NEWFOUNDLAND AND LABRADOR

BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

IN THE MATTER OF
the *Public Utilities Act,* R.S.N. 1990**,** c. P-47, as amended (the *"Act"*)

AND

An Application by Newfoundland and Labrador Hydro (*"Hydro")* for approval to proceed with the construction and purchase of improvements and additions to its property, pursuant to Section 41 of the *Act*.

Order No. P. U. 53(2004)
REASONS FOR DECISION

BEFORE:

J. William Finn, Q.C.,
Presiding Chair.

Gerard Martin, Q.C.,
Commissioner.

Donald R. Powell, C.A.,
Commissioner.

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I. BACKGROUND

1. The Application

On August 10, 2004 the Board of Commissioners of Public Utilities (the "Board") received an Application from Newfoundland and Labrador Hydro ("Hydro") requesting an Order of the Board:

A. Pursuant to s. 41 of the *Act* approving Hydro's:

1. 2005 Capital Budget in the amount of $42,431,000;
2. 2005 capital purchases and construction projects in excess of $50,000.00;
3. proposed estimates of contributions in aid of construction of approximately $270,000;
4. leases in excess of $5,000.00; and

B. Pursuant to s. 78 of the *Act*:

1. fixing and determining average rate base for 2003 in the amount of $1,422,412,000;

At the direction of the Board a Notice of Public Hearing in respect of the Application, scheduled for October 6, 2004 was published in various newspapers in circulation throughout the Province.

Following the published Notice of Public Hearing, Intervenor Submissions (the "Intervenors") were received by the Board from:

1. Newfoundland Power Inc. (NP); and
2. A group of Industrial Customers (the "IC") of Hydro consisting of:
   (i) Abitibi-Consolidated Company of Canada, Stephenville and Grand Falls divisions;
   (ii) Corner Brook Pulp and Paper Limited;
   (iii) North Atlantic Refining Limited; and
   (iv) Voisey's Bay Nickel Company Limited.

The Public Hearing commenced on October 6, 2004 in the hearings room at the Board offices in St. John's, which hearings continued on October 7, 8 and 18, 2004.

Hydro was represented by its Counsel, Ms. Maureen P. Greene, Q.C.

NP was represented at the hearing by Mr. Peter Alteen and Mr. Gerard Hayes.

The IC were collectively represented by Mr. Joseph Hutchings, Q.C. and Mr. Paul Coxworthy.

Mr. Mark Kennedy appeared as Board Hearing Counsel.

During the course of the hearing the following witnesses were called by Hydro which witnesses appeared either individually or as part of various panels:

1. Mr. Fred Martin, P.Eng., Vice-President, Transmission and Rural Operations;
2. Mr. Gordon J. Holden, P.Eng., Director, Engineering-Transmission and Rural Operations;
3. Mr. James R. Haynes, P.Eng., Vice-President, Production;
4. Mr. Eric W. Downton, P.Eng., Director, Information Systems and Telecommunications;
5. Mr. Gerard Dunphy, P.Eng., Manager, Infrastructure and Software Support;
6. Mr. Angus Nichols, B.Sc., Manager, Technology Planning and Delivery;
7. Mr. John C. Roberts, Vice-President, Finance and Chief Financial Officer.

Hydro presented pre-filed testimony and exhibits.

Additionally, various documents were filed with the Board during the hearing as information items, consent items and exhibits.

No witnesses were called by any of the Intervenors.

Additionally, no letters of comment were received by the Board from any other interested party.

The record before the Board during the hearing included numerous information requests and which, pursuant to s. 14(1) of the Board's Regulations, were directed to Hydro by the Intervenor and Board Hearing Counsel respectively.

Following the oral evidentiary portion of the hearing, on October 18, 2004 subsequent written arguments were presented to the Board by Counsel for NP, the IC and Hydro respectively.

The Board issued Order No. P. U. 53(2004) approving capital expenditures in the amount of $42,431,000 with reasons to follow. These are the reasons.

2. Board Authority

1. i) Legislation

The Application before the Board is governed by *the Public Utilities Act (the "Act"*) and the *Electrical Power Control Act, 1994 (the "EPCA").*

The specific sections of the *Act* which provide jurisdiction to the Board in this Application are s. 41(1), s. 41(3) and s. 78(1) which sections essentially provide as follows:

> *1. s. 41(1) A public utility shall submit an annual capital budget of proposed improvements or additions to its property to the Board for its approval not later than December 15 in each year for the next calendar year.*
>
> *2. s. 41(3) A public utility shall not proceed with the construction, purchase or lease of improvements or additions to its property where:*
>
> *(a) the cost of the construction or purchase is in excess of $50,000.00; or*
>
> *(b) the cost of the lease is in excess of $5,000.00 in a year of the lease without the prior approval of the Board.*
>
> 3. s. 78(1) *Except as otherwise provided in this Act, the Board may fix and determine a separate rate base for each kind of service provided or supplied to the public by a public utility, and may revise the base.*

In carrying out its duties as prescribed by the *Act* the Board is also cognizant of the *EPCA*.

Section 4(1) of the *EPCA* provides:

> *In carrying out its duties and exercising its powers under the Public Utilities Act, the public utilities board shall, so far as it is practicable, implement the power policy declared in section 3.*

The *EPCA* in setting out the power policy of the Province states in part 3(b):

> *It is declared to be the policy of the Province that*
>
> *(b) all sources and facilities for the production, transmission and distribution of power in the Province should be managed and operated in a manner:*
> *(i) that would result in the most efficient production, transmission and distribution of power,*
> *(ii) that would result in consumers in the Province having equitable access to an adequate supply of power,*
> *(iii) that would result in power being delivered to consumers in the Province at the lowest possible cost consistent with reliable service,*
> *(iv) that would result in, subject to Part III, a person having priority to use, other than for resale, the power it produces, or the power produced by a producer which is its wholly owned subsidiary,*
> *(v) where the objectives set out in subparagraphs (i) and (iv) can be achieved through alternative sources of power, with the least possible interference with existing contracts, and where necessary, all power, sources and facilities of the Province are to be assessed and allocated and re-allocated in the manner that is necessary to give effect to this policy.*

ii) Capital Budget Process

The Board references Order No. P. U. 7(2002-2003) and Order No. P. U. 36(2002-2003) wherein, Hydro, and NP, respectively, were subjected to specific guidelines to which each was required to adhere in submitting capital budget applications. In Order No. P. U. 29(2003), in considering the Hydro 2004 Capital Budget Application, the Board noted the technical conference arising out of Order No. P. U. 36 (2002–2003) with respect to the capital

expenditures approval process, and stated, that "*until such technical conference had taken place the guidelines referred to above and contained in P. U. 7(2002-2003), will be used to assist the Board in making a determination of the reasonableness of Hydro's 2004 capital expenditures*." [Order No. P. U. 29(2003) page 6] Until the finalization of such technical conference the Board will continue to utilize the referenced guidelines for the purpose of reviewing capital expenditures.

In reviewing the capital expenditures of Hydro the Board takes note of several references in Hydro's final argument to the majority opinion of Mr. Justice Green, as he then was, of the Newfoundland Court of Appeal in the stated case Re: Board of Commissioners of Public Utilities. While the case did not deal directly with the issue of capital expenditures under a review by the Board, the Board herein is nevertheless of the opinion that several comments of the Court therein are applicable to the Board in reviewing the reasonableness of proposed capital expenditures of Hydro.

At page 51 of the stated case Justice Green states:

> "*Accordingly, the power to determine reasonable rates necessarily requires supervision of operating expenses.*
>
> *In defining the parameters of such supervisory power, however, the Board must account for a competing principle, namely, that the Board is not the manager of the utility and should not as a general rule substitute its judgement on managerial and business issues for that of the officers of the enterprise.*
>
> *Nevertheless, it is recognized that regulatory boards have a wide discretion to disallow or adjust the components of both rate base and expense." (emphasis added)*

Further at page 51 the Justice Green goes on to state:

> "…… *there will normally be a presumption of managerial good faith and a certain latitude given to management in their decisions with respect to expenditures*."

Justice Green goes on to conclude at para. 124 page 52 in quoting from Charles F. Phillips, Jr. "The Regulation of Public Utilities" (Arlington: Public Utilities Reports Inc., 1993):

"*I agree with the comments of Phillips:*

Public utilities …… cannot spend freely and expect all expenditures to be included as allowable operating expenses. In effect, this means the commissions are permitted to question both the judgment and integrity of management. And if rates must be high enough to yield sufficient revenue to cover all operating expenses, the consumer has the right to expect that such expenditures will be necessary and reasonable. At the same time, managerial good faith is presumed.(emphasis added) Public utilities must be given the opportunity to prove the necessity and reasonableness of any expenditure challenged by a commission (or intervenor). To justify an expenditure, a company must show that the expense was actually incurred(or will be incurred in the near future),that the expense was necessary in the proper conduct of its business or was of direct benefit to the utility's rate payers, and that the amount of the expenditure was reasonable."

The Board noted in Order No. P. U. 29(2003) page 8 that:

1. *"NLH supplies over 80% of the energy required in the Province and operates the bulk transmission grid to supply all provincial requirements;*

2. *there is a very narrow margin between the total energy generated by the supplier and the requirements of customers;*

3. *in the above circumstances the Board believes it must be ever mindful of the importance of maintaining and reviewing the various components of the system so as to guard against failure and enable NLH to continue to provide reliable service at the lowest possible cost; and*

4. *to allow deterioration of any of the supplier's crucial components would be contrary to the provisions of section 3 of the EPCA and, therefore, not in the best interest of any of NLH's stakeholders."*

The above comments as restated from both the stated case and referenced past Board Orders set a context within which the current Capital Budget Application is considered by the Board.

II. HYDRO PROPOSED 2005 CAPITAL BUDGET

1. Overview

Hydro, on August 10, 2004 applied to the Board:

1. pursuant to s. 41 of the *Act* for an Order approving its 2005 capital expenditure budget in an amount of $42,431,000.00; and

2. pursuant to s. 78 of the *Act* for an Order fixing and determining its average rate base for 2003 in an amount of $1,422,412,000.00.

The capital budget comprised four main categories with projected expenditures as follows:

Generation	$ 5,986,000
Transmission and rural operations	19,820,000
General properties	15,625,000
Allowance for unforeseen events	1,000,000
	$42,431,000

Hydro, in pre-filed evidence, including that of Mr. John C. Roberts, C.A., Vice President Finance and Chief Financial Officer of Hydro, (page 2) and in oral testimony (Transcript, Oct. 18, 2004, page 95) outlined Hydro's budgetary process as comprising in essence a five level process wherein each level is screened against prescribed criteria.

The criteria used to screen potential or proposed projects are as follows:

1. public or employee safety;
2. compliance with Regulations, including legislation, commitments and agreements with Federal and Provincial regulatory authorities;
3. maintenance and improvement of reliability and availability of an acceptable level of service to customers;
4. reduction of costs and improvements of efficiency.

The above criteria are consistent with those set forth in the Hydro 2004 Capital Budget Application.

The five levels of the pre-Application budgetary process of Hydro are generally described in the pre-filed evidence as follows: (Pre-filed Evidence, John C. Roberts, page 3)

1. Review of requirements by supervisory personnel with regional managers and plant managers to identify potential projects;
2. Review and revision of potential projects by various directors from each division;
3. Review by the Vice President of each division;
4. Review and re-assessment by Executive Management;
5. Review and approval by Hydro Board of Directors.

2. Settlement Conference/Mediation

Consistent with past practice, the parties, with Board approval, engaged in a settlement conference for the purpose of identifying common ground or position on the Capital Budget Application.

As a result of this process, a Settlement Report dated October 18, 2004 agreed to by all parties, was filed herein as Consent #1.

The Settlement Report identifies 32 capital projects out of a total 83 capital projects in the Application to which no party, i.e. no intervenor, has any objection, in accordance with the understandings of the parties as more particularly set forth in the Settlement Report. The Settlement Conference process with the co-operation of all parties, continues to prove itself a useful tool in expediting the capital budget process.

The Board further acknowledges the efforts of the IC to identify additional capital projects, which, based on the unfolding of the hearing process, they find unobjectionable. The IC in final argument, (page 7) as a result of additional information determined during the course of the proceedings, identified an additional sixteen capital projects with respect to which it is indicated they make no objection or comment. These sixteen additional projects are identified in the IC's final argument, page 7.

As is the responsibility of the Board in approving any utility's capital expenditures, all projects in the within Capital Budget Application, whether or not objected to, were reviewed and considered by the Board in the process.

3. Generation Projects

Upgrade Slope Stabilization - Upper Salmon Power Canal - $1,003,000.00 (B-5)

This project is described in the Application as the continuation of a project for which the Board approved funds for 2004. In Order No. P. U. 5(2004) the Board approved $102,000.00 for an engineering study into the Upper Salmon Power Canal Slope Stabilization. The current project description describes this project as two-phased, (1) to conduct a study to evaluate options and prepare the final design and cost estimate, and (2) the conduct of the actual repair.

The project covers a 400 m long section of the North slope of the canal over which section settlement, cracking and slumping has been identified over the past several years.

In Order No. P. U. 5(2004), the Board, in approving the cost of the engineering study, identified the study as critical. The approved engineering study, which was subsequently contracted to Acres International Ltd. ("Acres"), was not completed at the time of hearing of the within Application. The IC take the position that no funds for repair work should be approved until the Acres study, with a defined solution, is filed and available to the Board for consideration thereof.

In its justification of this project Hydro, at page B-8 of the Application, quotes from the Dyke Board Report on the consequences of a slope failure at the Upper Salmon Power Canal, as follows:

> "*A decision not to stabilize this section of the canal as recommended would result in continued deterioration until a failure occurs. This would result in costly repairs and damage to the local environment with the Upper Salmon generating unit out of service for the duration which*

depending on the time of year could be for up to four or five months which would impact the supply of power to customers. Besides the loss of significant capacity (84 MW), a blockage and extended outage would result in lost energy production at Upper Salmon, as the plant would have to be bypassed to ensure sufficient water for operations at the downstream Bay d'Espoir plants. As well, there would be lost energy production if the failure were to result in a breach on the south side of the canal. An outage to the Upper Salmon Plant of this duration would mean additional thermal energy production at Holyrood at a cost of approximately $12.2 million assuming fuel at $32.20 per barrel."

Hydro's Dyke Board of Consultants (the Dyke Board) consists of a group of individuals who are all internationally recognized experts who work, in all areas of the world on dykes, dams and Hydro facilities (Transcript, Oct. 7, 2004 Revised, page 244/7) The expertise and international credentials of the Dyke Board has not been challenged by any intervenor and the Board accepts the status and credentials of the Dyke Board as set forth in the evidence.

Mr. Haynes, in his evidence (Transcript, Oct. 7, 2004 Revised, page 244/24) confirms that the Dyke Board, because of its concerns with this slope, visits this particular site each year. Following questioning by Mr. Coxworthy as to the Dyke Board's recommendation with respect to the requirement to do the stabilization work for the Upper Salmon Power Canal in 2005, Mr. Haynes responded, "they consider this to be urgently required and this is why we brought this capital budget forward to the Board last year and earlier this year". (Transcript, Oct. 7, 2004 Revised, page 245/23)

The Board, notwithstanding that the Acres report has not yet been filed, is of the opinion, that the evidence establishes that this project is a critical project in relation to safety, reliability, the environment and the potential economic impact of a slope failure.

Due to the significant combination of safety and reliability factors, in addition to the potential cost impact associated with a failure of the slope, and given the unanimous recommendation of both the Dyke Board and Hydro's engineering staff. The Board finds that this expenditure is prudent and reasonable.

The Board approves this expenditure as submitted for the 2005 Capital Budget

Upgrade Controls Spherical Valve No. 6 - $196,100.00 (B-11)

According to the evidence this project is the continuation of a program started in 2001 to upgrade control systems on spherical valves at Bay d'Espoir. Specifically this project involves the upgrade of the control system for spherical valve No. 6, by replacing various components, including control valves, piping, tubing and/or control panel. Upgrades on four of the six control systems at Bay d'Espoir have previously been approved by the Board. (RFI - IC-4 NLH)

This specific unit became operational in 1972. The evidence indicates that this unit operates approximately 60% of the year. Hydro identifies thirty-four maintenance events for this system in the last five years, which it describes as much higher than expected for this type of system.

The IC do not take issue with the project itself but suggest however that this is a project that, given the amount of the overall current capital budget, can reasonably be deferred to the 2006 capital budget year. In taking this position the IC point to the fact that, of the three possible outcomes of a failure of the existing control system described by Hydro, events (b) and (c) have not been experienced. These three events or "scenarios" as the IC referenced them, are described at page B-11 of the Application as follows:

> *"(a) Single unit outage (75 MW) due to spherical valve not opening, with loss of generation and an extended outage;*
>
> *(b) Outage of two units (150 MW) on the same penstock and potential damage to the unit if the spherical valve stays open during a unit runaway condition forcing a head gate closure; and*
>
> *(c) Loss of all six units (450 MW) in powerhouse No. 1 if the spherical valve or seals fail while the turbine access door is open for maintenance resulting in the flooding of powerhouse No. 1, with the potential for the loss of life."*

When questioned by Mr. Coxworthy on the possibility of scenarios (b) and (c) happening in 2005 if this valve was not replaced, Mr. Haynes stated:

> "*I cannot say with certainty it would or would not happen in 2005. The issue is that the piping and the valve controls are deteriorating. They're not maintainable, you know. The carbon steel piping is rusted away and if there was a failure and the valve did not operate, we would subject ourselves to a high degree of risk*." (Transcript, Oct. 7, 2004 Revised, page 161/18-25)

The need to replace this valve was not challenged. Only the timing was challenged. The Board, given the past phased replacement since 2001 of valves in units 1, 3, 4 and 5 and, noting that there is nevertheless a degree of risk associated with non replacement of the remaining valves, believes this project should process.

The Board considering the age and function of this unit, on the basis of safety and reliability approves this expenditure as submitted in the 2005 Capital Budget.

Replace Penstock – Snooks Arm Generating Station - $115,000.00 (B-13)

Hydro states, on page B-13 of the Application, that this project consists of the design, supply and construction of a new penstock for the 590 kW generating station at Snook's Arm. The 2005 budget expenditure is for the design portion of the overall project.

The existing wood penstock, constructed in 1956. Hydro points out that wood penstocks have a typical life span of 40 years.

The current wooden penstock, according to Hydro and uncontested by any intervenor, continues to deteriorate with maintenance costs increasing. A detailed engineering report on this project is attached to the Application in Section G, Tab 1.

The IC object to the proposed capital expenditure for project design as it is directed only to full replacement of the penstock, as opposed to a phased replacement, which the IC submit based on the evidence as being the least cost reasonable alternative.

Having considered the evidence before the Board, including the engineering analysis included in Section G, Tab 1, the Board is of the opinion that the issues of safety and reliability

associated with the existing wooden penstock outweigh the minimal benefits of a phased replacement. The Board also notes and accepts the conclusion of the engineering analysis report at page 16 thereof where it is stated:

> "*While the phased in replacement of the penstock shows an initial payback of 7 years on the first replacement phase, the payback on the complete project in both replacement alternatives is 13 years.*"

The Board accepts that the minimal higher cost in the early year of the project is offset by the economic benefits in later years and by the redirection of the risk that would be associated with a phased in approach.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Dry Ice Cleaning System - $58,600 - (B-15)

This project entails the purchase of a dry ice cleaning system, which is a CO_2 cleaning system using a combination of compressed air and dry ice to clean dirty equipment in generating units.

As outlined at page B-15 of the Application, the rotors and starters of generating units collect brake dust from generating blades and oil mist from thrust and guide bearings. Such residue can cause major operating problems and reduce significantly the life expectancy of the generating units. Hydro currently contracts out such work, with the cleaning of one unit per year costing an average of $15,000.

This project is justified by Hydro, on a cost basis. Hydro can avoid the costs associated with contracting out this work as internal staff, using this system, can clean the generating units. This will provide a payback in 5 years.

The IC take the position that the Granite Canal Project contains a fixed unit which does the same job and that if instead a mobile unit had been funded with that project the cost of acquiring a mobile unit at this time would have been avoided. The Board notes that the Granite Canal project was not subject to approval of the Board having been exempted therefrom by the Lieutenant Governor in Council under authority of both the *Act* and the *EPCA*.

Despite the exemption and in support of this proposed expenditure Mr. Haynes, in his evidence, indicates that there may possibly still be a requirement for additional cleaning at Granite Canal. (Transcript, Oct. 7, 2004 Revised, page 221/24)

The Board on the evidence as a whole accepts the project as a reasonable least cost alternative necessary to the maintenance of Hydro's generating units and approves this expenditure as submitted in the 2005 Capital Budget.

Upgrade Control System - $1,552,600 (B-16)

The Application, page B-16, describes this project as the continuation of a project for which the Board approved funds in 2004. The project involves the replacement of an obsolete Distribution Control System (DCS) for the three units at Holyrood. This system provides control for the boilers, boiler auxiliary systems, station service, burner management, turbine and generator monitoring and control for other plant systems. Units One and Two were scheduled to be upgraded in 2004 with unit 3 proposed to be upgraded in 2005.

Hydro has decided to source the replacement of Unit Three from Foxboro rather than the original manufacturer, Emerson (formerly Westinghouse) as was proposed for Units One and Two in the 2004 Capital Budget. Hydro indicates in its Application that this decision was made as a result of subsequent additional information that sourcing the replacement from Foxboro was a viable process. As a result of proposals received from both Foxboro and Emerson Hydro decided to contract the replacement with Foxboro. According to the evidence of Mr. Haynes this

would result in the lowest cost long term solution to the ratepayers. (Transcript, Oct. 7, 2004 Revised, page 249/6)

The IC in final argument, while stating that given the progression of this project to date there would be no benefit in disallowing this project at this time, raise concern that this least cost solution was not initially identified in Hydro's 2004 Capital Budget Application. The IC further cite that this alleged lapse should be kept in mind by the Board in evaluating assurances from Hydro of least cost options in other projects.

The Board is cognizant of ensuring least cost benefit to the ratepayer, which benefit may be weighed in the short term or long term. The Board, in light of the presumption of managerial good faith, finds nothing in the circumstances of this project to detract from a belief in the efforts of Hydro to seek least cost solutions as part of proper justification for capital projects. Hydro's actions in this project is seen by the Board as an exercise of due diligence which is taken as a confirmation of a determination to seek least cost solutions.

The Board finds that the inclusion of the alternate option in this application supports the contention of Hydro that it continues to keep abreast of the developments in the industry in an effort to arrive at the least cost solutions. These efforts have resulted in an alternative for the DCS replacement that will be less expensive based on overall cost. (IC-58 NLH)

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Purchase/Installation Anti-Fouling System for Cooling Water Systems - $704,000 (B-19)

This project includes the supply and installation of an anti-fouling system for removal of mussel infestation from the cooling water systems on units 1, 2 and 3 of the Holyrood Generating Station.

Hydro describes its current method of mussel infestation control as comprising manual removal through use of a vacuum truck and labourers, including divers. The cooling water system for each unit is cleaned once a year with a total overall estimated cost of $185,000 which includes lower generation efficiency. Hydro justifies this project on the basis of an annual saving of $185,000 per year, with a payback in five years.

The IC question the adequacy and accuracy of Hydro's method of justification for a project of this magnitude.

In RFI IC-59 NLH, Hydro points out that the annual operating, maintenance and repair cost of the proposed anti-fouling system is estimated at $52,700 including required chemical solutions. As the IC point out in their final argument (page 15), this sum negates any labour savings from the manual removal of mussel infestation which manual labour costs Hydro estimates to be approximately $53,000 per year. (Transcript, Oct. 7, 2004 Revised, page 198/20)

The IC argue in their submission that the cost justification for the project is dependent upon the accuracy of Hydro's estimated fuel efficiency to be gained from use of the anti-fouling system.

At page B-19, Hydro indicates that the manual cleaning and removal of mussel infestation and the yearly cost associated with lower generating efficiency is $185,000. If, as Mr. Haynes states, the cost of manual removal annually is $53,000 then the cost associated with lower efficiency is actually $132,000/yr. (approx. 4,000 barrels/yr.) Hydro estimates the fuel efficiency saving to be 5,250 barrels/yr. at the then most recent price of $32.49 for an annual saving of $170,500. (IC-81 NLH)

In either scenario above, however, the payback period would justify the project on the basis of least cost reliable power.

The remaining issue raised by the IC is whether there is sufficient evidence by Hydro to establish that the technology will perform as suggested.

On this point Mr. Haynes states the following points in support of the proposed introduction by Hydro of this technology: (Transcript, Oct. 7, 2004 Revised, pages 203-206)

1. The technology is quite common in a lot of areas;
2. The technology is much more common in utility environment currently than 15 years ago;
3. It is a newer technology that has proven successful;
4. The technology is used by other utilities; and
5. NLH has contacted other utilities that use this technology and has concluded it does work.

The Board accepts that Hydro has conducted itself with due diligence in its investigation of the use and practicality of such anti-fouling technology.

On the basis of least cost reliable power the Board approves this expenditure as submitted in the 2005 Capital Budget.

4. Transmission and Rural Operations

Transmission and Rural Operations (TRO) is responsible for the design, construction, operation and maintenance of Hydro's transmission, distribution and isolated diesel systems in Newfoundland and Labrador. Assets managed by TRO include 3,700 kilometers of high voltage transmission lines, 2,850 kilometers of distribution lines, 55 high voltage terminal stations, 34 sub-stations, 27 diesel plants, and 3 gas turbines. These structures and plant are located on the Island Interconnected Grid, Labrador interconnected system and the isolated rural systems. On the interconnected systems, Hydro provides service to approximately 30,700 customers in approximately 200 communities, while the isolated systems provide service to 4,400 customers in 44 communities. Hydro is the main generator of electrical power and energy for the Province producing in excess of 80% of the electricity supply for the island portion of the Province, and

operated the bulk, interconnected transmission grid for the island portion of the Province. Of the 49 projects in the TRO Section of the Capital Budget Application, Hydro states that many of the projects are required to replace aging plant or structures while other projects are required due to deterioration of these structures because of the harsh environment in which they are located.

The total proposed budget for transmission and rural operations for these 49 projects is $20,238,000. The intervenors object to 13 of these projects and, either have no objection to or have elected to make no comment regarding the remaining 36 projects. The Board will deal with each project in the order in which it appears in the Application.

Replace Wood Poles – Transmission - $2,587,600 (B-28)

The Application (page B-28) explains that this project is the first year of a multi-year program of inspection, treatment and replacement of all components on Hydro's transmission system. These components include wood poles, conductors, and related hardware. By way of background, 2,800 kilometers of transmission line in Hydro's system consist of wood pole transmission lines operating at 69, 138, and 230 kV. Historically, Hydro's pole inspection and maintenance practices followed the traditional utility approach of sounding and visual inspection only. According to a report prepared in January 2004, this method was primarily time based, meaning that 20% of each transmission line was inspected and maintained each year to ensure that all poles were inspected every five years.

Wood poles are treated with preservatives by the manufacturer to protect against fungi attack. Once the preservation is lost, the poles are susceptible to fungi and insects resulting in the loss of sapwood and heartwood. When this occurs, the integrity of the wood pole structure is compromised well before its designed economic life.

Between 1988 and 2003 Hydro decided to take core samples on selected poles to test for preservative retention levels and pole decay. This inspection revealed that the preservation retention levels for a large portion of these poles fell well below the industry minimum threshold

which is required to maintain the integrity of the pole on a long term basis. As a result of these inspections Asim Haldar Ph.D, P. Eng. examined Hydro's pole line management practices. This resulted in a report which has been filed in evidence. (Section G, Tab 2)

The report highlighted the age of the present transmission lines and the need for more careful assessment of their condition. It recommended the development of a comprehensive "Wood Pole Line Management Program" (WPLM) based on Reliability Centered Maintenance (RCM) principles. The recommended system employs inspection methods which are more focused on preserving system functionality rather than preserving individual components. Dr. Haldar's study covered the 43 wood pole lines in the transmission system and indicated that, of the 26,000 transmission size poles, 34% are over 30 years of age, 31% are between 20 to 30 years old, and the remainder of the poles are less than 20 years old. While the average economic life of a wood pole is 40 years, the testing which was done in 1998 and 2003 revealed that poles at age 35 had lost 25% of their strength due to loss of pole preservative retention over time.

The RCM management method is aimed at early detection and treatment before the integrity of the structure is jeopardized. If not detected and treated early, the reliability of the line may be affected and may well pose safety issues during climbing inspections and maintenance. The study pointed out that a transmission line differs from other engineering systems in that it is a series system and does not have redundancy built into the system except where parallel lines may exist to share the load. While other engineering systems will continue to function when a component has failed because of the high redundancy built into those systems, a transmission line failure is normally dictated by the weak link component, more specifically, the failure of one pole can have a cascading effect resulting in damage to other structures and equipment.

The methods to be employed by RCM will be primarily visual in nature calling for a full inspection of all pole lines within the next 10 years. This will be achieved by using a conventional sounding and boring techniques and non-destructive testing of all poles. This will

be supplemental by destructive testing of a limited number of in-service poles each year. Poles which present a safety hazard, i.e., danger poles, will be replaced.

These testing methods will detect loss of preservation retention and decay at any early stage at which point the poles can be treated with boron rods. The use of boron rods is a proven method of maintaining the preservation retention levels of wood poles and extending the useful lives of those poles for approximately 10 years. All of the information collected will be used to develop a comprehensive database to catalogue the inspection and maintenance data. Extending the asset life through this method not only provides increased reliability and safety but also defers the cost of building new replacement lines once the normal service life has expired.

The new RCM method not only focuses on the wood pole structures but will also employ inspection and testing methodologies for other components and equipment on the transmission line. The entire conductor system, including the conductor suspension clamps, spacers, dampers, dead end fittings and other attachments will be inspected both visually and through the use of various devices such as corrosion detectors, vibration records, and infrared thermography. The inspection of all these structures at the same time will better utilize the use of personnel and is more cost effective.

The development of the database will streamline the budgeting process for management of wood poles lines.

The IC submit that this project should not be approved as a capital expenditure and argue that it is an operating expense. (Final Argument, page 18) The essence of their argument is that this project is really the continuation of existing inspection and maintenance procedures, albeit with some modification and enhancement. The title, Replace Wood Poles is suggested to be a misnomer in that what is being proposed is a more formal wood pole line management program. They argue that overhaul or repair of an asset is normally identified as an operating expenditure. Regarding Hydro's argument that the program constitutes an extension of the life of units of property, the IC argue that this one of the goals of all maintenance practices.

Hydro, for its part, argued that what is proposed is not a continuation of existing inspection and maintenance practices but is a paradigm shift in that it is focused on extending the life of each transmission line structure, where the current program is geared towards ensuring that the original life of the asset is realized. (Final Argument, page 28) The proposed project will extend the life of these assets by a minimum of 10 years. The current practice consists only of sounding, visual inspection and replacement of defective poles. What is proposed is more comprehensive inspecting, testing and treatment not only to detect defective poles for replacement but to extend the life of those poles and other equipment. Hydro points out that, under generally accepted accounting principals, such a project is capitalized and not expensed. Hydro also pointed out that the IC provided no evidence to the contrary.

The Board finds, on all of the evidence presented, that this expenditure is capital in nature which meets the CIAC criteria. This approach is a more strategic method of managing wood poles and conductors and associated equipment and is persuaded that the new WPLM Program, based on RCM principles, will lead to an extension of the life of the assets, as well as a more reliable method of determining the residual life of each asset. One of the obvious benefits of RCM will be to defer the replacement of these assets thereby resulting in a direct benefit to ratepayers. In addition, the development of a database from data collected in the field should streamline the capital budget process in the future.

The Board finds that this project is justified and prudent and approves this expenditure as submitted in the 2005 Capital Budget.

<u>Upgrade TL 221- 66 kV Peter's Barron – Hawke's Bay Terminal Stations - $774,100 (B-30)</u>

This project consists of the replacement of existing insulators and wood crossarms for the entire 27 kilometer section of this transmission line as well as guying of selected structures to improve stability. Information provided by Hydro explains that this transmission line was constructed in 1970 and is now 34 years old. It is located generally parallel to the coast and is exposed to extreme wind and heavy salt contamination. These conditions have caused frequent

outages due to salt accumulation on the insulators. The outage frequency rate for the period 1999 to 2003 was 18.79 per 100 kilometre/year for both momentary and sustained outages. Hydro's average for this class of line is 7.11 and the CEA All Canada rate is 5.71. An Acres International Report entitled "System Performance Review, Great Northern Peninsula", dated 2003, recommended implementing corrective measures for the most exposed sections of this transmission line.

The Board believes that since, according to Hydro, an engineering assessment in the fall of 2003 confirmed the poles to be in good condition with a life expectancy of approximately 20 years, (Application, page B-30) the most prudent course of action is to replace the insulators and crossarms.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace Insulators TL243 – 138 kV Hinds Lake-Howley - $228,200 (B-32)

This project consists of the replacement of all Canadian Ohio Brass Insulators on this line. According to Hydro's evidence these insulators were installed during original construction of the transmission line in 1978. These insulators have experienced industry wide failures due to cement expansion as a result of moisture intrusion causing the insulators to crack. Replacement of only the defective insulators is cost prohibitive and the most cost effective remedy at this time is to replace all remaining units. Loss of the 75 MW capacity from Hinds Lake will impact the supply of power to customers in an under-frequency load shedding event. Replacement capacity, if available, would have to be supplied by more expensive thermal generation.

The IC, in final argument (page 7), made no objection to this project.

The Board is convinced that the experience of the industry as a whole, and this utility in particular, with the Canadian Ohio Brass insulators demonstrates the necessity of replacing these

insulators, and is satisfied that the replacement of the insulators on this line at this time is prudent and reasonable.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Provide Remote Control – Farewell Head Terminal Station - $126,700 (B-33)

This project involves the purchase and installation of equipment at the Farewell Head Terminal Station to provide remote monitoring alarms and control to the Energy Control Centre. At present, according to the evidence (Application, page 33), these systems do not exist and Hydro must rely on customers to notify the Energy Control Centre of power outages. This has resulted in more frequent and lengthier outages than would be the case with the remote capacity. The Farewell Head system services 1,743 customers and installation of this equipment will greatly improve response time for the dispatching of operating and maintenance crews and power restoration.

Neither NP nor the IC expressed an objection to this project. (Settlement Report, page 2)

The Board is satisfied that this project will result in improved reliability to Hydro's customers on the Farewell Head system and approves this expenditure as submitted in the 2005 Capital Budget.

Purchase and Install Digital Fault Recorder - $121,500 (B-35)

This project involves the purchase and installation of a 32 channel Digital Fault Recorder at the Bottom Brook Terminal Station. Hydro explains that this is a standard piece of equipment used by protection and performance engineers in the utility industry and is presently employed by Hydro in many of its other terminal stations. (Transcript, Oct. 6, 2004, page 101/5-16) The recorder provides real time and historical information on equipment operation during faults, which information is used to diagnose and analyze the root causes of events, thereby shortening

the time required for remedial action. This terminal station is the only point of supply to the Doyles and Port aux Basques areas and, historically, there has been a high number of transmission line outages on Transmission Line TL214. The Stephenville area is also serviced by the Bottom Brook Terminal Station. Hydro's statistics show that more than 10% of protection operations have occurred in the Bottom Brook area with 27% occurring in 2001.

The IC, for their part, in final argument, page 19, argued that existing clearing times for faults in this area are not excessive, that this line has operated without this particular diagnostic device for its entire life, and that it is a performance enhancement device, the absence of which will not result in violation of any reliability standard and should be disallowed.

The Board finds that the digital fault recorder is a standard piece of utility equipment which will enhance performance and is, therefore, a necessary and prudent expenditure.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Purchase and Install 66 kV Breaker Fail Protection - Massey Drive Terminal Station - $81,400 (B-36)

According to Hydro, there is presently no 66 kV station back-up protection at the Massey Drive terminal station to protect equipment and maintain system integrity in the event of a 66 KV breaker failure. While breaker failure is considered to be a low probability, such failure is considered a high consequence event. Such an event can cause partial or complete collapse of the system due to extreme slow clearing of faults. Hydro has already installed 138 kV breaker failure protection in various terminal stations to reduce the likelihood of a system collapse due to breaker failure. This protection is now being expanded to the 66 kV systems. (Application, page B-36)

In the Settlement Report, filed in the hearing as Consent #1, NP and the IC indicated that they have no objection to this project.

The Board is satisfied that the installation of station back-up protection at the Massey Drive terminal station is prudent and reasonable and approves this expenditure as submitted in the 2005 Capital Budget.

Upgrade Protection 66 kV Lines – Daniel's Harbour and Peter's Barren - $78,200 (B-37)

This project consists of the purchase and installation of microprocessor based relays and associated equipment to upgrade the protection on 66 kV lines, TL262 and TL221. The evidence of Hydro (Application, page B-39) states that this project is part of an ongoing initiative to improve protection systems on the bulk transmission system. The new relays will replace electromechanical relays for both phase and ground protection. The new equipment can be remotely interrogated enabling more timely analysis of problems and faster backup clearing time with enhanced capabilities for self diagnostic and alarms.

In the Settlement Report, filed as Consent #1, NP and the IC agreed that they have no objection to this project.

The Board accepts that the upgrade of the protection on these two lines will enhance the reliability of these two lines and approves the expenditure as submitted in the 2005 Capital Budget.

Install Motor Drive Mechanisms on Disconnect Switches – East Coast/Various Terminal Stations - $182,800 (B-38)

This project consists of the purchase and installation of motor drive mechanisms on disconnect switches at four terminal stations located on the East Coast. The Application explains that the existing disconnect switches, which were constructed in the late 1960's, are manually operated. They are positioned in such a way that the operator has to stand directly under the switch in order to operate it. From this position, the operator does not have a full clear view of the switch, and cannot observe strain or breakage on the associated station post insulators and

other switch components and is, therefore, at risk of serious injury. The disconnect switches are used by the operators for equipment isolation or for regular maintenance activities. While the disconnects are inspected and maintained regularly, normal operation exposes the employee to serious injury. The IC, in final argument, page 19, have suggested that while the installation of the motor drive mechanisms is an enhancement to safety, the risk has been steadily decreasing with replacement of these mechanisms and enhanced inspections. They suggested that this project be deferred to a later year.

The Board disagrees with the argument of the IC that the decrease in risk as a result of recent improvements is sufficient reason to defer this project to a later year. The Board feels that elimination of this risk by installation of the motor drive mechanisms is necessary and prudent. Further, this is the last year of a three-year program to install these devices on all manual 230 kV disconnects on the system, with years one and two having been approved as presented in prior Capital Budgets.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace Battery Banks – Various Stations and Lines - $165,700 (B-40)

This project consists of the purchase and installation of new 60 cell, 125 volt, lead calcium flooded cell station battery banks for Stephenville, Bay D'Espoir, Corner Brook Frequency Converter and Massey Drive. Hydro states in the Application that the batteries to be replaced are either approaching or are beyond their normal expected service life. Many banks have shown signs of deterioration to the point where system reliability and integrity can be compromised if replacement is not undertaken. While the IC do not object to this project as being necessary or prudent, they did suggest, in final argument (page 3) that the Board should address the issue as to whether or not such a project should be included in Section B as being valued at over $50,000, or whether such a project should be included in Section A.

Although the Board is sensitive to the frustration of the parties caused by such issues as the definition of a project, it has determined that this is a matter of process which does not go to the issue of the approval of this expenditure. This issue may be addressed in the Capital Budget Process Review that is currently ongoing.

The Board concludes that the purchase and installation of these battery banks to replace others that are at the end of their service lives is prudent and reasonable and approves this expenditure as submitted in the 2005 Capital Budget.

Replace Instrument Transformers - $75,000 (B-42)

This project involves the purchase and installation of replacement instrument transformers at various terminal stations across Hydro's system. They include potential transformers, capacitive voltage transformers and current transformers. The evidence explains that these transformers have a typical service life of 30 to 40 years. When they fail they are not repairable and are therefore replaced. Hydro's experience is that approximately six instrument transformers have to be replaced each year, and to meet that requirement Hydro maintains a reserve inventory for that purpose. This project is an annual allotment which is adjusted from year to year depending on ongoing performance.

In final argument, pages 6 &7, the IC take issue with the classification of these assets as capital items and argue that they do not fit Hydro's own definition of units of property. They state that these items are inventory items, essentially indistinguishable from light bulbs. They characterize Hydro's classification of these items as capital works as an arbitrary classification, not to be capitalized but rather classified as an operating expense. The IC further state that the tracking of these individual items represents an irrational use of resources. Apart from argument, the IC presented no evidence to show that Hydro's practice in this regard does not meet accounting standards. Hydro's Chief Financial Officer, Mr. Roberts testified that the capitalization of these assets is in accordance with generally accepted accounting principles and is, in fact, a longstanding policy of Hydro. He further stated that these items are identifiable

assets used in the supply of electrical services and that the expenditures associated with them should be capitalized. (Transcript, Oct. 18, 2004, pages 134-136)

The Board is satisfied that the purchase of replacement transformers to be used as spares is a reasonable and prudent expenditure. The Board also feels that the capitalization of this project in accordance with generally accepted accounting principles and with the policy of Hydro is an appropriate treatment of this expenditure.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace Surge Arrestors – Various Terminal Stations - $68,400 (B-44)

This project is similar to the previous project in that it is an annual allotment, adjusted from year to year depending on ongoing performance. Hydro's experience is that an average of 15 surge arrestors, which provide overvoltage protection of the power system equipment from lightning and switching surges, will require replacement across the system each year. The IC made the same argument regarding capitalization vs. expensing as in the previous project, while Hydro, in final argument (page 12) stands by its assertion that each is an identifiable asset that should be capitalized.

The Board is satisfied that, based on past experience, this is an appropriate estimate of the amount required to replace surge arrestors in order to maintain the reliability of the system. The Board is also satisfied that the accounting treatment of this proposed expenditure conforms to generally accepted accounting principles and is consistent Hydro policy

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Purchase and Install Conduit and Control Cables – Bay d'Espoir - $60,700 (B-46)

The Application states that these cables were installed at Bay d'Espoir in 1976, and have been damaged and severed on two occasions by construction activity. The most recent damage was caused by Hydro's employees in 2003. (RFI IC-17 NLH) Temporary repairs were made at the time but are not of a permanent nature and are not adequate to ensure the long term security and reliability of the Bay d'Espoir facility. The IC did not argue that this is not a capital asset but state, in final argument (page 20), that this project should be classified as an operating expense. The reason advanced was that the cables were damaged due to the negligence of Hydro's employees and that the risk should not be foisted on the ratepayers but should be born by the shareholders.

The Board is satisfied that the cables are essential to the long-term security and reliability of the Bay D'Espoir facility. The Board notes that, although there is evidence that the cables were damaged while a fence was being installed by Hydro's employees, there is no evidence demonstrating negligence on the part of those employees. The Board is, therefore, not prepared to disallow this project on that basis alone.

The Board approves the expenditure as submitted in the 2005 Capital Budget.

Interconnect – Rencontre East - $3,250,100 (B-47)

This is a new distribution system to be constructed connecting the community of Rencontre East to the English Harbour West distribution system. The project includes the construction of a single phase 14.4 kV distribution line, voltage regulator, single phase reclosure and the conversion of the community of Rencontre East from 7.2 kV to 14.4 kV. According to the evidence of Hydro the diesel plant that supplied the community of Rencontre East was destroyed by fire in 2002. The community has been served by a temporary diesel generating plant since that time. The temporary plant does not meet current legislative and regulatory requirements and is not acceptable for long-term operations. A study completed by Hydro in

April 2004 identifies this project as the most cost effective method of servicing the community in the long term. Among other things, the study addressed the long-term viability of the community of Rencontre East and addressed alternatives other than connection to the island grid. The only other alternative to connection to the island grid was to rebuild and continue to operate the diesel plant. The least cost alternative and the most positive cumulative present worth preference was that the community be connected to the island grid.

In the Settlement Report both NP and the IC indicated that they have no objection to this project.

The Board is satisfied that over the long term the interconnection of Rencontre East is the least cost alternative in providing reliable service to the customers of this rural community.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Provide Service Extensions – $1,738,000 (B-48)

The Application explains that this project is an annual allotment based on past expenditures to provide service connections, including street lights to new customers and is based on the 5 year average of service expenditures for the period 1999 to 2003. All historical dollars are converted to 2003 dollars using the G.D.P. implicit price deflator and a 5-year average calculation.

In the Settlement Report both NP and the IC agreed that this project was not contentious.

The Board agrees that average past experience adjusted for inflation is an appropriate basis for estimating capital expenditures for service connections for new customers.

The Board approves the expenditure as submitted in the 2005 Capital Budget.

Upgrade Distribution Systems – All Service Areas – $1,601,000 (B-50)

According to the evidence provided by Hydro, this project, as well, is an annual allotment based on historical expenditures to provide for the replacement of distribution structures including deteriorated poles, sub-standard structures, corroded and damaged conductors, rusty and overloaded transformers, street lights, reclosures, and other associated equipment. (Application, page B-50)

NP and the IC, as indicated in the Settlement Report, have no objections to this project.

The Board is satisfied that this expenditure is necessary and prudent in order to maintain the reliability of the system.

The Board approves the expenditure as submitted in the 2005 Capital Budget.

Insulator Replacements – Distribution Lines – Hawke's Bay, Plum Point and Farewell Head – $971,700 (B-52)

Hydro describes this project as consisting of the replacement of suspension and pin type insulators on distribution lines known as Hawke's Bay L3, Plum Point L1 and Farewell Head L6. These insulators were manufactured by Canadian Ohio Brass and Canadian Porcelain and have been a problem throughout the Hydro system. Failures generally occur during adverse weather conditions thereby increasing restoration times. Inspections have identified hairline cracks in the porcelain and in the cement bondings between the porcelain. For the period 2001 to 2003, there have been a total 5,570 customer outage hours due to defective insulators on Plum Point L1, with 15,030 customer outage hours for the same period on Farewell Head L6, and 15,890 customer outage hours on Hawke's Bay L3. The deteriorated condition of the insulators has created the potential for insulators to break apart during climbing activities presenting a safety hazard for line workers. It is anticipated by Hydro that SAIFI and SAIDI statistics will improve greatly with the replacement of these insulators. (Application, pages B-52 – B-53)

Neither NP nor the IC has taken issue with this project. (Settlement Report, page 2)

The Board is satisfied that the replacement of Canadian Ohio Brass and Canadian Porcelain suspension and pin type insulators is essential to the reliability of the system.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Upgrade Distribution Line L7 – St. Anthony to Cook's Harbour - $717,500 (B-54)

This project will replace 7 kilometers of 3-phase Distribution Line between St. Anthony and Cook's Harbour as well as install approximately 65 mid span poles between Cook's Harbour and Boat Harbour. Hydro explains that the location of this distribution line exposes it to some of the harshest weather conditions on the island. Most of the line is located in barren country with no protection from the elements. The conductor has a steel core and is subject to corrosion due to salt spray and has been damaged by slapping in high winds. The conductor's strength has been reduced and the line has sagged due to heavy icing conditions. The poles on the section of line between Cook's Harbour and Boat Harbour have span lengths in excess of 100 meters where the design standard is 70 meters. (Application, page B-54)

In the Settlement Report both NP and the IC indicated that they have no objection to this project.

The Board is of the opinion that, given the history and reliability statistics of this line, an upgrade is necessary and prudent in order to improve the reliability in the area.

The Board approves this expenditure a submitted in the 2005 Capital Budget.

Upgrade Distribution System – L'Anse au Loup - $635,600 (B-56)

This project consists of the replacement of:

a) Approximately 1,000 pin type and suspension insulators;
b) Relocation of a section of distribution line from structure No. 58 to 386;
c) Up-grading of a section of the distribution line from English Point to Forteau, and;
d) Replacement of the river crossing structures at Forteau River.

The Application explains that distribution lines L1 and L2 on the L'Anse au Loup system serve 949 customers and include the entire distribution system servicing communities from L'Anse au Clair north to Red Bay, a distance of 78 kilometers. The section of line to L'Anse Amour was constructed in 1965 using pre-cast concrete and wooden poles. Because of weather conditions, the concrete poles have deteriorated to a point where from 60% to 70% of the outer shell is missing leaving the steel rebar exposed. A late spring storm in May of 2002 caused significant damage to structures and associated equipment between the Forteau River bridge and English Point. Performance levels in terms of SAIFI and SAIDI statistics are poor. According to the evidence of Hydro, replacement of these structures will improve performance.

Neither NP nor the IC expressed any objection to this project (Settlement Report, page 2).

The Board is satisfied that the upgrade of this line is necessary and prudent in order to improve reliability in the area.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Relocate Sub-Station, Robert's Arm / Triton System - $318,600 (B-58)

According to the Application this sub-station at Robert's Arm, built in 1967, is now sub-standard and has to be upgraded. The location of this station is very difficult to access with a vehicle, particularly in winter and there is no room in the yard for maintenance vehicles. In order to bring the sub-station up to current standards it must be expanded. Because the station is

located between two steep hills there is no room for expansion or to rebuild to current standards. In addition, all wood pole structures have deteriorated to the point where failure can occur resulting in power outages and a safety hazard for maintenance personnel. Hydro proposes to relocate all equipment from the Robert's Arm sub-station to the existing sub-station at Triton. The station at Triton will be expanded to accommodate this move and will therefore increase in capacity thereby providing the additional benefit of adequate transformer capacity to address load growth into the foreseeable future.

Both NP and the IC indicated that they have no objection to this project. (Settlement Report, page 2)

Given the limitations of the Robert's Arm site, the Board is satisfied that the relocation of the Robert's Arm substation to the existing substation at Triton is the most prudent and reasonable method of dealing with the deterioration and safety concerns of the Robert's Arm site.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Purchase and Install Electronic Reclosers – Makkovik and Hopedale - $125,300 (B-65)

What is proposed in the Application is to install electronic reclosers to replace the existing hydraulic reclosers at these two sites. The existing hydraulic reclosers are approximately 30 years old and, due to age and the harsh operating environment, are at the end of their useful lives. Replacement parts are difficult to obtain. Failures of the reclosers have occurred causing outages and reliability issues. To correct this problem the new 3-Phase electronic reclosers will replace the hydraulic reclosers with a control panel being installed inside the plant for more efficient operation and also phone modem interwiring for remote monitoring.

In the Settlement Report, page 2, both NP and the IC indicated that they have no objection to this project.

The Board is of the opinion that the reliability of service at these two sites is dependent on the level of protection provided by the electronic reclosers on the distribution system, and that the replacement of these reclosers is prudent and reasonable.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Distribution Line Pole Replacements – English Harbour West System - $167, 900 (B-66)

Hydro's preventative maintenance program has identified 35 poles on the system which have deteriorated to such a point where replacement is required. Deteriorated poles present a safety hazard to line workers in the event the poles have to be climbed. Failure of a deteriorated pole can cause a domino effect resulting in failure of poles which have not deteriorated and damage to associated equipment.

Neither NP nor the IC objected to this project. (Settlement Report, page 2)

An appropriate preventative maintenance program is essential both as a means of maintaining reliability and as a means of ensuring the safety of employees and the public. Therefore the Board feels that the replacement of 35 poles is prudent and reasonable**.**

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Increase Generation – L'Anse au Loup - $391,700 (B-67)

This project will relocate a 1,100 kilowatt unit from Nain to L'Anse au Loup to replace an existing 600 kilowatt unit at the L'Anse au Loup diesel plant. A new 4,160 volt generator will be purchased and the existing switch gear will be upgraded. Hydro explains that the Nain unit was purchased in 1994, has recently under gone a major overhaul and is suitable for continued service at L'Anse au Loup. While firm capacity is normally defined as the installed capacity of the diesel plant less the largest unit, with the interconnection of the L'Anse au Loup

system to Hydro Quebec's north shore system, the firm capacity at L'Anse au Loup is now the existing total installed capacity in the diesel plant. The most recent load forecast indicates that the peak load for L'Anse au Loup will exceed firm capacity in 2005. Replacement of the existing 600 kw unit with the 1,100 kw unit will ensure firm capacity for the system beyond the forecast period. Demand Side Management (DSM) Analysis determined that DSM was not a viable alternative in this particular circumstance. The project as proposed is the least cost alternative.

Neither NP nor the IC expressed an objection to this project. (Settlement Report, page 2)

The Board is satisfied that the proposed increase in generation is necessary in order to meet forecast load growth, and that the relocation of the 1100 kW generation unit from Nain to replace the existing 600 kW unit at the L'Anse au Loup plant is the least cost alternative.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace Diesel Generating Unit No. 266 – William's Harbour - $304,000 (B-70)

According to information provided in Hydro's evidence, the existing unit at William's Harbour has been in service since 1975 and has been overhauled 5 times. Maintenance costs have increased to above average levels and the unit is now at the end of its useful life. A new unit will result in savings on maintenance and overhaul costs and will result in greater fuel efficiency and reduced emissions.

In the Settlement Report, page 2, both NP and the IC have agreed that this project is not contentious.

The Board is satisfied that in order to maintain the reliability of the system in William's Harbour it is reasonable and prudent to replace the diesel generating unit.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace Dam – Roddickton Mini Hydro - $231,500 (B-71)

The Application states that this wooden structure is 23 years old and has deteriorated to such a point where there are concerns for the integrity and structural strength of the dam. Should the dam fail, extensive damage would be caused to the penstock, power house and the Roddickton water supply, which is directly downstream. Due to the homogeneous construction of the dam, the entire structure will have to be replaced. An economic analysis demonstrates that replacement of the dam is the preferred to the retirement of the plant based on net present worth.

The IC, in final argument, page 7, stated that they make no objection or comment on this project. NP, also, put forward no objection to this project.

The Board feels that, based on the evidence presented concerning the deteriorating condition of the dam and the consequences of a failure, it is reasonable and prudent at this time to replace the dam.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Installation of Fall Arrest Equipment – Various Facilities - $206,200 (B-77)

According to the Application, the Occupational, Health and Safety Regulations passed in 1999 require fall arrest equipment for all workers working at elevations greater than 3 meters above the next lower level. The IC in final argument, pgs 21 & 23 expressed concern that sufficient detail has not been provided by Hydro substantiating the expenditure per installation or to show the expenditure on shared or temporary fall arrest equipment. They do not dispute that the equipment is required. While the expenditure sought to be approved in the Application is $206,200, the cost of compliance over future years, including the current year, will be approximately $992,000. Hydro has indicated that it has prioritized the installation of this

equipment to address the most pressing situations first. These priorities depend on the height of the structure, the associated risk and frequency of access to the site. As the program moves forward, Hydro will be in a position to provide more detailed information to the Board with respect to expenditures in each subsequent year.

The Board is satisfied that, given the need to comply with provincial legislation and the safety issues involved, Hydro is taking reasonable and prudent action in installing fall protection equipment at approximately 310 sites on a priority basis.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Install Shut-Off Valves – Various Diesel Sites - $164,600 (B-78)

Hydro explains in the Application, that the *Provincial Storage and Handling of Gasoline & Associated Products Regulations* and the *National Fire Code* require that shut-off valves be provided on supply piping carrying combustible liquids where they enter buildings or structures. Hydro has identified 14 sites across its system that are not currently equipped with these valves. This project will rectify this deficiency.

In the Settlement Report, page 2, both NP and the IC agreed that they have no objection to this project.

The Board is satisfied that this project is necessary in order to comply with both provincial and federal legislation.

The Board approves this expenditure as submitted in the 2005 Capital Budget

Replace Fuel Storage Tanks – Hopedale and Paradise River - $152,300 (B-79)

This project will include the replacement of a 9,000 litre fuel tank at Hopedale with a 22,700 litre tank as well as the replacement of two 45,400 litre tanks at Paradise River with one 45,400 litre tank. According to information provided by Hydro at both sites the existing tanks and dykes do not comply with the *Provincial Storage and Handling of Gasoline and Associated Products Regulations* and must be replaced. At Hopedale deficiencies in the tank's construction have resulted in malfunctions causing the engines to be deprived of fuel. The Paradise River tanks are of older design and are mounted on saddles in open dykes. The saddles have failed resulting in damage to the dykes' shells. The Paradise River tank farm is located close to the seashore, and, if not replaced, could pose an environmental hazard. Only one tank is required at Paradise River because construction of the new highway allows for fuel truck deliveries from Cartwright.

Neither NP nor the IC indicated an objection to this project. (Settlement Report, page 2)

The Board is satisfied that, since the existing tanks and dykes at Hopedale and Paradise River experience deficiencies and do not comply with the *Provincial Storage and Handling of Gasoline and Associated Products Regulations*, the replacement of these tanks is necessary and prudent.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replacement of Circuit Breakers – Hawke's Bay Diesel - $110,600 (B-81)

This project consists of the purchase and installation of two 5kV, 1200A vacuum breakers to replace the existing air breakers on the diesel generators located at Hawke's Bay. Hydro states that the existing breakers are 34 years old, are now out of production, and therefore certified replacement parts are not available. This diesel plant is essential to provide standby power for the Hawke's Bay/Port Saunders and Port au Choix distribution systems, voltage

support for the Great Northern Peninsula transmission system and generation capacity to add to the overall system reserve.

The IC, in final argument, page 7, state that they make no objection to this project. NP has also made no objection to the project.

The Board finds that failure of these circuit breakers on these diesel units could negatively affect the reliability of service to the area, particularly when the units are necessary to provide standby power.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Upgrade Cooling System – Black Tickle – $106,600 (B-82)

The Application explains that the existing cooling system is approximately 30 years old and is in generally poor condition. This system has a number of inherent flaws which cause operating and maintenance problems and generally degrade reliability. The replacement of the entire system is the most practical solution.

In the Settlement Report, page 2, neither NP nor the IC expressed an objection with this project.

The Board is satisfied that this project is reasonable and prudent in order to maintain the reliability of the system in Black Tickle.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Install Day Tank and Fuel Meter - Ramea – $105,600 (B-83)

This project consists of the purchase and installation of a 2,500 litre fuel day tank system and fuel meter. According to Hydro an environmental compliance audit has identified that the Ramea diesel plant does not comply with Provincial legislation regarding the reconciling of fuel in the storage tank with fuel received and consumed.

Neither NP nor the IC expressed an objection to this project. (Settlement Report, page 2)

The Board concludes that this project is necessary in order to comply with the provincial regulations concerning the handling of gasoline and associated products.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Upgrade Building Systems-North Plant – Goose Bay – $98,600 (B-84)

According to the Application this project is required to remove asbestos skirting, reconstruct the roof, replace the siding and repaint a metal access tunnel. The building houses the G5 generator and switch gear and this project is necessary to protect this equipment from the elements and eliminate the health hazard posed by the asbestos.

Both NP and the IC agreed that this project is not contentious. (Settlement Report, page 2)

The Board is satisfied that this project is reasonable and prudent in order to eliminate the health hazard caused by the asbestos and to provide adequate maintenance of the asset

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Raise Exhaust Stack Heights – St. Brendan's, Black Tickle and Little Bay Islands – $95,700 (B-88)

Hydro states in the evidence that the existing stack heights at these three plants do not comply with the *Air Pollution Control Regulations* under the *Environmental Protection Act*. This project is necessary to comply with the legislation. (Application, page B-88)

NP and the IC agreed that this project is not contentious. (Settlement Report, page 2)

The Board concludes that this project is necessary and prudent in order to comply with *Air Pollution Control Regulations* under the *Environmental Protection Act*.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Purchase and Install Digital Metering – Various Sites - $89,800 (B-89)

Hydro explains that it has been standardizing its diesel plants by installing digital metering equipment on all new generating units. The 7 units identified on page B-89 of the Application presently do not have this equipment which provides continuous remote access monitoring of the units by collecting data required for more effective production supervision.

Neither NP nor the IC expressed an objection concerning this project. (Settlement Report, page 2)

The Board is satisfied that this project is necessary and prudent in order to enhance the reliability of the system.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Upgrade Diesel Plant – Black Tickle - $84,500 (B-90)

The Application explains that the buildings housing this diesel plant and the security fencing have been damaged due to the environment and heavy snow loading. These repairs are required to protect the generating equipment from the elements.

In the Settlement Report, page 2, both NP and the IC stated that they have no objection to this project.

The Board is satisfied that this project is necessary and prudent in order to protect and secure the generation equipment and to provide reliable service.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Purchase Data Acquisition Software – Various Diesel Plants – $70,000 (B-96)

This project consists of the purchase and installation of data acquisition software to enable interrogation of all digital power metering devices at the isolated diesel plants. According to the evidence presented by Hydro, the existing software packages are not compatible with the latest Windows platforms in use throughout Hydro's operations. The new software is required to provide network communications accessibility which will enable up-to-date data acquisition from the remote sites for use in planning and production management.

Neither NP nor the IC expressed an objection to this project. (Settlement Report, page 2)

The Board is satisfied that there is a need to upgrade data acquisition software in order to maintain compatibility with other software being used by Hydro, and to take advantage of technological enhancements in order to maintain or improve the reliability of the system.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Install Intermediate Fuel Storage Tank - Charlottetown - $66,400 (B-97)

According to Hydro an environmental compliance audit has identified that the existing plant day tank is undersized and the configuration of the piping is such that it is impossible to perform fuel reconciliations as required by the *Provincial Storage and Handling of Gasoline and Associated Products Regulations*. The intermediate fuel tank will resolve this problem.

NP and the IC made no objection to this project. (Settlement Report, page 2)

The Board is satisfied that this project is necessary to ensure compliance with provincial regulations.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Modify Heating System - Hopedale - $54,100 (B-99)

This project consists of the purchase and installation of material required to modify the plant's hydronic heating system to capture sufficient heat from the generating units to heat the diesel plant. Hydro explains that the heating of this plant is presently being supplemented with electricity. This project will displace approximately 38,000 litres of fuel annually resulting in estimated average annual savings of approximately $18,000 per year, which would result in a payback period of approximately four years.

In the Settlement Report, page 2, both NP and the IC indicated that they have no objection to this project.

The Board is of the opinion that this project will result in long-term savings thereby providing economic benefit to consumers of electricity.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Purchase Meters & Equipment - TRO System - All Service Areas - $158,600 (B-100)

The evidence presented by Hydro states that these meters and associated equipment are required for new customers and to replace old, worn, damaged or vandalized meters. The IC, in final argument, (page 6) as in the case of the instrument transformer project (B-42) and the surge arrester project, argue that these items should not be classified as capital items but should be considered as operating expense. NP made no comment on this project.

The Board is satisfied that the purchase of the meters and associated equipment as proposed is a reasonable and prudent expenditure. The Board also finds that the capitalization of this project in accordance with generally accepted accounting principles is the appropriate treatment of this expenditure.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Install Central Air Conditioning – Whitbourne and Stephenville – $289,100 (B-101)

Hydro explains in the Application that these offices were constructed in 1974 and do not have central air conditioning systems. The buildings are used by staff on a daily basis as regular work sites, and are also central points for larger groups such as line crews and trades people for safety meetings, group supervisory meetings, etc. Both facilities are used by numerous people on a daily basis. There have been numerous complaints from employees that temperatures in the offices and other areas of the facility are excessive during the summer months. While there is no indication that these conditions are in breach of the *Occupational, Health and Safety Regulations*, there was evidence, in RFI IC-21, of a marked departure from the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) standard No. 55-2004. The ASHRAE standard is used by engineers, architects and others in the design of office facilities. (Hydro, Final Argument, pages 33-34)

The IC, based on the number of office staff located at each facility and the belief that central air conditioning is not widely available to employees in this Province, requested that this expenditure be deferred to a future budget year. NP made no comment on this project.

While the ASHRAE standard is not a regulatory requirement, the Board accepts that this is the standard accepted by industry. The Board finds that this expenditure is both reasonable and necessary and is satisfied with the justification for the project put forth by Hydro.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Warehouse Renovations – St. Anthony - $146,500 (B-102)

Hydro explains that it owns a warehouse in the Community of St. Anthony and at present rents office space for its staff at St. Anthony. Because of business improvement initiatives in customer service and materials management, there have been staff reductions in St. Anthony and a reduction in warehouse space requirements. The existing warehouse can be renovated to provide both staff requirements and warehousing requirements. The lease for the rental facilities is $44,720 per year and expires on September 30, 2005. With these renovations, all Hydro's operations in St. Anthony can be conducted from Hydro's own facilities and the capital cost for the renovations would be off-set by savings in rental charges. The project has a payback of less than four years.

As has been indicated in the Settlement Report, page 2, neither NP nor the IC expressed any objection to this project.

The Board is satisfied that this project is of economic benefit to ratepayers.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Upgrade Line Depot/Storage Sheds – Baie Verte, Sop's Arm and Bay d'Espoir - $151,000 (B-103)

This project consists of repairs to the roofing and siding to buildings located at Baie Verte and Sop's Arm as well as the construction of storage sheds at both sites. The Bay d'Espoir project involves an extension to the existing line depot.

The IC do not dispute the necessity for these projects, but disagree in their final argument, page 24, with the classification as capital works. They suggest the Board rule that the mere extension of the life of an asset by repair work does not constitute that expenditure as capital expenditure. The evidence of Hydro is that the buildings at Baie Verte and Sop's Arm are in excess of 20 years old and have deteriorated to the point where the roofs, doors and windows leak and the siding has to be replaced. Apart from their argument that these projects should not be classified as capital, the IC provided no evidence that Hydro's practice is contrary to generally accepted accounting principles. Hydro argues that, apart from the new assets to be constructed, the repair work proposed will extend the life of these assets. It argues that this is one of the criteria dictating that the expense is capital in nature under generally accepted accounting principals and is not an operating expense. (Hydro, Final Argument, page 35)

Based on the evidence presented by Hydro and without evidence to the contrary, the Board is satisfied that these expenditures are capital in nature.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replacement of Line Depot Building – Mary's Harbour - $73,900 (B-104)

According to Hydro this project consists of the removal and disposal of the existing building which is 34 years old and the erection of a new building.

Neither NP nor the IC objected to this project. (Settlement Report, page 2)

The Board finds that the erection of a new building is both necessary and prudent.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Purchase Global Positioning System – St. John's - $56,600 (B-105)

This project consists of the purchase of a survey grade Real Time Kinetic Global Positioning System. Hydro states that the existing system is ten years old and costs an average of $4,000 per year to service and repair. These costs are expected to continue and increase. While the equipment is being repaired, Hydro rents replacement equipment at an average cost of $5,000 per year. According to the evidence of Hydro, the least cost option, with a payback period of approximately six years, is to replace this equipment at this time.

The IC, in final argument, page 7, stated that they have no objection to this project. NP has made no comment on the project.

The Board is satisfied that the purchase of a global positioning system to replace its current ten year old system is prudent and reasonable.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replacement of Fence – Daniel's Harbour Terminal Station - $51,800.00 (B-106)

This project consists of increasing the size of the terminal station and construction of a new 2.5 meter fence to replace the 1.5 meter fence. Hydro explains that the existing fence has to be removed to permit more space for effective use of maintenance equipment in the station. The existing fence is also too low and must be replaced by a higher fence for security and safety reasons.

In the Settlement Report both NP and the IC agreed that this project is not contentious.

The Board finds that the replacement of the fence at the Daniel's Harbour Terminal Station is a safety and security issue.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Construct PCB Storage Building – Wabush - $51,500 (B-107)

This project consists of the construction of a 3 meter by 7 meter building, surrounded by a chain link fence with locked gates, to be used for storing and testing of transformers for PCB contamination. According to evidence presented in the Application there are approximately 1,800 distribution transformers in the Labrador City/Wabush system. Approximately 50% remain to be tested for PCB contamination and, typically, 3% to 5% of the transformers will test positive for PCB contamination. These transformers are taken out of service when they are found and are stored in designated areas at line depots to await shipping to an approved storage site. Environmental regulations stipulate that an approved storage facility be used to store non-serviceable PCB equipment until it can be transshipped for disposal.

Neither NP nor the IC objected to this project. (Settlement Report, page 2)

The Board is satisfied that the construction of a PCB storage building is reasonable and prudent.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Legal Survey of Distribution Line Right-of-Ways – Various Sites - $49,600 (B-108)

This project consists of the completion of legal surveys and preparation of documentation to acquire easement rights over Crown lands for approximately 600 km of distribution line. In the Application, page B-108, Hydro explains that prior to 1985 it was Hydro's practice to

construct and operate transmission and distribution lines without obtaining easement rights over Crown land as Hydro was an agent of the Crown. In 1985, it was decided to obtain easement rights for all property underlying newly constructed lines and to obtain easement rights for property for the pre-1985 lines. In 2004, Hydro began acquiring these easement rights for the whole distribution system. This is an annual program aimed at acquiring easement rights for the entire distribution system by the end of 2008. At present, there are approximately 2,400 km of distribution lines left without easement rights.

While NP has expressed no objection to the project, the IC, in final argument, page 25, argue that the acquisition of easement rights does not produce a capital asset and further that these rights should be acquired by an Act of the legislature. Ms. Greene informed the Board that direction to undertake this project had come from Hydro's legal department as a result of problems encountered in discussions with Crown Lands. (Transcript, Oct. 6, 2004, page 141/8-22)

The Board agrees with Hydro that the survey and documentation costs are necessary in order to acquire the easement rights and will enhance the service potential of those assets. These easement rights are required for Hydro's operations and should be acquired for the added security of protecting against the loss of these rights should competing requirements for the land arise.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace Nodwell V7600 & Boom V6067 - Stephenville - $797,600.00 (B-109)

The Nodwell is an off-road track vehicle with a 57 foot reach boom. Information provided by Hydro indicates that the vehicle is 31 years old and the boom is 26 years old. The average life of these vehicles is 20 to 25 years. Maintenance costs have averaged $25,000 per year over the last 3 years. The vehicle is now at the end of its useful life. The 57 foot boom will be replaced with a 100 foot boom, which is required in order to access certain portions of the

transmission line structures. The equipment is also required to be replaced for reasons of employee safety and to permit effective repair and maintenance of the transmission system.

The IC, in final argument, page 7, stated that they have no objection to the project. NP has made no comment.

The Board is satisfied that these units have reached the end of their useful lives and that the purchase of replacement units is reasonable and prudent.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Purchase Mobile Oil Reclamation Unit – TRO Central - $530,900 (B-110)

This project consists of the purchase of a self-contained mobile oil regeneration unit for refurbishing oil from power transformers. It includes a 48 foot aluminum transport trailer with 2 parallel regenerative clay towers and computerized control. Hydro states that the unit is capable of providing 24 hour continuous processing of transformer oil until the required level of oil regeneration has been achieved.

Hydro has 161 power transformers on its bulk electrical system with 67 showing parameters outside the guideline limits as specified under the ASTM D3487 Standard. Of these 67 units 17 are considered high priority and will need to undergo an oil regeneration process within the next 5 years. In past, the oil has been refurbished on a contract basis by two firms in Ontario and Quebec. The reclamation equipment does not exist in the Province of Newfoundland and Labrador. A recent service contract to regenerate oil on three transformers at Bay d'Espoir cost approximately $150,000 giving an average cost of $50,000 per transformer. By having its own unit, Hydro will reduce the cost of oil regeneration per unit. (Application, page B-110)

Currently, according to the evidence of Mr. Holden, Hydro has no flexibility with respect to scheduling and must adjust its schedule to the contractors. This means that plants have to be shut down in order to perform the reclamation operation. (Transcript, Oct. 7, 2004, Revised, page 35/9-17) Again, the purchasing of the unit will provide greater flexibility in scheduling and managing the work. Additionally, when the work is performed by a contractor, Hydro must supply two of its employees, one to hold the operating permit, as required by the legislation, and the second to help operate the equipment (RFI IC-76 NLH). Hydro expects to be able to do a minimum of 4 or 5 units per year. At that rate, it is more cost effective to purchase a regeneration unit than to use an outside service contractor.

The IC agree that the mobile oil reclamation unit is justifiable and query whether it would be cheaper to seek requests for proposals from the private sector, and whether or not such proposals could produce a more cost effective solution. Hydro's response is that its experience with the private sector indicates that the price per unit of regeneration will only increase in the future given the high demand for this type of service elsewhere in the country, and performing the work in-house will have a positive payback within 2 to 3 years. Mr. Holden stated that a request for proposals from the private sector is not prudent and practical in the circumstances for reasons of cost and availability. (Transcript, Oct. 7, 2004 Revised, pages 40-41). Ownership of the unit will also provide the opportunity to offer the service to NP. Mr. Fred Martin, Vice-President, TRO, has had preliminary discussions with his counterparts at NP with a view to providing that service to NP. This should reduce the cost of the service to NP as well as recover part of the cost for Hydro. In Mr. Martin's opinion this will be beneficial to the ratepayer. (Transcript, Oct. 7, 2004 Revised, pages 86-88)

The Board finds that the purchase of a self-contained mobile oil regeneration unit for refurbishing oil from power transformers is reasonable and prudent.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace Doble F2000 Relay Test Equipment – Bishop's Falls, Whitbourne, Stephenville and Bay d'Espoir - $362,200 (B-112)

This project consists of the replacement of three sets of Doble computerized relay test sets for transmission operations and the purchase of one set for generation operations at Bay d'Espoir. According to the evidence of Hydro the old relay test equipment was purchased from Doble Engineering from 1986 to 1989 and has received regular hardware and software up-dates. In response to RFI IC-29 NLH, Hydro states that most of the new equipment purchased by Hydro over the past 10 years is digital equipment which cannot be fully tested by the existing test equipment. The amount of digital equipment in Hydro's system is expected to grow. While the existing relay test equipment, which will be supported by the manufacturer to 2006, can test essential digital equipment to a point, it cannot test this digital equipment as comprehensively as is necessary. Some of the equipment to be tested is critical to Hydro's generation and transmission operations. (Transcript, Oct. 7, 2004 Revised, page 52/10-25) This equipment includes the exciters at Bay D'Espoir, Granite Canal and Cat Arm.

The IC have proposed in final argument, page 26, that this project be deferred to a future capital budget year. NP has made no comment on the project.

The Board finds that the evidence supports the purchase of new relay test equipment.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

6. General Properties

Application Enhancements – Hydro Place - $310,700 (B-120)

Application enhancements, as in previous Hydro Capital Budgets, are described as a continuing requirement. The proposed project for 2005 is shown on page B-120 of the Application as a four-fold project:

1. To provide for unforeseen modification, enhancement and additions to software to address required changes to business processes initiated by customers, stakeholders and/or regulators or to provide efficiencies to existing processes;

2. To provide for continuing design and implementation of enhancements to Hydro's Intranet;

3. To provide enhancement to the Key Performance Indicator application;

4. To provide for the addition of a Hydro Facilities risk based analysis-modeling tool to predict the impact of failures.

Hydro contends that the first three components of this project are enhancements necessitated to respond to requirements generated from both internal and external sources. The unforeseen allocation in this component is made based upon Hydro's past business experience. (Transcript, Oct. 8, 2004, page 177/2-11)

The IC argue in final argument, page 27, that the first three components of this project are all more appropriately operating expense and should therefore be disallowed as a capital expenditure. The fourth component is accepted as a capital expenditure by the IC, but it is argued that such project should be deferred as it has not been established by the evidence that it cannot be deferred.

The Board has previously found that it is imperative that Hydro be able to react to requirements to provide enhancement to software applications in reference to unforeseen requirements. [Order No. P. U. 29(2003), page 23] There is nothing in the evidence by which the Board would be persuaded otherwise at this time.

The Board notes evidence of Mr. Haynes and Mr. Downton (Transcript, Oct. 18, 2004, pages 77-80) with respect to the anticipated efficiency gains which Hydro views as warranting the expenditures proposed on the project, notwithstanding the difficulties in specifically quantifying any such operational efficiency gains.

The Hydro witnesses (Nichols and Downton) indicated in evidence (Transcript, Oct. 18, 2004, page 68/12-15) that they were unfamiliar with net present value calculations provided by NP in Capital Budget Applications, in respect of operational efficiencies expected to be gained through introduction of technologies. The Board appreciates the difficulty that is associated with attempting to quantify efficiency gains in these areas. However, the Board would expect that prior to any future Capital Budget Application Hydro will have explored any process by which some quantifications of efficiency to be gained through implementation of new technology, enhancement or otherwise, may possibly be identified to the best extent possible.

The Board is of the opinion that all components of this project have a functional nature and conform to Hydro's capitalization policy which the Board finds is, on the evidence as a whole, within the parameters of generally accepted accounting principles.

The Board is not persuaded as to any compelling reason why the risk based analysis-modeling tool component of this project should not proceed in 2005.

The Board continues to agree that there is a need for Hydro to be in a position to react to requirements to provide enhancement to software applications in respect to unforeseen requirements. Additionally all components fall within Hydro's capitalization policy as is found appropriate by the Board.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Security Program- Secure Remote Access - $76,100.00 (B-122)

The Application describes this project as representing the second year of a two year program that will focus on the evaluation, design, and implementation of a product(s) that will ensure a secure method of accessing corporate information technology resources from multiple locations. The IC commenting on the cross-examination of Mr. Downton on Oct 18, 2004

recommends that the project should be deferred beyond the 2005 capital budget year. (IC, Final Argument, page 27)

Mr. Downton indicated in his evidence that if this project were to be deferred to a later capital budget the work on this project which had been completed in 2004 would not be jeopardized. (Transcript, Oct. 18, 2004, page 4/13)

Mr. Downton's evidence was also that it is critical to move forward with the project. (Transcript, Oct. 18, 2004, page 4/18) Mr. Downton goes on to describe this project as one to limit access to the critical network components of Hydro's energy management system, including switches and firewalls.

The Board agrees that securing access to such components of the Hydro system is a critical component of maintaining system reliability.

The Board recognizes that the delaying of the second year of this project will not impact the 2004 allocation but believes that the corporate information which the project is intended to protect is necessary for the security of the system.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Corporate Application Enhancement - $222,200 (B-124)

This project provides for upgrades to software applications which were installed in 2000/2001 and which have not been previously updated. Three specific software upgrades are identified.

As part of its project justification in this Application Hydro maintains its position that software must be regularly upgraded to maintain benefits in system functionality.

The IC submit that no case was made for one component of this project which provides for the addition of three Cisco Works modules and such component should be disallowed. (IC, Final Argument, page 28)

The evidence of Mr. Downton and Mr. Nichols is detailed concerning the Cisco Works modules which are identified by the evidence as comprising a monitoring tool that will be used to monitor levels of service as well as incorporating a security aspect to help to ensure that only authorized persons have access to various parts of Hydro's network. (Transcript, Oct. 18, 2004, pages 14-16)

The Board is satisfied that this project is appropriate and necessary given the requirement to maintain system functionality and the security component of the upgrades.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

iSeries Replacement - $1,131,900 (B-125)

This project consists of the replacement of an existing AS400 Server. Hydro explains that the current AS400 server was installed in 1997 and upgraded twice over the past seven years. The current disk storage capacity is at a capacity level of 70-75%.

The IC suggest that Hydro be required to study on a longer term basis its plans for future requirements before committing to a particular brand name of computer (IC, Final Argument, page 28). Hydro contends that it requires the new server in order to run present applications in a satisfactory manner. At present, Hydro has to shut down various applications so that certain necessary software applications can be run. (Hydro, Final Argument, page 41)

The current AS400 server, according to Mr. Downton, does not meet Hydro's business requirements and on a day to day basis Hydro is "having problems with running our reports,

running our applications, being able to provide reports for our customer service group, having to what I call turn down reporting to get payroll to run". (Transcript, Oct. 18, 2004, page 34/17-23)

Mr. Nichols and Downton explained (Transcript, Oct 18, 2004, page 32) that Hydro is trying to leverage the present technology and basically run the software it has now and the iSeries is the only machine which can run the software.

The new server according to Mr. Downton, while solving the current difficulty in running multiple programs, will also not limit Hydro's options in future if it deems it appropriate to migrate from current software to the software of another manufacturer. (Transcript, Oct. 18, 2004, page 29/2-3)

The Board has considered the evidence and arguments submitted in support of this project and is persuaded that (1) the lack of storage capacity in the present server requires immediate replacement; and (2) that the proposed iSeries server will allow Hydro to continue to leverage its current software while integrating the capability of movement to other systems if necessary. The Board accepts this project as being prudent and necessary.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

End User Evergreen Program - $710,000 (B-127)

This project is the third year of an end user workstation evergreen program which will involve replacement of 211 desktop and laptop computers and continuation of a thin client technology strategy. Hydro describes the thin client as a network computer without a hard disk drive which accesses and runs applications located on a shared server. When the project was initially proposed in the 2003 Capital Budget, (page B-129) Hydro included an analysis of several options. These were:

1. Implementation of an evergreen program with thin client technology;

2. Purchase of computers as lease expires and upgrade of the operating systems (no thin client technology); and

3. Extension of the lease and upgrade of the operating system (no thin client computers).

In Order No. P. U. 5(2004) the Board, in approving the second year of this project, concluded that the evergreen end user program and thin client strategy as proposed in 2004 was the least cost option and was prudent and justified.

In RFI IC-81 Hydro noted the efficiency improvements anticipated from the avoidance of or minimization of breakdown associated with the end user program. It was further noted that when the move to evergreen was initiated a reduction of support staff occurred, which although it was not reported resulted in approximate savings of $180,000/yr. (Transcript, Oct. 18, 2004, page 40/16)

The project is essentially unchanged from 2004 with the exception of a breakdown of the program in 2005 into three separate projects. (Transcript, Oct. 18, 2004, page 37/14)

The justification of the end user program remains unchanged from 2004 and the Board accepts that the proposed project with its implementation of thin client technology continues at this time to be a least cost option of the three reviewed by Hydro.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Peripheral Infrastructure Replacement - $117,600 (B-131)

This project consists of the replacement of peripherals. In 2005 two multi-function devices (MFDs) and three laser printers are scheduled to be installed. (Transcript, Oct 18, 2004, page 52/23-24)

Mr. Downton in evidence clarified that one of the MFD is actually a new acquisition for installation in the warehouse at Hydro Place. (Transcript, Oct. 18, 2004, page 54/17)

The project is justified by Hydro as part of the continuation of its evergreen program to replace each peripheral device at the end of its useful life, with typical life for peripheral devices being five years.

Mr. Downton on cross-examination pointed out that these replacements for 2005 were a substantial reduction from the prior year. (Transcript, Oct. 18, 2004, pages 52/25 - 53/5)

Mr. Nichols further explained that the MFD being replaced had been installed in 2000 and to date had made approximately three quarters of a million copies with an anticipated one million by time of replacement and that the unit was starting to incur breakdown. (Transcript, Oct. 18, 2004, page 53/20-25) Mr. Downton further noted that a similar unit installed in the same time frame was working properly and was not placed on the replacement list, stating "so we don't just automatically replace things, we sort of look at them on an individual basis." (Transcript, Oct. 18, 2004, page 54/10)

The IC suggest that the Board should not approve this expenditure because Hydro has not provided sufficient information with the Application to justify the project. (IC, Final Argument, page 29)

Hydro explains that the project is an annual requirement to replace a number of peripheral devices that have reached the end of their useful life. (Hydro, Final Argument, page 43) The replacement, however, of each device is based on an evaluation of the performance of the device. This was explained by Mr. Nichols during cross-examination. (Transcript, Oct 18, 2004 pages 53-55)

The Board is satisfied with the evidence that this project is justified by Hydro following appropriate review of the service performance of individual units and/or the need for such additional units as part of what would be an annual requirement for any large enterprise.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Security Strategy Deployment - $80,500 (B-132)

The purpose of this project is to develop, implement, test and maintain a disaster recovery plan and site for the data center. Hydro explains that it currently has a contract with SunGard to provide a standby site and equipment to recover its production enterprise server. The agreement with SunGard expires in July of 2005.

The IC suggest that the project be given conditional approval with a further filing requirement from Hydro to demonstrate cost savings when bids are received before final approval is given for the expenditure of funds. (IC, Final Argument, page 30)

Mr. Downton explained that based upon internal analysis that the project will pay for itself in 12 to 18 months. (Transcript, Oct 18, 2004, page 92/18-21)

The Board believes that an appropriate disaster recovery plan is essential for the security of the system and that the project proposed by Hydro represents the least cost at this time.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Server and Operating Systems Evergreen Program - 2005 - $211,900 (B-134)

This project, a part of Hydro's evergreen program, specifically involves the replacement, addition and upgrade of hardware components and software related to Hydro's shared server infrastructure as well as upgrades to server based office productivity tools.

In the 2004 Capital Budget this project was combined as part of the evergreen end user program, but to avoid confusion was described as a separate project at this time. (Transcript, Oct. 18, 2004, page 37/10-20)

In 2005 Hydro proposes in this category:

1. To replace 6 obsolete servers at Hydro Place data center and continue to consolidate servers in a limited number of locations; and

2. To replace 4 obsolete servers in four regional offices with print management devices.

The IC recommend that the server project be disallowed until Hydro has had the opportunity to justify its practice of replacing servers. The IC believe that this approach will only result in no more than a deferral of some expenditure. (IC, Final Argument, page 29)

The evidence of Mr. Nichols is that the servers which are being replaced under this project are no longer supported by the hardware vendors. (Transcript, Oct. 18, 2004, page 48/10-14) Mr. Nichols further explains that the servers that are being replaced are running an operating system called Windows NT which was put out by Microsoft in 1996 and is no longer supported. (Transcript, Oct. 18, 2004, page 49/19-25)

Hydro contends that it reviews the hardware vendors support, the operating systems support, the application vendors support and Hydro's business requirements as the basis for deciding the replacement of servers from the perspective of reliability and life expectancy. (RFI IC-35)

After reviewing all the evidence and submissions the Board is satisfied that the lack of support as outlined in the evidence is a serious concern for Hydro and that the replacement of 10 servers is a prudent course of action.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace VHF Mobile Radio System - $2,914,800 (B-137)

This project involves the replacement of Hydro's existing VHF Mobile Radio System with a new system that will meet the coverage and access requirements of the user group. The Application,, page B-137, explains that the scope of the work will include the replacement of a central switch located in Gander, equipment at 29 repeater sites, approximately 300 mobile and base station radios and approximately 100 portable radios. The proposed system will expand to 39 sites in order to provide the additional coverage required by the user group.

The existing system was purchased in 1989, with many components and spare parts having been discontinued by the manufacturer. Many of these parts are, therefore, no longer available for critical subsystems. In recent years the system has experienced an increasing rate of failure, resulting in reduced availability. Trained personnel, knowledgeable about the system, are no longer present at Aliant, who maintain a substantial portion of this system under contract. The lack of trained resources to maintain the system puts the entire system at risk.

The IC concede in final argument, page 30, that an adequate communication system is required for Hydro's operations. The Board finds that an adequate communication system is, in fact, critical to Hydro's operations.

This project was first proposed as part of Hydro's 2002 Capital Budget Application and the Board, in Order No. P. U. 7(2002–2003), denied approval and required Hydro to provide additional justification including a cost benefit analysis of alternatives. The Board at that time denied approval because it felt that all of the known alternatives had not been thoroughly considered. Those alternatives included the design and operation of a VHF Mobile Radio System that provided for the combined requirements of both Hydro and NP with the capacity to accommodate other potential users, such as the Department of Works, Services and Transportation. It was apparent that cost savings for the consumer of a combined system would

be substantial in that it would eliminate the duplicate cost of one of the systems and have the potential for additional savings, if the capacity of the combined/shared system could accommodate other potential users. To that end the Board stated in Order No. P. U. 29(2003) (pages 33-34):

> *"The Board, having considered the evidence and argument relating to this project, and in consideration of Hydro's suggestion to carry out the engineering work and tender call and return to the Board for approval at a later date, will not grant approval of the project, Instead the utilities will be directed to enter into a co-operative process whereby:*
>
> *1. Newfoundland Power shall submit to Hydro a technical requirements document, including a detailed engineering assessment of the functional requirements needed by Newfoundland Power for operating a mobile VHF system into the foreseeable future.*
>
> *2. Hydro shall generate a detailed working specification of the new VHF system that Hydro has selected and delivered a technical specification document, together with detailed capital costs to Newfoundland Power.*
>
> *3. Newfoundland Power shall confirm, in writing to the Board, and to Hydro, whether the VHF replacement project and its technical specification as described by Hydro will meet Newfoundland Power's future operational requirements for a VHF radio system, together with a net present value calculation comparing the remaining life expectancy of Newfoundland Power's existing VHF system against adopting the new VHF system at 2, 3 and 5 years out and including confirmation of Newfoundland Power's participation in the new system once its existing system has reached the end of its useful life. As part of this exercise a determination and analysis must be carried out on the cost benefits to Newfoundland Power and to Hydro of (i) extending Hydro's VHF system to allow for the implementation of a common system at a future date or any other reasonable alternative that will allow the replacement of both systems and; (ii) accommodating Hydro on Newfoundland Power's existing VHF system.*
>
> *4. In the event Newfoundland Power provides notice that it cannot, or will not participate in a common VHF system the Board may order a hearing to investigate the matter.*
>
> *5. In the event that Newfoundland Power provides notice that there is no technical or other impediment to its using a system in common with Hydro, both utilities shall provide confirmation of the basis on which they would share in the capital and operating costs of the new VHF mobile radio system.*
>
> *6. Sharing agreements with the Works, Services and Transportations Department and others shall be firmed up to the extent possible to allow the Board to render a final decision on this project with all the available information.*
>
> *The Board may direct the utilities as to the substance of or timing of this process and may appoint a consultant to assist and advise throughout the process."*

The project was not included in Hydro's 2003 Capital Budget. The project was, however, included in Hydro's 2004 Capital Budget. Evidence led at that hearing indicated that mobile communication is a fundamental requirement for an electric utility to provide for the

efficient and safe completion of the required switching, live line maintenance, troubleshooting, emergency repairs and general maintenance work, which must be undertaken on facilities to ensure continued reliability and restore power following outages. Mobile communications are used for employee dispatch, status communications, communications between crews working separately in a geographic area and for emergency communications. (Transcript, Oct. 8, 2004, pgs 17-18)

Since Hydro's 2003 Capital Budget Application Hydro and NP have co-operated with each other in compliance with Order No. P. U. 29(2003) and have filed with the Board in Section G, Appendix A of this Application the results of this process. Hydro engaged the services of Custom Systems Electronics Ltd. and has filed in evidence that report. NP engaged the services of Provincial Consultants Ltd. and that report has also been filed. Both reports explored the different alternatives as well as cost benefit analyses of the different alternatives. The Hydro report considered seven (7) different alternatives, ranging from status quo, replacing the system on its own without other users, accommodation on NP's system, replacing the system to accommodate NP in 2008, 2009 and 2011, and continuation of the relationship with the Department of Works, Services and Transportation. The NP study considered three (3) broad alternatives. The first being, status quo, the second, the expansion of Hydro's system to accommodate NP and the third, the expansion of NP's system to accommodate Hydro.

The conclusions reached from both studies indicate that from NP's perspective, the most economic choice is to retain its present system and to replace it in 2011 for its own needs. The use of Hydro's system by NP, while more costly for NP, does offer certain operational advantages. These advantages are greater coverage in terms of more sites, higher priority maintenance with improved service availability and the capability for NP, Hydro and Department of Transportation and Works to communicate with one another during emergencies. From Hydro's perspective the most economic solution is for Hydro to replace its existing mobile radio system, continue to accommodate the Department of Transportation and Works, and to provide accommodation of NP at some future date.

Although the IC did make representation in their final argument, page 30, concerning the process whereby the project was placed before the Board, they made no submission with respect to the approval of this project. NP, in its final argument, page 5, supported the project as proposed by Hydro.

The Board notes that tenders will include a functional specification to take advantage of the expertise of vendors in order to obtain the best technologies solution. (Final Argument, page 46) The Board is satisfied that the process outlined in Order No. P. U. 29(2003) has been complied with and proceeding with this project at this time is prudent and necessary.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Microwave Site Refurbishing - $293,800 (B-141)

This project involves the refurbishing of the West Coast Microwave Site at Mary March Hill. In particular the work includes tower painting, galvanization of anchor heads, the replacement of guys at level four and a detailed assessment of the electrical system.

According to the evidence of Hydro the tower and building were installed in 1980, and having not been refurbished since being constructed are now 25 years old. The expected life for these towers is 20 to 25 years. This work was recommended by a structural engineer after identifying deterioration of the structure due to corrosion. (Transcript, Oct. 8, 2004, pages 140-141) The effect of the work will be to prevent further deterioration and maintain the integrity of the structure. In the opinion of Mr. Downton and his staff, the effect of this work would extend the life of the structures from 40 to 50 years. (Transcript, Oct. 8, 2004, page 144/8-22)

There are 11 microwave sites in Hydro's system, which were all installed around the same time as the Mary March Site. In addition to annual inspections, Mr. Downton indicated that Hydro is in the process of doing a detailed review of all those sites. That study has not been

completed at this point. The microwave system is an integral part of Hydro's system and is critical to its operation. (Transcript, Oct. 8, 2004, page 150)

The IC in final argument, page 31 object to the characterization of this project and state that this expense should be categorized as an operating expense and not as a capital expenditure. They argue that this project is more in the nature of inspection and maintenance aimed at preserving the design life of the structure and does not constitute a replacement or betterment of a unit or portion of a unit of property. In their opinion, this project is a normal and prudent overhaul or repair to avoid premature life of the asset.

Hydro's response to RFI IC-86 indicates that overhauls or major repairs are not capitalized unless considered as a replacement or betterment of a unit or a portion of a unit of property. The Board finds that the work proposed in this project will in fact extend the life of the asset and is a betterment of a unit of property for that reason.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace Remote Terminal Units for Hydro – Phase 6 - $149,500 (B-143)

In the Application, page B-143, this project is described as the replacement of two Remote Terminal Units (RTU) used for remote monitoring and control of plants and terminal stations from the Energy Control Center. The sites are the Bay d'Espoir Plant and the Bay d'Espoir Terminal Stations. The proposed project is phase 6 of a 9 phase plan to replace all obsolete RTUs.

Mr. Downton explained that the plan was presented to the Board in 2000. (Transcript, Oct. 8, 2004, page 151/10-11) The original RTUs were installed in 1980 with typical economic life of ten years. Technical life is ten to fifteen years and the proposed units to be replaced will have service lives of 20 to 26 years. (Transcript, Oct. 8, 2004, page 153/13-22)

The IC proposed that the expenditure should be deferred to a future capital budget hearing. (IC, Final Argument, page 32) The IC contend that parts salvaged from previously decommissioned RTUs could be used as spares.

On cross-examination Mr. Downton indicated that it has now been 12 years since Hydro has been able to procure new spares or manufacturer support on these units and there is now an urgency to continue with this program to ensure an infrastructure capable of delivery of reliable service to customers. (Transcript, Oct. 8, 2004, page 154/7-13)

On the issue of salvaged spare parts Mr. Downton also indicated that while Hydro has salvaged parts from replaced units to use as spares there have been circumstances where these parts or spares failed to operate when used in other units. (Transcript, Oct. 8, 2004, page 157/7-11)

The Board recognizes this project as part of an ongoing documented phased capital replacement project necessary to ensure the integrity of the units.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace Air Conditioners - $ 55,300 (B-144)

This project consists of the replacement of the air conditioning system in the communications rooms at Stoney Brook Station and the Deer Lake Office.

While IC agree that new air conditioning units may be justified in the longer term, they propose that this project can be reasonably deferred to a future capital budget year. (IC, Final Argument, page 33)

The Deer Lake addition is to replace a portable unit purchased 2-3 years ago. (Transcript, Oct. 8, 2004, page 164/6-8) Subsequent to the purchase Hydro added some monitoring

equipment to this particular location. Hydro states the present system does not provide adequate cooling capacity. (Transcript, Oct. 8, 2004, page 164/13-24)

The Stoney Brook unit which operates as a combined heating, humidity and cooling unit was installed approximately 15 years ago. (Application, page 73-144) At present only the cooling function is operating. This unit is exclusively used for cooling communication equipment. Mr. Downton on cross-examination by the IC, explained that with inadequate air conditioning, equipment generates heat, the temperature rises and "air conditioners fail in computer rooms and I've seen disk drive fail, I've seen computers fail, I've seen radio equipment fail….". (Transcript, Oct. 8, 2004, page 162/15-22)

With respect to the unit at Stoney Brook Mr. Downton confirmed that Hydro had the unit examined by an air conditioning company and determined that the unit's heating and humidification functions, which were not functioning, could not be repaired and parts were not available. (Transcript, Oct. 8, 2004, page 163/19-22) Mr. Downton explained that Hydro's concern is that if the air conditioning function of the unit fails it will not be repairable. (Transcript, Oct. 8, 2004, page 163/4-5)

The Board recognizes and accepts the importance of adequate and reliable air conditioning units where electronic communication equipment is used.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

Replace Vehicle 2004-2005 - $1,327,600 (B-147 & B-149)

Of these two projects, one (B-147) is a continuation of a project which the Board approved in principle in 2004 and the second (B-149) involves the replacement of thirty light vehicles and one medium/heavy vehicle in 2005.

Pages B-147 and B-149 of the Capital Budget Application outline the criteria utilized by Hydro in assessing its annual vehicle replacement requirements. Mr. Martin reviewed and explained the use of Hydro's replacement criteria. (Transcript, Oct. 6, 2004, pages 147/20-125 – 148/1-10) Mr. Martin in his evidence, made corrections to the average age and mileage of the vehicles to be replaced that had been filed in the text at B-147. (Transcript, Oct. 7, 2004 Revised, page 73/20-25) There was no evidence before the Board by which it would be prescribed that the criteria and use of same by Hydro in its vehicle replacement scheme is unreasonable or inadequate.

The Board notes that as a result of a fleet review by Hydro there was, according to Mr. Martin, an estimated $500,000 reduction in capital expenditures in 2005 for on road vehicles and an estimated $60,000 reduction for mobile equipment units. (Transcript, Oct. 6, 2004, page 82/5-9)

In their final argument, page 34, the IC took issue with the $140,000 contingency provided for in the 2005 Capital Budget as not being justified with a $300,000 material expenditure. (B-147) The evidence of Mr. Martin is that the $140,000 contingency is based upon the years 2004 and 2005 and would cover vehicles that may have to be purchased in 2004 but not paid for until 2005. (Transcript, Oct. 6, 2004, pgs 175/24-25, 176/1, & 178/12-20) Mr. Martin in his pre-filed evidence, indicates that there are no plans to tender vehicles in 2005 for delivery in 2006. (Pre-filed Evidence, Fred Martin, page 9) On this basis the Board will approve the $140,000 contingency as it applies to the total 2004 and 2005 capital expenditure for this project.

The Board approves this expenditure as submitted in the 2005 Capital Budget.

6. Allowance For Unforeseen Events - $1,000,000

The amount allowed for this item in the Budget is $1,000,000. No issue was taken by any party at the hearing with respect to the amount allowed for this category.

As pointed out in final argument by Counsel for Hydro (page 52) in Order No. P. U. 7(2002-2003) the Board, in approving an amount for unforeseen events at that time in an amount of $1,000,000, prescribed five conditions on the use of such account by Hydro.

The Board believes the allowance for unforeseen events is prudent and reasonable and will approve this $1,000,000 fund reiterating its continued linkage to the five conditions set forth in Order No. P. U. 7(2002-2003).

Projects Not Specifically Addressed

Following consideration of all the evidence presented, including the Settlement Report of the parties filed herein, the Board is satisfied that all projects not otherwise specifically addressed in this decision are reasonably justified and should be approved.

III. TOTAL CAPITAL BUDGET

On the basis of the extensive documentation and evidence that was presented throughout the proceeding, the Board finds that the proposed total capital budget is prudent and reasonable.

The Board approves the 2005 total capital budget proposed by Hydro in the amount of $42,431,000.

IV. RATE BASE

Hydro, in the within Application, has applied for an Order of the Board pursuant to s. 78 of the *Act*, to fix and determine its average rate base for 2003 in an amount of $1,422,412,000. The calculation of this amount by Hydro is set forth in Section H to the Application.

Hydro's rate base is comprised primarily of (1) net capital assets, (2) a cash working capital allowance, (3) fuel and supplies inventory, and (4) deferred expenses.

The average rate base of Hydro for 2002 was fixed and determined by the Board in Order No. P. U. 14(2004) as part of a General Rate Application by Hydro, in an amount of $1,356,207,000.

Any capital expenditures approved by the Board annually will increase rate base and deprecation of capital assets will serve to cause a decrease in rate base.

Both Hydro and NP in final argument point out that the increase in average rate base for 2003 is mainly due to the Granite Canal Hydro Electric Project, which was exempted from Board approval by the Granite Canal Hydro Electric Project Order in Council OC 2000-169 issued by the Lieutenant Governor in Council on December 14, 2000 under the authority of s. 4.1 of the *Act*, and, s. 5.2 of the *EPCA* (Newfoundland and Labrador Regulation 91/00).

Both Hydro and NP also point out in final argument that, apart from the Granite Canal project, the additional capital expenditures included in Hydro's rate base up to 2003 were made with either the approval of the Board under s. 41 of the *Act* or pursuant to appropriate direction of the Lieutenant Governor in Council. The IC do not take any issue with this position.

A report filed herein by Grant Thornton (Information #1) following a review of section H of the Application herein as it pertains to the calculation of the 2002 rate base and the 2003 rate base concludes:

> *"That the average rate base of $1,422,412,000 included in section H, page H-1 of the Company's Application is accurate and in accordance with Board Orders and established regulatory practice."*

No evidence was presented to the Board at the hearing to take any issue with such calculations and the Board finds no cause to make any adjustment to the rate base calculations set out in Section H.

The IC's position on the issue of rate base was limited to a submission that the application of Hydro, given what Counsel for the IC described as a "well established process of fixing the rate base of Hydro only at the time of general rate hearings", should be deferred to the next general rate application of Hydro. (IC, Final Argument, page 35)

The IC further argue that the Board should, before deciding the Rate Base Application herein, determine as a matter of principle for both utilities, i.e. Hydro and NP, the appropriate timing of a rate base application. The IC further suggest that this issue of timing is appropriately one for consideration as part of the current capital budget review process.

The Board is not persuaded, given the relatively short regulatory history of Hydro pursuant to the *Act*, that to describe the history of Hydro's timing of Application for rate base approval as a well established process is an accurate description.

NP took the position in its final submission that annual reviews and approvals of rate base are appropriate. NP suggests that only where reasonable cause has been demonstrated should approval of rate base be delayed until the next general rate application.

The Board is not at this time persuaded as to why it should not at this time exercise its discretion under s. 78 of the *Act* to fix and determine the 2003 average rate base of Hydro. The concerns raised by the IC with regard to the timing of this approval can be raised during the ongoing capital budget review process.

The Board pursuant to s. 78 of the *Act* will fix and determine Hydro's rate base for 2003 at $1,422,412,000.

V. COSTS

The IC seek recovery of their full costs associated with the hearing.

The other intervenor, Newfoundland Power makes no submission as to costs.

The jurisdiction of the Board in respect to costs is as set forth in s. 90(1) of the *Act* which states:

> *"The costs of and incidental to a proceeding before the Board shall be in the discretion of the Board, and may be fixed at a definite amount, or may be taxed and the Board may order by whom they are to be taxed and to whom they are to be allowed and the Board may prescribe a scale under which costs shall be taxed."*

In Order No. P. U. 7(2002-2003) the Board on the issue of costs stated:

> *"Under normal circumstances the Board is guided by the "ability to pay" principle in adjudicating request for costs awards."* (page 164)

In Order No. P. U. 7(2002-2003) the Board determined that in that proceeding or hearing there had been a number of circumstances that were unusual and resulted in the hearing process therein being more lengthy and complex than would have been the norm. Given that the hearing and Application in that matter was found by the Board to fall outside the parameters of normal circumstances, the Board did not fully apply the ability to pay principle and awarded the IC cost as more particularly specified therein.

In the present matter the Board cannot determine any circumstances which would establish this hearing or Application as one which would fall outside the parameters of normal circumstances as contemplated by the Board in Order No. P. U. 7(2002-2003). The matter has not been more lengthy or complex than would be the norm. There have been no expert witnesses called by the IC in the within matter necessitating any consideration by the Board of the effect of

any such evidence on the within hearing and application process with a view to assessing the impact thereof on the issue of costs.

Ability to pay however is not the sole consideration of the Board in determining an issue of award of costs.

In Order No. P. U. 14(2004) the Board made an award of fixed costs to the IC. In doing so the Board noted that the issues before the Board in that Application for the particular intervenors were significant and resulted in a fundamental change in historic rate structures. The Board concluded that the intervenors had participated in that particular hearing in a responsible manner and "contributed to the Board's understanding of the issues through the calling and cross-examination of witnesses and the tendering of written and oral argument". (page 154)

On a consideration of the whole of the evidence called and presented in this hearing, while the IC have conducted themselves throughout in a responsible manner, the Board is not of the opinion that the intervention of the intervenors has impacted upon the Board's understanding and determination of the issues before it in the within Application in a manner which should be reflected in an award of costs.

The Board in the exercise of its discretion of the issue of costs will not make any order as to costs herein.

DATED at St. John's, Newfoundland and Labrador, this 13th day of April 2005.

J. William Finn, Q.C.
Presiding Chair.

Gerard Martin, Q.C.,
Commissioner.

Donald R. Powell,
Commissioner.

G. Cheryl Blundon,
Board Secretary.

List of projects identified by the Industrial Customers
in final argument to which they make no objection or comment

APPENDIX

B-20	Purchase/Install Fire Protection System-Microwave Radio Room-Holyrood Generating Station
B-21	Upgrade Civil Structures - Holyrood Generating Station
B-25	Installation of Diesel Generating Set -Stephenville Gas Turbine
B-27	Replace Battery Bank – Hardwood Gas Turbine
B-32	Replace Insulators TL 243
B-40	Replace Battery Banks - Various Stations and Lines
B-71	Replace Dams - Roddickton Mini Hydro
B-81	Replacement of Current Breakers – Hawke's Bay Diesel
B-105	Purchase Global Positioning System
B-109	Replace Dodwell V7600 and Boom V6067
B-114	Replace Energy Management System - Energy Control Centre
B-139	Replace Battery System - Multiple Sites
B-152	Replacement of Chiller - Hydro Place
B-153	Security Assessment of System Operations - Hydro Place
B-154	Upgrade Standby Diesel Fuel System – Hydro Place
B-155	Reconstruct Storage Ramps - Bishop's Falls