understands that.

MS. HENLEY-ANDREWS, Q.C.: Uh hum.

MR. OSMOND: That $2.5 million is an order of magnitude, I mean obviously when the capital ... if the capital program is approved, it goes into our rate base

... to determine our weighted average cost of capital, we'd have to take into account what we expect our return on equity to be and what our interest rates are going to be in the next two years. That has not been done. That will be part of our next rate application, so all we really showed here, we used our weighted average cost of capital of 7.15 percent, which is what was in our final application to the Board, Mr. Roberts' schedules, which included a return on equity of three percent, and I think we'd probably be coming back with a more appropriate number, or recommending to the Board a more appropriate number next time, so this is based on a very low ROE, so based on what was approved before, that will give you an order of magnitude of $2.5 million, but it's probably on the low side.

MS. HENLEY-ANDREWS, Q.C.: Now before when we talked about the order of magnitude on the depreciation, you had indicated plus or minus five to seven percent?

MR. OSMOND: Uh hum.

MS. HENLEY-ANDREWS, Q.C.: Do you have any feel for the margin of difference with respect to the weighted average cost of capital?

MR. OSMOND: Let me give you a ballpark figure that I did yesterday.

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. OSMOND: I anticipated you asking this. At three percent it would be 2.59.

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. OSMOND: If we had an eight percent ROE and this is just, this is not, I'm not committing what we're coming back with now, this is just using a rough order of magnitude.

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. OSMOND: If it was eight percent, the weighted average cost of capital would go up to approximately 8.01, which would have an impact of $2.7 million, as opposed to the 2.5 we had back in IC-11.

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

MR. OSMOND: If we used 11 percent ROE, the weighted average cost of capital would become 8.52, which would increase the number to 2.9 million as opposed to 2.5, just for this capital program, this $33 million we have here.

MS. HENLEY-ANDREWS, Q.C.: Okay. In IC-13, I want to address basically the same issue. The projected interest expense in 2005 through 2010 associated with Granite Canal, I call it interest expense, and it really more properly should have been cost of capital, but your answer to that based on a weighted average cost of capital of 7.157 percent, is $9.6 million?

MR. OSMOND: That's correct.

MS. HENLEY-ANDREWS, Q.C.: And I presume that that would increase similarly to the projects excluding Granite Canal?

MR. OSMOND: That's right.

MS. HENLEY-ANDREWS, Q.C.: Would it be proportional to those increases?

MR. OSMOND: I'll tell you the estimates I had.

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

MR. OSMOND: If we use eight percent again, eight percent ROE, instead of $9.6 million, that would be approximately $10.8 million.

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. OSMOND: And if we used an 11 percent ROE, the number would become approximately $11.5 million as opposed to the $9.6 million in IC-13.

MS. HENLEY-ANDREWS, Q.C.: Okay, thank you. Now in answer to IC-19, we asked you to provide a copy of Hydro's five year capital budget projections, specifically identifying items having a projected cost of greater than $500,000, and the answer that was given was that the information requested, it was not relevant or required for an understanding of this issues before the Board in this hearing.

MR. OSMOND: Uh hum.

MS. HENLEY-ANDREWS, Q.C.: You would agree, Mr. Osmond, that a number of the projects which are proposed are multi-year projects?

MR. OSMOND: There are some.

MS. HENLEY-ANDREWS, Q.C.: And in addition to that there are other projects which indicate that, you know, let's take the exciters as an example. If there had been exciter replacements at Cat Arm or Bay d'Espoir, a number of them over the last six or seven years ...

MR. OSMOND: I don't know the duration, I know we have replaced some of those.

MS. HENLEY-ANDREWS, Q.C.: I think they go back to 1995, the first exciter replacement, and if you ... wouldn't you agree that if there is a project that is expected to have a number of different components over the next number of years, that the customers might be interested in knowing what the full potential, the full potential cost of that project is before Hydro embarks upon it?

MS. GREENE, Q.C.: Mr. Chairman, I'd like to interject at this time to object to this line of questioning. The reason why, and I didn't before with respect to the depreciation expense, but it is the same issue. We go back to what is the issue before the Board at this hearing, and as I said in my opening statement, it's a simple issue, it's the 2003 capital budget expenditures. Yes, we have projects that carry forward and each year we come back and we ask the Board for approval, and while we may have done one exciter in Bay d'Espoir, we still have to approve the next one in the next year, and the Board has the right to say no to that capital expenditure, so with respect to asking for a five year capital budget projection, which is really a five year plan which will be filed again when we're here in 2003 to give an order of magnitude. It is not material to the 2003 capital budget to speculate or to ask questions and to waste all of our time with respect to what projects may be five years from today, that is not before the Board today, it is not material, it is not relevant, and I would ask the Board to so find. I don't want to sit here for the next number of minutes or days debating issues that aren't before the Board at this particular hearing. The Industrial Customers certainly will have adequate opportunity next year, based on the performance last year, to raise these issues which might be relevant, and even then some of these will not be relevant in the 2003 hearing.

MR. SAUNDERS, CHAIRMAN: Thank you, Ms. Greene. Ms. Henley-Andrews, what do you have to say in respect of the relevancy issue?

MS. HENLEY-ANDREWS, Q.C.: Mr. Chairman, there are two aspects of it, and it may very well be that from Hydro's perspective, the only thing that's relevant is their 2003 capital budget. From its customers' perspective, the reasonableness of some items that are contained in the capital budget depends in part on what the overall cost is going to be when a particular project is actually completed, and a really good example of that is the telecommunications plan, and we see a budget here for the telecommunications plan which includes a significant amount for 2003, and a forecast for a further significant amount for 2004, and once Hydro embarks on a particular course of action with respect to its telecommunications plan, the ability to object to certain other components as time goes on, is going to be limited to the fact that they've already done (a), (b), and (c), perhaps in previous years. The only thing that is of interest to Hydro's customers when it comes to capital, is the ultimate impact on the rates, and while it's true that this is a hearing that relates to capital costs, ultimately the Industrial Customers' interest is how the capital budget now and the components of it in the future are going to impact their rates. When we come back in 2003 possibly on a rate application, and are then perhaps dealing with 2004 and beyond projections, we, it's going to be too late for us to deal with some of the issues that are before the Board today with respect to capital costs, and like I said, the telecommunications plan is a good example, and if you look at page B-1, which is in Section E of Hydro's application itself, you will see that Hydro has, in fact, provided capital expenditure budget figures for 2004, 2005 and 2006. In picking the number of $500,000 as our base number for asking for the projects, we deliberately tried to eliminate smaller projects from the request, because we figured that Hydro must have a reasonably good idea now as to what the larger cost items are going to be over the next number of years, so from that perspective, it's clear when you look at Section E, and in fact, Ms. Greene's questioning of her witness this morning, she did ask about looking not only at the past expenditures but the planned future expenditures so it's been raised by Hydro and it's obvious that if they can provide estimates, or rough estimates for future years, then they have some idea of what those projects are going to be, or what the larger ones are going to be and what they're going to cost, and we think that it is relevant and that it is information that the Board should have, and

information that we should have in judging the reasonableness or how far, how much we want to push on some of the projects that have been identified.

MR. SAUNDERS, CHAIRMAN: Thank you, Ms. Henley-Andrews. Do you have anything to add, Ms. Newman?

MS. NEWMAN: No, I don't.

MR. SAUNDERS, CHAIRMAN: Do you have anything further on your motion?

MS. GREENE, Q.C.: Yes, I do, Mr. Chair, in response to the comments of Ms. Andrews. First, if you look at E-1, you will see that it is for three years beyond, not five, and Mr. Osmond has already explained that these are order of magnitude only, they get refined continuously until we submit the application in the context of all other relevant information. That's the first point. The second point is that when we come to the Board asking for approval for each annual capital budget, it is for that particular year, the expenditures in that year. These projects are discrete, and I will refer to the telecommunications plan that Ms. Andrews referred to to prove this point. We submitted a plan for the five years when we first started the process. Each year we came back and asked for approval. They are discrete amounts. For example, the VHF radio, we had anticipated would be done last year. It was not done, it is a stand-alone item, and we will be including in our 2004 general rate application as part of the 2004 capital program, so when you look at the Public Utilities Act and Section 41, the Board only has authority to approve annual capital expenditures. That, in fact, is what the Board has done since 1996. Each year we come and ask for approval and we answer questions, even though it may be, for example, another exciter. We have to establish why it is necessary to carry on with a program if the Intervenor has established to the satisfaction of the Board that it is not appropriate, then it doesn't get approved. So we are only talking about annual capital expenditures, number one. Number two, yes, we have answered questions with respect to the impact of this budget in a general way on general revenue requirements, such as the increase in depreciation, but we cannot, outside of the context of a full cost of service, give the level of detail that is required to give the exact amounts, for example, for the impact of each particular project that the Industrial Customers asked for. It's just not reasonable. We will be back here next year in 2004, or 2003, for 2004, where all of these will be scrutinized in the greatest of detail. Again, I submit that even with the arguments Ms. Henley-Andrews gave referring to the telecommunications plan in E-1, there is no support there to broaden this hearing beyond the impact of the 2003 capital budget and the impact that that will have in a general way on general revenue requirement and rate base, so again, I ask for the Board to give direction with respect to this line of questioning.

MR. SAUNDERS, CHAIRMAN: Thank you, Ms. Greene. We'll take a 15 minute break now and hopefully when we come back we'll be in a position to respond to the motion. Thank you.

MS. HENLEY-ANDREWS, Q.C.: Thank you.

(break)

MR. SAUNDERS, CHAIRMAN: Ms. Greene, the panel has considered your motion. What we would like to do is to keep the questions relevant to the projects that are on the table, and that would be projects that are contained in the 2003 budget year, or those which are commenced by way of future expenditures that are planned, and of course, the same applies to any projects that have been approved in previous years that are ongoing, but if we are going to allow questions related to projects that may be planned in future years, I don't know, and the panel feels the same way, how relevant that is to the 2003 capital budget since we would be presented with an application in future years for any projects that the Corporation intends to launch beyond 2003. Is that clear enough?

MS. HENLEY-ANDREWS, Q.C.: Yes, that's quite satisfactory.

MR. SAUNDERS, CHAIRMAN: Thank you.

MS. HENLEY-ANDREWS, Q.C.: Mr. Osmond, with respect to IC-19, Hydro does have a five year capital budgeting process, isn't that right?

MR. OSMOND: When we do the initial budget we look at what we expect might happen over the next four or five years, but it's just an order of magnitude, it doesn't receive the formal review process that the current year would.

MS. HENLEY-ANDREWS, Q.C.: With respect to IC-19, can you provide the information in terms of anticipated

future expenditures on projects that are components of the 2003, or projects that are in your 2003 capital budget that are components of larger programs?

MR. OSMOND: Are you saying what we have in 2003 that's spanning more than one year?

MS. HENLEY-ANDREWS, Q.C.: Yes, or for which you expect ... let me just give you an example. If you look at the IT technical architecture strategy, page 115 of that ... there's a report done by X-Wave and NewTel ...

MR. OSMOND: You're in the big document now, are you?

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. OSMOND: Which section?

MS. GREENE, Q.C.: I think Ms. Andrews is referring to a document that was filed during the general rate application, it has not been filed for the purposes of this capital budget application.

MS. HENLEY-ANDREWS, Q.C.: Well, I"ll just quote from the section. It says on page 115 of that report, it says that it's important to note that while each project has been developed to focus on a single key area, there is a high level of interdependency and scheduling coordination. As a result it is necessary that Hydro look at the overall program as a unified whole and not just as a sum of its individual parts. There is in this capital budget for 2003, a portion of the budget that is looking at implementing that program, correct?

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: Can you provide indications of what you expect the capital costs to be in future years associated with implementing the remainder of that program, and what you anticipate will be done in those years?

MR. OSMOND: You're talking ...

MS. GREENE, Q.C.: Mr. Chairman, again, perhaps I misunderstood your decision in light of these questions. If you look at the explanations that are provided in Section B for the projects that we are asking for approval of, you will see where we have indicated the amounts for 2004, and I'll just pick B-15 for example.

MR. SAUNDERS, CHAIRMAN: B-15?

MS. GREENE, Q.C.: Page B-15. We have indicated for each project that's included in the 2003 capital budget application amounts associated with that project in 2004 and if it extends beyond 2004, it would be indicated as well, and also in the justification for each of the projects, we have indicated whether this is a continuation of an element where there has been previous work, so we believe that we have provided the information in accordance with the direction of the panel that they just gave. We have indicated in each justification where it's relevant, what has been done prior to. We say what we plan to do for 2003 for this particular one, and we also say what is planned to be done for 2004 and beyond. The problem that I have with the line of questioning is we may have a plan, and perhaps a better one for the panel to look at would be the telecommunications plan which was filed as part of the budget application, and not the X-Wave report which was filed as part of the general rate application. If you look at that, you will see, which is found under Section H in Volume 2, and I don't plan to go through it because it's very lengthy. This is the updated telecommunications plan that we previously filed with the Board and which has been modified over time for a variety of reasons, and again, this would point out the work that has been done to date as approved by the Board, it points out what we asked for in 2003, and then it points out other discrete parts which may or may not be brought forward in future years, so Mr. Chair, again, perhaps I didn't understand your clarification, but it is our position that we have provided with respect to the projects before the Board, information on previous expenditures, if there were similar projects, we have provided the information as to what is required in 2003 for that project, and for 2004 and beyond. What we have not provided, which is where Ms. Henley-Andrews appears to be going, is if there are things out there beyond that timeframe and horizon that we may at some stage wish to bring forward to the Board, she'd like that here today, and I think that is, my understanding, it's not what the panel had directed when they just came back in.

MR. SAUNDERS, CHAIRMAN: Ms. Henley-Andrews?

MS. HENLEY-ANDREWS, Q.C.: Mr. Chair, if you look at Section E, which is page E-1, it looks like Hydro has some idea of what its capital projects are going to be in 2004, 2005, and 2006. My understanding of what you said when you came back from the break is that if there

are components in, expected in 2004, 2005, or 2006, that relate specifically to projects identified in 2003, or programs started before 2003 that are ongoing or starting in 2003 that will be ongoing, that including the telecommunications plan, is that if Hydro is expecting or is at least tentatively budgeting for another component of the telecommunications plan to be implemented in 2004, that what they are planning to implement in 2004 and the amount, the expected amount of money that would go along with that, and similarly in future years, that that is relevant to the 2003 capital budget. The exciter replacement, if you look at the explanation, given in fact on the exciter replacement, refers to the fact that six exciters have been replaced since 1995. There are still other exciters that have not been done. It's an overall program to replace them, each item, each one has been budgeted as a separate capital project for a particular year, but nevertheless, the way I would interpret it is that it is nevertheless all part of one program which relates to the particular hydroelectric project, so I think Ms. Greene and I have differing understandings of what you said when you came back.

MR. SAUNDERS, CHAIRMAN: Okay, I think I understand what you're saying, and I think I understand what Ms. Greene is saying. I guess the key word in what I said in relaying the decision of the panel was the projects that have been approved, or the projects that have been approved in previous years for ongoing action, if you like. While you use the example of the exciter, I guess you could also use the example of future years' projects involving conductors or insulators, or whatever, but that's not on the table, and that will be on the table for the 2004 budget, just as any additional work on exciters will be. I guess, what I'm trying to say, Ms. Henley-Andrews, is that the projects the Board are concerned with at this stage, if I can be a little more specific, are the projects that are included in Hydro's 2003 capital budget that we have before us, and that are named, that are ongoing for future years, or that are ongoing because of the Board approval in previous years. Does that leave any holes?

MS. HENLEY-ANDREWS, Q.C.: I guess from our perspective, the issue is whether there is something that is here in this budget which, if approved, will make it inevitable that something else will be necessary in future years.

MS. GREENE, Q.C.: And if I could respond to that. That is what this application shows. If you look at B-91, which is information systems and telecommunications, the energy management system, this is a particular project which is here before the Board, it shows what we plan to spend in 2003, it shows what is required if it is approved in 2004. However, the Board could still stop it next year if they have determined we have to come back and justify it, and it also shows for future years, so I go back again, the current application that's here provides the information that the Board just directed. My concern is going on the fishing expedition for projects that are not contemplated with this application, although they may be referred to as some general report or study that may have been filed at some time before, or even not. That part is beyond the scope of this hearing.

MS. HENLEY-ANDREWS, Q.C.: Mr. Osmond ... Mr. Chairman, I'm going to try, I'll try and ask some more questions and see how much more trouble I get into, and if we need to we can ...

MR. SAUNDERS, CHAIRMAN: If you keep it to the projects that I've outlined, I don't think you'll get into any trouble.

MS. HENLEY-ANDREWS, Q.C.: Well, I'm trying to.

MR. SAUNDERS, CHAIRMAN: Okay.

MS. HENLEY-ANDREWS, Q.C.: Mr. Osmond, could you look at page B-102?

MR. SAUNDERS, CHAIRMAN: And by the way, Ms. Henley-Andrews, before we go any further, you made reference to a document from the GRA, and I didn't get the name of it.

MS. HENLEY-ANDREWS, Q.C.: I'm sorry, it is the IT Technical Architecture Strategy Report.

MR. SAUNDERS, CHAIRMAN: Okay.

MS. HENLEY-ANDREWS, Q.C.: And it's referred to on page B-102.

MR. SAUNDERS, CHAIRMAN: B-102?

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. SAUNDERS, CHAIRMAN: Okay, I have it, and I'm sorry I interrupted, do you want to repeat your question?

MS. HENLEY-ANDREWS, Q.C.: Yes, Mr. Osmond, if you look at page B-102, there is a reference under project justification to the rationale for moving to a thin *(phonetic)* client environment and server refresh is supported by the IT Technical Architecture Strategy Report filed February 28th, 2002, as U-Hydro-37, correct?

MR. OSMOND: That's what it says.

MS. HENLEY-ANDREWS, Q.C.: And that's the report that I just referred to a few minutes ago, page 115?

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: Okay, which indicates that you've got to look at that strategy as an integrated whole, that's what the report suggests.

MR. OSMOND: I take your word for that.

MS. HENLEY-ANDREWS, Q.C.: Now, when you, and again, you may not be the best person to ask this question to, and if you're not ...

MR. OSMOND: I should say all IS and T questions are like right over my head and Mr. Downton is really the one to direct those to, but you can ask the question, if I don't know I'll certainly let you know.

MS. HENLEY-ANDREWS, Q.C.: Okay, if you look at page B-101, it indicates that end user hardware will be refreshed on a three to five year life cycle and servers will be refreshed on a five year life cycle?

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: Has Hydro developed any costs associated with the Evergreen Refreshment part of this project?

MR. OSMOND: I think that's probably better put to Mr. Downton.

MS. HENLEY-ANDREWS, Q.C.: Do you know if in the go-forward budget shown on E-1 for 2004, 2005, and 2006, do you know if there are any components of the implementation of the IT report that are included in those expected budgets?

MR. OSMOND: I don't have that level of detail.

MS. HENLEY-ANDREWS, Q.C.: It would ... you don't have it with you or you don't ...

MR. OSMOND: I don't have it.

MS. HENLEY-ANDREWS, Q.C.: Okay, so, and that would be best put to Mr. Downton?

MR. OSMOND: Yes, it would be.

MS. HENLEY-ANDREWS, Q.C.: Okay, when it comes to the potential to share costs or share infrastructure with Newfoundland Power, who would be the person within your organization who would be responsible for initiating that type of cooperation?

MR. OSMOND: Are you talking about IT?

MS. HENLEY-ANDREWS, Q.C.: Well, let's talk about IT first, yeah, okay.

MR. OSMOND: Well, if it was IT it would be Mr. Downton.

MS. HENLEY-ANDREWS, Q.C.: Okay, so you would have no involvement in those issues?

MR. OSMOND: Not at the initial stage, if there's an opportunity there, that would be discussed specifically by the directors of both corporations.

MS. HENLEY-ANDREWS, Q.C.: Okay, so who would be responsible for the investigation and the overall recommendations with respect to sharing opportunities? Is it...

MR. OSMOND: Specific to IT you mean?

MS. HENLEY-ANDREWS, Q.C.: Yeah, if it was specific to IT?

MR. OSMOND: Well, it would come to Mr. Downton and that would come up to our Vice-President of Production, it would be Jim Haynes.

MS. HENLEY-ANDREWS, Q.C.: And would that similarly work with respect to, for example, rural operations, that it would be Mr. Reeves?

MR. OSMOND: Administration of the rural system, yes, it would flow back up to Mr. Reeves.

MS. HENLEY-ANDREWS, Q.C.: Okay, if you look at PU-3, there is a report that's attached, that's the evaluation of the options to upgrade the stack-liner *(phonetic)*, number one, and it says that it's prepared by Generation Engineering.

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: There are financial calculations in here including present value calculations?

MR. OSMOND: Correct.

MS. HENLEY-ANDREWS, Q.C.: Who would have provided that assistance to Engineering with respect to those types of calculations?

MR. OSMOND: My understanding, that would have been done by our engineering people in generation.

MS. HENLEY-ANDREWS, Q.C.: So can you give any ... if we'd like to take a look at page five as an example, do you see that there are estimates of the operating or maintenance costs in each of the three options.

MR. OSMOND: I see that.

MS. HENLEY-ANDREWS, Q.C.: Would you have had any input at all, or your department, with respect to those assumptions, or the reasonableness of those assumptions?

MR. OSMOND: No, that would have been done by the generation and production division.

MS. HENLEY-ANDREWS, Q.C.: Okay, now if you look at the cumulative present worth comparison, my understanding from the report is that the assumption is that the Holyrood generating capacity as a roughly 18 year remaining life, that 2020 is the ...

MR. OSMOND: That sounds about right, 17 or 18 years.

MS. HENLEY-ANDREWS, Q.C.: If you look at page 9 of 9, in your capacity as a director and also as a chief financial officer, would the information contained on page 9 of 9 in terms of the present value of the various options be something that you would have reviewed?

MR. OSMOND: We would have seen this in Management Group, but we wouldn't have participated in the calculation of the numbers.

MS. HENLEY-ANDREWS, Q.C.: So when we look at the chart that's shown on page 9 of 9, option three is replacing the stack-liner, you can see that on page 5 of 9.

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: And option three on page 9 is reflected by the line on the chart that has the little diamonds on it.

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: And option one is reinforcement and continue the current practice, and option one is reflected on the chart as the line with the X's.

MR. OSMOND: I see that.

MS. HENLEY-ANDREWS, Q.C.: So would you agree that looking at that chart, option number one has a lower net present value until halfway through 2018, that the lines intersect?

MR. OSMOND: Yes, I think you can draw that conclusion.

MS. HENLEY-ANDREWS, Q.C.: And that it's only after 2018, in the last year and a half of the life, the expected remaining life of Holyrood, that the cost for the replacement starts to be somewhat smaller than the cost of option one?

MR. OSMOND: That's what it shows.

MS. HENLEY-ANDREWS, Q.C.: And wouldn't you agree that if you look at page 5 of 9, that in calculating the present value of each of those options, a critical factor would be the reasonableness of the assumptions on operating and maintenance costs?

MR. OSMOND: I would think so, yes.

MS. HENLEY-ANDREWS, Q.C.: If you look at page 8 of 9, you can see that the annual discount rate that's used for the calculation, it's in the top left-hand corner, is eight percent.

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: If the discount rate were higher the present value would drop, correct?

MR. OSMOND: I believe that to be true, yes.

MS. HENLEY-ANDREWS, Q.C.: And if the discount rate is lower, the present value increases.

MR. OSMOND: Yes.

MS. HENLEY-ANDREWS, Q.C.: Is eight percent as an annual discount rate, a rate that is commonly used within Hydro?

MR. OSMOND: It is my understanding that it is without talking to our operations people, that's my understanding.

MS. HENLEY-ANDREWS, Q.C.: So this is not something that you would deal with in finances, this is something that would come from ...

MR. OSMOND: This particular document is generated in generation and production by their engineering staff, who are quite a number of MBAs, so that would have been generated specifically within their own division, and all the analysis and numbers associated with it.

MS. HENLEY-ANDREWS, Q.C.: Do you know whether there is an assumption of ROE implicit in the eight percent rate?

MR. OSMOND: I don't know offhand.

MS. HENLEY-ANDREWS, Q.C.: Can you check that out?

MR. OSMOND: Yeah.

MS. GREENE, Q.C.: If it's helpful for Ms. Andrews, Mr. Haynes has prepared, this was prepared under his direction and he is the person who can speak to any questions arising in response to PUB-3, including the discount rate, etcetera.

MS. HENLEY-ANDREWS, Q.C.: That's fine.

MR. SAUNDERS, CHAIRMAN: Okay.

MS. HENLEY-ANDREWS, Q.C.: I think I'm nearly done if you just bear with me for a minute. Those are all my questions.

MR. SAUNDERS, CHAIRMAN: Thank you, Ms. Henley-Andrews. Do you have some questions, Ms. Newman?

MS. NEWMAN: I do have five things that I want to address. The first one is brief. I want to refer you to Section A-1.

MR. OSMOND: Section A-1?

MS. NEWMAN: A-1, so that's the capital budget overview.

MR. OSMOND: Yeah.

MS. NEWMAN: I just would like you to clarify for me what is the capital budget for Hydro for 2003, is it the total capital budget of $33,070,000, or is it the revised total capital budget of $34,250,000?

MR. OSMOND: It's $33,070,000, which is the capital budget, and there were some projects carried forward from 2002 to 2003, which are forming part of that, totalling $34,250,000.

MS. NEWMAN: Right, but you view the total capital budget for Hydro to be the $33,070,000, not the $34,250,000?

MR. OSMOND: Right, because the rest are carry-overs from 2002.

MS. NEWMAN: And in Section F, you filed here a status report for 2002 capital expenditures.

MR. OSMOND: Yes.

MS. NEWMAN: For the quarter ended June 30th?

MR. OSMOND: That's correct.

MS. NEWMAN: Was this updated for the third quarter?

MR. OSMOND: It hasn't been yet. This is the quarter ending June 30th, which we filed in August, and the next one will be September, which will be filed probably early November.

MS. NEWMAN: Okay, so it's not ...

MR. OSMOND: It's usually 45 days roughly after the quarter ends, so that would make it November 15th.

MS. NEWMAN: So it's not quite available yet?

MR. OSMOND: No.

MS. NEWMAN: Okay, I'll refer you to page B-5. I wonder if you could go through in general how the project cost is calculated in the sense of I'm wondering what would be in general included in material supply, in general included in labour, in general in engineering, that sort of thing, just so that we can get a sense of how this is broken down? Would you be the person who could do that for us?

MR. OSMOND: I'll give it a shot, if not, Mr. Haynes or Mr. Reeves will certainly have to do it, but ...

MS. NEWMAN: Okay.

MR. OSMOND: Okay, this is just the ... these are the general categories we have for each capital proposal, and materials supply will cover the actual parts of whatever, and in this case it's to upgrade the controls for the spherical valve, so I would expect the materials supply would actually have the costs of the valves and so on included there. Okay? The labour would be the cost of installing or putting that in service, the particular valve, the labour costs internally. The engineering is designing whatever would have to be done as it relates to the valve, the internal design, the engineering work associated with that, and actually putting it in service, and the project management, it ties into the administration related to that particular project, the engineering staff, the technical staff as well, and identifying what costs they would incur in coming up with the capital budget proposal and seeing it ordered and actually seeing it put in place. The inspection and commissioning is actually, it's my understanding, once it's in place, it's actually checking it and making sure it works the way they thought it was going to work, and making sure it's active and useful the way we had intended, and the overheads and so on are the corporate overheads that we use, plus any allowance or funds used during construction or interest during construction if you wish, and a provision for contingency, just to cover off if there's any major variation with regards to material supply or others. There's usually a small contingency included as well. So that's a very high level as to what would be included.

MS. NEWMAN: Okay, so the AFUDC would be the equivalent to interest?

MR. OSMOND: Yes, the allowance, it's the interest that we would use, the capitalization of the interest costs.

MS. NEWMAN: And the ESC, that is?

MR. OSMOND: I'm sorry, that's escalation.

MS. NEWMAN: Okay, and is there a standard amount that you would have for across most projects for that escalation and contingency?

MR. OSMOND: That may vary, I think, by the project. It shouldn't vary significantly but it may vary by the particular project, yes, depending on what parts or what materials are involved.

MS. NEWMAN: And in terms of calculating the corporate overhead, is there a standard percentage for that, or is it actually broken out for each individual project?

MR. OSMOND: It's an overall, I forget the exact amount, there is a corporate overhead allowance that we use to cover general corporate overhead, but it's charged out specifically to each project. I was going to say four and a half percent. I'm not sure if that's the right number or not, but there is an overhead allocation that we use that's allocated to each project that covers general corporate overheads of people involved in capital projects.

MS. NEWMAN: And in terms of evaluating alternatives, we had just looked at one where there's three alternatives, the liner project, when you're looking at the cost of that and comparing the net present value, will you include the corporate overheads as part of that, or would it only be the external costs, or is there a general comment that you can even make on that, would it be unique to each project?

MR. OSMOND: That might be better put to Mr. Haynes. I think they probably would include it, but he'd be able to take you through the exact components as to how they're derived and what we used, and I think he could take you through that.

MS. NEWMAN: I want to refer again to Schedule E because it's been referred to ... Section E, so often, I wonder if you could just explain in general how the future amounts, the budgeted amounts for the future years are estimated, as you've said, for say, 2004, 2005, and 2006, in general just explain for us how you get to those numbers.

MR. OSMOND: The future years?

MS. NEWMAN: Yes.

MR. OSMOND: I mean it comes up from the individual supervisors who look at their current year budget, which in this case is 2003, and they just put forward what they expect at this point in time, or their best guess, or a shopping list, if you like, as to what they expect for the next two or three years, to give an indication as to what those projects may be, looking at the factors of safety, environment and so on and so on, reliability, so they put ... the main focus would be on the current year, which is 2003, and if there's any activity related to those in the following year, and if there are any other major projects they anticipated within the next two to three year timeframe, knowing that they will be reviewed in a much more detailed process to look at each one of those years in much more detail, and to see how it fits into our overall financing and capital plan and so on, so it's just a very, it's their initial reaction as to what they expect to do for that three year period ... or if there's anything, or if anything has come to mind too then that has to be replaced specifically, but usually it's an indication of what they expect for that period of time, but it isn't the final listing. That requires three or four levels of review.

MS. NEWMAN: But it will include those amounts that you've tagged for projects that are before us in one year that are continuing on for future years, so that will be included as part of the future year estimate at this stage.

MR. OSMOND: That's correct.

MS. NEWMAN: And in terms of those projects that extend over several years, is there a policy within Hydro as to whether you attempt to limit them to one year, or is there any view to projects that will be protracted over several years, trying to break them down into different phases, or break them into smaller, more manageable parts, is that something that you ...

MR. OSMOND: Some projects, it depends on the timing and the manufacture of the particular equipment. There may be a 12 month or an 8 month lead time to get it, so that may put you into a cross over to a year or two, so it really depends on the tender calls and how long it takes to manufacture that particular piece of equipment, and sometimes that puts us into another calendar year, and if you want to start something this fall or next fall, you have to order it this fall, so the lead times are an issue of concern and that could drive you out longer than one year.

MS. NEWMAN: So it's basically on the basis of each individual, the requirements of each project.

MR. OSMOND: And the timing of resources and getting it out to tender and getting people in place to be able to do that. It's scheduled.

MS. NEWMAN: Those are all the questions I have.

MR. SAUNDERS, CHAIRMAN: Thank you, Ms. Newman. Anything on redirect?

MS. GREENE, Q.C.: There were two undertakings that were provided during direct examination and we can certainly respond to those. Now at this time it's not strictly speaking redirect per se, but it is responding to the questions. The both undertakings related to the appropriate depreciation for, shown in the response to IC-3, and I believe the first one related to the service life shown for a fence for Holyrood and the service life shown for the fence in the Bay d'Espoir area, both shown in response to IC-3(a). Mr. Osmond, are you now in a position to provide the clarification with respect to that?

MR. OSMOND: The fence at Holyrood, that's categorized in what we call substations and terminals, and they are normally written off over a 40 year period, and that's why the fence would be included in that particular category and write it off over 40 years. Whereas the fence at Bay d'Espoir is categorized as part of our general properties, and normally general properties, as you'll see going through our fixed assets, it's normally written off over a ten year period.

MS. GREENE, Q.C.: The second question, it's an undertaking with some clarification with respect to the life or depreciation, or the service life shown for the Deer Lake building, also shown in the report in IC-3(a)

on page 9. Can you please indicate what that service life is?

MR. OSMOND: Yes, originally the Deer Lake building, I think was built in 1981, and I believe it has a 30 year service life, so the extension or part of the footprint *(phonetic)* that we're revising now, will be written over the remaining life of that project, which is ten years, and that's why we had the ten year period for that write off of that expenditure.

MS. GREENE, Q.C.: And are these proposals that you've just outlined for service lives in accordance with the depreciation study which has been approved by the Board in two prior hearings?

MR. OSMOND: Yes, they are.

MS. GREENE, Q.C.: Those are all the questions that I have for Mr. Osmond, thank you, Mr. Chair.

MR. SAUNDERS, CHAIRMAN: Do you have any questions, Mr. Martin?

COMMISSIONER MARTIN: I had some but I think they're more properly suited for the individuals by the looks of it who will be called later.

MR. SAUNDERS, CHAIRMAN: Mr. Powell?

COMMISSIONER POWELL: No, I have no questions.

MR. SAUNDERS, CHAIRMAN: Thank you, Mr. Osmond.

MR. OSMOND: Thank you, Mr. Chair.

MS. GREENE, Q.C.: Mr. Chair, I should say, I gather I was remiss, I said Mr. Osmond had submitted his resignation. I assume everyone knew it was his retirement by the grey hairs on the ...

MR. OSMOND: I figured I'd get a cheap shot somewhere.

MS. GREENE, Q.C.: He is looking forward to a different life apart from our rate hearing next year, but he's going to come support us, he said.

MR. OSMOND: You may see me at the back of the room.

MR. SAUNDERS, CHAIRMAN: We may see you at the back of the room, yes. Thank you, Mr. Osmond.

MR. OSMOND: Thank you very much.

MR. SAUNDERS, CHAIRMAN: It's now 12:15, what do you wish to do, Ms. Greene?

MS. GREENE, Q.C.: We would need a couple of minutes to ...

MR. SAUNDERS, CHAIRMAN: To change around, yes.

MS. GREENE, Q.C.: So I don't know if this is an appropriate time for you to break for lunch or not, and then we could come back a bit earlier, it's totally up to the panel.

MR. SAUNDERS, CHAIRMAN: Can we come back at 1:45? Okay, it's a good time to go then. Thank you.

(break)

(1:45 p.m.)

MR. SAUNDERS, CHAIRMAN: Good afternoon. Ms. Greene, are you ready to proceed with your first panel?

MS. GREENE, Q.C.: Yes, I am, thank you, Mr. Chair. As I indicated earlier today, we plan to call the next two witnesses as a panel. They are Mr. Jim Haynes and Mr. Eric Downton.

MR. SAUNDERS, CHAIRMAN: Mr. Haynes and Mr. Downton, do one of you want to take the Bible in your right hand, one of you? Do you swear in the evidence you're about to give that you will tell the truth, the whole truth, and nothing but the truth, so help you God?

MR. HAYNES: I do.

MR. SAUNDERS, CHAIRMAN: Do you swear in the evidence you are about to give you will tell the truth, the whole truth, and nothing but the truth, so help you God?

MR. DOWNTON: I do.

MR. SAUNDERS, CHAIRMAN: Have a seat, gentlemen, okay, Ms. Greene.

MS. GREENE, Q.C.: I'll start first with Mr. Haynes. Mr. Haynes, what is your position with Hydro?

MR. HAYNES: I'm the Vice-President of Production.

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

MR. HAYNES: A little over a year and a half.

MS. GREENE, Q.C.: How long have you been with Hydro?

MR. HAYNES: I've been with Hydro since graduation in 1977, so that's 25 1/2 years.

MS. GREENE, Q.C.: And what positions have you held in Hydro over that timeframe?

MR. HAYNES: In 1977 when I started, I spent two years moving around various departments for short-term assignments. After two years, I worked on Holyrood, No. 3, construction for approximately three years, in the instrumentation control section, after which I returned to the Engineering Department in St. John's. In about 1982/83, I moved to System Planning as a planning engineer, and prior to leaving that department, for two or three, four years, I was Manager of Transmission Planning, and I left that in 1989 and relocated to Churchill Falls, with CF(L)Co, a Hydro subsidiary, as the Director of Plant Operation and Maintenance, and in 1996, I assumed the position of General Manager, when my boss at that time moved out, and in 1999 I relocated back to St. John's, working for Dave Collett, the Vice-President of Production and President of CF(L)Co., doing various assignments, mostly related to, I guess, operational support of Hydro and CF(L)Co. issues, assisting the CEO with some strategic planning issues, and in May of 2001, I assumed the present position, Vice-President of Production.

MS. GREENE, Q.C.: What are the responsibilities of your current position, Vice-President of Production?

MR. HAYNES: The Production Division of Newfoundland Hydro has six separate sections. There is Systems Planning, which does the generation, transmission, and distribution planning as well as economic forecasting for all the Hydro Group, or for all of Hydro specifically. Generation Engineering, who provide engineering support to the production, to the production divisions of hydro and thermal, which also report directly to me. The Information Systems and Telecommunications section also report to me, and the Energy Control Centre and Dispatch Arena also report to me.

MS. GREENE, Q.C.: So any capital budget proposals that come forward in any, or affecting those areas are your own direct responsibility, is that correct?

MR. HAYNES: That's correct. However, I would add that for the purposes of this hearing I've asked Mr. Downton to sit with me on this panel to address any IS and T issues, and I will respond to issues with respect to generation, hydro and thermal.

MS. GREENE, Q.C.: And Mr. Downton, what is your current position with Hydro?

MR. DOWNTON: I am Director of Information Systems and Telecommunications.

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

MR. DOWNTON: I've been in this current position for approximately two years.

MS. GREENE, Q.C.: What is your professional designation?

MR. DOWNTON: I'm a professional engineer.

MS. GREENE, Q.C.: How long have you been with Hydro?

MR. DOWNTON: I've been with Hydro for 23 years.

MS. GREENE, Q.C.: And what positions have you held throughout that, your career at Hydro?

MR. DOWNTON: In 1979 I started as an engineer programmer with the Tele-Control Department, and then I became Senior Supervisor, Control Engineer. In 1985 I moved to Holyrood thermal generating station as their Electrical Plant Engineer, and in 1987, I was seconded to the Energy Management System Project as Systems Engineer, and then became a Project Manager. When the EMS went operational, I became Manager of the Energy Management System, and around 1995 I was Manager of Energy Management and the Tele-Control Departments, and then with the merger of the MIS

Department and Tele-Control and EMS, I was Manager of Business Solutions and Support, in that role in about ...

MS. GREENE, Q.C.: And you mentioned MIS, could you just explain what MIS stands for?

MR. DOWNTON: MIS is Management Information Systems, and it's the traditional IS organization that supports your financial and local area network infrastructure.

MS. GREENE, Q.C.: And then you became director of the merged Information Systems and Telecommunications Department in 2000?

MR. DOWNTON: Yes.

MS. GREENE, Q.C.: What are the responsibilities of your current position?

MR. DOWNTON: I'm responsible for the short and long-term strategic planning, security, day-to-day operations, and maintenance activities related to the information systems and telecommunications technology throughout the Hydro Group of Companies.

MS. GREENE, Q.C.: I'd like now to turn to page A-1 of the application. Mr. Haynes, could you indicate what are the categories indicated on page one for which you are responsible as Vice-President of Production?

MR. HAYNES: I'm responsible for generation and the IS and T components of the general properties section.

MS. GREENE, Q.C.: Okay.

MR. HAYNES: Sorry, the generation includes hydro plants and the thermal plant at Holyrood.

MS. GREENE, Q.C.: And Mr. Downton, you are specifically responsible for the IS and T section which is shown under the heading of general properties, is that correct?

MR. DOWNTON: That's correct.

MS. GREENE, Q.C.: I'd like now to turn to page B-2. Mr. Haynes, page B-2 lists all projects under the heading of generation that are in excess of $50,000. They also indicate page numbers which provide explanations for each project over $50,000. Were the explanations referred to on page B-2 prepared under your direction?

MR. HAYNES: Yes, they were.

MS. GREENE, Q.C.: Do you adopt those explanations provided for those projects for the purposes of your evidence at this hearing?

MR. HAYNES: Yes, I do. I would like to add one minor correction in the project, excuse me, on page B-9. I think the actual correction is on page B-10.

MS. GREENE, Q.C.: I was going to ask, are there any errors or omissions to those. There is the one that, it's a minor one on page B-10, and if you could explain what that change is?

MR. HAYNES: On page B-10, the second last paragraph, it indicates that the existing stock (inaudible) are 23 years old. They are, in fact, approximately 14 years old, not 23.

MS. GREENE, Q.C.: And subject to that minor correction, are there any, is there anything else you'd like to bring to the attention of the Board with respect to the explanations provided for the projects under generation?

MR. HAYNES: No, everything else is fine.

MS. GREENE, Q.C.: Mr. Downton, I would now like to turn to page B-4. These list the projects under the headings of general properties where each project is over $50,000. Could you please indicate the projects on page B-4 for which you are responsible as Director of IS and T?

MR. DOWNTON: I am responsible for all of the projects with the exception of the last three, replace vehicles, replace engineering (inaudible) format printing and automatic meter reading pilot project.

MS. GREENE, Q.C.: And Mr. Reeves will speak to those three, is that correct?

MR. DOWNTON: Yes.

MS. GREENE, Q.C.: For those projects you've just indicated that you are responsible for, were the explanations provided for each of those projects prepared under your direction?

MR. DOWNTON: Yes, they were.

MS. GREENE, Q.C.: Do you accept the explanations provided with this application for those projects as your evidence for the purposes of this hearing?

MR. DOWNTON: Yes, I do.

MS. GREENE, Q.C.: And that concludes the questions I have for the panel, thank you.

MR. SAUNDERS, CHAIRMAN: Thank you, Ms. Greene. Ms. Henley-Andrews?

MS. HENLEY-ANDREWS, Q.C.: Thank you. As Mr. Hutchings indicated in our opening statement, I will be addressing the questions on the generation proposals, and he will be addressing the IS and T. Mr. Haynes, I'd like you to take a look at page B-5.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And this is the, this project is to upgrade the controls, spherical valve number one, is that right?

MR. HAYNES: Correct.

MS. HENLEY-ANDREWS, Q.C.: And number five was done in 2002?

MR. HAYNES: Yes, I believe there are two done to date.

MS. HENLEY-ANDREWS, Q.C.: And how many remain?

MR. HAYNES: Well, there are six, there are six units that have spherical valves, there are seven machines at Holyrood ... I'm sorry, at Bay d'Espoir, only six have spherical valves. The plan was started in 1999/2000, and the intent is over time we will do them all. We will do all the valves eventually.

MS. HENLEY-ANDREWS, Q.C.: So if two have been done and this is the ...

MR. HAYNES: Third.

MS. HENLEY-ANDREWS, Q.C.: The third one, then there are three remaining to be done?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And do you have any plan as to when they would be done?

MR. HAYNES: That's being reviewed right now, we are preparing our 2004 capital budget plan and that will go to through the iterations at the plant with the plant manager and they will, they will ultimately recommend that we can either skate a year, or that we should do it for safety and other reasons.

MS. HENLEY-ANDREWS, Q.C.: Is there any connection between doing this particular project, which is with respect to valve number one, and future replacements? In other words, does the replacement that you're planning to do and that you've done with respect to the others, impact the timeframe for the remaining?

MR. HAYNES: No, not at all, they're all completely independent systems. The only thing in here is that the spheres are there for the other two jobs that we've done. In the future that would not be required.

MS. HENLEY-ANDREWS, Q.C.: When we look at the project cost, is this a job that would be done internally?

MR. HAYNES: By and large this job is done internally, yes.

MS. HENLEY-ANDREWS, Q.C.: On the project cost, there is 31.2 ... or $31,000 approximately that is allocated to corporate overhead and a variety of other things including contingency. Do you have a breakdown of what is in that $31,000?

MR. HAYNES: I don't have the specific breakdown of $31,000. Contingency is usually five to ten percent, depending on the nature of the job. Escalation basically will be dependent upon a series of escalation factors that were provided by our chief economist, and the corporate overhead I think is in the order of, I believe, four to five percent, in that range.

MS. HENLEY-ANDREWS, Q.C.: When you refer to the chief economist, is that in your department?

MR. HAYNES: Yes, he is in the System Planning Department. He would generate an escalation series depending on the material. The escalation series for hydro plants may be slightly different for terminal

stations, and so on, depending on what, I guess, what the history has shown, or what the future holds in those areas.

MS. HENLEY-ANDREWS, Q.C.: Does corporate overhead vary with the type of job?

MR. HAYNES: I don't believe, I believe that's pretty standard, but I'm not ...

MS. HENLEY-ANDREWS, Q.C.: Do you know what that percentage is?

MR. HAYNES: As I indicated, I believe it's four or five percent, but I'm, I did not specifically check during lunch. I guess I should have, I'm sorry.

MS. HENLEY-ANDREWS, Q.C.: I'll accept the four to five percent, but if somebody tells you subsequently that that's not correct, I presume it will be corrected on the record.

MS. GREENE, Q.C.: We always do, if something is said that we find is in error, we will correct it.

MS. HENLEY-ANDREWS, Q.C.: In the paragraph under operating experience, it indicates that the generating unit typically operates for 5,500 hours each year, and that in the last five years there have been 36 maintenance events for this control system, which is much higher than expected. Now is that ... that, I presume, is the control system for spherical valve number one?

MR. HAYNES: I would suggest that it's for all of the spherical valves, the six valves.

MS. HENLEY-ANDREWS, Q.C.: Now, two of the valves have already been replaced?

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: How many of those events were as a result of valve number one?

MR. HAYNES: I don't have that information.

MS. HENLEY-ANDREWS, Q.C.: Is it possible to get it?

MR. HAYNES: I will attempt to.

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

MR. HAYNES: It depends on how it's collected at the plant.

MS. HENLEY-ANDREWS, Q.C.: When the statement is made that in the last five years, those 36 maintenance events are much higher than expected, what was it that you expected?

MR. HAYNES: I don't think you would actually find a specific number of, that are anticipated for a spherical valve, but ordinarily if you get three or four outages a year based on equipment failure, that would be the most you would want to see. These valves are, they're about six feet in diameter, and this is just the control system that controls those valves. It's critical to the operation of the unit, in fact, two units. If the valve fails, we have difficulty with two machines, not only one, because we can't isolate it.

MS. HENLEY-ANDREWS, Q.C.: Now, the next sentence in that paragraph says that this projet is part of a multi-year program for upgrading control systems. The control systems that you're referring to, is that control systems at Bay d'Espoir?

MR. HAYNES: It's the control system for the specific spherical valve. There will be six independent and separate control systems for each valve if we finish them all.

MS. HENLEY-ANDREWS, Q.C.: Okay, so the multi-year program still has several years to run, is that correct?

MR. HAYNES: It will be, somewhere along the way there will be at least three more valves to change, I'm sorry, the controls to upgrade.

MS. HENLEY-ANDREWS, Q.C.: And do you expect that each of those will cost roughly the same?

MR. HAYNES: They will be a little less than this one because this particular project includes spare parts for the two that we've already replaced.

MS. HENLEY-ANDREWS, Q.C.: And why would that be included in this project rather than having been included in those projects in the past?

MR. HAYNES: Well, you would only buy one set of spare parts for all six valves, because the delivery from the manufacturer is usually, it would be, particularly

when you buy new equipment, you know that you want to maintain support for at least the next five or six years, if not longer. Why they were not proposed from day one, I don't have, I don't know the answer to that question, but it would not be unusual to go a year for brand new equipment, and not anticipate failures, as well, there's probably equipment warranties from the vendors as well there, for at least a year, typically.

MS. HENLEY-ANDREWS, Q.C.: The reference at the end of that paragraph to Unit No. 2 being completed during 2002, that, in fact, that should be No. 5, and the one in 2001 should be No. 2, isn't that right?

MR. HAYNES: Oh possibly, I ... I believe you're correct, yes, actually.

MS. HENLEY-ANDREWS, Q.C.: Okay, so do the three other units, the three that haven't had the replacements, have exactly the same problems?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And you consider this to be six separate projects?

MR. HAYNES: They're all stand-alone, you can do one without the other, there's no interrelationship.

MS. HENLEY-ANDREWS, Q.C.: Do you presently have replacement parts?

MR. HAYNES: For?

MS. HENLEY-ANDREWS, Q.C.: Spherical valve number one?

MR. HAYNES: Well, we have the material that was removed from the other two valves. However, part of it is piping which basically is just, not cast, but iron piping, electrical controls which are basically 38 plus years old, which are not in very good condition, but they are available and we may or may not be able to fix one of the other valves if it fails.

MS. HENLEY-ANDREWS, Q.C.: In terms of the operation of Bay d'Espoir, if one of the valves fails, what implications are there?

MR. HAYNES: It depends on how it fails. It can be a small failure that it doesn't seal. It can be a major fail, a failure in which case it may, it may end up in flooding the powerhouse. If it fails on its own and there's just a minor leak or something like that, we may not be able to isolate one machine to do the work, or it may cause a shut down. The spherical valve, if I go back a little bit, the function ... it's only there because each penstock serves two machines, so when you come down to penstock from the surge tanks, it comes down, and the piping, the six or ten foot diameter piping, or whatever it is, I don't recall offhand, it splits, so the valve is to shut the water off to the machine, so you can continue to generate with the other machine. If you had a major failure there where you didn't flood the powerhouse and you couldn't control the leak, you would have to take basically 150 megawatts out of service, not just that single machine, so it's reliability, it's not only for that particular unit, but also its adjacent unit.

MS. HENLEY-ANDREWS, Q.C.: And have you had specific problems with the existing spherical valve number one?

MR. HAYNES: We've had ... I can't answer that specifically. We've had problems with the spherical valves, as indicated, 36 problems over the years. They are all the same design, they are all the same vintage. There is no reason to expect that what happened last year on one valve will not happen this year or the year after on another.

MS. HENLEY-ANDREWS, Q.C.: So I take it from that that there is no magic to picking valve number one to replace this year over any of the other ...

MR. HAYNES: I would suggest that the plant manager probably would have indicated them on the order of trouble they've had with a specific control system, but that level of detail I would not necessarily delve into unless there was some specific reason, or asked a question. I would expect them to go from the worst to the best.

MS. HENLEY-ANDREWS, Q.C.: On your project justification, paragraph (b) on page B-6, how likely is it that you would have an outage of two units on the same penstock with number two and number five having recently been upgraded?

MR. HAYNES: I don't quite understand.

MS. HENLEY-ANDREWS, Q.C.: In other words, you've indicated that one of the justifications is that an outage of two units on the same penstock and potential

damage to the unit if the valve remains open during a run-away *(phonetic)* ...

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: Well, my question is is how likely is it, what is the probability, is it small, of that happening?

MR. HAYNES: The probability is probably small, but as time goes on, the equipment ages and it gets rustier and so on, it increases with time, but to be, to suggest that we actually went down and did a probabilistic analysis down to getting into very technical terms, that would be, we do not typically do that.

MS. HENLEY-ANDREWS, Q.C.: No, but I'm just ...

MR. HAYNES: It is small, but it's increasing with time.

MS. HENLEY-ANDREWS, Q.C.: Okay, and what was the expected life of these valves at the time that they were put in place from the manufacturer's perspective?

MR. HAYNES: That I cannot answer. The spherical valve itself, which is the big cost item, we would anticipate it to last the life of the generator, which would be 50 years, which it is typically written off over. There may be issues with seals and so on, but the actual big valve, these are small control valves, and basically the control system that actually operates the valve and closes the seal so that it seals properly to provide a safe working environment and to isolate the machine and so on.

MS. HENLEY-ANDREWS, Q.C.: And do they have an expected life?

MR. HAYNES: The control valves?

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. HAYNES: I, well I guess we've got 30 plus years, I'm not sure.

MS. HENLEY-ANDREWS, Q.C.: Have there been any extended outages resulting from the 36 maintenance events?

MR. HAYNES: Typically the machines can be repaired in a couple of days. I don't think there have been any long-term outages based on those valves.

MS. HENLEY-ANDREWS, Q.C.: On page B-7, which is to replace the vibration data system at Bay d'Espoir. In the operating experience it indicates that the DAS system was used for continuous monitoring of plant parameters but has been out of service since 2000 without parts to complete the repair, and you've managed without it.

MR. HAYNES: We have, we have lived without it, yes, that's correct.

MS. HENLEY-ANDREWS, Q.C.: So do you really need it?

MR. HAYNES: Yes, we do.

MS. HENLEY-ANDREWS, Q.C.: Why?

MR. HAYNES: These are predictive maintenance ... there are predictive maintenance elements basically to give us indication that we have problems, to point us in the right direction when we're looking for vibration problems, and even cooling problems. This whole project basically is a, is to alert us to upcoming problems with respect to vibration and other parameters that we can measure. It's a, if it proves its worth once, it will be well worth the money, if we do not have a catastrophic failure. It's almost there to give us pre-warning that we have problems.

MS. HENLEY-ANDREWS, Q.C.: Could it be deferred?

MR. HAYNES: Could it be deferred? Anything can be deferred. It's not in our recommendation. Our recommendation is to proceed. It's pretty standard equipment in a hydro plant to monitor your vibration and to log the equipment and look for problems.

MS. HENLEY-ANDREWS, Q.C.: Does this expenditure of $153,000 provide the monitoring for all of the generators?

MR. HAYNES: The ... yes, it does. I think the monitoring of the data logging system is common to all machines. However, there is specific equipment on each machine to feed information to this system.

MS. HENLEY-ANDREWS, Q.C.: But this is not part of a program that there will be future parts of, this is ...

MR. HAYNES: Not unless there's a breakdown or something else comes up, no.

MS. HENLEY-ANDREWS, Q.C.: And does this project include monitoring of process points such as temperatures and flow rates?

MR. HAYNES: Some of those, some of those items are already there, but basically since that monitoring system failed in 2000, they have not been easily checked. If I can just elaborate a little bit. I guess in 2000, what's happening here, in 2000 we did not have that system. Now we've been having problems with the vibration monitors. We have to have vibration monitors. Some of the old things are a small enhancement. The big cost is the vibration equipment and it can be very economically expanded to cover off the other things which were unavailable to us since 2000.

MS. HENLEY-ANDREWS, Q.C.: And once this is done it will be done for all the generators at Bay d'Espoir?

MR. HAYNES: Yes, that's correct.

MS. HENLEY-ANDREWS, Q.C.: Now, the next one is B-9, which is the replacement of the draft tube stop logs at Paradise River. As part of the 2002 capital budget, there was an amount of $158,000 that also related to stop logs.

MR. HAYNES: But not the draft tube, I think that was the intake, I believe. This is to keep the tail water out of the machine when people are in working.

MS. HENLEY-ANDREWS, Q.C.: The, was this still a problem, was this a problem at that time?

MR. HAYNES: Yes, but we do have, we do have wooden stop logs which are in a deteriorated condition. On the intake we did not have logs, you'd have to shut the plant down, it would be unavailable and we'd have to figure out how we are going to fix it.

MS. HENLEY-ANDREWS, Q.C.: Are there any more stop logs or logs at Paradise River to be replaced?

MR. HAYNES: No, the ones last year were on the intake side, and these are on the exit side.

MS. HENLEY-ANDREWS, Q.C.: And in terms of operating experience, one of the references is that, I guess, the diving contractor having to be mobilized to the site to plug the leaks results in additional costs as well as delays. What has that cost been?

MR. HAYNES: I don't recall the diving contractor's daily rate, but depending on how many events we had per year, it would add up. I don't know of the diving contractor specifics offhand.

MS. HENLEY-ANDREWS, Q.C.: But Paradise River is a run of water ...

MR. HAYNES: It's a single river with a small reservoir.

MS. HENLEY-ANDREWS, Q.C.: The, in the project justification, it indicates that these logs are required to provide access to the turbine and the underwater parts, and it has to do with maintenance ...

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: ... as well as a safe repair environment.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: How unsafe is the current environment?

MR. HAYNES: The current logs leak, they leak quite a bit, you install pumps, you have divers go down, and you may even put in (inaudible), you know, to prevent water from coming back in. It's a wet environment and you pump the ... you put the logs in, you pump the water out. You keep the pumps there and you keep the water, keep pumping it, the leaks are that bad. The stop logs are 14 years old, they've been reinforced. They've tried jay-seals *(phonetic)*, they've tried several things to make it better. From a worker point of view, they're in there, I couldn't suggest every year, but if not every year, every second year to check the runner and do cavitation *(phonetic)* repairs and so on, and it is a, it is a contentious issue at times with the people working there, depending on how much leakage there is, which changes with the tail water level, and also, you know, one year it may be X gallons a minute, and another year it may be higher. It can be a bit unnerving.

MS. HENLEY-ANDREWS, Q.C.: Have you had any safety incidents?

MR. HAYNES: We have not had a failure. If we did, if we had a failure and there were people there, we would likely have ended up with a loss of life.

MS. HENLEY-ANDREWS, Q.C.: Now the fuel storage tanks for, I guess, Ebby *(phonetic)* is everybody's shortened version of it.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: It's at page B-11, and when I look at the corporate overhead and various things for this project compared to the previous ones, it's nearly 20 percent, whereas in the previous ones it was roughly 15 percent. Is there any particular reason why this project would require additional percentage?

MR. HAYNES: I would suggest, without actually going back and checking, that when we deal with environmental issues, there is usually a fair exposure from the environmental regulators as to what we require. Sometimes permits are easy, sometimes they don't ... I won't ... sometimes their requirements are easy to satisfy and sometimes they're not, so I would suggest that when we're doing an environmental project, in all likelihood that they had to put in a slightly higher contingency to account for that.

MS. HENLEY-ANDREWS, Q.C.: Now, the fuel tanks at Burnt Spillway *(phonetic)* were installed in 1995 and 1985.

MR. HAYNES: I believe Burnt was installed in 1985.

MS. HENLEY-ANDREWS, Q.C.: And the one at Ebby was installed in 1995?

MR. HAYNES: I believe, I'll just double check the ... yes, I believe that's correct.

MS. HENLEY-ANDREWS, Q.C.: So when you say, when that sentence says that the 45,000 litre tank at Ebby, and the two fuel tanks at Burnt Spillway were ... (inaudible) installed in '95 and '85, the '95 refers to Ebby and the '85 refers to the two tanks at Burnt Spillway?

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: Okay, on the project justification, in terms of the existing fuels system at Burnt Spillway, what is the problem with respect to the provincial gasoline and associated products regulations?

MR. HAYNES: These tanks are, when we buy tanks right now, most of the tanks that we buy are self-dyking. These tanks are not self-dyking, they are an in an earth dyke.

MS. HENLEY-ANDREWS, Q.C.: Uh hum.

MR. HAYNES: Basically there are testing that you have to do at each particular site to make sure it doesn't, that it can contain the oil when it leaks. There have been indications in the past that we had failed the permeability test. When it fills up with snow and ice we don't have the required volume necessary to contain a full spill, that's basically it.

MS. HENLEY-ANDREWS, Q.C.: Okay, now, but the ... am I correct that these tanks which were installed in 1985, they don't meet the current regulations but they would be grandfathered?

MR. HAYNES: Well, they would be. Typically our tanks are grandfathered, however, each time that we do an audit, it comes up. It's a constant discussion with our environmental regulators. The other thing that it does not allow us to do is to do proper, we can't meet the GAP regulations. Besides the environmental regulations, the GAP regulations that we have to account for all usage to look to determine if we have a spill, and we can't meter properly, that will be fixed as well with this particular project.

MS. HENLEY-ANDREWS, Q.C.: And can that be fixed with additional earth dyking?

MR. HAYNES: No, no.

MS. HENLEY-ANDREWS, Q.C.: The new 9,000 litre self-dyking tank and associated day tank that's to be installed at Ebby ...

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: I understood from last year's hearing that the generators were being taken out of service at Ebby.

MR. HAYNES: We are installing a distribution line into Ebby to supply power.

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. HAYNES: The diesel generators, there will be a diesel generator retained for emergency supply, if we lose the distribution line. We have to have control of

the gates. There will be a diesel at Ebby, if it's the specific ones that are there now, I would have to check, but there will be a diesel, but it will be on stand-by as opposed to in full-time operation as they are right now.

MS. HENLEY-ANDREWS, Q.C.: So how many diesel generators are there at Ebby?

MR. HAYNES: I would suggest, without having the facts in front of me, that because right now it does not have a distribution line, and because it's a critical part of the hydraulic system, it has two, in case one fails. With a distribution line, I would suspect that probably we can go to one, but I'm not quite sure, I don't recall exactly what that proposal said last year, though you usually retain at least two supplies for these critical elements.

MS. HENLEY-ANDREWS, Q.C.: But now the construction of that 25 kilovolt distribution line was approved for the 2002 capital budget, correct?

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: And has that been built?

MR. HAYNES: It's in progress, it should be finished by the end of this year.

MS. HENLEY-ANDREWS, Q.C.: And on page B-10 of the 2002 capital budget proposal, under the nature of the project, it says this structure is presently serviced through diesel generation. The distribution interconnection will permit the diesel generators and their associated infrastructure to be retired, thereby avoiding future maintenance and capital costs, so what you're saying is that that's not correct.

MR. HAYNES: I am, I wasn't involved in that particular project at the time. That equipment may be retired because it's used 24 hours a day, 365 days a year. I'm not quite ... I do not know if they are going to retain one of these machines and rebuild it, but there will be a diesel there. We cannot go with no back-up, it's not safe, it's not acceptable.

MS. HENLEY-ANDREWS, Q.C.: Well, you see, the difficulty that I have ...

MR. HAYNES: I know what you're ...

MS. HENLEY-ANDREWS, Q.C.: ... is that last year we objected to this particular one and it was justified on the basis that, well the diesel generators would come out of service, and now you're telling us that one diesel generator is going to stay in service, and in fact we're not going to avoid capital costs, that now we've got to put in a new 9,000 litre tank.

MR. HAYNES: You will avoid rebuilding the machines because they are going to go to stand-by basis. Right now those machines operate, one or the other machine operate 8,760 hours a year. When we get a distribution line from Ebby, hopefully they'll only operate for one hour, one hour per week to make sure they still work, when we do, if we do lose the distribution line, so the fuel consumption will go down, the maintenance will go down ...

MS. HENLEY-ANDREWS, Q.C.: But the generators won't, in fact, be retired.

MR. HAYNES: I'm not sure, I would have to check that, if they are going to be retired or replaced with a smaller unit, I'm not sure.

MS. NEWMAN: Ms. Andrews, can you clarify, were you reading from a document that was ...

MS. HENLEY-ANDREWS, Q.C.: Yeah, it's in the 2002, it's the application filed in May of 2001 as updated, and it's on page B-10 of the capital budget that was attached to that.

MS. NEWMAN: Does anybody want that entered as an exhibit or are you fine with ...

MS. HENLEY-ANDREWS, Q.C.: Well, I'm assuming that it's a public document, it's a document that's in the possession of the Board.

MS. NEWMAN: You're fine with that?

MS. BLUNDON: Oh, fine, yes.

MS. NEWMAN: Okay.

MS. HENLEY-ANDREWS, Q.C.: Now, the tanks that are currently at Burnt Spillway ...

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: Ignoring for the moment the earth dyking problem that you've already described, what would be the expected life of those tanks?

MR. HAYNES: They are above ground tanks, they would be subject to inspection every X number of years to make sure that they're not leaking and so on, I would think that 30 years would be a reasonable life for those tanks. If they were underground, I think the Federal Government dictates as being a dictated life.

MS. HENLEY-ANDREWS, Q.C.: And they are currently 17 years old?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And what is the remaining expectancy of the tanks that you propose to move?

MR. HAYNES: That tank was actually purchased in 1995, so I would imagine it would be good for another 20 plus years. That also meets the environmental regulation, it is GAP compliant, it has a number.

MS. HENLEY-ANDREWS, Q.C.: But you would ...

MR. HAYNES: And when I say GAP, that's the Gasoline and Associated Products Regulations of the Government.

MS. HENLEY-ANDREWS, Q.C.: But I think that you would have to agree that environmental regulation is a constant, that it represents a changing environment.

MR. HAYNES: Oh yes.

MS. HENLEY-ANDREWS, Q.C.: So what's GAP compliant now, may not be GAP compliant in three years time.

MR. HAYNES: That's quite possible.

MS. HENLEY-ANDREWS, Q.C.: But as long as its grandfathered so that you don't have to incur the additional cost, in most business applications people will be satisfied with the grandfathering.

MR. HAYNES: Well, I guess it's an evaluation of the risk of a spill. I think that most people know that it's pretty expensive to clean up a spill, and it's also basically one of Hydro's pillars. We do talk about safety and environment, and we do intend to be proactive and reasonable with environmental remediation for different projects that we have, but we do not go and update everything that we have every time a regulation changes.

MS. HENLEY-ANDREWS, Q.C.: On the project which is the next one, which is B-13, has a cost benefit analysis been done with respect to this project?

MR. HAYNES: No, it has not.

MS. HENLEY-ANDREWS, Q.C.: Why not?

MR. HAYNES: Basically there are three gates at the (inaudible) Bay structure. They are all three identical designs. We've had a fair number of problems. Gate number two is used the most because you try to maintain a symmetrical flow down a stream side for environmental and fish and other reasons. The parts that will be removed will be retained for spare parts for gates numbers one and three, and there's an absolutely, we're required to have this for day-to-day operation, but there was no economic analysis undertaken. It's just basically to ensure the reliability and make sure it's there when we need it, and we're only doing one, not three.

MS. HENLEY-ANDREWS, Q.C.: And do you have any plans with respect to doing the other two?

MR. HAYNES: No, we will keep the spare parts, we will keep the parts that we retire from this particular gate and keep them as spare parts for gate numbers one and three. Eventually, five, ten, twenty years, possibly, but at this point in time there are no plans.

MS. HENLEY-ANDREWS, Q.C.: So you would expect that the other two gates, with this job done, the other two gates would have an expected life of five to ten more years?

MR. HAYNES: At least.

MS. HENLEY-ANDREWS, Q.C.: Under project justification, it says that the existing screw stem hoists are 35 years old and require significant maintenance.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: How much maintenance?

MR. HAYNES: I don't have that number, I don't have that number at hand. It's not only the actual maintenance costs, it's also the cost of getting people in there because it's a remote site. I don't have the specific number.

MS. HENLEY-ANDREWS, Q.C.: Has it been growing?

MR. HAYNES: Yes, I think the actual justification refers to some repairs that were undertaken.

MS. HENLEY-ANDREWS, Q.C.: When was the last time that a repair of that nature was needed? I mean are you having problems with this gate every year?

MR. HAYNES: No, in 2000, in the year 2000 there was $52,000 spent on the repairs.

MS. HENLEY-ANDREWS, Q.C.: To do what?

MR. HAYNES: To replace the, it's in the operating experience section on page B-13.

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. HAYNES: There are two screw stems which had minor bends, in 2000, two screw stems, (inaudible), nuts and extensions were replaced at a cost of $52,000, and delivery installation took five months.

MS. HENLEY-ANDREWS, Q.C.: And is it possible to simply replace those two screw stems?

MR. HAYNES: Well, they were replaced at this particular time, in 2000, and what we're going to do, or what we're proposing to do is to change the mechanism to a gate hoist mechanism and retain the spare parts as spares for the other two gates.

MS. HENLEY-ANDREWS, Q.C.: When you refer on page B-14 in, at the second last sentence in the second last paragraph, to high reliability ...

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: Define what you mean by high reliability.

MR. HAYNES: I guess what they're attempting to get across is that the gate hoist mechanism that is used ... both systems are used in hydroelectric developments. The gate hoist mechanism, we have them in Churchill Falls, occasionally ... they all have problems occasionally, but they are fairly reliable. There's nothing to bend, so when you're closing a gate, there's nothing that's going to bind and bend it and break it. It may stick, but that's a separate issue. That does not cost as much to repair.

MS. HENLEY-ANDREWS, Q.C.: You still have to get people in there to do the repair.

MR. HAYNES: You still have to get people in there to do that, yes.

MS. HENLEY-ANDREWS, Q.C.: Now, the project at page B-15, which is the replacement of the Unit No. 7 exciter at Bay d'Espoir. In the first paragraph it says that this project is part of an ongoing replacement project started in 1995.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And what exactly is that replacement program?

MR. HAYNES: Basically the exciters on units number one to six have already been replaced at Bay d'Espoir. This is the last exciter in the separate (inaudible) at Bay d'Espoir, number seven, this is the last one to replace at Bay d'Espoir plant.

MS. HENLEY-ANDREWS, Q.C.: And there were two that had been replaced at Holyrood?

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: Are there others to be replaced within the system?

MR. HAYNES: There is one more eventually to be done at Holyrood, yes.

MS. HENLEY-ANDREWS, Q.C.: And is that part of, is there currently a plan to do that?

MR. HAYNES: Just one second. It's on the horizon, I just ... it's on the horizon to do, yes.

MS. HENLEY-ANDREWS, Q.C.: Now, one of the things that really struck me in looking at this is that $13,000 of the $770,000 is to be done in 2003.

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: Which is two percent of the total.

MR. HAYNES: Uh hum.

MS. HENLEY-ANDREWS, Q.C.: And yet when, under project description, it says the project consists of the purchase, installation and commissioning of a replacement static exciter for Unit No. 7, so are you seeking approval of the purchase, installation and commissioning, or just approval of the engineering?

MR. HAYNES: Well, typically what we'll do, when you see a capital budget split like that, and obviously not in all cases, that we will have to go and prepare a specification, do the engineering background work to define what we need, in conjunction with the plant people, the generation engineering people, and possible system planning if we want to change the specifications, and we have to prepare a specification. We want to go to tender, probably in 2003, and award in late 2003 or early 2004 to supply. If we wait until January 1, 2004 to prepare the specification, we won't meet the outage window. We have to install that equipment during its normal planned outages, which is typically sometime between April and November, or April and October.

MS. HENLEY-ANDREWS, Q.C.: So your plan is to go to tender in 2003?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: So that ...

MR. HAYNES: It may not be awarded in 2003, but it will go to tender and be ready to award.

MS. HENLEY-ANDREWS, Q.C.: So really what you are looking for is approval of this expenditure in 2004.

MR. HAYNES: In essence, but I understand the regulations don't permit the ... the Public Utilities Act does not allow that, unfortunately, I might add.

MS. HENLEY-ANDREWS, Q.C.: Now, under project ... well, first of all, under the operating experience, what would be the, what was the expected life of the original equipment that was installed in 1977?

MR. HAYNES: I'm not sure how it was depreciated. It's been our experience in the last number of years, that as soon as you say electronic, we have a problem, that basically if you get 15 or 20 years, or even 30 years out of an electronic piece of equipment, we're doing well. Basically the problem comes down, that in a lot of these (inaudible) exciter, and a lot of the other things that we cannot get supplies or materials to repair, particularly when you get down to circuit board cards, and circuit cards. The components are no longer made, the vendor doesn't support the equipment, and basically, they will try but there's absolutely no assurance that we can get it repaired.

MS. HENLEY-ANDREWS, Q.C.: And once they stop making a particular type of equipment, how long can you usually get the parts and the service?

MR. HAYNES: It varies with vendor, it varies with vendor.

MS. HENLEY-ANDREWS, Q.C.: Ballpark?

MR. HAYNES: Five years sometimes, sometimes very little, depending on when they actually decide that they've finished supporting the product.

MS. HENLEY-ANDREWS, Q.C.: Well, under project justification, you do indicate that GE is no longer able to guarantee that the components are available.

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: But that doesn't mean that they aren't available.

MR. HAYNES: No, but there are numerous parts, there are a dozen of the circuit cards, some are available, some are not. Now, we have spares for some, not necessarily all. This project, like many of these others, are being proactive to ensure that we maintain the availability and reliability of equipment and that we do not get any nuisance trips, which we get anyway, but we are trying to reduce, we'll never eliminate, unfortunately.

MS. HENLEY-ANDREWS, Q.C.: And if we look on page B-16, in the third paragraph, this indicates that the report recommended the replacement of Unit No. 7 exciter in 2004.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: I take it that the only reason why this is proposed to be included in the 2003 capital budget is because of the lead time on the engineering.

MR. HAYNES: Basically, yes, to have it in service in 2004.

MS. HENLEY-ANDREWS, Q.C.: So this is really a 2004 capital budget item.

MR. HAYNES: Well, as you said, I believe, that 95 percent of the money is in 2004, yes.

MS. HENLEY-ANDREWS, Q.C.: 98 percent.

MR. HAYNES: 98 percent.

MR. SAUNDERS, CHAIRMAN: I just wanted to interject, we've been informed by the owners of the building that around 3:00 they're going to test the fire alarm system, so if we could break probably around five to 3:00, Ms. Blundon, we'd avoid the interruption.

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

MR. SAUNDERS, CHAIRMAN: A loud interruption.

MS. GREENE, Q.C.: Are we supposed to leave the building, it's only ... it's not a ...

MR. SAUNDERS, CHAIRMAN: Pardon?

MS. GREENE, Q.C.: It's not a fire drill ...

MR. SAUNDERS, CHAIRMAN: It's not a drill, just a test.

MS. GREENE, Q.C.: Okay.

MS. HENLEY-ANDREWS, Q.C.: If we move on to page B-18, is there a fence at Bay d'Espoir now?

MR. HAYNES: Not surrounding the property. There is fence around certain areas, the switch yard, but from the point of view of the actual hydraulic facility, there's a gate which you can walk around. There's really very little security at Bay d'Espoir from the point of view of our facilities at the plant.

MS. HENLEY-ANDREWS, Q.C.: Bay d'Espoir is a fairly remote location, wouldn't you agree?

MR. HAYNES: Really it's, no, it's definitely not remote.

MS. HENLEY-ANDREWS, Q.C.: How many people, I mean have you had problems with security at Bay d'Espoir?

MR. HAYNES: We have had problems, yes, we have, not so much ... when I say security, basically you have very little control over people who decide, when an aquaculture industry loses a lot of fish, and they start swimming up the tailways *(phonetic)*, you're inundated with people fishing, which is a safety issue, which is a ... we can't control access. We have very limited security people down there and they cannot control, you know, 20 or 30 people up, walking up through the tailways fishing.

MS. HENLEY-ANDREWS, Q.C.: And do you really think that a 2.2 kilometer long chain-link fence is going to keep people out?

MR. HAYNES: Well, I suspect that it will, yes, basically they will have to go through the gate. Right now there is no control, they can walk through in a dozen, or 20 or 30 different places. It's not only fishing, it's also just a public access thing. I mean if people can get there now, the security guard can only be at one place, there's only one on duty normally.

MS. HENLEY-ANDREWS, Q.C.: And what risk is there associated with people gaining access to the parts that are currently not fenced?

MR. HAYNES: It's a safety risk. We have had people, we have had people find themselves into the powerhouse having lunch when they were up fishing and things like that, so is basically to prevent all of that, and any other public disobedience, as far as that goes.

MS. HENLEY-ANDREWS, Q.C.: And is it possible to fence places like the powerhouse without going with 2.2 kilometres of fencing?

MR. HAYNES: 2.2 kilometers will basically enclose the complex. It will link up with existing fence where possible, and it's not to go with a whole new perimeter fencing. It will basically go from the gates to get into the facility and up around, connect to the terminal station and take advantage of whatever buildings or other things that are there, including the intake structures as well.

MS. HENLEY-ANDREWS, Q.C.: Has anybody been injured to your knowledge as a result of the lack of a fence?

MR. HAYNES: Not the general public, as far as I know, no.

MS. HENLEY-ANDREWS, Q.C.: And you said not the general public, and what about your own people?

MR. HAYNES: There have obviously been injuries, but it would not have been attributable to the lack of the chain-link fence. Safety is one issue, security is the other.

MS. HENLEY-ANDREWS, Q.C.: How long do you expect the fence to last?

MR. HAYNES: That's a very good question, I would imagine for 20 to 30 years, I would imagine. It depends on the environment, whether it's a heavy salt environment or pollution environment, which it's not.

MS. HENLEY-ANDREWS, Q.C.: Now you were here this morning when Mr. Osmond was testifying, correct?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And I presume then that you heard the discussion over the fact that the fencing, the proposed fencing for Holyrood is to be amortized over 30 or 40 years, whereas the fencing at Bay d'Espoir is proposed to be amortized over ten.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: Both of these are generation sites.

MR. HAYNES: The fencing at Holyrood is on a terminal station, which is part of TRO, not production. The fencing at Bay d'Espoir is production, yes.

MS. HENLEY-ANDREWS, Q.C.: But the types of fencing to be installed are exactly the same?

MR. HAYNES: Well, chain-link fence is chain-link fence, that's correct.

MS. HENLEY-ANDREWS, Q.C.: Now, on this one, again, the corporate overhead and excalation and contingencies are shown to be roughly 20 percent. Why would that be higher than norm?

MR. HAYNES: I am not sure in that case. There wouldn't be an environmental issue as I suggested earlier.

MS. HENLEY-ANDREWS, Q.C.: You don't know?

MR. HAYNES: I don't know offhand.

MS. HENLEY-ANDREWS, Q.C.: Can you find out?

MR. HAYNES: I can attempt to find out, yes.

MS. HENLEY-ANDREWS, Q.C.: Thank you. This might be a good place to break, Mr. Chairman.

MR. SAUNDERS, CHAIRMAN: Okay, we'll do that and we'll come back at 3:10.

MS. HENLEY-ANDREWS, Q.C.: Thank you.

(break)

(3:20 p.m)

MS. GREENE, Q.C.: Mr. Chair, I do have one preliminary matter I'd like to address at this time, and this relates to the 2002 capital budget proposal, which was the distribution line to Ebby, and Ms. Andrews before the break referred to B-10. I would like to file at this time the response to NP-99 from that hearing, and I'll wait until you each get a copy before I refer to the relevant information relating to the continuation of a diesel at Ebby.

MR. SAUNDERS, CHAIRMAN: Any need to mark this, Ms. Greene?

MS. GREENE, Q.C.: I'll look to Board Counsel, it was filed during the general rate application. Ms. Andrews referred to B-10, this is a further clarification of B-10 that was filed in a response to an information request. We

didn't file B-10 and I don't believe there's any need to file the response to NB-99 either, but I look for guidance.

MS. NEWMAN: Yes, I would agree, it's nice that we have copies, but I don't think it needs to be considered an exhibit.

MS. GREENE, Q.C.: I'd like to draw your attention to the second question, which was B ... line 9, will construction of a line result in the removal of all local diesel generation? If you turn to page 204 you will see under "B", No, one of the existing diesel units will remain to provide back-up, and if you look at the analysis that was attached to the report, you will see that included in the cost was the cost of the ongoing diesel for the back-up, even though there was going to be a distribution line, so I think that is the response to Ms. Andrews' question. I just couldn't remember the right number before the break and had the opportunity over the break to confirm the number.

MR. SAUNDERS, CHAIRMAN: Okay, thank you, Ms. Greene. Are you ready to proceed again, Ms. Henley-Andrews?

MS. HENLEY-ANDREWS, Q.C.: Yes, Mr. Chairman. Mr. Haynes, when we look at the site fencing issue at Bay d'Espoir, the fishing issue which is the increased number of people gaining, or attempting to gain access primarily for fishing, that's principally a safety issue, is that correct?

MR. HAYNES: That's a safety issue, yes.

MS. HENLEY-ANDREWS, Q.C.: So what is the security issue?

MR. HAYNES: If you were to go to the Bay d'Espoir plant right now, if you wanted to be malicious and to go into the site, there's really nothing to stop you. You can bypass the security guard very easily by going up the road and cutting in through the trees, and you're basically ... you're not in the plant, but you're in the area where we have buildings equipped with materials, you have easy access to most of the facilities there, so that basically the fencing will enclose that, it will beef up security for security's sake, and also address the public safety issue as well.

MS. HENLEY-ANDREWS, Q.C.: But you've managed without a fence there for in excess of 30 years?

MR. HAYNES: Yes, we have.

MS. HENLEY-ANDREWS, Q.C.: And a person who has malicious intent could use a pair of wire cutters to cut a chain-link fence.

MR. HAYNES: Oh yes, but it is a deterrent as, I mean I don't dispute what you're saying, but you know, we did go back and we reviewed a lot of facilities, I guess, from a security point of view, and this was one that we identified a very glaring omission that we don't even have that preliminary line of defence, if you will, to keep people out.

MS. HENLEY-ANDREWS, Q.C.: And if we, if we look at ... I just want to compare two projects for a second. If you were looking at the capital project which is at page B-16, which is replacing the No. 7 exciter at Bay d'Espoir ...

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: On a scale of one to ten, how important would you consider that capital project today?

MR. HAYNES: The exciter?

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. HAYNES: It's up there on the number one or number two priority.

MS. HENLEY-ANDREWS, Q.C.: So if ten was the highest and one was the lowest, on a scale of one to ten, would you make it an eight or a nine?

MR. HAYNES: The exciter?

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. HAYNES: It's a high priority item to replace, to ensure reliability.

MS. HENLEY-ANDREWS, Q.C.: Okay, and what about the fence?

MR. HAYNES: It's a different category. It's also high priority from a security point of view. If somebody were to go down there with malicious intent, or somebody could be hurt, it's too late then to ask the question why didn't we put up a security fence, and I

accept your notion that anybody with chain cutters could go and do that, as they can anywhere from that point of view.

MS. HENLEY-ANDREWS, Q.C.: Uh hum, okay, now the project which is B-19, that's the security lock proposal.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: I know it has a very small value which is the $76,000 value, but you could live without it, couldn't you?

MR. HAYNES: You could live without most things in the capital budget proposal. It's an enhancement for the security system, but whatever you live without, you take on a higher risk.

MS. HENLEY-ANDREWS, Q.C.: Now with respect to the loader and the backhoe, which is at B-20?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: How old is this backhoe, 1990?

MR. HAYNES: 1990.

MS. HENLEY-ANDREWS, Q.C.: So it's 12 years old.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And what is the normal life, expected life, and I'm not talking about depreciation, I'm just talking about expected work life of this type of equipment?

MR. HAYNES: The fleet people usually determine that number, but I believe it's in a 10 to 15 year range, it's about a 10 year range, I believe, but I mean they're reviewed based on the amount of usage and so on.

MS. HENLEY-ANDREWS, Q.C.: And do you have any idea how long municipalities generally get out of theirs?

MR. HAYNES: I have no idea.

MS. HENLEY-ANDREWS, Q.C.: Now, if we look at the turbine electrohydraulic control system on Unit No. 1 at Holyrood, which is page B-21, and in particular, how much of this project will be done internally?

MR. HAYNES: Internally, there is an engineering component, there is some labour, but basically most of the supply contract will be presumably (inaudible) will be used on No. 2 machine. It indicates right here in the project, I guess, we have $175,000 worth of internal labour.

MS. HENLEY-ANDREWS, Q.C.: Will all the labour be done internally?

MR. HAYNES: I don't suggest that all of it will. A large portion will but there may be some of the labour done using, with the vendor, and possibly with our partner at the plant.

MS. HENLEY-ANDREWS, Q.C.: Now, when we look at the project justification, Unit No. 2 has been done, right?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And Unit, by replacing Unit No. 2, replacement parts became available for Unit No. 1.

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: And when we ... do you still have the spares for Unit No. 1?

MR. HAYNES: We have most of it, we used some already, one particular component has already been used because we had a failure on No. 1. These are also 34 years old.

MS. HENLEY-ANDREWS, Q.C.: Now, since Unit No. 2 has been done, can't Unit No. 2 do that job of picking up the load during a major blackout?

MR. HAYNES: If it's available, if it's running. That depends on which machine is actually available if we do have a blackout. There are three units at Holyrood. Right now the black start capability is only on No. 2. No. 3 governor can't do it, and, but number ... this will give us at least two out of three machines which have that capability.

MS. HENLEY-ANDREWS, Q.C.: And how often do you need that capability?

MR. HAYNES: Whenever we have a major system collapse and the east coast goes out. I think the last

time, as indicated in this report, I believe it was in 2000, but I stand to be corrected. I recall seeing it, February, somewhere.

MS. GREENE, Q.C.: That's on page B-22, the second last paragraph.

MR. HAYNES: Yes, on February 13th, 2002, we lost 225 megawatts, that was employed then, and the governor actually, this is a much faster acting governor and it basically stayed online. Sometimes during a major event, these machines will trip.

MS. HENLEY-ANDREWS, Q.C.: But Unit No. 2 responded, right?

MR. HAYNES: Yes, yeah.

MS. HENLEY-ANDREWS, Q.C.: So by putting in, by doing this work on Unit No. 1, you're basically getting redundancy?

MR. HAYNES: I wouldn't classify it that way. You're getting more flexibility on the plant. You will have two thirds of the plant which will have that capability ... in that particular event that was indicated there on page 22, Unit No. 1 only shed 20 megawatts of load.

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. HAYNES: Which is very, very little, it does not help the system.

MS. HENLEY-ANDREWS, Q.C.: Now, when you refer in the last paragraph on that page to the fact that the replacement of the controls in 2003 would result in the controls on both units being the same ...

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And that a delay in replacing the controls in 2003 could result in a different model being used on Unit 1, due to new products being provided?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: Is the manufacturer phasing out or discontinuing production of the existing system?

MR. HAYNES: Not the Mark 5 *(phonetic)* at this time, I don't believe it is, no.

MS. HENLEY-ANDREWS, Q.C.: So if this project were delayed for a year or two, what would be the downside?

MR. HAYNES: The downside is that if we do have another failure we may not be able to repair, and as I mentioned, we did use parts from Unit No. 2 to effect a repair already.

MS. HENLEY-ANDREWS, Q.C.: And how likely is it that there would be a blackout caused, given that Unit No. 2 has already been upgraded?

MR. HAYNES: I really couldn't answer that question, that's ... I wish I knew.

MS. HENLEY-ANDREWS, Q.C.: Is it a small probability?

MR. HAYNES: It happens, it happens, if we have a sleet storm or an ice storm it can happen. If you have a major equipment failure of a line, it can happen, or a plant, multiple things.

MS. HENLEY-ANDREWS, Q.C.: Now, are you aware of new products being provided by the manufacturer in the near future?

MR. HAYNES: For this particular project? No.

MS. HENLEY-ANDREWS, Q.C.: So how can you say that a delay in replacing the controls could result in a different model being used on Unit No. 1?

MR. HAYNES: There's no quantification on the timeframe in that statement. If it's two years, five years, ten years, I have no idea, but it's our opinion that the most appropriate thing to do is to replace this machine, this unit right now. It is 34 years old, it sees increased usage, particularly in the last couple of years, and every event with one of these machines usually causes a major outage on the island, (inaudible) load shedding, etcetera. We're trying to avoid that, or to be proactive at least.

MS. HENLEY-ANDREWS, Q.C.: Now, when Granite Canal comes on stream, there will be that much more hydroelectric available, right?

MR. HAYNES: Yes, but it really is, it's not insignificant but it's very minor compared to what we depend on Holyrood, one machine at Holyrood for.

MS. HENLEY-ANDREWS, Q.C.: Have you checked with the manufacturer to see if they are in the development stage of new control systems?

MR. HAYNES: No, there was a report done in the, I don't remember the appendix, but in the other part, the 1997 report reviewed all the options for replacing the governors at Holyrood and they, and this was the one that was chosen and already installed on Unit No. 2.

MS. HENLEY-ANDREWS, Q.C.: You would agree that if there was a new system being developed, then the risk of installing the current one would be that its parts supply would become obsolete?

MR. HAYNES: The existing, if I recall correctly, and I'm quite sure of my facts, in the report it indicates that there were 300 of these particular models that are installed at Holyrood No. 2 installed, and there are an excess of 3,000 of the Mark 5 model installed and GE basically in the report in 1997 when that was completed, even though it's four years old, has said that support was going to go on for an extended period of time. There are a lot more customers for that particular type of, for that hydraulic governor control.

MS. HENLEY-ANDREWS, Q.C.: Now, we can skip B-24, now the particulate issue, and the mobile ... and the monitoring system in Holyrood, which is at B-26.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: In 2002 there was a stack monitoring system approved, correct?

MR. HAYNES: The continuous emissions monitoring system, yes.

MS. HENLEY-ANDREWS, Q.C.: And that was for fine particulates?

MR. HAYNES: That was for multiple different things, to measure exactly what we were emitting into the environment through the stack exit.

MS. HENLEY-ANDREWS, Q.C.: And at that point in time, as I recall, Hydro believed that it was, that its emissions were within the regulations.

MR. HAYNES: Overall, yes.

MS. HENLEY-ANDREWS, Q.C.: Overall.

MR. HAYNES: We do have (inaudible) occasionally, like anybody.

MS. HENLEY-ANDREWS, Q.C.: And as a result of the installation of the stack monitoring system, has that assumption changed?

MR. HAYNES: No.

MS. HENLEY-ANDREWS, Q.C.: Has the installation of that equipment verified that the fine particulate as well as the nitrogen oxides and sulfur oxides are within the regulations?

MR. HAYNES: That equipment is not installed as yet. It was delayed approval and basically is one of our carry-overs until 2003. It's in progress.

MS. HENLEY-ANDREWS, Q.C.: So wouldn't it be better to wait and see what the result is of that $800,000 capital expenditure before you spend more on mobile ambient?

MR. HAYNES: No, not at all. What we are doing with the project that was approved last year, is to give us the information on a real time basis for the operator to fine tune the combustion process, to mitigate as far as we can what we emit from the stack. The particular project on page B-26 is to actually go ... we have already have four sites which are permanent installations which was described in the (inaudible), that are ... they are permanent locations where we actually verify to the regulator what our impingement levels are with respect to all these plumes. This particular project is following up on individual resident complaints in the Seal Cove area. It is to come, and before we go and ... before we would actually propose a much bigger capital project to alleviate some of the concerns in that area, at least we will have some definitive in situ testing of what it is in the back gardens, if you will, of the neighbours of the plant. The stuff that goes out of the stack, ideally when the wind doesn't change, that just gets dispersed and you never know it. What happens in a temperature inversion, it will come back down in the local area, and the four sites that we have permanent indicate that it's not a major problem, but the ...

MS. HENLEY-ANDREWS, Q.C.: Now those four sites were chosen based upon a study, correct?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And a study as to where the greatest impact would be expected to be.

MR. HAYNES: Under the assumptions, yes, that we're using in the study.

MS. HENLEY-ANDREWS, Q.C.: So now we have emissions that are basically within the regulatory requirements.

MR. HAYNES: In this particular location we did have a temporary, a temporary site installed for, I think it was six months a couple of years ago, and we do stray outside the bounds on occasion, and this is to quantify it on a longer term basis.

MS. HENLEY-ANDREWS, Q.C.: Well, I guess, I'm ... I'll be honest, we're having great difficulty with the fact that you've got a stack emissions system that is costing $800,000 that is not yet installed, and part of what that's supposed to be able to do is to allow adjustments to be made internally to the combustion mechanisms in order to make sure, to keep the emissions to a minimum, and yet we're now looking at spending another $184,000 on ambient monitoring systems, when we really don't know if the emissions stuff is going to control the problem.

MR. HAYNES: The emissions, if we're going to burn, we're going to emit. The emission control system will allow us to be definitive with the regulator ... the current practice is that once a year, or every second year, we hire a consultant to come in and we do spot sampling of exactly what we're putting up the stack. We have an idea based on the chemical composition of the oil, we do calculations, or not me personally, I wouldn't know how to do it, but the environmental people at the plant will do calculations and will determine how much sulfur dioxide, nitrous oxide, etcetera, is spewing to the environment. The CEN will allow us to quantitatively know at any point in time what it is, and if there is a (inaudible) with the combustion process, or if something has gone astray in the amount of steam or air or whatever the operator can fine tune the process, it will not eliminate the emissions.

MS. HENLEY-ANDREWS, Q.C.: No.

MR. HAYNES: And all this is going to do is quantify in a particular area. I really don't, I don't regard them as being related.

MS. HENLEY-ANDREWS, Q.C.: I guess what I'm ... maybe I'm missing something, but if ... I presume that the emissions that we're talking about for the mobile ambient monitoring system are the same emissions that come out of that stack, or are we not?

MR. HAYNES: Well, it depends on the weather, and it depends on the assumptions, and it depends on whether there's an inversion. The people in Seal Cove area, around Indian Pond, are not exposed to this every day.

MS. HENLEY-ANDREWS, Q.C.: No, but let's ... I'm sorry, my question was where are the emissions coming from?

MR. HAYNES: They are coming from the stacks.

MS. HENLEY-ANDREWS, Q.C.: And the stacks will have the monitoring system installed, correct?

MR. HAYNES: Yes, they will.

MS. HENLEY-ANDREWS, Q.C.: And part of the objective, as I understood it, of installing that monitoring system is to allow fine tuning to be done within the burning process.

MR. HAYNES: There is some fine tuning but also for efficiency.

MS. HENLEY-ANDREWS, Q.C.: Okay, and for efficiency. Now if less emissions end up coming out of the stack as a result of that fine tuning, then there's less to disperse, correct?

MR. HAYNES: There will be less to disperse overall, that would be reasonable.

MS. HENLEY-ANDREWS, Q.C.: And right now, the emissions from the stack, according to this, are below the statutory limits.

MR. HAYNES: Overall, yes.

MS. HENLEY-ANDREWS, Q.C.: And with this new equipment being installed as part, on the stack, as part

of the 2002 capital project, there will be the potential to fine tune it to reduce those emissions a little bit more.

MR. HAYNES: I don't know if the number is, I don't know if we can ... I don't know if the number is a deterministic number as to how much it will be reduced. Part of the justification for the CEM was to know exactly what we're putting out, to allow fine tuning to increase the overall emit efficiency of the plant, and if I recall correctly, most of the justification was on an economic analysis as well.

MS. HENLEY-ANDREWS, Q.C.: And if you then put that equipment in place and you have an experience time with it, so you have your monitoring of your emissions on your stacks, you've also got your monitoring at your four permanent sites, correct?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And so you can determine fairly easily whether the installation of the equipment on the stacks has had any impact on the emissions.

MR. HAYNES: In the location of the four current permanent sites, it was not anticipated that the Seal Cove area, or the Indian Pond area would be a large, an area of concern. The residents obviously disagree and we certainly agree with them that on occasion there is pollution in their area, and this is to identify and quantify that. How often, how many times, and we may not be able to do anything about it at all.

MS. HENLEY-ANDREWS, Q.C.: But even if you look at the report which was done, the Can Tox Report *(phonetic)*, the report indicates that as far as they're concerned, there is no risk to human health.

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: So you might be able to have more concrete data that there's no risk to human health, but right at the moment there's nothing to indicate that there is a risk to human health.

MR. HAYNES: The temporary site was installed after the Can Tox report, and we have had excursions above the acceptable levels, not 24 hours a day, but it's occasional, so it's a ... but it depends on the weather.

MS. HENLEY-ANDREWS, Q.C.: So why can't you continue to use the, whatever you were using at that site instead of purchasing all of this new stuff?

MR. HAYNES: That's no longer ... I don't know where it is, but it's no longer available. It also was not compliant with the Environmental Protection Agency standards, which this site will be. The other thing, this particular site will go to (inaudible). None of the current sites go down to the 2.5 micron level. It's at 10. This one will go to 2.5, which is the, more of a concern from a health impact, the breathing, and so on.

MS. HENLEY-ANDREWS, Q.C.: So it's not necessary, you'd just like to have it.

MR. HAYNES: I don't view it that way. I think it is necessary. We're trying to be a responsible environmental corporation, and this is a part of an overall, overall route to doing that, to at least satisfy the residents that they are or they are not, and we have some specific information to help us do that.

MS. HENLEY-ANDREWS, Q.C.: And you don't think that all the data that has been presented here already doesn't do that?

MR. HAYNES: No, I don't think so.

MS. HENLEY-ANDREWS, Q.C.: We can skip over B-30, but let's go back for a second to B-28, which I accidentally skipped over. Now B-28 is a study to invest the technologies to reduce the air emissions, including particulates?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: So do you believe you have a problem?

MR. HAYNES: We occasionally have a problem. We have complaints from customers in the area, we have a procedure whereby when somebody complains that we have, for instance, dumped soot on their houses, that we will go and investigate, and if we can attribute it back to a specific problem at a specific time in the plant, we will take action to clean it or do whatever we have to do to remediate that to the satisfaction, well to the mutual satisfaction hopefully of us and the resident affected, and that does happen.

MS. HENLEY-ANDREWS, Q.C.: Do you believe you have a problem that needs to be rectified?

MR. HAYNES: We do not meet present day ... we do not meet ... you mentioned before, the grandfathering, and yes, this facility has been grandfathered. That does not mean that, that does not mean that we will not be proactive in going and assessing what ways and means we can come up with to reduce our environmental footprint at Holyrood. This $150,000, there are a couple of things there ... we're going to look specifically at large particulate, and the large particulate is usually where we end up cleaning people's houses because we've had some event that caused soot to be put out and come down in the immediate area. We will also try to quantify some cost estimates from other environmental proactive things we may do with respect to nitrous oxide, or even sulfur dioxide, or whatever. It's a study to give us some alternatives as to how we can improve our environmental performance at Holyrood.

MS. HENLEY-ANDREWS, Q.C.: So you are considering incurring a capital cost to improve.

MR. HAYNES: Yes, if it's justified.

MS. HENLEY-ANDREWS, Q.C.: Well, I can't reconcile B-26 and B-28. I mean on the one hand on B-26, you're wanting to do more ambient monitoring, and at the same time you're wanting to do a study to investigate the technologies and the ways to deal with the monitoring. If you're going to put that study and you have potential plans to improve the capital, make capital expenditures to improve it, why bother with the mobile ambient?

MR. HAYNES: Well, I don't think you could look at one of these projects that way. I mean if we don't have in situ testing where we have individual specific resident complaints, we have to address their complaints. The item on page B-26 would help that. On B-28, it's a study to identify potential costs and we may or may not propose those in the future, depending on the costs, depending on the environmental gains. If we're going to spend X millions of dollars and we're going to have a very marginal impact, we may not propose it, but if we're going to have quite an improvement, we may well propose it, or present it to the Board for their ultimate approval.

MS. HENLEY-ANDREWS, Q.C.: So you don't need the results of the equipment on B-26 in order to go ahead with B-28?

MR. HAYNES: No, we don't. It's a help, but it's my evidence, that's all.

MS. HENLEY-ANDREWS, Q.C.: Now, I noticed that when you look at B-28, what is proposed here is engineering costs.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: So the study is to actually do the engineering for improving?

MR. HAYNES: Yes, to look at the options.

MS. HENLEY-ANDREWS, Q.C.: Now, generally speaking when we see your capital projects, the engineering is followed by, the engineering phase is followed by an installation phase.

MR. HAYNES: That depends on the study. If we were going to ... I'll try to find an example ... if you go back to on the governor, there's an engineering phase to prepare a specification. This is not to prepare a specification because we don't know what the options are. If you go to page B-29, we solicited, we were going to solicit external expertise. We are not experts in Hydro in all the emissions control technology, so we want to buy an expert opinion, what are options, what are the order of magnitude of costs, that may or may not present itself as a capital budget proposal in the next number of years.

MS. HENLEY-ANDREWS, Q.C.: Now, we're going to skip B-30, now when we get to B-32, which is the civil structures in Holyrood, am I correct that of the $1.991 million that's included in here, $1.2 million of it is associated with the screen, with the boiler stacks?

MR. HAYNES: Yes, except I believe if you go back to PUB-3, I believe ...

MS. HENLEY-ANDREWS, Q.C.: Yeah.

MR. HAYNES: I think on page, excuse me, on page 5 of 9, you will notice that the capital cost does not include internal engineering, internal construction, environmental, overhead, or contingency, so the $1.2

million would be higher than that actually when it gets, you know, if it was being costed separately.

MS. HENLEY-ANDREWS, Q.C.: So it's actually higher than $1.2 million?

MR. HAYNES: When you include all the other things, as you've been through for all the other options here as well, yes.

MS. HENLEY-ANDREWS, Q.C.: But as between the boiler stacks and the circulating water screen structures, so $1.2 million of that is associated with the boiler stack, and the remaining $791,000 is what's asked for the circulating water screen structures?

MR. HAYNES: No.

MS. HENLEY-ANDREWS, Q.C.: Okay, could you tell me what the breakdown is between the two projects?

MR. HAYNES: I would suggest that the $1.355 million in the 2003 costs, the $1.2 million is a large proportion of that. The engineering and the project management and the corporate overhead, etcetera, would be spread across both projects. The $1.2 million indicated on page 5 of 9 excludes all those things below.

MS. HENLEY-ANDREWS, Q.C.: So how much of this $1.991 million is associated with the boiler stack?

MR. HAYNES: I would suggest, I would suggest in the order of about $1.5 million when you add on the other factors, and probably, possibly more. They (inaudible) as single stand-alone entities.

MS. HENLEY-ANDREWS, Q.C.: So it's the remaining $491,000 approximately, or give or take, that's associated with the circulating water screen structures?

MR. HAYNES: Well, the $1.2 million, if you add on the capital, you know, the internal engineering, the construction costs, the environmental overhead, the contingencies, it will go up to $1.5, $1.6, possibly $1.7 million.

MS. HENLEY-ANDREWS, Q.C.: Now what is the remaining life of the boiler stack itself?

MR. HAYNES: That's a good question. Basically we consider, we ... it is our goal to get to 2020 before we actually have to go through any major undertakings at the plant. There are old things that can cause that to change, of course, one being the environmental regulations that we spoke of a while ago.

MS. HENLEY-ANDREWS, Q.C.: Uh hum, but what we're talking about in this particular project is replacing the liner, correct?

MR. HAYNES: Yes, the steel liner.

MS. HENLEY-ANDREWS, Q.C.: So is there going to be any, do you anticipate any upgrading work that will need to be done on the stack itself?

MR. HAYNES: On the concrete structure, I think it was recoating and so on, there was no major civil repairs to the concrete structure. The ladder would have to be checked to make sure it's still safe and whatever minor improvements that would have to be made would be done to ensure another 20 years or 18 years.

MS. HENLEY-ANDREWS, Q.C.: And at the present time, in its present condition, is the structure, concrete structure expected to last until 2020?

MR. HAYNES: It's our estimation that it will, yes, the structure itself.

MS. HENLEY-ANDREWS, Q.C.: And it would need to be replaced at that time?

MR. HAYNES: That would be the subject of another engineering review at the time. That depends in 20 years.

MS. HENLEY-ANDREWS, Q.C.: And how old is it now?

MR. HAYNES: It's 34 years old, including the stack monitor, it's 34 years old.

MS. HENLEY-ANDREWS, Q.C.: Now, the present value calculation was done over the remaining 18 years.

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: And in the capital costs aspect that's shown on page 5 of 9 in the answer to PUB-3, there are certain assumptions.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: Now one of the notes which is the double star for which there is an explanation at the bottom of the table is that the capital cost doesn't include internal engineering, internal construction, environment, overhead or contingency, and we've already seen today as we go through the capital projects that that amount as a percentage of the project varies considerably. Sometimes it's 10 percent, sometimes it's 20 percent.

MR. HAYNES: Well contingency is typically ten percent, but occasionally there are reasons to do something slightly different, if there's a larger uncertainty of an unknown event or factor.

MS. HENLEY-ANDREWS, Q.C.: So we don't know when we look at this present value calculation whether there are differences between these projects with respect to engineering, internal construction, environmental, overhead, or contingency costs.

MR. HAYNES: On each of the three options, you would have to add those particular factors to all of those.

MS. HENLEY-ANDREWS, Q.C.: But that hasn't been done for the purpose of this.

MR. HAYNES: Not for the evaluation, no, we went down through the costs, the options, the maintenance options, which are estimates.

MS. HENLEY-ANDREWS, Q.C.: Now, with the O and M costs for option one, where did you get your figure for the $70, 000 a year?

MR. HAYNES: That would be based on the recent experience at the plant, and I believe it's also probably a five year average. I think last year we spent in the order of $136,000 on doing remedial repairs on plant.

MS. HENLEY-ANDREWS, Q.C.: But this $70,000 a year would be after the reinforcement was done.

MR. HAYNES: Yes, this would be after the $380,000 capital costs are incurred, yes. Still, you'll still have a stack liner which is 34 years old, which is 60 percent eroded in some places, 40 percent eroded in almost every place at least.

MS. HENLEY-ANDREWS, Q.C.: And then when you go to option two ...

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: You've got a $30,000 a year cost from 2004 to 2009, and a $90,000 a year cost for 2010 t 2014, and $120,000 a year from 2015 to 2020. How do you get those numbers for projected costs?

MR. HAYNES: They are estimates generated by the plant, by the operating people at the plant, and the assumption I guess, the assumption is that we're going to go and we're going to spend more on remedial work this year, we're going to tackle more problems that will reduce the annual maintenance for a period of time, but it will catch up. It does not refurbish the whole stack liner. It fixes the major areas, the thinning sections, and a little more than we would do on a year by year basis.

MS. HENLEY-ANDREWS, Q.C.: So how scientific are these numbers of $90,000 and $120,000?

MR. HAYNES: They are estimates based, they are estimates from the plant maintenance people based on their experience (inaudible).

MS. HENLEY-ANDREWS, Q.C.: So they're best guesses?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And what about option three, the $20,000 on a bi-annual basis, so that's basically $10,000 a year average.

MR. HAYNES: Basically, option three is to go and tackle the problem and fix it. It means to replace the stack liner and go back to what it was 34 years ago, it will be a new stack liner, so basically the erosion and the inspections that we do now on an annual basis can be toned back presumably for 20 plus years, and it will be a lesser event each year.

MS. HENLEY-ANDREWS, Q.C.: And where does the number of $20,000 bi-annually come from?

MR. HAYNES: An estimate by the plant maintenance staff.

MS. HENLEY-ANDREWS, Q.C.: Now, if we go to page 9 of 9, who would have done the present value calculation?

MR. HAYNES: That was done by our engineering department in St. John's.

MS. HENLEY-ANDREWS, Q.C.: And that was, did you have any involvement with that?

MR. HAYNES: In this specific analysis?

MS. HENLEY-ANDREWS, Q.C.: Yes.

MR. HAYNES: No.

MS. HENLEY-ANDREWS, Q.C.: Did you have any involvement with the numbers, the assumptions that were generated on page 5 of 9?

MR. HAYNES: I'm aware of the assumptions, but from the point of view of telling them to use this number or that number or whatever, I would not do that. I have no expertise.

MS. HENLEY-ANDREWS, Q.C.: So you would agree that the reliability of the net present value calculation obviously depends upon the reliability of the numbers that are used, particularly for operation and maintenance?

MR. HAYNES: They could be better, they could be worse.

MS. HENLEY-ANDREWS, Q.C.: And with respect to page 8 of 9, up in the top left-hand corner, which is the annual stats for the annual escalation which is used, which is two percent, and the annual discount rate, where did they come from?

MR. HAYNES: The escalation, I would assume, would have come from the economic analysis. They did not go down and do each specific year as you would do when you're doing a detailed capital cost estimate or a study, you assume a number over a period of time. Two percent for inflation for material was not an unreasonable to my mind. Eight percent, there are ... typically the discount rate is in a range of eight to nine percent. We change it depending on, I guess, the thought that went into it, and what the debt/equity ratio ... but those change over time. But eight to nine percent is a typical range of numbers that have been used in the last number of years by Hydro.

MS. HENLEY-ANDREWS, Q.C.: And you heard Mr. Osmond's testimony this morning that if you use the nine percent, then the present value would go down.

MR. HAYNES: Yes, it would tend to disfavour the higher capital intensive projects in the early years.

MS. HENLEY-ANDREWS, Q.C.: Now, let me get to page 9 of 9, option number three, which is the option that is currently being proposed, has a higher cost than option number one, for up until halfway through 2018.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: So from a consumer's point of view, from, for example, the Industrial Customers who have to pay the rates, a higher dollar value would be included in their rates for the next 16 1/2 years?

MR. HAYNES: You have a higher depreciation and interest, but I guess you'll have a lower operating cost. The thing that's not in option one and two is just indicated in words on page 5 of 9 as well, with respect to it does not include a catastrophic failure, the fact that if we lose the stack, it will take us at least six months to repair it, which means the machine will be out of service for an extended period of time, and we may be into gas turbine fuel to supplement the generation, so it is a, the net present value analysis has not said that in the year 2004 we are to assume a stack failure, or 2010, or whatever, but those are risks that we incur. From a safety point of view, and an environmental point of view, I would suggest that regardless of what the present work analysis indicated, that I would be proposing to the Board to approve a stack liner. If the liner fails, it will be out of service for six months. There's a probability of having a large impact on the plant because the gas may go back into the plant, and there's safety issues as well. It's the least, it's the solution with the least risk.

MS. HENLEY-ANDREWS, Q.C.: And I acknowledge that it may very well be the solution with the least risk, but as I understand the evidence that has been put forward, each of these options is considered to be a viable option, it's just that there's more or less risk associated with each option.

MR. HAYNES: Yes, there's more or less risk, there's a lot less risk with number three, to replace the stack liner.

MS. HENLEY-ANDREWS, Q.C.: And the cost benefit analysis indicates really when you get down to it that there's, over the long-term, there's very little difference between, and from a cost perspective, between option number one and option number three.

MR. HAYNES: There is little difference, but it is the preferred option from a net present value point of view.

MS. HENLEY-ANDREWS, Q.C.: Only if you get as far as 2018.

MR. HAYNES: But over the life it is the cheaper thing to do.

MS. HENLEY-ANDREWS, Q.C.: But there's a lot of additional cost to the customers up until that point.

MR. HAYNES: There is a higher capital cost, lesser operating cost.

MS. HENLEY-ANDREWS, Q.C.: But the operating cost is built into your net present value calculation.

MR. HAYNES: (inaudible), it crosses over in the latter stages, before 2020, yes.

MS. HENLEY-ANDREWS, Q.C.: And you would expect that the life of the stack in any event is only till 2020, so it would have to be replaced ...

MR. HAYNES: I would suggest that in 2020 is what we're looking at right now, but I think in 2020 we're not going to necessarily shut it down and move on, we would have to go back and re-examine whether we can do life extension, whether we can convert it to something else, or in fact, if we do tear it down and build a new one, but that decision will be down the road.

MS. HENLEY-ANDREWS, Q.C.: And then a new net present value would have to be done for the options at that time.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: If instead of using the $1.2 million which you've used for the purpose of this calculation, you used the $1.5 to $1.7 million that you referred to earlier as being the expected capital cost by the time you include the engineering, that as a percentage of option three, that increase, the $400,000 increase as a percentage of option three, should be roughly the same as the percentage increase for option number one, would you agree, that in other words, your engineering and all those things associated with option number one should also be roughly 30 percent of the number that you've used on page 5 of 9?

MR. HAYNES: I would assume, yes.

MS. HENLEY-ANDREWS, Q.C.: And if a net present value calculation was done of the $1.6 million versus the 5.05, then the chart that you would get could like quite different.

MR. HAYNES: It would look different. I'm not sure where it would cross over, or if it would cross over, but when you, there is ... on the risk side when you read the 2.1 and 2.2 on page 4, there is a qualifying statement on both those options that these expenditures are considered adequate in the next few years to provide an acceptable level of reliability, but may not be sufficient to extend the life of the stack on to 2020. If it collapses, or if we had major problems, we will spend a lot more than we're anticipating by just replacing the thing that is basically worn out.

MS. HENLEY-ANDREWS, Q.C.: Now, if you go to schedule, section B, page B-2, there are ... one of the projects I've already talked about this issue on, and that's the exciter one, but apart from the replace the Unit No. 7 exciter at Bay d'Espoir where basically it's being put in the 2003 capital budget but 98 percent of it is, of the cost of the capital project would actually occur in 2004, there's two other projects that would fall into that category, wouldn't you agree, and that is that the Ebby (inaudible) control structure project, only $7,000 of the $508,000 is proposed to be included in the 2003 capital budget.

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: Which is actually only one percent of the cost?

MR. HAYNES: That's correct.

MS. HENLEY-ANDREWS, Q.C.: So basically this capital project, 99 percent of it is for 2004.

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: And the same is true with respect to the loader, the backhoe?

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: With respect to the loader and the backhoe, what is so special about this piece of equipment that it would need to run over two years?

MR. HAYNES: It is still a specification to assess what's required and to prepare a specification. On the backhoe, it's certainly a very small amount of money, but essentially it basically defines, it allows time for these people to define what exactly is required, but we will not buy the backhoe in 2003. The specification is ready, the ... whatever the size or whatever other parameters they put there has already been determined and settled when we go into 2004 so we can go to tender and buy the same.

MS. HENLEY-ANDREWS, Q.C.: And if you go to B-20 and you see $3,000 being used for engineering ...

MR. HAYNES: Yes.

MS. HENLEY-ANDREWS, Q.C.: Is this a custom built loader?

MR. HAYNES: Well, when they go and buy it they will identify what's required, the backhoe capabilities, and so on, it's the only one that's like this in Bay d'Espoir, and they will double check as to what is the best piece of equipment to suit the needs.

MS. HENLEY-ANDREWS, Q.C.: What you call engineering is really developing the specs.

MR. HAYNES: Yes, which is basically done by the fleet services people in Bishops Falls. Generation engineering would not go out and develop a spec for a backhoe. They would leave that to the fleet people.

MS. HENLEY-ANDREWS, Q.C.: Okay, I'm going to pass it over now to Mr. Hutchings. Those are all the questions with respect to the generation budget.

MR. SAUNDERS, CHAIRMAN: Okay, Mr. Hutchings?

MR. HUTCHINGS, Q.C.: Thank you, Mr. Chair, just so I'm aware, we were planning to break at 4:30, is that correct?

MR. SAUNDERS, CHAIRMAN: We are.

MR. HUTCHINGS, Q.C.: Okay, good afternoon, gentlemen, most of my questions will be for Mr. Downton, I think, in the IS and T area, and I just want to start with trying to get a better understanding of the current state of short and long-term planning in this area, and I want to try to ask you first of all to interrelate for me, if you can, the IT Technical Architecture Strategy Report that was filed in connection with the hearing last year, the KEMA *(phonetic)* Consulting Report that's at Tab 5 of Section C of the present filing, and the communications plan, which is Section H of the present filing. How, if at all, do you view these things as interacting? Does one have precedence over another? Is one, in your view, more broad in its scope, and how do they all fit together in your planning as of this date?

MR. DOWNTON: They all do interrelate to some degree. If I go back to the first report, which is the telecommunications plan, that was prepared, we started to prepare that in 1995, I guess when the Energy Management System group, and the Tele-Control Departments were amalgamated. We basically put in place then a plan to deal with the obsolescence technologies in the telecommunications area, which at that time was primarily the Tele-Control Department, so that's when that particular report was written, and that's what the intent of it was to deal with, was the core business, operational, communications systems.

MS. GREENE, Q.C.: And for clarification, that is (inaudible). An updated version is found in Section H of this current application.

MR. HUTCHINGS, Q.C.: And that's an internal document, as I understand it.

MR. DOWNTON: That's an internal document.

MR. HUTCHINGS, Q.C.: Okay.

MR. DOWNTON: The IT Architectural Strategy was done about a year ago, and really the intent of that was to lay out a plan, a road map for the traditional IS technologies. There is some interrelation between the traditional IS technologies and the telecommunications in that the telecommunications, parts of the telecommunications infrastructure will support part of the, what I call traditional information technologies. In particular, for carrying your wide area network

infrastructure, band width would be over our telecommunications infrastructure where appropriate. We would also provide administrative and operational voice and data services over the telecommunications infrastructure as appropriate, and I guess overall, what we've seen over the last ten years in particular is that the areas of traditional telecommunications and traditional information services, technologies have gotten a lot closer together, and that's one of the reasons that we basically merged the two departments in 1999. The Energy Management System project which is the KEMA report that you referred to, that was undertaken specifically to deal with the issue of the technical obsolescence of the Energy Management System, which was put into production in 1990, and again, in the Energy Management System's field, that has grown a lot closer to the traditional information systems technology. I hope that this makes sense in the sense of how the various technologies interrelate, but if you look at the KEMA report ...

MS. GREENE, Q.C.: Which is Section 5 of the current application.

MR. DOWNTON: ... you will find ...

MR. HUTCHINGS, Q.C.: Tab 5 of Section G.

MS. GREENE, Q.C.: G, sorry, yeah.

MR. DOWNTON: You will find that the infrastructure layout is very, very similar to what you would get for what I call a traditional information system ... architecturally, you have servers, you have routers, and if you look at the older Energy Management System, it was pretty much mainframe application, very proprietary, all of the hardware was proprietary, all of the software was proprietary, and the move to the new EMS would be towards more of what's referred to as an open architecture where you would use, we'll say off the shelf hardware, servers, as your main infrastructure. The software itself would still be somewhat proprietary, but a lot of the technology in the Energy Management System and in what's commonly used for your office infrastructure would be very, very similar as far as the servers, as far as the LAN technology, and even some of the programming languages that you would use to support both areas. That's a very high level on what's contained in the three reports

MR. HUTCHINGS, Q.C.: Okay, the telecommunications report, I guess, is the oldest, but it has, I guess, probably been the most recently, or well it was revised around the same time as the KEMA report was produced.

MR. DOWNTON: Yes.

MR. HUTCHINGS, Q.C.: Okay, so obviously in the telecommunications report, we're talking about data as well as voice communications.

MR. DOWNTON: Yes.

MR. HUTCHINGS, Q.C.: Okay, and there is, I take it, a fair bit of reliance by the EMS system on the telecommunications system.

MR. DOWNTON: That's right, basically the telecommunications infrastructure carries the operational voice and data that supports the Energy Management System in the Energy Control Centre. The telecommunications infrastructure also carries the teleprotection signalling as well between the adjacent stations.

MR. HUTCHINGS, Q.C.: So other than historical accident, I guess, how do we end up with three separate reports which seem to me to be very much all interrelated?

MR. DOWNTON: I guess if we ... I don't think it's by accident, I think it's just by the fact that the natural progression of technologies towards a common goal now, and specifically dealing with the Energy Management System replacement. I mean you're dealing with a very specific project and what it's intended to deliver.

MR. HUTCHINGS, Q.C.: Okay, the Energy Management System and how you can design and implement that is very much dependent on the type of communications infrastructure that you put in place as well, isn't it?

MR. DOWNTON: It is, it's more dependent on the actual data speeds that you basically put over your infrastructure to your remote terminal units, which are in your generating stations and your terminal stations, but really that is really the only reliance, what's on the, what's really on the outside of the Energy Management System. Other than that it's not really that interrelated.

MR. HUTCHINGS, Q.C.: Okay, given that the telecommunications plan was in place and being updated, and that the EMS was being dealt with by the separate consulting exercise, can you explain to me how it was that the IT Technical Architecture Strategy was undertaken on the broad scale that it was?

MR. DOWNTON: Well, basically the IT architecture is pervasive through all technologies now. Basically you would use very similar technologies now for carrying your operational voice and data as well as supporting your EMS. It's ... as far as the overall aspect of the IT architecture, I mean it is a very wide area. We basically looked at the actual server technologies, we looked at desktop technologies, we looked at local area and wide area network technologies, we looked at security in particular, and we did not address the Energy Management System primarily because it's a very focused and niche market area. However, with that said, as we go towards the replacement for an Energy Management System, what we will look at is using the architectural standard that we have now as part of what would be delivered with a new Energy Management System, so that way we basically will have less, well I should say a smaller variety of technologies throughout our infrastructure. Even with the telecommunications plan, our intent really is to reduce the number of technologies we have through our infrastructure, which will reduce our operating and maintenance costs.

MR. HUTCHINGS, Q.C.: Okay, you know, staying though again at that level of generality, as I've been reading about your existing systems, I'm left with the impression that the EMS has sort of lived in a world of its own and is largely ...

MR. DOWNTON: Yes, because it pretty much does a job in a world of its own.

MR. HUTCHINGS, Q.C.: Yes.

MR. DOWNTON: As far as supporting the Control Centre.

MR. HUTCHINGS, Q.C.: Uh hum, okay, and you've actually within Hydro, I think, developed custom software to allow it to communicate with other parts of the IT structure.

MR. DOWNTON: Yes.

MR. HUTCHINGS, Q.C.: Okay, and it is, in fact, the EMS system that has the highest requirements for availability and reliability, is that fair?

MR. DOWNTON: Yes.

MR. HUTCHINGS, Q.C.: Okay, so when we talk about 99.95 percent availability, we're talking about the EMS and the ability to control the system and so on.

MR. DOWNTON: Yes.

MR. HUTCHINGS, Q.C.: Okay, would you agree with me that the balance of your IT structure in terms of managing other types of data which would include anything from the cost of rate hearings to how much EI premium came out of your last pay cheque, wouldn't necessarily require that level of availability?

MR. DOWNTON: Well, in the IT Architectural Strategy, basically what was defined, I believe, for the local area network availability number was four nines, 99.99 percent, I believe, and basically the reason we chose that number is because when we looked at the market offerings of equipment, basically we basically found that that could be offered with standard off the shelf equipment, so there was no special design to meet those requirements.

MR. HUTCHINGS, Q.C.: Okay.

MR. DOWNTON: The typical availability number you would see for an Energy Management System, I think in the KEMA report is 99.95.

MR. HUTCHINGS, Q.C.: Uh hum.

MR. DOWNTON: What that encompasses is only the energy management master station. It does not take in, it does not take into account the telecommunications infrastructure availability and it doesn't take into account the availability of the report (inaudible) which they communicate to, so basically I'd say it's all put together as an overall system, and I would suspect that 99.95 percent is probably the best you can get when you consider all of the components that you're taking into consideration when you build an actual Energy Management System, and the way that it is done is that each component of the energy management infrastructure will basically have a pre-defined availability for it, and then you basically take all of those and multiply them together to get your overall

availability for the system, so it's a lot more complex calculation for the Energy Management System than you would see for a traditional local area network router or other type of infrastructure.

MR. HUTCHINGS, Q.C.: Okay, so for ... am I understanding correctly then that you're saying that the parts of this structure, aside from the EMS, will in fact have a greater availability than the EMS itself?

MR. DOWNTON: We, the ... depending on the application. Typically the telecommunications infrastructure that carries our teleprotection, will be designed for five nines availability and that's primarily because it's carrying teleprotection signalling, so I guess because the same infrastructure will be carrying out operational data to support the Energy Management System, then by default you would get a higher availability number, but if you were just designing it to carry operational data, a typical number you would use is 99.95 or 99.99, if you're lucky.

MR. HUTCHINGS, Q.C.: And I mean, can you quantify the cost associated with the difference between the 99.95 and the 99.999?

MR. DOWNTON: No.

MR. HUTCHINGS, Q.C.: Pardon me?

MR. DOWNTON: For an Energy Management System, no. For a telecommunications infrastructure to support teleprotection, the only thing that is really acceptable from the teleprotection perspective is five nines availability.

MR. HUTCHINGS, Q.C.: Yes.

MR. DOWNTON: If you look at local area network, there is no cost differential to go from 99.9 to 99.99 because it's inherent in the technology that you're buying anyway, so it's really not definitive, it really depends on the, I guess, the actual infrastructure that you're building.

MR. HUTCHINGS, Q.C.: Okay, so you do pay for the fifth nine, but not for the fourth one.

MR. DOWNTON: Oh yeah, you pay ... well depending again on the piece of equipment, you can be paying for the fourth nine, you could be paying for the fifth nine, or you could be actually paying for the third nine. It really depends on the application.

MR. HUTCHINGS, Q.C.: Yeah, okay, well let's talk ... if we're talking about a LAN, you say it's inherently 99.99.

MR. DOWNTON: Yes.

MR. HUTCHINGS, Q.C.: Okay, but you're teleprotection circuits require 99.999.

MR. DOWNTON: Five nines, yeah.

MR. HUTCHINGS, Q.C.: Five nines, and that's two in front of the decimal and three after?

MR. DOWNTON: Yes.

MR. HUTCHINGS, Q.C.: Yeah, okay, I thought that we might have five after, and that would be getting really carried away. So those, those circuits which carry the teleprotection system, do have an additional cost associated with them to get the fifth nine, if you will, is that correct?

MR. DOWNTON: Yes.

MR. HUTCHINGS, Q.C.: Yeah, okay, now is the plan that's outlined here to use that same teleprotection circuit to carry all your data?

MR. DOWNTON: Where we have it, where basically our telecommunications infrastructure is there, that basically carries your teleprotection and also has capacity to carry your operational data, then yes, we would carry it over the same infrastructure.

MR. HUTCHINGS, Q.C.: Okay, but does that mean that you're buying additional capacity at 99.999 beyond what you'd need for your teleprotection circuit?

MR. DOWNTON: No, because inherent by the capacity that you're buying, you're basically getting a certain amount of band width as part of the normal infrastructure design.

MR. HUTCHINGS, Q.C.: So that would only be used for other data where it wasn't required for the teleprotection circuit?

MR. DOWNTON: Yes.

MR. HUTCHINGS, Q.C.: Are there any instances where in specific locations your teleprotection will use all of that band width?

MR. DOWNTON: No.

MR. HUTCHINGS, Q.C.: No? Okay, alright, I think that might be as good a time as any to break, Mr. Chair. I think we're about 4:30.

MR. SAUNDERS, CHAIRMAN: Okay.

MS. GREENE, Q.C.: Excuse me, Mr. Chair, I have a question for clarification. I understood Mr. Hutchings to say when he began his cross-examination that he had questions primarily for Mr. Downton, and I'm not sure if he meant he had additional questions arising on generation for Mr. Haynes or whether cross-examination was completed by Ms. Andrews, and I wonder if he could indicate what his intentions are, because I fear ...

MR. HUTCHINGS, Q.C.: I don't have any intention of asking questions with respect to generation items, Mr. Chair. I don't know whether or not there will be any issues that will come up of a policy nature on which Mr. Downtown might wish to defer a question to Mr. Haynes, but we'll see what happens.

MR. SAUNDERS, CHAIRMAN: And Ms. Newman has probably, do you have questions of Mr. Haynes?

MS. NEWMAN: Yes, I do.

MS. GREENE, Q.C.: No, in terms of cross-examination by Industrial Customers, I was concerned about the tag-team thing and Mr. Hutchings ...

MR. SAUNDERS, CHAIRMAN: No, I thought that was clear. I thought Mr. Hutchings was only going to deal with th IS and T aspect.

MS. GREENE, Q.C.: Well, it was until he said that his questions were primarily for Mr. Downton, and that caused ... based on past ...

MR. SAUNDERS, CHAIRMAN: You're hung on the word "primarily", were you?

MS. GREENE, Q.C.: Yes, and I guess I'm getting too many grey hairs and too much past experience.

MR. SAUNDERS, CHAIRMAN: Yeah, well I was hung up on all the nines, so it's probably a good time to adjourn for the day.

MS. HENLEY-ANDREWS, Q.C.: Mr. Chairman, perhaps one of the things we can address first thing tomorrow is the issue of how we plan to deal with submissions because we haven't had any discussions on that.

MS. NEWMAN: We can talk after and perhaps come with a proposal.

MR. SAUNDERS, CHAIRMAN: I missed that.

MS. NEWMAN: Counsel will speak this evening ...

MR. SAUNDERS, CHAIRMAN: No, I've heard what counsel for the IC said, but I missed your comment.

MS. NEWMAN: Yes, no, that's what I was saying, that counsel will speak this evening together as to what we would propose to do in relation to submissions and hopefully come with a suggestion to the panel tomorrow morning.

MR. SAUNDERS, CHAIRMAN: That will be fine.

MS. HENLEY-ANDREWS, Q.C.: Thank you.

MR. SAUNDERS, CHAIRMAN: So we'll adjourn for the day and we'll sit again at 9:30 in the morning. Thank you.

(hearing adjourned to October 29, 2002)