Newfoundland & Labrador
BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

IN THE MATTER OF THE

2005 CAPITAL BUDGET APPLICATION

FILED BY

NEWFOUNDLAND POWER INC.

DECISION AND ORDER OF THE BOARD

ORDER No. P.U. 43 (2004)

BEFORE:

G. Fred Saunders
Presiding Chair

Gerard Martin, Q.C.
Commissioner

Walter Vincent
Commissioner

P. U. 43(2004)

IN THE MATTER OF the *Public Utilities Act*, RSN 1990, c. P-47 (the "*Act*");

and

IN THE MATTER OF an application by Newfoundland Power Inc. for an Order pursuant to Sections 41, 78 and 80 of the *Act*:

(a) approving its 2005 Capital Budget of $48,141,000;
(b) (i)fixing and determining its average rate base for 2003 in the amount of $675,730,000;
(ii) approving its revised forecast average rate base for 2004 in the amount of $713,072,000; and
(iii) approving its forecast average rate base for 2005 in the amount of $740,142,000; and
(c) approving revised values for rate base and invested capital for use in the automatic adjustment formula (the "Automatic Adjustment Formula") for the calculation of return on rate base for 2005 pursuant to Order No. P.U. 19 (2003).

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I BACKGROUND

1. The Application

Newfoundland Power Inc. (NP) filed an application with the Board of Commissioners of Public Utilities (the "Board") on August 31, 2004 requesting the Board to make an Order:

a) approving its 2005 Capital Budget of $48,141,000;

b) (i) fixing and determining its average rate base for 2003 in the amount of $675,730,000; (ii) approving its revised forecast average rate base for 2004 in the amount of $713,072,000; and (iii) approving its forecast average rate base for 2005 in the amount of $740,142,000; and

c) approving revised values for rate base and invested capital for use in the automatic adjustment formula (the "Automatic Adjustment Formula") for the calculation of return on rate base for 2005 pursuant to Order No. P.U. 19 (2003).

2. Board Authority

i) Legislation

Section 41(1) of the *Act* requires a public utility to 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. In addition, the utility is also required to include an estimate of contributions toward the cost of improvements or additions to its property which the utility intends to demand from its customers.

Section 41 (3) prohibits a public utility from proceeding without the prior approval of the Board 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; or (b) the cost of the lease is in excess of $5,000 in a year of the lease.

Section 78 gives the Board the authority to fix and determine the rate base for the service provided or supplied to the public by the utility and also gives the Board the power to revise the rate base. Section 78 also provides the Board with guidance on the elements that may be included in the rate base.

Section 80 (1) and (2) entitles a public utility to earn a just and reasonable return as determined by the Board on the rate base as fixed and determined by the Board and gives the Board the power to require the utility to set aside annually a sum for or towards an amortization fund or

other special reserve in respect of a service supplied and the manner in which such a reserve shall be reflected in the operating accounts of the utility.

Section 80 (3) gives the Board discretionary power to allow the utility to charge to operating account reasonable payments each year to former employees who have retired and are receiving payments of supplementary income from the public utility.

Section 80 (4) allows the Board to use estimates of the rate base and the revenues and expenses of a public utility.

(ii) Process

Public notice of this application appeared in newspapers throughout the Province setting September 20, 2004 as the date for the commencement of the public hearing and inviting intervenor submissions. On September 13, 2004 the Board received an intervenor's submission from Newfoundland and Labrador Hydro. This submission was withdrawn on September 18, 2004. No other intervenor submissions were received. The application and supporting information was also posted on the Board's website.

Pursuant to Section 14(1) of the Board's Regulations, information requests were directed to NP from the staff of the Board. Prior to the start of the hearing NP responded to all of the information requests submitted to it. These information requests and responses formed part of the record of the hearing along with the application filed by NP and the supplementary information and exhibits filed and adopted by the various NP witness at the hearing.

The public hearing convened on Monday, September 20, 2004 in the Board's hearings room, 120 Torbay Road, St. John's.

NP was represented by Mr. Peter Alteen, LL.B. and Mr. Gerard Hayes, LL.B.

The Board was assisted by Board Hearing Counsel, Mr. Mark Kennedy, LL.B. and by Ms. Cheryl Blundon, Director of Corporate Services and Board Secretary.

At the commencement of the hearing, with the consent of NP, Board Hearing Counsel filed a report in the form of a letter from the Board's Financial Advisers, Grant Thornton, dated September 15, 2004 (Consent Exhibit # 1). This letter confirmed that Grant Thornton had reviewed NP's 2005 Capital Budget Application, as per the Board's request dated September 7, 2004, and that there were no discrepancies or unusual items found in NP's calculations and that the information filed by NP was consistent with prior years.

In recent capital budget applications the issue of process, and specifically the appropriate standards and filing requirements, has been raised. In Order Nos. P.U. 7(2002-2003), P.U. 35(2004) and P.U. 36(2002-2003) the Board issued specific guidelines to both utilities for subsequent capital budget applications. The Board also outlined its view that a technical conference may be of

assistance in addressing some of the concerns raised with respect to process. The Board has now made the necessary arrangements to proceed to a technical conference in advance of the Capital Budget Application for 2006.

II. PROPOSED 2005 CAPITAL BUDGET PROJECTS

1. Overview

NP has proposed a total capital budget of $48,141,000 comprised of the following major classifications:

Table 1

Classification	Amount ($000s)	% of Total
Energy Supply	$ 3,361	7.0
Substations	3,037	6.3
Transmission	2,597	5.4
Distribution	28,635	59.5
General Property	1,016	2.1
Transportation	2,642	5.5
Telecommunications	60	0.1
Information Systems	3,243	6.7
Unforseen Items	750	1.6
General Expenses Capital	2,800	5.8
Total	**$ 48,141**	**100.0**

Each capital budget classification consists of individual expenditure items organized into projects and includes a description of the project, operating experience, justification and future commitments, if applicable.

In this application NP maintains that the proposed capital expenditures are necessary for it to continue to provide service and facilities which are reasonably safe and adequate and just and reasonable, as required pursuant to Section 37 of the *Act*. (Application, p. 2, para. 5)

2. Energy Supply

While NP is primarily a distribution utility, it operates 23 hydroelectric plants throughout the island portion of the Province providing energy to the island interconnected electrical system. These 23 plants produce a combined average production of 426 GWh.

In addition, NP operates a number of thermal power plants consisting of gas turbines and diesel plants, which are used essentially as backup facilities providing power during planned and unplanned outages.

The 23 hydroelectric facilities range in age from 6 years to 104 years. The average age of these facilities is 59 years. Because of age much of this plant is nearing the end of its useful life. Some of the thermal plants are also nearing the end of their useful lives. In order to fulfill its obligation under the *Electrical Power Control Act*, to provide for the efficient production, transmission and distribution of power at the lowest possible cost consistent with reliable service, NP finds it necessary to replace or refurbish deteriorated, inefficient and obsolete plant.

Proposed 2005 Energy Supply Projects

Proposed capital expenditures under this category total $3,361,000.

The energy supply budget is subdivided into three categories as follows:

1. Hydro Plants B Facility Rehabilitation in the amount of $1,887,000
2. Wesleyville Gas Turbine Overhaul in the amount of $1,124,000
3. Rattling Brook/Hydro Plant Refurbishment in the amount of $350,000

Hydro Plants B Facility Rehabilitation B - $1,887,000

This project consists of a total of eight separate projects, involving either the replacement of, or refurbishment of, deteriorated or damaged equipment and structures. The Board will deal with each item as presented in NP's application.

(i) Cape Broyle B Replace Inlet, Drain and Bypass Valves - $249,000

This project consists of the replacement of an existing turbine inlet valve and associated drain and bypass valves. This equipment was installed in 1952 and NP says that it has eroded to such a point that the equipment no longer performs its intended purpose of providing positive water shutoff, which is required when performing maintenance on the equipment. This results in water leakage through the valve causing the turbine to continue to turn during shutoff.

The Board finds that replacement of the inlet valve and the associated equipment is critical to the continued safe and effective operation and maintenance of this hydro generation plant. A cost benefit analysis indicated an incremental cost of 0.67 cents per kilowatt hour for this plant when levelized over 25 years on a NPV basis.

(ii) Seal Cove-Fenelons Pond Dam Refurbishment - $390,000

This project involves refurbishment of the Fenelons Pond dam, including earth fill embankment, spillway and flow control structures. This dam was originally built in 1946 and is one of 150 dams operated by NP. NP adheres to the Canadian Dam Association Guidelines to manage and engineer its dams. These guidelines have been recognized as industry standards by all utilities in Canada. Mr. Delaney identified several problems with this structure directly attributable to age, deterioration and erosion. (Transcript, Sept. 20, 2004, pp. 25 -29)

The Board concludes that this structure is critical to the safe and effective operation of the Seal Cove hydro generation plant. Refurbishment of these structures will minimize risk of failure and associated risk to public safety and environmental damage. A cost benefit analysis indicates an incremental cost of 2.74 cents per kilowatt hour when levelized over 25 years on a NPV basis.

(iii) Heart's Content B Forebay Canal Refurbishment, Long Pond Dam Refurbishment and Rocky Pond Dam Refurbishment - $337,000

This project involves refurbishment of the existing forebay canal, gate house foundation, Long Pond dam, Rocky Pond dam and spillway, all being critical components of the Heart's Content Hydro generation plant.

Hydrology studies and recent inspections of the structures have identified several problems justifying this project in order to minimize the risk of flooding and associated risk to public safety and environmental damage. These problems include deterioration of the gabion abutments at the Long Pond dam compromising the integrity of the dam embankment, insufficient freeboard allowance at the Long Pond and Rocky Pond dams as well as insufficient height of the forebay canal embankment at Rocky Pond.

The Board finds that these structures are critical to the continued safe and effective operation and maintenance of this hydro generation plant and that refurbishment is justified to minimize the risk of flooding. A cost benefit analysis indicates an incremental cost of 3.43 cents per kilowatt hour when levelized over 25 years on a NPV basis.

(iv) Mobile Replace Inlet, Drain and Bypass Valves - $240,000

This equipment was installed in the early 1950's. NP presented evidence to show that erosion of the valve disk and seals has rendered this equipment ineffective in providing positive water shut off required to perform maintenance on the equipment. As in the case of similar equipment at Cape Broyle, NP has determined that it is now necessary to replace this equipment. Several attempts over the past ten years to repair the equipment have not been successful.

The Board concludes that replacement of this equipment is prudent and reasonable at this time. A cost benefit analysis indicates an incremental cost of 0.58 cents per kilowatt hour when levelized over 25 years on a NPV basis.

(v) Port Union Refurbish Whirl Pond Dam - $76,000

The Whirl Pond dam is a critical component of the Port Union hydro generating plant. Inspections by an independent engineering consultant and NP engineering and operations staff have identified excessive rotting of timber and movement/ settlement of rock-fill throughout the structure.

The Board concludes that refurbishment of the dam is required to minimize risk of failure and associated risk to public safety and the environment.

(vi) Various Plants Upgrade Protection and Controls - $302,000

This project is part of a predictive maintenance program at NP which is directed at the replacement of protection and control systems which are required to provide for the reliable and safe operations of NP hydro plants. NP stated that a lot of this equipment, because of its age, is beyond its serviceable life and is no longer supported by the manufacturer. And further, much of the equipment is obsolete and does not meet present day standards or IEEE minimum protection requirements.

The Board finds that this project is justified on the basis of the continued reliable, safe and environmentally responsible operation of NP's generating stations as well as the application of new technology to better monitor and control these plants to minimize the possibility of costly major failures.

(vii) Refurbish/Replace Hydro Generating Plant Infrastructure & Equipment - $150,000

This project involves the refurbishment or replacement of dams and control structures which are subject to damage or destruction due to natural forces such as ice action, excessive ice loading conditions, wave action during wind storms and spring runoff. According to the evidence of NP, when these conditions occur the integrity of these facilities can be compromised. To minimize risk of failure and associated risks to public safety and environmental damage, NP conducts regular inspections of these structures to identify potential problems. As was indicated these deficiencies normally require immediate attention. (Appendix 1 Volume 2 Energy Supply, p. 6) The proposed expenditure is based on historical experience.

The Board concludes that the proposed expenditure is reasonable and necessary.

The Board finds that the proposed expenditures in the Hydro Plants – Facility Rehabilitation category are prudent and reasonable. These hydro plants contribute to the overall system reliability and the Board is satisfied that these expenditures are necessary in the long term to maintain a reasonable standard of service in the Province.

Wesleyville Gas Turbine Overhaul - $1,124,000

The gas turbine which is the subject of this project was moved from Salt Pond on the Burin Peninsula to Wesleyville and New Wes Valley in 2003. NP felt that this unit was being underutilized at Salt Pond and could be better utilized at Wesleyville in the Bonavista North area. The evidence of NP indicates that since the move it has demonstrated its worth in the Bonavista North area during a power failure due to a sleet storm in early 2004, when it provided power to the community for 21 hours.

This unit is approximately 36 years old and has been the subject of three separate studies. The first study, by Trans Canada Turbines, was done in the year 2000, at which time the unit was found to be in good condition. When the decision was made to move the unit from Salt Pond to

Wesleyville, around March of 2003, NP had a further inspection and evaluation of the unit done by Rolls-Royce, the manufacturer of the unit. This evaluation included, as did the Trans Canada Turbines inspection, a boroscope inspection, which enables the machine to be analyzed internally without the necessity of dismantling the machine. At that time, Rolls-Royce recommended a complete overhaul of the gas turbine. Because of a major system failure on the Burin Peninsula, the decision to overhaul the gas turbine and relocate it to Wesleyville was postponed for one year.

Once the Burin Peninsula situation was resolved, the turbine was moved to Wesleyville. Even though Rolls Royce recommended the overhaul of the unit in March of 2003, the decision was made to relocate the unit to Wesleyville before the overhaul. Mr. Delaney explained, in his evidence, that the reason for this decision was to solve the system reliability problem being experienced in the Bonavista North area. Prior to making that decision, he met with representatives of Rolls Royce and, because the unit was to be used as a backup unit and not run continuously, he exercised his best engineering judgment to relocate the unit prior to overhaul. It would appear from the evidence regarding the power failure earlier in 2004 that this was the correct decision. The additional cost of overhauling the equipment after relocation at Wesleyville, and not prior to, is less than $5,000. (Transcript, Sept. 20, 2004, p. 28/4-9)

The third report, which was done by Rolls Royce in December 2003, again recommended that the unit be overhauled as soon as possible to prevent the possibility of a catastrophic failure. The Report (Volume 2, Energy Supply, Appendix 2, Attachment A) concluded that a complete overhaul of the unit is required.

NP's application is to rebuild or replace the unit as appropriate. In reply to PUB-2, NP indicated that they had identified two alternatives with a view to resolving the gas turbine problem. One alternative was to rebuild the existing unit with the second alternative being the replacement of the unit with a refurbished unit. In his evidence, Mr. Delaney indicated that there is a market for this type of engine and that NP would exercise its judgment as to whether to rebuild the engine or replace it based on which option was the least cost. In response to PUB-2, NP indicated that it did not expect a significant cost difference between the two alternatives.

Both Board Counsel and Counsel for NP addressed the issue of whether or not NP should be required to make a new application to the Board should the scope of the project vary significantly from what has been proposed or should the cost vary significantly from what has been proposed. Counsel for NP, in closing comments, indicated that NP would have no objection to returning to the Board on another application should the scope of this project change materially from what has been proposed.

The Board concludes that the proposal to rebuild or replace the unit is prudent and reasonable. The Board is mindful, as per NP's response to PUB-2, that other factors may well influence the decision to rebuild or replace. Those factors are the cost of the two options including the vintage and service history of a refurbished unit, the warranty coverage and the trade-in value of the existing unit. Given that the cost for either approach is essentially the same the Board will

accept the proposed expenditure and will require that NP report to the Board the details surrounding the alternative which is ultimately chosen.

The Board will require NP to file, with its 2006 Capital Budget Application, a report giving the details of the alternative that was adopted with respect to the Wesleyville Gas Turbine.

Rattling Brook - Hydro Plant Refurbishment - $350,000

This plant went into service in 1958 and is the largest energy producer in NP's system of hydroelectric plants. NP has presented evidence that some of the equipment is 46 years old, is obsolete, and presents challenges when components fail and need to be repaired or replaced. A detailed engineering study outlines the problems with the hydro plant and associated equipment. (Volume II, Energy Supply, Appendix 3) The study suggests that, because of age, many components, including the woodstave penstock and the protection and governor control system and switch gear, have to be replaced. Because of deterioration, the steel surge tank has to be rehabilitated. Failures in the penstock in recent years have allowed large amounts of water to escape in an uncontrolled manner. NP notes that, while temporary repairs have been carried out in recent years, the condition of the penstock in particular and the surge tank now pose a risk of catastrophic failure with the attendant risk of harm to employees and the public.

NP estimates that replacement of the penstock will increase output by approximately ten percent as a result of the increase in the diameter from 2,133 mm to 2,895 mm and the recovery of water presently being lost from the existing wooden penstock. The alternative to replacing the penstock and refurbishing the plant would be to retire it. An economic analysis of the replacement indicates a positive net present value and a levelized cost of energy over the next 25 years at 1.7 cents per kilowatt hour.

The Board finds, when measured against the cost of replacement energy from Hydro's Holyrood Generating Station, the cost of energy from Rattling Brook is significantly lower. The Board concludes that it is prudent and reasonable at this time to carry out an assessment and detailed engineering for the refurbishment of the Rattling Brook hydroelectric station.

The Board will approve each of the proposed expenditures for improvements and additions in relation to Energy Supply and the total budget for Energy Supply in the amount of $3,361,000.

3. Substations

The proposed expenditure for the year 2005 under this heading is $3,037,000. Mr. Delaney, in his evidence, explained that a substation contains all the high voltage equipment, such as transformers, breakers and voltage regulators. This equipment is used to control the transmission and distribution of power. NP manages 137 substations across the Island portion of the Province. These substations in turn contain 1500 pieces of major substation equipment. This equipment

includes 190 power transformers, 400 circuit breakers, 200 reclosers, 340 voltage regulators, 220 potential transformers, and 140 battery banks.

The 137 substations vary in age from 3 years to greater than 100 years and, as will be seen, some of the equipment is obsolete, worn out or defective. There are a total of 6 projects proposed to be carried out in 2005 and the Board will deal with each project separately in the order in which they appear in the application.

Rebuild Substations - $351,000

Under this subheading $251,000 is proposed to replace deteriorated and substandard substation infrastructure such as bus structures, poles, support structures, equipment foundations, switches and fencing. The replacement work will take place primarily at the St. John's main substation, with additional minor work at four other substations. The impetus for this work arises as a result of regular monthly inspections and engineering studies. The work at the St. John's main substation involves construction of two buildings to enclose and protect the switchgear from the elements. This equipment comprises three sections of 15kV metalclad switchgear housing a total of 17 air circuit breakers. The three metalclad switchgear enclosures at St. John's are 21, 26 and 27 years old respectively.

The remaining $100,000 is proposed in relation to four projects as follows:

1. Greenspond B replace feeder bypass switch
2. Grand Bank B replace substation fence
3. Topsail B replace transformer foundation
4. Stephenville B install personnel gates.

The Board finds that the expenditure in relation to the proposal to rebuild substations are prudent and reasonable as it relates to the replacement of equipment which was found on regular inspection to be deteriorated and substandard.

Replacement/Standby Substation Equipment - $1,052,000

There are several projects proposed under this subheading including:

(i) Deteriorated Breaker/Recloser Replacement - $81,000

This project is part of an ongoing program to replace circuit breakers and reclosers that have deteriorated beyond economical repair. It is proposed to replace the 69 kV breaker at the Rocky Pond substation in 2005. NP reports that the Rocky Pond unit is 27 years old, that the arc extinguishing mechanisms have deteriorated, and that parts are no longer available from the manufacturer. The failure of the arc extinguishing mechanism can lead to catastrophic failure.

The Board finds that the replacement of this equipment is necessary to ensure the reliable and safe operation of the electrical system.

(ii) Underrated Interrupting Capacity Breaker Replacement - $79,000

This project involves a replacement of the 25 kV breaker serving the Hardwoods substation. The substation fault level at Hardwoods is 16 KA which exceeds the existing maximum fault interrupting capacity at Hardwoods of 12.5 KA.

The Board finds that this project is necessary to avoid a failure of equipment compromising safety, reliability and the environment.

(iii) Corporate Spares and Replacements - $850,000

This project is proposed to maintain an inventory of spare parts and replacement parts. It is based on operating experience and consists of circuit breakers, reclosers, transformers, voltage regulators, battery banks and other equipment outlined in the application.

The Board accepts that it is essential that NP maintain this inventory in order to replace equipment which is retired due to vandalism, storm damage, lightning strikes, electrical or mechanical failure, corrosion, and technical obsolescence. The replacement of this equipment in a timely fashion is essential to the integrity and reliability of the system.

Transformer Cooling Refurbishment - $174,000

This project involves the replacement of the cooling radiators on two power transformers at the Humber substation. NP states that these radiators have corroded to such a point that they have begun to leak oil. Oil is used as part of the transformers' electrical insulation system. An uncontrolled loss of oil can compromise the system with failure of the transformer and interruption of service to customers and can pose a hazard to the environment.

Equipment inspections have revealed the problems with the cooling radiators at the Humber substation. The radiators were supplied with the transformers when they were purchased in 1968 and 1974, respectively. Exposure to the elements has caused the primer and enamel based paint to rust and blister. NP proposes to replace the original radiators with galvanized units, which provide enhanced rust resistance and a life expectancy of 40 years.

The Board finds that the proposed expenditures are prudent and reasonable in light of the problems found during the inspections which may result in the failure of the transformer and interruption of service to customers.

Protection and Monitoring Improvements - $78,000

This project involves a replacement and/or addition of protective relaying equipment and control devices at substations located at Bay Roberts, Memorial University and Gander.

NP provided evidence that the existing tap changer controllers at Bay Roberts are old and require ongoing adjustments to keep them working properly. The tap changing mechanism ensures that the transformer output voltages are equal and within acceptable limits. If the controls fail, the transformers will adjust their output independently and this can result in circuit flows that overheat the transformers. In severe cases, this can lead to failure of one or both transformers.

NP explained that when the Memorial substation was built, the protective relaying was not designed to accommodate the present load levels. The last time one of the two power transformers at the substation was taken out of service for maintenance, the relaying interpreted the increased power flow through the remaining transformer to be a fault, resulting in the loss of power to the entire Elizabeth Avenue Campus and the Health Sciences/Janeway Hospital Complex. NP proposes to install current transformers on the bus tie breaker which will enable the protective relaying to respond appropriately and avoid the loss of power in such circumstances in the future.

The evidence showed that the protective relaying circuits for three transmissions lines at the Gander substation do not incorporate test block devices. These devices allow portions of the relaying circuits to be isolated for maintenance work by means of a switch, which is safer than having to install wiring to bypass the relays. This reduces the risk to personnel working on the relaying circuits as well as the probability of damage to equipment and service interruptions to customers.

The Board concludes that the proposed expenditure for the installation of the protection and monitoring improvements transformers is prudent and reasonable to ensure continued reliability of service.

Distribution System Feeder Remote Control - $1,114,000

This project is a continuation of a program which was initiated in 2002. It involves the replacement of obsolete, aging and limited function electromechanical feeder relays and oil filled reclosers. This equipment is being replaced with modern multi-function electronic relays and reclosers that can be remotely controlled from the System Control Centre.

NP provided justification for this project in its 2002 Capital Budget Application by filing a report entitled “Distribution Feeder Remote Control and Relay/Recloser Replacement Review” was filed with the Board. At that time the Board agreed that this project was necessary and reasonable.

The Board finds that the replacement of the relays and reclosers continues to be prudent and reasonable as there has been no significant change in circumstances since the approval of the 2002 Capital Budget Application.

Feeder Additions due to Load Growth and Reliability - $268,000

This project involves the installation of a new 12.5 kV feeder at the Virginia Waters substation in the East End of St. John's. A study carried out by NP and filed with the application as "Distribution, Appendix 2, Attachment A" has identified new growth in the east end of St. John's which will require the addition of this new feeder. Three different alternatives were explored. Alternative 1, the addition of the Virginia Waters feeder, was recommended as the lowest NPV alternative that meets all of the technical criteria.

The Board finds that the proposed installation at the Virginia Waters substation is prudent and reasonable.

The Board will approve each of the proposed expenditures for improvements and additions in relation to Substations and the total budget for Substations amount of $3,037,000.

4. Transmission

The proposed expenditures for the year 2005 under this heading total $2,597,000. NP operates 110 transmission lines with an overall length of 2000 kilometers. These lines operate at 138,000 volts and 66,000 volts are run from substation to substation. They are often remotely located and are accessible only by snowmobile or ATV. Thirty percent of the transmission lines are 40 years old. NP manages these transmission lines by annual visual inspection and climbing inspections every five years. Problems and deficiencies that are discovered through these inspections become the subject of proposed expenditures in the annual capital budget.

The proposed expenditure under the heading of transmission is essentially the rebuilding and refurbishing of three transmission lines identified as 11L (Tors Cove-Mobile), 43L (Heart's Content-New Chelsea), and 124L (Clarenville-Gambo). In addition, approximately $1,047,000 is proposed to be spent on the replacement of deteriorated equipment on approximately 50 other lines. No new transmission lines are planned for 2005.

Rebuild 11L (Tors Cove-Mobile) - $343,000

This project involves the rebuilding of a 5 km section of transmission line that runs from the Tors Cove hydro plant to the Mobile substation. The evidence showed that this line, built in 1942, has deteriorated to the point that it has to be replaced. Inspections have determined that upgrading of the poles, cross arms and other hardware is necessary to ensure continuity of service to customers in the area and to maintain a safe and secure link between the Tors Cove hydro plant and the main grid.

The Board finds that rebuilding of the Tors Cove – Mobile transmission line is prudent and reasonable based on the deterioration that was demonstrated by inspection.

Rebuild 43L (Heart's Content-New Chelsea) - $707,000

This transmission line consists of a 25.1 km radial line servicing in excess of 2,500 customers in the New Chelsea-Old Perlican area of the Bay de Verde peninsula. It also provides a tie between the New Chelsea hydro plant and the island interconnected grid. NP proposes to replace an 8 km section of this transmission line which was originally built in 1956 and is now at the end of its useful life.

The Board accepts that the 8 km section Heart's Content – New Chelsea transmission line has reached the end of its useful life and that replacing it at this time is prudent and reasonable.

Rebuild 124L (Clarenville-Gambo) - $500,000

This transmission line is 40 years old and operates at 138,000 volts. When the line was built in 1964 it was constructed using a wind/ice loading criteria that is lower than today's standards. Inspections and surveys have identified sections where the conductor has stretched and sagged to unacceptable levels due to severe ice loading in the past. NP reports that this has resulted in insufficient clearance between the line and the ground, particularly in winter when ice builds up on the line and there is a large accumulation of snow cover on the ground, presenting a safety concern to members of the public, particularly snowmobilers.

This transmission line is 90 km long and is a loop line servicing approximately 2,700 customers. In 2001 and 2003, a 5.2 km section and a 5.5 km section were rebuilt. During the winter of 2003, cross arms on an older section of the line failed during a period of ice accumulation. This resulted in conductors falling to the ground causing a lengthy outage. NP proposes to rebuild a 5 km section in 2005 which will address the clearance problem.

The Board finds that the proposed replacement of the 5 km section of the Clarenville-Gambo transmission line is prudent and reasonable based on the reliability and safety concerns in relation to this section.

The Board will approve each of the proposed expenditures for improvements and additions in relation to Transmission and the total budget for Transmission in the amount of $2,597,000.

5. Distribution

The proposed expenditure for the year 2005 under this heading is $28,635,000.

Approximately 60% of the capital expenditures proposed in this application are for distribution initiatives to upgrade and extend electrical service to NP's 220,000 customers supplied

through its 300 distribution feeders along 8,000 kilometers of distribution lines. Approximately 40% or $11, 400,000 of the distribution category is needed to connect new homes and businesses to the power grid. (Transcript, Sept. 20, 2004, p. 45/24) In recent years growth has been more robust than forecast and that has put some upward pressure on capital expenditures required for customer growth.

Over the next five years NP forecasts that it will invest $256,423,000 in capital improvements and additions to its electrical system with 48%, or approximately $123,000,000, being used to maintain the distribution portion of the system and provide for the addition of new customers. (NP 2005 Capital Budget Plan, App. A, p. 1 of 11)

NP's statutory obligation to provide electrical service to all customers in their service territory not only includes the maintenance of service to existing customers but also includes service to new customers.

In response to a request for information (PUB 30.1 NP) NP provided a copy of its 2004 Corporate Distribution Reliability Review. That review identified feeders that have consistently exhibited poor reliability. Through satisfaction polls NP has determined that its customers consider reliability the most important service issue. NP has identified and prioritized distribution projects and initiatives including the replacement of defective insulators and the upgrading of substations and distribution feeders through the use of outage statistics, such as SAIFI and SAIDI. All electrical power outages and interruptions on the distribution system are tracked and recorded to determine the System Average Interruption Frequency Index (SAIFI), the number of outages a customer experiences and the System Average Interruption Duration Index (SAIDI), the number of hours that a customer is without power.(Transcript, Sept. 20, 2004, p. 49/4)

The goal of the review was to develop an inventory of projects that NP should pursue over the next five years to ensure the continuous improvement in reliability of the distribution system. As a result of that review, using the SAIFI and SAIDI statistics, the 25 worst feeders were identified and a five-year plan was developed consisting of a list of capital projects to be carried out and reviewed annually to determine priority.

Like most North American utilities, NP must address the issue of aging infrastructure. As the infrastructure ages, the power system becomes less safe, less reliable, and more expensive to operate and maintain. NP therefore has focused on the replacement of deteriorated, defective and obsolete electrical equipment. In recent years the focus has been on rural distribution lines where, because of adverse weather and exposure to salt water spray, reliability has been worse than in urban areas.

Extensions - $6,374,000

This project involves the construction of both primary and secondary distribution lines to connect new customers to the electrical distribution system and includes upgrades to the capacity of

existing lines to accommodate increasing loads for existing customers. Labour, materials and other costs are included to install poles, wires and related hardware.

The cost for the connection of new customers is calculated on the basis of historical data adjusted for inflation and divided by the number of new customers in each year to derive an average extension cost per customer. This historical average is then modified by the Gross Domestic Product (GDP) Deflator for Canada before being multiplied by the forecast number of new customers to determine the budget estimate. The forecast number of new customers is derived from economic projections provided by independent agencies. The evidence shows that over the five year period ending with 2004F, capital expenditures for this project will have averaged $5,700,000.

In responses to information requests submitted to NP and through the cross-examination of Mr. Delaney it was shown that the increased average cost of extensions, per unit, from 2001 to budget year 2005 is $247.00 or 10.5%. (RFI 27.2, Transcript, Sept. 20, 2004, p.72/10-11)

The Board is satisfied that given the number of new customers forecast by NP to require service in 2005 and the historically based projections for service upgrades, the proposed expenditures for extensions are prudent and reasonable.

Meters - $965,000

This project includes the purchase and installation of meters for new customers and the replacement of meters for existing customers. In 2005 NP proposes to purchase and install approximately 8,000 energy only domestic meters and approximately 1,000 other energy only and demand meters. The quantity of meters for new customers is based on NP's growth forecast, and for replacement meters the quantity is determined using historical data.

Each year since 2000 NP has been installing a limited number of meters which allow for automatic meter reading (AMR). To date, the program has been applied mainly in situations where it is difficult to access meters for the purpose of reading the customer's consumption or where there is a concern for safety. Mr. Delaney testified that NP is in the midst of doing a study to determine a strategy to assess all aspects of operating and capital expenditures associated with reading the meters of its customers. Mr. Delaney explained that NP was observing what utilities in other Canadian jurisdictions were doing with respect to AMR and when the meter reading strategy was formulated, depending on the outcome, NP would decide if it would form part of its 2006 capital budget proposal.(Transcript, Sept. 20, 2004, pp. 37-42) Given that NP will consider this study in formulating its 2006 capital budget, it should be filed as part of the evidence supporting this application.

The Board concludes that the proposed expenditure to purchase and install meters is prudent and reasonable based on NP's growth forecast and historical data.

The Board will require NP to file, with its 2006 Capital Budget Application, a copy of the study in respect of NP's strategy to assess all aspects of operating and capital expenditures associated with meter reading.

Services - $1,895,000

This project involves the installation of service wires to connect new customers to the electrical distribution system. Service wires are low voltage wires that connect the customer's electrical service equipment to the utility's transformers. The replacement of existing, deteriorated service wires are also included in this project as well as service wires that need to be upgraded to accommodate customers' increased loads.

Historical data, adjusted for inflation, is used to forecast the expenditures associated with this project. The historical average is then modified by the GDP Deflator for Canada before being multiplied by the forecast number of new customers to determine the budget estimate.

The Board is satisfied that the customer growth forecast and the average new service costs per customer used by NP to estimate capital expenditures for this project are prudent and reasonable.

Street Lighting - $1,254,000

This project involves the installation of new lighting fixtures, replacement of existing fixtures, and the provision of associated overhead and underground wiring. The project is driven by customer requests and historical levels of lighting fixtures requiring replacement. The proposed expenditures are calculated on the basis of historical data, adjusted for inflation and divided by the number of new customers in each year to derive an average cost per customer. This historical average is then modified by the GDP Deflator for Canada before being multiplied by the forecast number of new customers to determine the budget estimate. A similar calculation is done for replacement street lights based on the number of customers served.

The Board accepts the basis used by NP for the calculation of the estimate for street lighting installations and replacements and concludes that this proposal is prudent and reasonable.

Transformers - $5,189,000

This project includes the cost of purchasing transformers for customer growth and the replacement or refurbishment of units that have deteriorated or failed.

The project requirements can be divided into three categories as follows:

(i) The number of transformers required for new customers based upon the forecast number of new residential and general service customers.

(ii) Replacement transformers based on field surveys of rusty or deteriorated transformers.

(iii) Transformers required for conversions and upgrades plus a contingency allowance for transformer burnouts and storm damage. This category is estimated on the basis of planned projects and historical data.

The Board is satisfied that the project expenditures for transformers are prudent and reasonable based on the forecast customer growth and NP's policy for replacements, conversions and upgrades.

Reconstruction - $2,825,000

This project involves the replacement of deteriorated or storm damaged distribution structures and electrical equipment. NP identifies projects during the year as a result of line inspections, or following operational problems. By their nature these are high priority projects that cannot be deferred to the next budget year. Mr. Delaney stated that "Reconstruction is used to fix distribution plant that has failed or is in danger of imminent failure." (Transcript, Sept. 20, 2004, p. 54/14) Average historical expenditures are used to estimate proposed expenditure. In 2004, to date, NP has carried out 160 reconstruction projects with an average cost of $8,600. (Transcript, Sept. 20, 2004, p. 55/6)

This project differs from Rebuild Distribution Lines project, which involves rebuilding sections of lines that are identified and planned in advance of budget preparation.

The Board concludes that the reconstruction expenditures proposed by NP are prudent and reasonable based on historical data, including NP's experience to date in 2004.

Aliant Pole Purchase - $4,044,000

This project covers the final installment associated with the Support Structures Purchase Agreement entered into with Aliant Telecom, Inc. in 2001 and approved by the Board in Order No. P.U. 17 (2001-2002).

Rebuild Distribution Lines - $4,210,000

This project involves the replacement of deteriorated distribution structures and electrical equipment that have been previously identified through ongoing line inspections, engineering reviews, or day to day operations. Distribution rebuild projects can involve either the complete rebuilding of deteriorated distribution lines or the selective replacement of various line components including the replacement of poles, cross arms, conductor, cutouts, surge/lightning arrestors, insulators and transformers.

During testimony Mr. Delaney demonstrated, through the use of photographs, the extent of the deterioration and defects that occur on distribution lines and described the resulting impact on reliability and employee safety.

The work proposed for 2005 includes feeder improvements on 52 of NP's feeders, and replacement of deteriorated padmount transformers and underground services.

NP has 8,000 kilometers of distribution lines in service. These lines are inspected in accordance with NP's distribution inspection standards on a five-year rotation to identify deficiencies. In addition, specific engineering reviews and the day to day operations of NP also identify plant deficiencies that need to be addressed within the capital budget program (Schedule B, p. 45 of 73)

The Board is satisfied that the proposed rebuild of distribution lines is prudent and reasonable based on the evidence of NP demonstrating the ongoing requirement to replace deteriorated distribution structures and equipment to maintain and improve, reliability, customer service and safety standards.

Relocate/Replace Distribution Lines for Third Parties - $734,000

This program is necessary to accommodate third party requests for the relocation or replacement of distribution lines resulting from work initiated by municipal, provincial and federal governments, by other utilities or by customers. The cost estimate is based on historical expenditures as well as individual project estimates.

Estimated contributions from customers and requesting parties associated with this project have been included in the $1,500,000 amount for contributions in aid of construction referred to in the application. (p. 1, para. 2)

The Board finds the estimate proposed for this project to be prudent and reasonable given that NP is obliged to respond to requests for relocation and replacement of distribution.

Distribution Reliability Initiative - $872,000

This project involves the replacement of deteriorated poles, conductor and hardware to reduce both the frequency and duration of power interruptions to the customers served by the distribution lines. The nature of the upgrading work follows from a detailed assessment of past problems, knowledge of local environmental conditions (such as salt contamination and wind and ice loading), and engineering knowledge to apply location specific design and construction standards.

The feeders selected for upgrading in 2005 budget year are Lumsden / Cape Freels (WES-02) and Carmenville / Gander Bay (GBY - 02). These projects are identified in the Corporate Distribution Reliability Review (RFI-PUB-30.1 NP) and justified on the basis of reliability

improvement and prioritized based on SAIFI and SAIDI statistics. Project WES-02 is estimated at $1,099,000, of which $692,000 was included in the 2004 Capital Budget with the remainder, $407,000 proposed for 2005. Project GBY-02 is estimated at $863,000 of which $465,000 is proposed to be spent in 2005 and $398,000 will be proposed for the 2006 budget year.

The Board is satisfied that this project is justified and that the expenditures proposed are prudent and reasonable.

Feeder Additions and Upgrades to Accommodate Growth - $173,000

This project consists of the construction of a new feeder, equipment or conductor upgrades on existing feeders, and/or installation of sections of feeders to accommodate energy sales growth.

The work for 2005 includes the construction of a new feeder at Virginia Waters and the installation of voltage regulators on the Broad Cove-04 and Grand Bay-02 feeders.

The Board finds that forecast and actual peak load conditions and customer growth indicate that these projects are prudent and reasonable to maintain the electrical system within recommended guidelines.

Interest During Construction - $100,000

This is an estimate of the interest during construction that will be charged on distribution work orders with an estimated expenditure of less than $50,000 and a construction period in excess of three months. The calculation is based on an estimated monthly average of total distribution work in progress of $1,000,000.

The Board is satisfied that the interest rate which is applied each month is dependent on the source of funds to finance the capital expenditure and is calculated in accordance with Order No. P.U. 37(1981).

The Board will approve each of the proposed expenditures for improvements and additions in relation to Distribution and the total proposed budget for Distribution in the amount of $28,635,000.

6. General Property

The proposed expenditures for the year 2005 under this heading is $1,016,000. Expenditures included in this category include additions to and replacements of property used by staff in the day-to-day operations of NP, but which are not necessarily part of the electrical supply to customers.

Tools and Equipment - $691,000

This expenditure involves the addition or replacement of tools and equipment utilized by line and support staff, as well as the replacement or addition of office furniture and equipment.

Line tools and equipment include those used by line staff, electrical maintenance staff and engineering and field technical staff. Engineering test equipment is used to verify the operation of the protection and remote control systems. Relay test equipment is used to verify a protection system's operation prior to going into service and to diagnose problems once the protection equipment is in operation.

The test equipment includes the base tools required to design, verify and maintain reliable operation of the electrical power system and provide a reliable protection system that properly isolates power system faults and maintains safety.

The Board is satisfied that the expenditures proposed in relation to tools and equipment are prudent and reasonable considering the historical average expenditures over the last five years.

Additions to Real Property - $325,000

This project consists of the renovation of the Duffy Place Maintenance Centre to accommodate generation and mechanical maintenance personnel and the addition of a maintenance bypass module to the uninterruptible power supply (UPS) at the Duffy Place building. The evidence shows that without a bypass switch, all services powered by the UPS, which include the Customer Service Centre, St. John's Area Operations, Disaster Recovery IS Computer Room, SCADA Disaster Recovery Site and Outage Management would be shut down for an extended period of time.

The Board is satisfied that the proposed expenditure in relation to the maintenance center is prudent and reasonable to maintain reliability of service.

The Board will approve each of the proposed expenditures for improvements and additions in relation to General Property and the total budget for General Property in the amount of $1,016,000.

7. Transportation

Purchase Vehicles and Aerial Equipment - $2,642,000

This project involves the replacement of aerial devices (line trucks) and passenger and off-road vehicles which NP has determined to have reached the end of their useful lives. NP's guideline for the replacement of heavy fleet vehicles is 10 years or 250,000 kilometers and for passenger vehicles the guideline is 5 years or 150,000 kilometers. After evaluating each unit for factors such as overall condition, maintenance history and immediate repair requirements NP has determined which vehicle has reached the end of its useful life and should be replaced.

The expenditures for this project for the five year period ending 2004F will have averaged $2,454,000. On the basis of the historical experience of NP over the last five years, NP's ongoing evaluation of its motorized vehicle fleet and the generally accepted life expectancy guidelines for motor vehicles and line trucks, the Board finds that the proposed expenditures in relation to NP's vehicle fleet are prudent and reasonable.

The Board will approve the proposed expenditures for improvements and additions in relation to Transportation and the total budget for Transportation in the amount of $2,642,000.

8. Telecommunications

Replace/Upgrade Communications Equipment - $60,000

This project involves the replacement and/or upgrade of unreliable equipment NP has identified through inspections. NP has approximately 340 mobile radios in service and each year approximately 20 units show a high frequency of breakdown and repair are identified and replaced with more reliable units.

The Board finds that the proposed communications equipment expenditure is prudent and reasonable based on historical experience.

The Board will approve the proposed expenditure for improvements and additions in relation to Telecommunications and the total budget for Telecommunications in the amount of $60,000.

9. Information Systems

The total expenditures of $3,243,000 included in this category relate to the use of technology to improve customer service, operating efficiencies and reliability. This can be achieved by upgrading and enhancing existing software and applications and by extending the life of technology assets. (Transcript, Sept. 20, 2004, p. 148/1-12)

Application Enhancements - $1,087,000

NP has software applications that are custom developed, such as the Customer Service System and the Outage Management System, and others that are vendor provided such as Microsoft Great Plains. NP maintains that this project is necessary to enhance these software applications to support changing business requirements, to provide improvements in customer service and increase operational efficiencies.

The Board is satisfied that the proposed application enhancements are prudent and reasonable based on an assessment of historical expenditures which will have averaged $898,000 over the five year period ending 2004F.

Application Environment - $710,000

NP proposes this project to upgrade technology products and related processes required to support the implementation, upgrading and enhancement of NP's computer applications. It includes upgrades to current software tools, processes and applications as well as the acquisition of new software licences. NP maintains that the maintenance of customer service and operational efficiencies requires annual upgrading of its computer applications.

The Board finds that the proposed expenditure in relation to application environment is prudent and reasonable given that it is it is in line with NP's information technology renewal policy and is in line with the average expenditure for the five year period ending 2004F.

Computer Systems Replacement - $144,000

This project consists of enhancing the nightly Customer Service System (CSS) batch processing (e.g. posting meter readings, posting cash payments, billing, etc.) to reduce the amount of time it takes to execute the programs, reduce the amount of manual intervention currently required, and to reduce NP's dependence on the Open VMS operating system. This will be achieved by enhancing the existing batch processing programs to run more efficiently and by the automatic scheduling of batch processing programs to run during the night.

A financial analysis of the costs and benefits associated with this project results in a positive net present value of $81.570 (RFI-PUB-23.2 NP) over the next five years. The Board concludes that the replacement policy of NP is prudent and reasonable.

Network Infrastructure - $276,000

This project involves the upgrade and replacement of hardware components of NP's network infrastructure to enhance the connectivity and reliability at the data centers located at Kenmount Road, Duffy Place and Topsail Road. These components all work together to enable the transport and sharing of SCADA data, VHF radio signals, and corporate data between NP's computers across the province.

The Board agrees that this project is prudent and reasonable on the basis of NP maintaining customer service and operational efficiencies.

Personal Computer Infrastructure - $455,000

This project involves the addition, upgrade and replacement of computer hardware and related technology associated with NP's personal computing infrastructure to ensure that it continues to provide effective customer service and operate efficiently. NP presently maintains 612 personal computers with approximately 20% of them being retired and replaced annually.

Minimum specifications for replacement of personal computers are reviewed annually to ensure the personal computing infrastructure continues to remain effective. Industry best practices, technology trends and NP's experience are considered when establishing minimum specifications. NP's research and experience indicates that an average of four to six years of useful life is attainable before personal computers require replacement. This is achieved through NP's practice of cascading personal computers to employees who do not require the computing power of newer computers thereby maximizing the asset life of the computer.

The Board concludes that the proposed expenditure is prudent and reasonable given that it is prudent to add, upgrade and replace personal computer infrastructure in accordance with industry best practices so as to continue to provide effective customer service and efficient operations.

Shared Server Infrastructure - $571,000

This project includes the addition, upgrade and replacement of computer hardware components and related technology associated with NP's shared server infrastructure to ensure that NP continues to provide effective customer service and to operate efficiently.

NP proposes to purchase and implement five replacement servers, additional disk storage, memory and CPU upgrades for servers which are currently used to run corporate applications. Enhancements are also proposed to security infrastructure and monitoring capabilities in order to provide adequate protection of customer data, improving operating efficiencies and protection of NP's information technology investment. Additional Citrix software licences will be purchased to provide secure remote access to NP's applications.

Factors considered by NP in determining when to upgrade, replace or add server components include the current performance of the components, the level of support provided by the vendor and other factors determined by NP through its own experience and the advice of industry advisors such as the Gartner Group, a research and advisory firm that helps more than 10,000 businesses understand information technology.

The Board concludes therefore that the proposed expenditure is prudent and reasonable given that it is necessary to maintain an information system which will allow NP to address customer needs and provide equitable access to least cost and reliable power.

The Board will approve the proposed expenditures for improvements and additions in relation to Information Systems and the total budget for Information Systems in the amount of $3,243,000.

10. Unforeseen Items

Allowance for Unforeseen Items - $750,000

This allowance is necessary to cover any unforeseen capital expenditures which have not been budgeted elsewhere. The purpose of the account is to permit NP to act expeditiously to deal with events affecting the electrical system which can not be delayed for the time required to seek the specific approval of the Board. Projects for which these funds are intended are justified on the basis of reliability or on the need to immediately replace deteriorated or damaged equipment.

The Board will approve the proposed Allowance for Unforeseen Items in the amount of $750,000.

11. General Expense Capital

The 2005 capital budget includes an amount of $2,800,000 for General Expense Capital (GEC). The GEC is the amount of NP's administration expenses that are charged to capital, calculated in accordance with Order No. P.U. 3 (1995-1996). The GEC is consistent with previous years and has trended a decline from a level of $10,000,000 in 1993 as a result of Order No. P.U. 3(1995-1996) which directed a change in the method of allocating GEC by moving from a full cost method to an incremental cost method.

The Board is satisfied that the calculation of the amount to be allocated to GEC is in accordance with Order No. P.U. 3 (1995-1996).

The Board finds that the GEC is prudent and reasonable and will approve the $2,800,000 included in the 2005 capital budget.

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 for 2005 is prudent and reasonable.

The Board will approve the 2005 total capital budget proposed by NP in the amount of $48,141,000.

IV RATE BASE

Forecast Deferred Charges

In compliance with Order No. P.U. 19 (2003) NP filed evidence with the Board relating to its forecast deferred charges, including pension costs, to be included in the calculation of the forecast average rate base for 2004 and 2005. The forecast deferred charges for 2004 have increased from

the forecast that was filed in conjunction with NP's 2003 general rate application. The increase of $1.4 million is due to an increase related to the normal operation of the weather normalization account ($1.9 million) offset by a reduction in deferred pension costs ($0.5 million).

The deferred charges for forecast 2004 and 2005 as presented by NP and included in its application are as follows:

Table 2
Deferred Charges
($000s)

	Actual	Forecast	
	2003	**2004**	**2005**
Weather Normalization Account	$ 10,435	$ 11,368	$ 10,242
Deferred Regulatory Costs	693	347	0
Unamortized Debt Discount & Expense	3,370	3,171	3,721
Unamortized Capital Stock Issue Expense	392	325	261
Deferred Pension Costs	72,787	79,218	85,973
Total Deferred Charges	**$ 87,677**	**$ 94,429**	**$100,197**

Source: Report on Deferred Charges and Rate Base - Table 1 (p.1 of 5)

Grant Thornton reviewed the information provided by NP relating to the deferred regulatory costs, the unamortized debt discount and expense and the unamortized capital stock issue expense for continuity and reasonableness and did not note any discrepancies or unusual items.

As explained by NP in its submission, the primary reasons for the changes in these balances are as follows:

- The reduction in deferred regulatory costs in 2004 and 2005 is attributable to the amortization of approximately $1,000,000 in hearing costs that began in 2003.
- The decrease in unamortized debt discount and expense in 2004 is due to regular amortization of these costs over the life of the debt issue. These costs are then forecast to increase in 2005 due to an expected debt issue of $75,000,000 of 30 year first mortgage bonds late that year.
- The unamortized capital stock issue expense is decreasing due to regular amortization of these costs.

Weather Normalization Reserve

The changes in the weather normalization reserve for 2004 and 2005 reflect the Board's approval in Order No. P.U. 19 (2003) of amortization of the recovery of the $5.6 million non-reversing balance in the Hydro Production Normalization Reserve over a period of five years ($1.126 million annually). The normal operation of the Degree Day Normalization Reserve and the Hydro Production Equalization Reserve up to July 2004 has resulted in an overall increase of $2.059

million which is reflected in the 2004 forecast. The 2004 and 2005 forecasts assume normal weather conditions from August 2004 through December 2005.

Grant Thornton reviewed the forecast weather normalization reserve and confirmed that there were no discrepancies or unusual items noted and that the information filed by NP is consistent with prior years.

Deferred Pension Costs

Deferred pension costs is the most significant component of the deferred charges and is the result of the pension funding exceeding the pension expense as determined in accordance with the recommendations of the Canadian Institute of Chartered Accountants (CICA).

NP's forecast changes in deferred pension costs for 2004 and 2005 are set out below:

Table 3
Forecast Deferred Pension Costs
($000s)

	2004F	2005F
Deferred Pension Costs January 1st	$ 72,787	$ 79,218
Pension Plan Funding		
-Current Service Funding	3,367	3,594
-Special Funding	6,384	6,384
Total Pension Plan Funding	**9,751**	**9,978**
Pension Plan Expense	(3,320)	(3,223)
Increase in Deferred Pension Costs	6,431	6,755
Deferred Pension Costs, December 31st	**$ 79,218**	**$ 85,973**

Source: Report on Deferred Charges and Rate Base (p. 4 of 5)

Pension plan funding is comprised of two components: current service funding which is determined by an independent actuary and is related to service rendered by active employees in the current year; and special funding, which refers to additional pension funding requirements to address increases in the unfunded liability in the pension plan since its inception. The status of the unfunded liability is determined each time an actuarial study is completed. Under pension legislation this has to occur at least once every three years (NP Report on Deferred Charges and Rate Base, p. 4 of 5)

A review by Grant Thornton has determined that the calculation of the forecast pension expense is in accordance with the CICA recommendations and with prior years practice.

2003 Average Rate Base

The rate base consists mainly of fixed assets that are used and useful in the generation, transmission and distribution of electricity and upon which, pursuant to the *Act*, NP is allowed to earn a return. Capital expenditures that are approved by the Board annually increase the rate base, and depreciation expense approved by the Board causes the rate base to decrease. The following Table is from Schedule D of NP's application:

Table 4
Rate Base ($000)
Historical Data and Forecasts

	2002	2003	2004F	2005F
Plant Investment	$1,005,674	$ 1,069,420	$1,109,713	$1,146,952
Deduct:				
Accumulated Depreciation	420,736	448,245	464,072	482,406
Contributions in Aid of Construction	19,788	20,300	20,915	21,242
Deferred Income Taxes	-	988	1,425	1,208
Weather Normalization Reserve	(10,919)	(10,435)	(11,368)	(10,242)
	429,605	459,098	475,044	494,614
	576,069	610,322	634,669	652,338
Add-Contributions Country Homes	570	653	550	550
Balance - Current Year	576,639	610,975	635,219	652,888
Balance - Previous Year	553,586	576,639	610,975	635,219
Average	565,113	593,807	623,097	644,054
Cash Working Capital Allowance	4,712	4,977	5,248	5,495
Materials and Supplies	3,512	4,009	4,575	4,085
Average Deferred Charges (*)	-	72,937	80,152	86,508
Average Rate Base at Year End	**$ 573,337**	**$ 675,730**	**$ 713,072**	**$ 740,142**

(*)As per Order No. P.U. 19 (2003)

The average rate base for 2003 as calculated by NP and provided in Schedule D of its application is $675,730,000. This has increased from $573,337,000 in 2002 primarily due to the inclusion of average deferred charges in the calculation commencing in 2003 in accordance with Order No. P.U. 19 (2003). In Order No. P.U. 19 (2003) the Board ordered certain changes to the manner in which average rate base for NP is to be determined. These changes included a move toward the adoption of the asset rate base method and the incorporation of NP's average deferred charges. The Order required NP to file annually with its capital budget application evidence relating to changes in deferred charges, including pension costs. The Order also required the filing of a reconciliation of average rate base to average invested capital. That reconciliation was filed as part of the Report on Deferred Charges and Rate Base, p. 5 of 5, as follows:

Table 5
Reconciliation of Average Investment Capital
to Average Rate Base
($000)

	2003 Actual	2004 Forecast	2005 Forecast
Average Invested Capital	$ 669,779	$ 706,291	$ 736,119
Average Rate Base (per Schedule D)	675,730	713,072	740,142
Difference	(5,951)	(6,781)	(4,023)
Reconciliation:			
Deferred Income Taxes	494	1,206	1.316
Plant (Primarily Construction in Progress)	1,678	1,186	1,657
Corporate Income Tax Deposit	6,949	6,949	6,949
Materials and Supplies (actual vs. allowance)	879	800	1,165
Working Capital (actual vs. allowance)	(24,044)	(25,992)	(25,215)
Common Equity (book vs. regulated)	8,093	9,070	10,105
	$ (5,951)	**$ (6,781)**	**$ (4,023)**

Grant Thornton reviewed NP's 2005 Capital Budget as it pertains to the calculation of the 2003 actual average rate base, the calculations of 2004 and 2005 forecast average rate base and the calculations of the forecast return on average rate base for 2005. Based upon the results of their procedures Grant Thornton did not note any discrepancies in the calculation of the 2003 average rate base, and concluded that the average rate base included in Schedule D of the application is accurate and in accordance with Order No. P.U. 19 (2003).

The Board, pursuant to Section 78 of the *Act,* will fix and determine NP's average rate base for 2003 at $675,730,000.

Forecast 2004 and 2005 Average Rate Base Calculation

The forecast average rate base for 2004 and 2005, as calculated by NP and provided in Schedule D of its application, is $713,072,000 and $740,142,000 respectively. Grant Thornton reviewed the plant investment component and confirmed that it is in agreement with the calculation provided by NP to Grant Thornton and to the information provided in the 2005 Capital Budget Application. Grant Thornton also reviewed the other components of the forecast 2004 and 2005 calculations for reasonableness and noted that the average rate base is increasing primarily due to increased plant investment, as well as an increase in average deferred charges and concluded that the plant investment component and the deferred charges are reasonable in comparison to the prior years.

Pursuant to Section 78 of the *Act,* the Board will approve all of the components of and NP's revised forecast average rate base for 2004 in the amount of $713,072,000 and its forecast average rate base for 2005 in the amount of $740,142,000.

V ORDER

IT IS THEREFORE ORDERED THAT:

1. **Pursuant to Section 41(3) of the *Act,* NP's capital purchases and construction projects in excess of $50,000, as set out in Schedule A this Order, are approved.**

2. **Pursuant to Section 41(1) of the *Act,* the 2005 Capital Budget for improvement and additions to NP's property in an amount of $48,141,000 is approved.**

3. **Pursuant to Section 78 of the *Act,* the rate base for the year ending December 31, 2003 is hereby fixed and determined at $675,730,000.**

4. **The forecast average rate base for 2004 in the amount of $713,072,000 and for 2005 in the amount of $740,142,000, are approved.**

5. **Unless otherwise directed by the Board, NP shall file an annual report to the Board on its 2005 capital expenditures by March 1, 2006.**

6. **Unless otherwise directed by the Board, NP shall provide in conjunction with the 2006 Capital Budget Application, a status report on the 2005 capital budget expenditures showing for each project:**

   (i) the approved budget for 2005;
   (ii) the expenditures prior to 2005;
   (iii) the 2005 expenditures to the date of the application;
   (iv) the remaining projected expenditures for 2005;
   (v) the variance between the projected total expenditures and the approved budget; and
   (vi) an explanation of the variance.

7. **Unless otherwise directed by the Board, NP shall file with the Board, no later than its Capital Budget Application for 2006, a copy of the study with respect to NP's strategy to assess all aspects of operating and capital expenditure associated with meter reading.**

8. Unless otherwise directed by the Board, NP shall file with the Board, no later than its Capital Budget Application for 2006, a report on the chosen alternative with respect to the Wesleyville Gas Turbine.

9. NP shall pay all costs and expenses of the Board incurred in connection with the Application.

Dated at St. John's, Newfoundland and Labrador this 22nd day of November, 2004

G. Fred Saunders,
Presiding Chair.

Gerard Martin, Q.C.,
Commissioner.

Walter Vincent,
Commissioner.

G. Cheryl Blundon,
Board Secretary.

SCHEDULE A

Order No. P.U. 43(2004)

Issued November 22, 2004

ENERGY SUPPLY

Project Title: **Hydro Plants - Facility Rehabilitation**

Location: **Various**

Classification: **Energy Supply**

Project Cost: **$1,887,000**

Project Description

This project is necessary for the replacement or rehabilitation of deteriorated hydro plant components that have been identified through routine inspections.

The work includes the replacement or rehabilitation of major components at the following plants: Cape Broyle; Hearts Content; Mobile; Port Union; and, Seal Cove.

The project also includes expenditures necessary to improve the efficiency and reliability of various hydro plants or to maintain environmental compliance. Details on various items are included in Volume II, Energy Supply, Appendix 1.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$1,401	-	-	-
Labour – Internal	220	-	-	-
Labour – Contract	-	-	-	-
Engineering	224	-	-	-
Other	42	-	-	-
Total	**$1,887**	**$1,851**	**$7,628**	**$11,366**

Operating Experience

The following table gives the expenditures for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$1,670**	**$1,482**	**$2,031**	**$2,510**	**$1,819**

These facilities provide energy to the Island Interconnected electrical system. Maintaining these generating facilities and infrastructure reduces the need for additional, more expensive, generation capacity.

Project Justification

The Company's 23 hydroelectric plants range in age from the 104 year old Petty Harbour Plant to the 6 year old Rose Blanche Plant.

Projects involving replacement and rehabilitation work, which are identified during ongoing inspections and maintenance activities, are necessary to the continued operation of hydroelectric generation facilities in a safe, reliable and environmentally compliant manner. The alternative to maintaining these facilities would be to retire them. These facilities produce a combined average annual production of 426 GWh.

Replacing only the energy produced by these facilities by increasing production at the Holyrood generation facility would require approximately 675,000 barrels of fuel annually. At oil prices of $30 per barrel, this translates into approximately $20 million in annual fuel savings.

Maintaining these generating facilities also contributes to system stability and, in many cases, provides local backup generation.

All material expenditures on individual hydroelectric plants, such as the replacement of penstocks, surge tanks, runners, or forebays, are justified on the basis of maintaining access to hydroelectric generation at a cost that is lower than the cost of replacement options.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Wesleyville Gas Turbine Overhaul**

Location: **Wesleyville**

Classification: **Energy Supply**

Project Cost: **$1,124,000**

Project Description

This project involves the overhaul of the Wesleyville gas turbine. This involves dismantling and shipping the unit to a qualified gas turbine overhaul facility for bulk disassembly and rebuild or replacement as appropriate.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$953	-	-	-
Labour – Internal	58	-	-	-
Labour – Contract	-	-	-	-
Engineering	73	-	-	-
Other	40	-	-	-
Total	**$1,124**	**$0**	**$0**	**$1,124**

Operating Experience

The Wesleyville gas turbine was installed in the Bonavista North area to provide emergency power in the event of loss of supply from the Island electrical grid. In December 2003, the unit was internally inspected by the original equipment manufacturer, Rolls Royce. The inspection report is included in Volume II, Energy Supply, Appendix 2, Attachment A. The inspection revealed damage to a number of the blades in the high-pressure section of the turbine. Rust and corrosion was also detected on various components of the turbine. Protection coatings are worn off the first three stages of the compressor blades. The compressor section of this unit operates at 4,800 revolutions per minute subjecting the blades to considerable rotational inertia under normal operation. It is the original equipment manufacturer's recommendation that this unit be overhauled.

Project Justification

The gas turbine has reached the stage where a bulk disassembly and rebuild is required. A major criteria used by the original equipment manufacturer in determining age and subsequently timing for a gas turbine overhaul is the number of start or attempted starts and the total turbine operating hours. The existing turbine has surpassed both criteria since its last overhaul in 1987. Any in service failure in the unit is a risk to system reliability and security of supply to the customers in the area serviced by the unit.

Future Commitments

None.

Project Title: **Rattling Brook - Hydro Plant Refurbishment**

Location: **Rattling Brook, Norris Arm South**

Classification: **Energy Supply**

Project Cost: **$350,000**

Project Description

This project involves an assessment and detailed engineering for the refurbishment of the Rattling Brook hydroelectric generating station. The project scope includes replacement of the woodstave penstock, rehabilitation of the existing steel surge tank, replacement and refurbishment of the protection and governor control systems, and of switchgear. Detailed engineering assessment is required to further define the scope of work for this project and to determine specific requirements for electrical and mechanical work associated with plant systems. The total cost of the project is currently estimated to be $11.4 million and is planned to be expended as noted.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$-	-	-	-
Labour – Internal	10	-	-	-
Labour – Contract	-	-	-	-
Engineering	276	-	-	-
Other	64	-	-	-
Total	**$350**	**$5,643**	**$5,409**	**$11,402**

Operating Experience

Rattling Brook plant went into service in 1958. The system has operated continuously since that time providing an average of 69.4 GWh of energy on an annual basis. In 2002, Unit # 2 generator stator failed and was rewound, and in 2004, Unit # 1 generator stator will be rewound. With the exception of these upgrades and the addition of remote control capability from the SCADA system in 1988 there has been no significant capital investment in this facility since the original in service date.

The wood stave penstock is in poor condition, with excessive deterioration, and significant leakage along the springline. The penstock has reached the stage where there are significant leaks that develop regularly, and water leaking from the penstock continues to undermine the

supporting structure. The diameter of the penstock is also undersized, and limits the maximum output of the plant when both units are in operation. Engineering studies indicate that increasing the diameter from 2,133mm to 2,895mm diameter and replacing the leaking wooden penstock with a new steel penstock will increase annual output by as much as 7 GWh.

The steel surge tank is in fair to poor condition, and has reached the stage where significant rehabilitation of the structural steel, main tank and internal riser are now required. The external riser has also deteriorated to the point where complete replacement is necessary.

The following table gives the expenditures for the past five years for work at Rattling Brook Hydro Plant:

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$128**	**$100**	**$932**	**$51**	**$477**

Project Justification

Reports including site assessment are included in Volume II, Energy Supply, Appendix 3, Attachments A and B.

Rattling Brook generating station is the largest energy producer in Newfoundland Power's system of hydroelectric plants.

Some of the equipment within the plant is forty-six years old, is obsolete and presents challenges when components fail and need to be repaired or replaced.

The wood stave penstock has experienced failures in recent years that have allowed large amounts of water to escape in an uncontrolled manner. Inspection of the surge tank has identified deterioration of structural steel components and temporary repairs have been carried out in recent years. There is a potential for damage and risk to employee and public safety if a catastrophic failure of either the penstock or surge tank were to occur.

The age of the protection and control equipment, governor and AC station service equipment justifies their replacement based upon obsolescence. Technical support for the electromechanical protection devices is limited, and as a result, the current situation is a mix of technologies created by temporary repairs completed over the years. The protection afforded by the existing electromechanical protection devices no longer provides the minimum standard of protection leaving the units susceptible to damage.

The alternative to replacing the penstock and refurbishing this plant would be to retire it. An economic analysis of the Rattling Brook hydroelectric system, considering this project and the

expected capital and operating expenditures required over the next 25 years, indicates a positive net present value and an incremental levelized cost of energy, including capital and operating expenditures over the next 25 years of 1.7 cents per kWh. Energy from Rattling Brook can be produced at a cost significantly lower than that of replacement energy from Hydro's Holyrood Generating Station.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

2006 - $5,643,000
2007 - $5,409,000

SUBSTATIONS

Project Title: **Rebuild Substations**

Location: **Greenspond, Grand Beach, Topsail and St. John's Main**

Classification: **Substations**

Project Cost: **$351,000**

Project Description

This project is necessary for the replacement of deteriorated and substandard substation infrastructure, such as bus structures, poles and support structures, equipment foundations, switches and fencing.

Replacement work will take place primarily at the St. John's Main substation, with additional minor work at three other substations.

Details are contained in Volume II, Substations, Appendix 1.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$232	-	-	-
Labour – Internal	61	-	-	-
Labour – Contract	-	-	-	-
Engineering	46	-	-	-
Other	12	-	-	-
Total	**$351**	**$429**	**$4,704**	**$5,484**

Operating Experience

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$426**	**$1,191**	**$687**	**$399**	**$531**

Project Justification

The Company has 137 substations varying in age from 3 years to greater than 100 years. The original cost of these substations is in excess of $100 million. Infrastructure to be replaced was identified as a result of monthly inspections and engineering studies. These expenditures will ensure reliable service and address safety concerns.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Replacement and Standby Substation Equipment**

Location: **Various substations including Rocky Pond, Hardwoods, Twillingate and Garnish**

Classification: **Substations**

Project Cost: **$1,052,000**

Project Description

This project is necessary for the replacement of obsolete and/or unreliable electrical equipment and the maintenance of appropriate levels of spare equipment for use during emergencies.

The locations where the work will be undertaken in 2005 are noted above. Details are contained in Volume II, Substations, Appendix 2.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$642	-	-	-
Labour – Internal	223	-	-	-
Labour – Contract	-	-	-	-
Engineering	174	-	-	-
Other	13	-	-	-
Total	**$1,052**	**$1,201**	**$6,727**	**$8,980**

Operating Experience

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$313**	**$232**	**$2,716**	**$1,159**	**$1,287**

Project Justification

The Company has 137 substations. The major equipment items comprising a substation include power transformers, circuit breakers, reclosers, potential transformers and battery banks. In total the Company has approximately 190 power transformers, 400 circuit breakers, 200 reclosers, 340 voltage regulators, 220 potential transformers and 140 battery banks.

The need to replace equipment is determined on the basis of tests, inspections and the operational history of the equipment. The provision of adequate levels of spare equipment is based on past experience and engineering judgement, as well as a consideration of the impact the loss of a particular apparatus would have on the electrical system.

This project is justified based on the need to replace equipment to restore and maintain service. The budget estimate is based on equipment inspections and historical replacement requirements, as well as on assessments of the current stock of spare equipment.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Transformer Cooling Refurbishment**

Location: **Humber**

Classification: **Substations**

Project Cost: **$174,000**

Project Description

This project involves the replacement of cooling radiators on two power transformers at Humber Substation that have begun to leak oil as a result of corrosion. This will address environmental concerns of oil spills due to leaking equipment.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$87	-	-	-
Labour – Internal	37	-	-	-
Labour – Contract	-	-	-	-
Engineering	45	-	-	-
Other	5	-	-	-
Total	**$174**	**$300**	**$600**	**$1,074**

Operating Experience

The original radiators supplied with the transformers when they were purchased in 1968 and 1974 respectively, were coated with primer and enamel based paint for protection from the elements. Exposure to our environment causes the radiators to rust and blister. Eventually the radiators begin to leak at the welded seams and through the thinner cooling panel surfaces.

The original radiators are being replaced with galvanized units, which provide enhanced rust resistance. The new radiators have a life expectancy in the range of 40 years.

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$206**	**$0**	**$0**	**$0**	**$293**

Project Justification

The cost of this project is justified based on the need to replace equipment to maintain reliable service. Oil is used in a transformer as part of its electrical insulation system. An uncontrolled loss of oil would compromise that system with the resulting failure of the transformer and the interruption of service to customers.

The amounts budgeted are based on equipment inspections and historical replacement requirements, as well as the current inventory of backup equipment.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Protection and Monitoring Improvements**

Location: **Bay Roberts, Memorial and Gander**

Classification: **Substations**

Project Cost: **$78,000**

Project Description

This project is necessary for the replacement and/or addition of protective relaying equipment and control devices required to maintain system protection and increase operating reliability.

In 2005, work will take place at Bay Roberts Substation where a tap changer controller will be installed, at Memorial Substation where current transformers will be installed on the bus tie breaker and at Gander Substation where test blocks will be added to the 138 kV bus protection.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$20	-	-	-
Labour – Internal	21	-	-	-
Labour – Contract	-	-	-	-
Engineering	37	-	-	-
Other	-	-	-	-
Total	**$78**	**$625**	**$693**	**$1,396**

Operating Experience

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$92**	**$283**	**$116**	**$448**	**$60**

Project Justification

This project will make improvements to the protection and monitoring systems of the selected substations to allow for the safe and reliable operation of these substations.

The project is justified on the basis of maintaining reliable and safe operation of the electrical system.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Distribution System Feeder Remote Control**

Location: **Various substations including Broad Cove, Lewisporte and Long Lake**

Classification: **Substations**

Project Cost: **$1,114,000**

Project Description

This is a continuation of a project initiated in 2002. It involves replacing a number of aging, limited function, electromechanical feeder relays and oil-filled reclosers with modern multi-function electronic relays and reclosers that can be remotely controlled from the System Control Centre (SCC).

By the end of 2004, the System Control Centre (SCC) will have remote control over 55 feeders through new electronic feeder relays and over 40 feeders through reclosers.

In 2005, 11 feeder relays will be replaced at various substations. There will also be 9 reclosers replaced in Broad Cove, Lewisporte and Long Lake substations.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$587	-	-	-
Labour – Internal	218	-	-	-
Labour – Contract	-	-	-	-
Engineering	290	-	-	-
Other	19	-	-	-
Total	**$1,114**	**$1,024**	**$3,000**	**$5,138**

Operating Experience

The Company's electromechanical feeder relays and oil-filled reclosers are, on average, 25 years old and are nearing the end of their useful life.

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$0**	**$0**	**$1,092**	**$1,165**	**$1,000**

Project Justification

This project is justified on the basis of improvements in safety, operating efficiencies, power system reliability improvements and a reduction in risk to the environment. The report which supports this project, *"Distribution Feeder Remote Control and Relay/Recloser Replacement Review",* was previously filed in response to Request for Information PUB-9.3 in the Newfoundland Power 2002 Capital Budget Application.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Feeder Additions Due To Load Growth and Reliability**

Location: **Virginia Waters Substation**

Classification: **Substations**

Project Cost: **$268,000**

Project Description

This project involves the installation of a new 12.5 kV feeder at the Virginia Waters substation in the east end of St. John's to accommodate growth.

Details are contained in Volume II, Distribution, Appendix 2, Attachment A.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$177	-	-	-
Labour – Internal	35	-	-	-
Labour – Contract	-	-	-	-
Engineering	40	-	-	-
Other	16	-	-	-
Total	**$268**	**$412**	**$380**	**$1,060**

Operating Experience

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$64**	**$282**	**$0**	**$261**	**$200**

Project Justification

The project is justified on the basis of accommodating customer load growth. The proper sizing of equipment is necessary to avoid overloading conductors and equipment and to maintain system reliability.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

TRANSMISSION

Project Title: **Rebuild Transmission Lines**

Location: **Various**

Classification: **Transmission**

Project Cost: **$2,597,000**

Project Description

This project involves the replacement of poles, crossarms, conductors, insulators and miscellaneous hardware due to deficiencies identified during inspections and engineering reviews.

The work includes major upgrades on transmission lines 11L, 43L and 124L. Expenditures estimated at less than $50,000 will take place on approximately 50 other lines.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$1,102	-	-	-
Labour – Internal	665	-	-	-
Labour – Contract	495	-	-	-
Engineering	110	-	-	-
Other	225	-	-	-
Total	**$2,597**	**$5,154**	**$15,506**	**$23,257**

Operating Experience

Many of the Company's transmission lines are experiencing pole, crossarm, conductor, insulator and hardware deterioration. Replacement is required to maintain the strength and integrity of these lines. Thirty per cent of the Company's 110 transmission lines are in excess of forty years of age.

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$727**	**$2,289**	**$2,976**	**$4,026**	**$2,401**

Project Justification

This project is necessary to replace poles, crossarms, conductors, insulators and miscellaneous hardware due to deficiencies identified during annual inspections in order to ensure that such lines provide safe & reliable service to customers.

Detailed information on the projects is outlined in Volume II, Transmission, Appendix 1.

Future Commitments

None.

DISTRIBUTION

Project Title: **Extensions**

Location: **Various**

Classification: **Distribution**

Project Cost: **$6,374,000**

Project Description

This project involves the construction of both primary and secondary distribution lines to connect new customers to the electrical distribution system. The project also includes upgrades to the capacity of existing lines to accommodate customers who increase their electrical load. The project includes labour, materials, and other costs to install poles, wires and related hardware.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$2,089	-	-	-
Labour – Internal	1,959	-	-	-
Labour – Contract	1,516	-	-	-
Engineering	626	-	-	-
Other	184	-	-	-
Total	**$6,374**	**$5,581**	**$16,431**	**$28,386**

Operating Experience

The project cost for the connection of new customers is calculated on the basis of historical data. Historical annual expenditures are adjusted for inflation and divided by the number of new customers in each year to derive an average extension cost per customer. Unusually high and low data is excluded from the average. This historical average is then modified by the GDP Deflator for Canada before being multiplied by the forecast number of new customers to determine the budget estimate. The forecast number of new customers is derived from economic projections provided by independent agencies.

The following table shows the annual expenditure for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$3,981**	**$5,404**	**$5,717**	**$6,586**	**$6,854**

Project Justification

This project is justified on the basis of customer requirements.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Meters**

Location: **Various**

Classification: **Distribution**

Project Cost: **$965,000**

Project Description

This project includes the purchase and installation of meters for new customers and replacement meters for existing customers. In 2005 the Company proposes the purchase and installation of meters as noted in the table below.

Meter Type	Number of Meters
Energy Only Domestic Meters	8,000
Other Energy Only and Demand Meters	1,010

Project Cost

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$787	-	-	-
Labour – Internal	149	-	-	-
Labour – Contract	28	-	-	-
Engineering	-	-	-	-
Other	1	-	-	-
Total	**$965**	**$819**	**$2,479**	**$4,263**

Operating Experience

The purchase of new meters is necessary to accommodate customer growth and to replace deteriorated meters. The quantity of meters for new customers is based on the Company's forecast of customer growth. The quantity for replacement purposes is determined using historical data for retired meters and sampling results from previous years. Sampling is done in accordance with regulations under the Electricity and Gas Inspection Act.

The following table shows the expenditures for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$564**	**$569**	**$674**	**$595**	**$1,287**

Project Justification:

The requirement for regular meters is based on customer requirements and Industry Canada regulations.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Services**

Location: **Various**

Classification: **Distribution**

Project Cost: **$1,895,000**

Project Description

This project involves the installation of service wires to connect new customers to the electrical distribution system. Service wires are low voltage wires that connect the customer's electrical service equipment to the utility's transformers. Also included in this category is the replacement of existing service wires due to deterioration, failure or damage, as well as the installation of larger wires to accommodate customers' additional load.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$567	-	-	-
Labour – Internal	1,024	-	-	-
Labour – Contract	121	-	-	-
Engineering	159	-	-	-
Other	24	-	-	-
Total	**$1,895**	**$1,820**	**$5,473**	**$9,188**

Operating Experience

The project cost for the connection of new customers is calculated on the basis of historical data. For new services, historical annual expenditures are adjusted for inflation and divided by the number of new customers in each year to derive an average new service cost per customer. Unusually high and low data is excluded from the average. This historical average is then modified by the GDP Deflator for Canada before being multiplied by the forecast number of new customers to determine the budget estimate. A similar process is followed for replacement services using historical actual expenditures to replace damaged or deteriorated service wires. Street light customers are excluded for the purpose of this calculation.

The following table shows the expenditures for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$1,532**	**$1,838**	**$1,843**	**$1,989**	**$1,876**

Project Justification

These projects are justified on the basis of customer requirements.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Street Lighting**

Location: **Various**

Classification: **Distribution**

Project Cost: **$1,254,000**

Project Description

This project involves the installation of new lighting fixtures, replacement of existing fixtures, and the provision of associated overhead and underground wiring. A street light fixture includes the light head complete with bulb, photocell and starter as well as the pole mounting bracket and other hardware. The project is driven by customer requests and historical levels of lighting fixtures requiring replacement.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$757	-	-	-
Labour – Internal	326	-	-	-
Labour – Contract	133	-	-	-
Engineering	37	-	-	-
Other	1	-	-	-
Total	**$1,254**	**$1,107**	**$3,313**	**$5,674**

Operating Experience

The project cost is calculated on the basis of historical data. For new street lights, historical annual expenditures are adjusted for inflation and divided by the number of new customers in each year to derive an average cost per new customer. This historical average is then modified by the GDP Deflator for Canada before being multiplied by the forecast number of new customers to determine the budget estimate.

For replacement street lights, historical annual expenditures for replacement of damaged, deteriorated or failed street lights are adjusted for inflation and divided by the total number of customers served in each year to derive an average replacement street light cost per customer. This historical average is then modified by the GDP Deflator for Canada before being multiplied by the forecast of the total number of customers served to determine the budget estimate.

The following table shows the expenditures for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$911**	**$935**	**$1,199**	**$1,287**	**$1,144**

Project Justification

These projects are justified on the basis of customer requirements.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Transformers**

Location: **Various**

Classification: **Distribution**

Project Cost: **$5,189,000**

Project Description

This project includes the cost of purchasing transformers for customer growth and the replacement or refurbishment of units that have deteriorated or failed.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$5,189	-	-	-
Labour – Internal	-	-	-	-
Labour – Contract	-	-	-	-
Engineering	-	-	-	-
Other	-	-	-	-
Total	**$5,189**	**$4,700**	**$13,798**	**$23,687**

Operating Experience

The project requirements can be divided into three categories as follows:

a) The number of transformers required for new customers is based upon the forecast number of new residential and general service customers.

b) Replacement transformers are based on field surveys of rusty or deteriorated transformers.

c) The "other" category is for transformers required for conversions and upgrades, plus an allowance for contingency (burnouts and storm damage, etc.). This category is estimated on the basis of planned projects and historical data.

The following table shows the expenditures for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$4,243**	**$4,550**	**$5,194**	**$5,529**	**$5,340**

Project Justification

This project is required to provide and maintain service to customers.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Reconstruction**

Location: **Various**

Classification: **Distribution**

Project Cost: **$2,825,000**

Project Description

This project involves the replacement of deteriorated or storm damaged distribution structures and electrical equipment. This project is generally comprised of a number of smaller projects that are identified during the year as a result of line inspections, or recognized following operational problems. By their nature, these are high priority projects that normally cannot be deferred to the next budget year. This project differs from the Rebuild Distribution Lines project, which involves rebuilding sections of lines that are identified and planned in advance of budget preparation.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$634	-	-	-
Labour – Internal	1,224	-	-	-
Labour – Contract	719	-	-	-
Engineering	135	-	-	-
Other	113	-	-	-
Total	**$2,825**	**$3,064**	**$9,853**	**$15,742**

Operating Experience

The project cost is estimated on the basis of average historical expenditures related to unplanned repairs to distribution feeders.

The following table shows the expenditures for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$1,888**	**$2,547**	**$2,878**	**$2,846**	**$2,440**

Project Justification

These projects are justified on the need to replace damaged electrical equipment to maintain a safe and reliable system.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Aliant Pole Purchase**

Location: **Corporate**

Classification: **Distribution**

Project Cost: **$4,044,000**

Project Description

This project covers the 2005 installment associated with the Support Structures Purchase Agreement entered into with Aliant Telecom Inc. in 2001.

Operating Experience

Not Applicable.

Project Justification

This project is necessary to comply with the terms of the Support Structures Purchase Agreement between Newfoundland Power Inc. and Aliant Telecom Inc. covering the purchase of all joint-use poles within Newfoundland Power's service territory over a five year period.

Future Commitments

In accordance with the terms of the Support Structures Purchase Agreement, the final amount of $4,044,000 required to complete the purchase of all joint-use poles within Newfoundland Power's service territory from Aliant Telecom Inc. will be paid in 2005.

Project Title: **Rebuild Distribution Lines**

Location: **Various**

Classification: **Distribution**

Project Cost: **$4,210,000**

Project Description

This project involves the replacement of deteriorated distribution structures and electrical equipment that have been previously identified through ongoing line inspections, engineering reviews, or day to day operations. The total budget estimate for this category is based on individual estimates.

Distribution rebuild projects can involve either the complete rebuilding of deteriorated distribution lines or the selective replacement of various line components based on inspections and engineering reviews. These typically include the replacement of poles, crossarms, conductor, cutouts, surge/lightning arrestors, insulators and transformers.

The work for 2005 includes feeder improvements on 56 of the Company's 300 feeders, and the replacement of deteriorated padmount transformers and underground services.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$2,018	-	-	-
Labour – Internal	1,608	-	-	-
Labour – Contract	305	-	-	-
Engineering	53	-	-	-
Other	226	-	-	-
Total	**$4,210**	**$5,347**	**$14,850**	**$24,407**

The following table shows the expenditures for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$755**	**$2,223**	**$3,210**	**$3,351**	**$4,181**

Operating Experience

Distribution feeders are inspected in accordance with Newfoundland Power's distribution inspection standards on a five-year rotation to identify:

a) Deficiencies with plant that are a risk to public safety, employee safety, or are likely to result in imminent failure of a structure or hardware.
b) Transformers containing PCBs that need to be replaced.
c) Transformers that must be replaced due to rust.
d) Locations where lightning arrestors are required as per the 2003 Lightning Arrestor Review. See the 2004 Capital Budget Application, Volume III, Distribution, Appendix 2, Attachment B.
e) Locations where CP8080 and 2-piece insulators still exist. These insulators have a history of failure. See the 2004 Capital Budget Application, Volume III, Distribution, Appendix 2, Attachment C.
f) Locations where current limiting fuses are required in accordance with the internal memo dated January 11, 2000. See the 2004 Capital Budget Application, Volume III, Distribution, Appendix 2, Attachment D.
g) Hardware that has high risk of failure, such as automatic sleeves and porcelain cutouts. See the 2004 Capital Budget Application, Volume III, Distribution, Appendix 2, Attachment E and Attachment F.

In addition to items identified during regularly scheduled inspections noted above, specific engineering reviews and the day to day operations of the Company also identify plant deficiencies that need to be addressed within the capital expenditure program.

Project Justification

The Company has over 8,000 kilometers of distribution lines in service and has an obligation to maintain this plant in good condition to safeguard the public and its employees and to maintain reliable electrical service. The replacement of deteriorated distribution structures and equipment is an important part of meeting this obligation.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Relocate/Replace Distribution Lines For Third Parties**

Location: **Various**

Classification: **Distribution**

Project Cost: **$734,000**

Project Description

This project is necessary to accommodate third party requests for the relocation or replacement of distribution lines. The relocation or replacement of distribution lines results from (1) work initiated by municipal, provincial and federal governments, (2) work initiated by other utilities such as Aliant Telecom, Persona and Rogers Cable, (3) requests from customers or (4) vehicle accident damage.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$185	-	-	-
Labour – Internal	258	-	-	-
Labour – Contract	247	-	-	-
Engineering	22	-	-	-
Other	22	-	-	-
Total	**$734**	**$435**	**$1,305**	**$2,474**

Operating Experience

The cost estimate is based on historical expenditures and individual project estimates. Generally these expenditures are associated with a number of small projects that are not specifically identified at the time the budget is prepared. Historical costs have varied significantly from year to year based on third party requests. Recent increases are primarily due to other utility and government initiated work.

The following table shows the annual expenditures for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$769**	**$585**	**$390**	**$330**	**$620**

Project Justification

The Company must respond to requests for relocation and replacement of distribution facilities under the provisions of agreements in place with the requesting parties.

Estimated contributions from customers and requesting parties associated with this project have been included in the $1.5 million contribution in aid of construction amount referred to in the Application.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Distribution Reliability Initiative**

Location: **Various**

Classification: **Distribution**

Project Cost: **$872,000**

Project Description

The project involves the replacement of deteriorated poles, conductor and hardware to reduce both the frequency and duration of power interruptions to the customers served by the distribution line. The nature of the upgrading work follows from a detailed assessment of past problems, knowledge of local environmental conditions (such as salt contamination and wind and ice loading), and engineering knowledge to apply location specific design and construction standards. Project plans are subsequently developed from an engineering analysis and options are evaluated that improve reliability performance.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$375	-	-	-
Labour – Internal	250	-	-	-
Labour – Contract	116	-	-	-
Engineering	17	-	-	-
Other	114	-	-	-
Total	**$872**	**$1,568**	**$3,000**	**$5,440**

Operating Experience

The following table identifies the feeders selected for upgrading in 2005 and indicates the number of customers affected, and the average unscheduled distribution yearly interruption statistics for the five-year period ending December 31, 2003. The SAIFI and SAIDI statistics exclude planned power interruptions and interruptions due to loss of supply from Hydro. See 2004 Capital Budget Application, Volume III, Distribution, Appendix 3, Attachment A for an analysis of WES-02. An analysis of GBY-02 is contained in Volume II, Distribution, Appendix 1, Attachment A of this Application.

Feeder	Number of Customers	SAIFI[1] Interruptions Per Year	SAIDI[2] Hours Per Year
Lumsden/Cape Freels (WES-02)	766	3.9	8.0
Carmanville/Gander Bay (GBY-02)	886	3.5	8.2
Company Average		**1.6**	**2.3**

Notes:

[1] System Average Interruption Frequency Index (SAIFI) is the average number of interruptions per customer. It is calculated by dividing the number of customers that have experienced an outage by the total number of customers in an area.

[2] System Average Interruption Duration Index (SAIDI) is the average interruption duration per customer. It is calculated by dividing the number of customer-outage-hours (e.g., a two hour outage affecting 50 customers equals 100 customer-outage-hours) by the total number of customers in an area.

The following table shows the expenditures for this project for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$1,776**	**$3,422**	**$1,092**	**$1,546**	**$889**

Project Justification

These projects are justified on the basis of reliability improvement. Customers currently supplied by these feeders experience power interruptions more often or of longer duration than the Company average. Individual feeder projects have been prioritized based on their historic SAIFI and SAIDI statistics.

Expenditures on the distribution reliability initiative have had a positive impact on the reliability performance of the feeders that have been upgraded.

The total WES-02 project is estimated at $1,099,000, of which $692,000 will be expended in 2004, and approximately $407,000 in 2005.

The total GBY-02 project is estimated at $863,000 of which $465,000 will be expended in 2005 and approximately $398,000 in 2006.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: Feeder Additions and Upgrades to Accommodate Growth

Location: **Virginia Waters, Broad Cove and Grand Bay**

Classification: **Distribution**

Project Cost: **$173,000**

Project Description

This project consists of the construction of a new feeder, equipment or conductor upgrades on existing feeders, and/or installation of sections of feeders to accommodate energy sales growth.

The work for 2005 includes the construction of a new feeder at Virginia Waters and the installation of voltage regulators on the Broad Cove-04 and Grand Bay-02 feeders.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$122	-	-	-
Labour – Internal	28	-	-	-
Labour – Contract	19	-	-	-
Engineering	4	-	-	-
Other	-	-	-	-
Total	**$173**	**$202**	**$150**	**$525**

Operating Experience

Forecast and actual peak load conditions and customer growth indicate that these projects are warranted in order to maintain the electrical system within recommended guidelines. See Volume II, Distribution, Appendix 2 for more details.

The following table shows the expenditures for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$262**	**$0**	**$0**	**$454**	**$544**

Project Justification

This project is required to maintain substation transformer loading, voltage regulation and/or conductor loading within recommended guidelines.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitments

None.

Project Title: **Interest During Construction**

Location: **N/A**

Classification: **Distribution**

Project Cost: **$100,000**

Project Description

This is an estimate of the interest during construction that will be charged on distribution work orders with an estimated expenditure of less than $50,000 and a construction period in excess of three months.

Operating Experience

This calculation is based on an estimated monthly average of total distribution work in progress of $1.0 million. The interest rate which is applied each month is dependent on the source of funds to finance the capital expenditure and is calculated in accordance with Order No. P.U. 37 (1981).

The following table shows the expenditures for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$83**	**$78**	**$80**	**$74**	**$100**

Project Justification

These costs are justified on the same basis as the distribution work orders to which they are charged.

Future Commitments

None.

GENERAL PROPERTY

Project Title: **Tools and Equipment**

Location: **Company offices, service buildings and vehicles**

Classification: **General Property**

Project Cost: **$691,000**

Project Description

This project is the addition or replacement of tools and equipment utilized by line and support staff in the day-to-day operations of the Company, as well as the replacement or addition of office furniture and equipment. Details of equipment to be acquired in 2005 are contained in Volume II, General Property, Appendix 1.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$691	-	-	-
Labour – Internal	-	-	-	-
Labour – Contract	-	-	-	-
Engineering	-	-	-	-
Other	-	-	-	-
Total	**$691**	**$505**	**$1,245**	**$2,441**

Operating Experience

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$427**	**$537**	**$378**	**$865**	**$574**

Project Justification

This equipment enables staff to perform work in a safe, effective and efficient manner.

The project cost is based on historical costs for the replacement of tools and equipment that become broken or worn out. Additional or replacement tools are purchased to increase employee productivity, quality of work and overall operational efficiency.

Future Commitments

None.

Project Title: **Additions to Real Property**

Location: **Electrical Maintenance Facility, Duffy Place Building, Kenmount Road Building, Corner Brook West Street Building**

Classification: **General Property**

Project Cost: **$325,000**

Project Description

This project is the addition to, or renovation of, Company buildings and property that are not part of the electrical supply to customers. Details of work associated with each location noted above are contained in Volume II, General Property, Appendix 2.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$221	-	-	-
Labour – Internal	4	-	-	-
Labour – Contract	-	-	-	-
Engineering	2	-	-	-
Other	98	-	-	-
Total	**$325**	**$918**	**$1,854**	**$3,097**

Operating Experience

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$503**	**$407**	**$337**	**$237**	**$271**

Project Justification

The project is necessary to maintain buildings and support facilities and to operate them in a safe and efficient manner.

Future Commitments

None.

TRANSPORTATION

Project Title: **Purchase Vehicles and Aerial Devices**

Location: **Various**

Classification: **Transportation**

Project Cost: **$2,642,000**

Project Description

This project involves the necessary replacement of aerial devices (line trucks), and passenger and off-road vehicles. The Company has determined that the units to be replaced have reached the end of their useful lives.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$2,587	-	-	-
Labour – Internal	46	-	-	-
Labour – Contract	-	-	-	-
Engineering	-	-	-	-
Other	9	-	-	-
Total	**$2,642**	**$2,987**	**$7,871**	**$13,500**

The following table lists units to be acquired in 2004.

Category	No. of Units
Heavy fleet vehicles [1]	7
Passenger vehicles [2]	46
Off-road vehicles [3]	8
Total	**61**

Notes:
[1] The Heavy Fleet Vehicles category includes the purchase of replacement line trucks.
[2] The Passenger/Off-Road Vehicles category includes the purchase of cars and light duty trucks.
[3] The off-road category includes snowmobiles, ATVs and trailers.

Operating Experience

Volume II, Transportation, Appendix 1 provides information with respect to age, odometer reading and maintenance cost for each vehicle selected for replacement.

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$2,276**	**$2,061**	**$1,609**	**$3,429**	**$2,887**

Project Justification

The Company has a guideline that initiates the consideration of the replacement of vehicles. For heavy fleet vehicles the guideline is age of 10 years or 250,000 kilometers. For passenger vehicles the guideline is age of 5 years or 150,000 kilometers.

All units to be replaced have been evaluated for factors such as overall condition, maintenance history and immediate repair requirements. Based on this evaluation, it has been determined that each unit has reached the end of its useful life.

New vehicles are acquired through competitive tendering to ensure the lowest possible cost consistent with reliable service.

Future Commitments

None.

TELECOMMUNICATIONS

Project Title: **Replace/Upgrade Communications Equipment**

Location: **Various**

Classification: **Telecommunications**

Project Cost: **$60,000**

Project Description

This project involves the replacement and/or upgrade of equipment identified during inspections and routine operations.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$35	-	-	-
Labour – Internal	-	-	-	-
Labour – Contract	-	-	-	-
Engineering	25	-	-	-
Other	-	-	-	-
Total	**$60**	**$75**	**$361**	**$496**

Operating Experience

Older vintage radio equipment and towers are susceptible to breakdown and other deficiencies. Where practical, equipment is repaired and deficiencies rectified. However, where it is not feasible to repair the equipment or correct the deficiencies, new units are acquired.

The following table gives the expenditures for the past five years for this project.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$125**	**$94**	**$105**	**$41**	**$160**

Project Justification

Newfoundland Power engages an engineering consultant to inspect radio towers. Deficiencies identified through these inspections are addressed through this project. The Company has approximately 340 mobile radios in service. Each year approximately 20 units that show a high frequency of breakdown and repair are identified and replaced with more reliable units.
The Company will ensure this project is completed at the lowest possible cost consistent with reliable service.

Future Commitments

None.

INFORMATION SYSTEMS

Project Title: **Application Enhancements**

Location: **All Service Areas**

Classification: **Information Systems**

Project Cost: **$1,087,000**

Project Description

The Company has software applications that are custom developed, such as the Customer Service System ("CSS") and the Outage Management System, and others that are vendor provided such as Microsoft Great Plains. This project is necessary to enhance these software applications to support changing business requirements. For details see Volume II, Information Systems, Appendix 1.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$135	-	-	-
Labour – Internal	684	-	-	-
Labour – Contract	-	-	-	-
Engineering	-	-	-	-
Other	268	-	-	-
Total	**$1,087**	**$1,377**	**$3,225**	**$5,689**

Operating Experience

The project cost is based on an assessment of historical expenditures. For comparison purposes, the following table gives the expenditures for this project for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$906**	**$619**	**$726**	**$920**	**$1,319**

Project Justification

This project is justified on the basis of improvements in customer service and increased operational efficiencies.

All materials and services for this project will be purchased after examining the competitive bids of prospective suppliers. Where alternative suppliers do not exist, all materials and services will be negotiated with a sole-source supplier to ensure least cost.

Future Commitments

None.

Project Title: **Application Environment**

Location: **All Service Areas**

Classification: **Information Systems**

Project Cost: **$710,000**

Project Description

This project involves the necessary upgrading of technology products and related processes required to support the implementation, upgrading, and enhancement of the Company's computer applications. It includes upgrades to current software tools, processes and applications as well as the acquisition of new software licences. For details see Volume II, Information Systems, Appendix 2.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$280	-	-	-
Labour – Internal	330	-	-	-
Labour – Contract	-	-	-	-
Engineering	-	-	-	-
Other	100	-	-	-
Total	**$710**	**$701**	**$2,832**	**$4,243**

Operating Experience

The project cost is based on an assessment of historical expenditures. For comparison purposes, the following table gives the expenditures for this project for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$587**	**$560**	**$724**	**$721**	**$811**

Project Justification

This project is justified on the basis of maintaining customer service and operational efficiencies.

All materials and services for this project will be purchased after examining the competitive bids of prospective suppliers. Where alternative suppliers do not exist, all materials and services will be negotiated with a sole-source supplier to ensure least cost.

Future Commitments

None.

Project Title: **Customer Systems Replacement**

Location: **All Service Areas**

Classification: **Information Systems**

Project Cost: **$144,000**

Project Description

This project involves efficiency enhancements to the Customer Service System which also will reduce reliance on the OpenVMS operating system. This includes improvements to the CSS overnight batch processing. For details see Volume II, Information Systems, Appendix 3.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$-	-	-	-
Labour – Internal	103	-	-	-
Labour – Contract	-	-	-	-
Engineering	-	-	-	-
Other	41	-	-	-
Total	**$144**	**$170**	**$526**	**$840**

Operating Experience

The following table gives the expenditures for this project for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$0**	**$0**	**$0**	**$113**	**$226**

Project Justification

This project is justified on the basis of improved operational efficiencies.

All materials and services for this project will be purchased after examining the competitive bids of prospective suppliers. Where alternative suppliers do not exist, all materials and services will be negotiated with a sole-source supplier to ensure least cost.

Future Commitments

None.

Project Title: **Network Infrastructure**

Location: **All Service Areas**

Classification: **Information Systems**

Project Cost: **$276,000**

Project Description

This project involves the replacement of aging network components that have reached the end of their useful life and upgrades to increase the connectivity and reliability of the data centers located at Kenmount Road, Duffy Place, and Topsail Road. For details see Volume II, Information Systems, Appendix 4.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$196	-	-	-
Labour – Internal	53	-	-	-
Labour – Contract	-	-	-	-
Engineering	-	-	-	-
Other	27	-	-	-
Total	**$276**	**$50**	**$250**	**$576**

Operating Experience

The project cost is based on an assessment of historical expenditures. For comparison purposes, the following table gives the expenditures for this project for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$205**	**$0**	**$0**	**$532**	**$393**

Project Justification

This project is justified on the basis of maintaining customer service and operational efficiencies.

All materials and services for this project will be purchased after examining the competitive bids of prospective suppliers. Where alternative suppliers do not exist, all materials and services will be negotiated with a sole-source supplier to ensure least cost.

Future Commitments

None.

Project Title: **Personal Computer Infrastructure**

Location: **All Service Areas**

Classification: **Information Systems**

Project Cost: **$455,000**

Project Description

This project is necessary for the replacement or upgrade of personal computers, printers and associated assets that have reached the end of their useful life. The Company currently experiences a four to six year life cycle for personal computers. In 2005, 113 PCs will be replaced (88 desktop computers and 25 laptop computers). This project also covers the purchase of 6 printers to replace existing printers that have reached the end of their useful life and additional peripheral equipment such as monitors. For details see Volume II, Information Systems, Appendix 5.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$262	-	-	-
Labour – Internal	91	-	-	-
Labour – Contract	-	-	-	-
Engineering	-	-	-	-
Other	102	-	-	-
Total	**$455**	**$550**	**$1,655**	**$2,660**

Operating Experience

The project cost is based on an assessment of historical expenditures. For comparison purposes, the following table gives the expenditures for this project for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$784**	**$405**	**$635**	**$518**	**$459**

Project Justification

This project is justified on the basis of maintaining customer service and operational efficiencies.

All materials and services for this project will be purchased after examining the competitive bids of prospective suppliers.

Future Commitments

None.

Project Title: **Shared Server Infrastructure**

Location: **All Service Areas**

Classification: **Information Systems**

Project Cost: **$571,000**

Project Description

The Shared Server Infrastructure project includes the procurement, implementation, and management of the hardware and software relating to the operation of shared servers. Shared servers are computers that support applications used by multiple employees. Management of these shared servers, and their components, is critical to ensuring that these applications operate effectively at all times.

This project is necessary to maintain current performance on the Company's shared servers and to provide the additional infrastructure needed to accommodate new and existing applications. This involves the replacement and upgrade of disks, processors, and memory, as well as security and monitoring software. For details see Volume II, Information Systems, Appendix 6.

Project Cost (000s)				
Cost Category	**2005**	**2006**	**2007 - 2009**	**Total**
Material	$320	-	-	-
Labour – Internal	163	-	-	-
Labour – Contract	-	-	-	-
Engineering	-	-	-	-
Other	88	-	-	-
Total	**$571**	**$750**	**$2,201**	**$3,522**

Operating Experience

The project cost is based on an assessment of historical expenditures. For comparison purposes, the following table gives the expenditures for this project for the past five years.

Project Cost (000s)					
Year	**2000**	**2001**	**2002**	**2003**	**2004F**
Total	**$286**	**$625**	**$705**	**$1,608**	**$686**

Project Justification

This project is justified on the basis of maintaining customer service and operational efficiencies.

All materials and services for this project will be purchased after examining the competitive bids of prospective suppliers. Where alternative suppliers do not exist, all materials and services will be negotiated with a sole-source supplier to ensure least cost.

Future Commitments

None.

UNFORESEEN ITEMS

Project Title: **Allowance for Unforeseen Items**

Location: **Various**

Classification: **Unforeseen Items**

Project Cost: **$750,000**

Project Description

This allowance is necessary to cover any unforeseen capital expenditures which have not been budgeted elsewhere. The purpose of the account is to permit the Company to act expeditiously to deal with events affecting the electrical system in advance of seeking specific approval of the Board. Examples of such expenditures are the replacement of facilities and equipment due to major storm damages or equipment failure.

Operating Experience

This project provides funds for timely service restoration.

Project Justification

Projects for which these funds are intended and justified on the basis of reliability, or on the need to immediately replace deteriorated or damaged equipment.

The Company will ensure this project is completed at the lowest possible cost consistent with reliable service. All material and contract labour will be obtained through competitive tendering.

Future Commitment

None.

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