IN THE MATTER OF *the Public Utilities Act*, (the "Act"); and

IN THE MATTER OF an Application by Newfoundland Light & Power Co. Limited for approval of: (i) its 1998 capital budget pursuant to s.41 (1) of the Act; (ii) its 1998 capital purchases and construction projects in excess of $50,000 pursuant to s.41 (3) (a) of the Act; and (iii) its leases for 1998 in excess of $5,000 per year pursuant to s.41 (3) (b) of the Act.

NEWFOUNDLAND LIGHT & POWER COMPANY LIMITED

1998 CAPITAL BUDGET

IN THE MATTER OF *the Public Utilities Act*, (the "Act"); and

IN THE MATTER OF an Application by Newfoundland Light & Power Co. Limited for approval of: (i) its 1998 capital budget pursuant to s.41 (1) of the Act; (ii) its 1998 capital purchases and construction projects in excess of $50,000 pursuant to s.41 (3) (a) of the Act; and (iii) its leases for 1998 in excess of $5,000 per year pursuant to s.41 (3) (b) of the Act.

TO: The Board of Commissioners of Public Utilities ("the Board")

THE APPLICATION of Newfoundland Light & Power Co. Limited (the "Applicant") **SAYS** that:

1. The Applicant is a corporation duly organized and existing under the laws of the Province of Newfoundland, is a public utility within the meaning of the Act, and is subject to the provisions of the *Electrical Power Control Act, 1994*.

2. Schedule A to this Application is a summary of the Applicant's 1998 Capital Budget.

3. Schedule B to this Application is a list of those 1998 construction projects and capital purchases in excess of $50,000, exclusive of general expenses capitalized, which are part of the Applicant's 1998 Capital Budget.

4. Schedule C to this Application is a list of those leases proposed to be entered into by the Applicant in 1998 where the cost of the lease is in excess of $5,000 in a year.

5. Schedule D to this Application indicates the categories of expenditures which are part of the Applicant's 1998 Capital Budget together with comparisons for the years 1994 through 1997.

6. Schedule E to this Application is an estimate of future required expenditures on improvements or additions to the property of the Applicant that will not be completed in 1998 as required pursuant to s.41(2) of the Act.

7. Schedule F to this Application is a list of the variances between projected 1997 capital expenditures approved by Order No. P.U. 9 (1996-97) and actual capital expenditures for 1997 as required pursuant to s.41(4) of the Act.

8. The Applicant estimates the total contributions in aid of construction for 1998 to be approximately $1,500,000. All contributions to be recovered from customers shall be calculated in a manner approved by the Board.

9. The proposed expenditures as contemplated by the Applicant's 1998 Capital Budget and the proposed leases as set out in Schedules A to C inclusive are necessary for the Applicant to continue to provide service and facilities which are reasonably safe and adequate and just and reasonable, all as required pursuant to s.37 of the Act.

10. Communications with respect to this Application should be forwarded to the attention of Gerard M. Hayes, Counsel to the Applicant.

11. **THE APPLICANT REQUESTS** that the Board make an Order:

    (i) approving the Applicant's 1998 Capital Budget as summarized in Schedule A hereto, pursuant to Section 41(1) of the Act;

    (ii) approving 1998 capital purchases and construction projects in excess of $50,000 as set out on pages 1 to 10 of Schedule B hereto, pursuant to Section 41 (3) (a) of the Act; and

    (iii) approving 1998 leases in excess of $5,000 per calendar year as set out in Schedule C hereto, pursuant to Section 41 (3) (b) of the Act.

DATED at St. John's Newfoundland, this 28th day of November, 1997

NEWFOUNDLAND LIGHT & POWER CO. LIMITED

Gerard Hayes
Counsel for the Applicant
Newfoundland Light & Power Co. Limited
P.O. Box 8910
55 Kenmount Road
St. John's, NF
A1B 3P6

Telephone: (709) 737-5609
Telecopier: (709) 737-2974

IN THE MATTER OF *the Public Utilities Act*, (the "Act"); and

IN THE MATTER OF an Application by Newfoundland Light & Power Co. Limited for approval of: (i) its 1998 capital budget pursuant to s.41 (1) of the Act; (ii) its 1998 capital purchases and construction projects in excess of $50,000 pursuant to s.41 (3) (a) of the Act; and (iii) its leases for 1998 in excess of $5,000 per year pursuant to s.41 (3) (b) of the Act.

AFFIDAVIT

I, Karl W. Smith, of St. John's in the Province of Newfoundland, Chartered Accountant, make oath and say as follows:

1. That I am employed with Newfoundland Light & Power Co. Limited as Vice-President, Finance and Chief Financial Officer.

2. To the best of my knowledge, information and belief, all matters, facts and things set out in the Application are true.

SWORN to before me at St. John's
in the Province of Newfoundland
this 28th day of November, 1997,
before me:

Barrister

Karl W. Smith

NEWFOUNDLAND LIGHT & POWER CO. LIMITED

1998 CAPITAL BUDGET

TABLE OF CONTENTS

Schedule A

Newfoundland Light & Power Co. Limited
Capital Budget 1998

Budget Summary

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Budget Summary
($'000)

	Substations	Transmission	Distribution	Gen. Property	Transportation	Total
Head Office	303	-	2,308	1,532	96	4,239
St. John's	498	312	4,221	186	341	5,558
Avalon	276	524	1,984	234	187	3,205
Burin	319	62	554	16	87	1,038
Bonavista	188	257	679	30	247	1,401
Gander	74	330	881	38	155	1,478
Grand Falls	223	96	786	27	29	1,161
Corner Brook	178	69	919	71	70	1,307
Stephenville	601	199	928	59	203	1,990
	2,660	1,849	13,260	2,193	1,415	21,377

Other:

Energy Supply	12,581
Telecommunications	1,173
Computing Equipment	2,839
Capital Expenditures Before General Expenses Capital	37,970
General Expenses Capital	3,417
TOTAL CAPITAL EXPENDITURE	41,387

Schedule B

Newfoundland Light & Power Co. Limited
Capital Budget 1998

Projects over $50,000 (exclusive of GEC)

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Projects Over $50,000 (exclusive of GEC)

COMPUTER EQUIPMENT

	$'000	Details on Page
CENTRAL COMPUTING EQUIPMENT		
Local Area Network (LAN) Servers	55	12
MICRO COMPUTERS		
Micro Computers	906	13
Printers	65	15
MAJOR SOFTWARE		
Facilities Resource Management System(FARMS)	86	16
Collaborative Computing	100	17
Infrastructure Management Software	225	19
Technical Environment Migration (CSS)	639	21
Technical Migration/Year 2000 Misc. Systems	132	23
Basic Internet Customer Services	129	24
Interactive Voice Response (IVR) System	198	25
TOTAL - COMPUTER EQUIPMENT OVER $50,000	2,535	

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Projects Over $50,000 (exclusive of GEC)

DISTRIBUTION

	$'000	Details on Page
EXTENSIONS		
Extensions - St.John's	857	26
Extensions - Avalon	300	26
Extensions - Burin	65	26
Extensions - Bonavista	129	26
Extensions - Gander	263	26
Extensions - Grand Falls	217	26
Extensions - Corner Brook	204	26
Extensions - Stephenville	241	26
IDC ON MISC. DISTRIBUTION		
Interest During Construction	100	27
METERS AND EQUIPMENT HEAD OFFICE		
Purchase Meters	357	28
RECONSTRUCTION		
Reconstruction - St.John's	201	29
Reconstruction - Avalon	300	29
Reconstruction - Burin	159	29
Reconstruction - Bonavista	184	29
Reconstruction - Gander	188	29
Reconstruction - Grand Falls	163	29
Reconstruction - Corner Brook	206	29
Reconstruction - Stephenville	196	29
SERVICES		
Install New Services - St. John's	425	30
Replace Services - St. John's	165	30
Install New Services - Avalon	170	30
Replace Services - Avalon	50	30
New Services - Gander	75	30
New Services - Grand Falls	74	30
New Services - Corner Brook	90	30
New Services - Stephenville	98	30
STREET LIGHTING		
New Streetlights - St. John's	232	31
Replace Streetlights - St. John's	208	31
Install New Streetlights - Avalon	89	31

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Projects Over $50,000 (exclusive of GEC)

DISTRIBUTION

	$'000	Details on Page
TRUNK FEEDERS - ST. JOHN'S		
#2 AL Installation Upgrade	250	32
Convert 1 Phase to 3 Phase	65	33
Install Current Limiting Fuses On Distribution	325	34
Feeder Reliability Rebuilds	300	35
Replace CP8080 Insulators	425	36
Upgrade Distribution (<$50K)	233	37
Pole Replace Due to Vehicle Accidents	55	38
Relocate Lines for Private Customers	50	39
Newtel Communications Work Requests	100	40
Relocation for Road Realignments	100	41
Study of Water Street Underground	50	42
Replace 5KV Transformers Below Secondary	50	43
TRUNK FEEDERS - AVALON		
Primary Upgrades	113	44
Reconductor DUN-01 Feeder	266	45
Reconductor RVH-01 Feeder	50	46
Replace CP8080 and 2 Piece Insulators	125	47
Reconductor RVH-02 Feeder	240	48
Replace Aerial Cable at Placentia	90	49
Newtel Communications Work Requests	86	50
TRUNK FEEDERS - GANDER		
Newtel Communications Work Requests	60	51
TRUNK FEEDERS - GRAND FALLS		
Upgrade GFS 4kV to 25kV Standards	54	52
Install Lightning Arresters	53	53
TRUNK FEEDERS - CORNER BROOK		
Relocate BVS-01 Riverside Drive	85	54
Replace WAL 4/0 Feeder Cables	68	55
TRUNK FEEDERS - STEPHENVILLE		
Reconductor Port Au Port Peninsula	54	56
Newtel Communications Work Requests	54	57

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Projects Over $50,000 (exclusive of GEC)

DISTRIBUTION

	$'000	Details on Page
TRANSFORMERS		
Distribution Transformers - St. John's	468	58
Distribution Transformers - Avalon	459	58
Distribution Transformers - Burin	102	58
Distribution Transformers - Clarenville	205	58
Distribution Transformers - Gander	158	58
Distribution Transformers - Grand Falls	125	58
Distribution Transformers - Corner Brook	194	58
Distribution Transformers - Stephenville	120	58
TOTAL - DISTRIBUTION OVER $50,000	**11,238**	

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Projects Over $50,000 (exclusive of GEC)

ENERGY SUPPLY

	$'000	Details on Page
HORSE CHOPS HYDRO PLANT		
Rehabilitate Upper Section of Penstock	200	59
SANDY BROOK HYDRO PLANT		
Replace Emergency Spillway	100	60
LOOKOUT BROOK HYDRO PLANT		
Replace Runner and Wicket Gates Unit #3	117	61
Replace Valve Unit #3	100	62
Replace Turbine Runner Unit #4	177	63
MISCELLANEOUS		
Converting Crown Leases to Grants	73	64
SMALL HYDRO DEVELOPMENTS		
Rose Blanche Brook Hydro Development	11,141	65
PORTABLE DIESEL #2		
Chasis Replacement	50	66
MAJOR ELECTRICAL EQUIPMENT		
Major Electrical Equipment Repairs	150	67
Voltage Regulators	60	68
TOTAL - ENERGY SUPPLY OVER $50,000	**12,168**	

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Projects Over $50,000 (exclusive of GEC)

GENERAL PROPERTY

	$'000	Details on Page
TOOLS AND EQUIPMENT - HEAD OFFICE		
Office Furniture and Equipment	75	69
25kV Protective Gear Test Equipment	62	70
Voltage Sensors and One PC C/W Software	50	71
TOOLS AND EQUIPMENT - ST. JOHN'S		
Tools and Equipment - Engineering and Construction	70	72
Tools and Equipment - Vehicle Service Centre	116	73
TOOLS AND EQUIPMENT - AVALON		
Purchase Engineering and Line Tools	53	74
ADDITIONS TO REAL PROPERTY - HEAD OFFICE		
Renovations to Building	50	75
ADDITIONS TO REAL PROPERTY - AVALON		
Paving and Site Drainage Whitbourne	65	76
Roof - Carbonear Office Building	110	77
ALLOWANCE FOR UNFORSEEN ITEMS		
Allowance for unforseen items	750	78
TOTAL - GENERAL PROPERTY OVER $50,000	**1,401**	

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Projects Over $50,000 (exclusive of GEC)

TELECOMMUNICATIONS

	$'000	Details on Page
CABLE AND LINKS TELECOMMUNICATIONS		
Rose Blanche Communications Line	50	79
Fibre Optic Cable OXP - VIR	100	80
RADIO SYSTEM UPGRADE TELECOMMUNICATIONS		
Repeater Buchans	55	81
Upgrade Radio Towers	70	82
SCADA TELECOMMUNICATIONS		
Study of the Distribution SCADA System	50	83
TELEPHONE EQUIPMENT TELECOMMUNICATIONS		
Telephone System - Call Centre	435	84
Substation Telephone Circuit Protection	124	85
Trouble Call Answering System	75	86
TOTAL - TELECOMMUNICATIONS OVER $50,000	**959**	

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Projects Over $50,000 (exclusive of GEC)

SUBSTATIONS

	$'000	Details on Page
GOULDS SUBSTATION		
Replace Deteriorated Switches on 4L and 18L	57	87
GREENHILL SUBSTATION		
Replace Bus and Switch Insulators	120	88
Replace Radiators on Transformer 200282	59	89
HUMBER SUBSTATION		
Replace Bus and Switch Insulators	67	88
LAURENTIAN SUBSTATION		
Replace Bus and Switch Insulators	91	88
LONG LAKE SUBSTATION		
Replace Transformer - Rose Blanche Project	132	90
LOCKSTON SUBSTATION		
Replace Bus and Switch Insulators	66	88
NEW CHELSEA SUBSTATION		
Replace Bus and Switch Insulators	93	88
NEW GRAND FALLS SUBSTATION		
Replace Bus and Switch Insulators	93	88
RATTLING BROOK SUBSTATION		
Replace Deteriorated Switches	68	91
ROSE BLANCHE BROOK SUBSTATION		
Build New Substation	392	92
ST JOHN'S MAIN SUBSTATION		
Replace Bus and Switch Insulators	65	88
STAMP'S LANE SUBSTATION		
Replace Radiators on Transformer 200245	51	93
PRINCTON POND SUBSTATION		
Prepare Site for Portable Substation Installation	122	94
MISCELLANOUS		
Replace Batteries and Chargers	83	95
Purchase Replacement Equipment	71	96
Purchase Reclosers	53	97
Replace Radiators on Transformer 200241	58	98
TOTAL - SUBSTATIONS OVER $50,000	**1,741**	

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Projects Over $50,000 (exclusive of GEC)

TRANSMISSION

	$'000	Details on Page
34L - ST. JOHN'S		
Relocate for Outer Ring Road	55	99
39L - CARBONEAR		
Replace Suspension Insulators	54	100
110L - BONAVISTA		
Replace Suspension Insulators	51	100
124L - BONAVISTA		
Southwest River Development Transmission Tap	52	101
114L - GANDER		
Relocate Line (Philpotts Mill)	75	102
ROSE BLANCHE FEEDER TO PLANT		
Build New Line to Rose Blanche Hydro Plant	142	103
94L - WHITBOURNE		
Suspension Insulator Replacement	70	100
95L - WHITBOURNE		
Suspension Insulator Replacement	53	100
TOTAL - TRANSMISSION OVER $50,000	**552**	

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Projects Over $50,000 (exclusive of GEC)

TRANSPORTATION

	$'000	Details on Page
PURCHASE OF VEHICLES - ST JOHN'S		
Light Duty Aerial Device, Re-Chassis	87	104
Derrick, Complete	161	105
PURCHASE OF VEHICLES - BONAVISTA		
Light Duty Aerial Device, Upgrade to Single Bucket Material Handler	155	106
PURCHASE OF VEHICLES - GANDER		
Light Duty Aerial Device, Upgrade to Single Bucket Material Handler	155	107
PURCHASE VEHICLES - STEPHENVILLE		
Double Bucket Material Handler, Complete	196	108
TOTAL - TRANSPORTATION OVER $50,000	**754**	

COMMENTARY - JUSTIFICATIONS FOR PROJECTS OVER $50,000

The following pages contain an explanation of each project over $50,000 included in the capital budget. In general, the order of explanations conforms with the order as listed on pages 1 to 10 of Schedule B. Due to the similarity of some projects costing more than $50,000, these projects are grouped for explanation purposes. The following list indicates these groupings.

- Computer Equipment, pages 12 to 25
- Distribution, pages 26 to 58
- Energy Supply, pages 59 to 68
- General Property, pages 69 to 78
- Telecommunications, pages 79 to 86
- Substations, pages 87 to 98
- Transmission, pages 99 to 103
- Transportation, pages 104 to108

Many of the projects are not subjected to formal cost benefit analysis. These are projects which have no reasonable alternatives and are justified on one or more of the following bases as noted on the following pages:

- Deteriorated Equipment: the project is required to replace defective, obsolete or aging plant.

- Customer Requirement: the project is required to service either new load, service an increase in existing loads, restore electrical service or to respond to requests from customers or third parties to relocate existing facilities.

- Safety: the project is required to ensure the safety of company employees or the general public.

- Reliability: the project is justified based on reducing the number and/or duration of customer outages.

- Regulations: the project is required for regulatory or contractual compliance arising out of federal, provincial or municipal statutes, the joint use agreement with Newtel Communications Inc., or CSA standards, etc.

- Customer Service: the project is justified based on customer demands for improvements in customer service.

Notwithstanding the lack of formal cost benefit analysis of some projects, a review is conducted prior to the commitment of funds on a project to ensure the project is still required and is completed in the most cost effective manner possible.

COMPUTER EQUIPMENT

LOCAL AREA NETWORK (LAN) SERVERS

Project Cost $55,000

Nature of Project

This project is to allow for the upgrading or replacement of existing servers and/or the purchase of additional servers. There are twenty servers in the network infrastructure supporting current applications. These servers must be maintained to deliver reliable service as more applications are added and use of existing applications increases. Some examples of upgrade items would be memory, disk storage, Central Processing Unit (CPU) and network connections.

Customer Impact

These components will form part of the infrastructure to support the Customer Service System (CSS).

Project Justification

This project is justified because the upgrades are required to support existing application infrastructure.

Future Commitments

None.

MICRO COMPUTERS

Project Cost $906,000

Nature of Project

This project consists of the purchase of 152 personal computers (PC) and 20 laptop personal computers. With the completion of this project, all Video Display Terminals (VDT) will have been replaced throughout the Company. This move is necessary to increase employee efficiency and capacity by providing electronic mail to all staff whose functions include the necessity to transfer files, documents, spreadsheets, work details, etc. Also, staff who serve customers directly via the Customer Service System (CSS) will need to upgrade from VDT's to PCs to run the CSS after completion of the Technical Migration Project. All staff upgrading to PCs will also gain access to the capabilities of the entire collaborative computing environment including standard spreadsheet, word processor, workflow and calendaring applications.

The past several years have seen an increase in the need to have more computing power placed in the hands of Newfoundland Power's staff. The coming year will complete an overall transition from terminal-based computing to PC-based computing.

In 1998, completion of the migration from the mainframe terminal environment will result in 110 terminals being replaced and 30 abandoned, representing $495,000 of the total $906,500.

Chart of PCs and Terminals			
	1996	1997	1998
PCs	370	450	580
VDTs	200	140	0
Total	570	590	580

Normal replacement/upgrade of PCs and related equipment occurs every four years on average. This represents $261,500 of the total. The balance of $150,000 consists of new requirements for personnel who do not currently have access to either a PC or terminal.

Customer Impact

The majority of these additional units will form part of the infrastructure to support access to the CSS.

Project Justification

Replacing terminals with PCs is required for the new CSS environment, and is also part of the normal transition of technology. These devices have been in operation for over ten years and cannot communicate with the new environment for which business applications are more readily available in the market place.

Normal replacement/upgrades of PCs are largely based upon the increased central processing unit (CPU) speed requirements of newer software. The newer software taxes the limits of the older machines and, over time, older PCs become too slow to be useful.

Future Commitments

None.

PRINTERS

Project Cost $65,000

Nature of Project

Although printers have had a long life cycle at Newfoundland Power, often remaining serviceable for ten years, many have reached the end of their usefulness due to capacity and reliability issues. Printers based on dot matrix technologies generally need replacing due to increased printing requirements and lost productivity from slow print speed and the high degree of manual paper processing. There are four categories: small (generally personal) laser printers, regular office-based workgroup or departmental laser printers, fast laser printers and color printers (currently inkjet-based).

Printer replacements are usually required when a unit reaches the end of its useful life. Normal mechanical deterioration over time can render it unreliable and eventually unusable. Sometimes new application software that creates enhanced output images will not operate with the older printers. Obsolescence also occurs through normal transition of the technology.

One new fast laser printer is required for volume capacity reasons, while the remaining requirements are for replacement of aging and obsolete equipment.

Customer Impact

No direct customer impact.

Project Justification

This project is justified because the replacements are required to support the existing environment.

Future Commitments

None.

FACILITIES RESOURCE MANAGEMENT SYSTEM (FARMS)

Project Cost $86,000

Nature of Project

Newfoundland Power currently uses an internally developed information system called the Facilities Resource Management System (FARMS) to maintain an inventory of its substation facilities and to schedule maintenance work on these facilities. The system was developed a number of years ago to run in a mainframe environment using programming tools which by today's standard are out of date. The system is difficult to upgrade, and has not evolved to meet the changing functional requirements of the Company. In addition, the system is not Year 2000 compliant. This is a particularly important issue since the Company routinely schedules maintenance on substation facilities 10 to 15 years into the future. The system is scheduled for replacement in 1998 because of its limitations.

Customer Impact

The system is used to ensure the Company's substation equipment is properly maintained which results in improved reliability of electrical service to customers.

Project Justification

The Customer Service System (CSS) is being migrated to a new technical environment to take advantage of the capabilities of new technology to better position the Company to deliver value to customers and shareholders. With the migration of the CSS, the old mainframe environment will be de-commissioned because the technical challenges associated with maintaining the old environment for the remaining applications, including the FARMS system, are expected to be difficult to overcome, and costly. Annual operating costs for the old environment are estimated at $100,000. In addition to these costs, there would be costs associated with maintaining technical competence in the old environment, which may eventually not be supported by the vendor.

The preferred approach for replacement of the system is the purchase of a third party solution.

Future Commitments

A further commitment of $50,000 will be required in 1999 to complete this project.

COLLABORATIVE COMPUTING

Project Cost $100,000

Nature of Project

Newfoundland Power began the implementation of Collaborative Computing technology in 1996. The Company's initial focus was on implementing a personal computer based electronic mail system to facilitate improved employee communications, and to start to build an infrastructure for communicating electronically with people outside the Company. The mail system also formed the basis for the infrastructure necessary to build automated workflow applications, which is where a majority of the value of Collaborative Computing technology was expected to be realized.

In 1997, access to the new mail system was extended throughout the Company and the capability to communicate with parties outside the Company through the Internet was established. The Company also implemented a number of automated workflow applications aimed at improving operational efficiencies, reducing operating costs, and meeting regulatory requirements.

In 1998, the Company plans to leverage its investment in Collaborative Computing technology by developing a number of additional workflow applications. These applications will be built using the technology implemented during 1996 and 1997, and will support Customer Service staff as they work to improve customer service while reducing operational costs. Planned applications include: (1) a system for providing Customer Service staff with ready access to information (customer policies & procedures, job aids, directories, etc.) necessary to respond to customer inquiries; (2) a workflow application to facilitate on-line completion and communication of customer letters and forms; (3) a system to allow routing of specific customer and internal requests; and (4) a system for tracking the status of in-transit service orders between field staff and the Call Center.

Customer Impact

These workflow applications will result in a more responsive, timely and accurate level of customer service. Customers will be satisfied at the initial point of contact with Customer Service personnel rather than having their requests or inquiries passed to other staff.

Project Justification

This project is justified on the basis of the increased customer satisfaction when dealing with Company staff as well as efficiency gains in this area. Both on-call and off-call time as well as the time associated with supervisory support will be reduced through the use of these applications.

Future Commitments

None.

INFRASTRUCTURE MANAGEMENT SOFTWARE

Project Cost $225,000

Nature of Project

This project is intended to address the software tools required to support the Information Technology Infrastructure (hardware, software and applications). These tools represent a "dashboard like environment" where the gauges are used to monitor system performance and detect potential problems. The tools fall into two basic categories:

Infrastructure Management - Monitor and troubleshoot activity related to the network of personal computers and application servers. These tools would automatically poll all identified components to obtain their status and report on any necessary action to maintain the integrity of the complete environment. They would also perform scheduled tasks to ensure recovery of the operating environment. Another part of the function of these tools would be to provide process management to support problem resolution and job scheduling.

Application Support - Monitor and troubleshoot activity related to production applications as they operate on a daily basis. More specifically, these tools will be used to ensure the reliability, integrity, and availability of corporate information systems as well as to identify ongoing database maintenance requirements.

Customer Impact

These tools are required to develop, support and maintain the Customer Service System (CSS) and other corporate systems. With these tools, the Company decreases the risk of interrupted or unsatisfactory service levels for our customers.

Project Justification

With the Technical Migration, the Company is migrating to a client/server environment where approximately 600 employees will be using personal computers to communicate with each other and run corporate applications through networking technology. Given the importance of these applications in the Company's daily operations, maintaining a high level of availability is important. Investment in Infrastructure Management and Application Support software is necessary to maintain the high level of availability that has traditionally been achieved in the old mainframe environment. Without these software tools, a reduction of availability of at least 1 percent for all users is expected.

That represents approximately 12,000 hours in lost productivity or an average of $240,000 per year.

Future Commitments

None.

TECHNICAL ENVIRONMENT MIGRATION (CSS)

Project Cost	1996	$ 434,000	
	1997	$1,264,000	(Projected Cost)
	1998	$ 639,000	(Budget)

Nature of Project

Newfoundland Power relies heavily on information technology to deliver value to customers and shareholders. In 1996, the Company initiated a Technical Environment Migration project to replace major components of its computing environment. The key benefits associated with the migration are as follows:

- the replacement of a key software component of the Customer Service System (CSS) which is no longer supported by the vendor;
- the replacement of technology which has reached the end of its useful life;
- the implementation of advanced development tools which will result in more flexible and timely solutions;
- the movement away from mainframe systems to systems which take advantage of the capabilities of networked personal computers as well as more powerful servers;
- the development of systems which offer a more friendly interface and greatly reduce the learning time for users; and
- the move to an open computing environment which allows the Company to use software products from a variety of vendors and to develop systems which are portable to a variety of hardware platforms and which are scalable in terms of the number of users they can support.

In addition to the above, the scope of the Technical Environment Migration project includes work required to make the Company's information systems Year 2000 compliant.

While the Technical Environment Migration encompasses all the Company's corporate information systems, the initial focus of this initiative is the CSS, due primarily to its size and critical nature.

Customer Impact

The Company's ability to provide quality customer service and to minimize costs is directly affected by its use of information technology. This project is necessary to ensure the continued availability of the Company's mission critical systems and to take advantage of the capabilities of emerging technology.

Project Justification

A cost benefit study (filed as NLH-5, a response to a Request for Information, dated December 3, 1996) was conducted in December 1996 to compare the costs of migrating the CSS to a new technical environment with the cost of staying with the old environment. The results favored the technical migration by a net present value of $591,376. The following table shows the projected costs that the cost benefit study were based on as well as revised estimates prepared in October 1997.

Year	December 1996	October 1997
1996	$ 490,000	$ 433,743
1997	$ 1,000,000	$ 1,264,461
1998	$ 400,000	$ 639,100
Total	$ 1,890,000	$ 2,337,304

There are two main reasons for the increase in expected costs. Experience gained through the first nine months of 1997 indicates that additional effort will be required over that which was originally projected. This additional effort accounts for $ 350,000 of the projected $450,000 increase in total expenditures. In addition, the scope of the project has been expanded to include three systems which interface with the CSS. These are the Street Light Management System, the Joint Use Poles System, and the Metering Equipment System. The work involved in migrating these systems to the new environment accounts for $100,000 of the projected $450,000 increase in total expenditures.

Despite the projected increase in costs, the Technical Environment Migration for the CSS remains a cost-effective initiative. The revised cost benefit study favors the migration to the new environment by a net present value of $435,166 over a ten year period.

Future Commitments

None.

TECHNICAL MIGRATION/YEAR 2000 MISC. SYSTEMS

Project Cost $132,000

Nature of Project

During 1998, the Company will focus on migrating a number of smaller systems to the new technical environment. These systems will be made Year 2000 compliant through the process.

Smaller corporate systems that will be migrated to the new technical environment include the Protective Equipment System, the Switching Order System, the Spill Reporting System, the Problem Call Logging System, the Interruption Reporting System, and the Attendance/Vacation system. Third party solutions will be sought in cases where there are significant functional limitations or where the work involved in migrating the systems to the new technical environment is cost prohibitive.

Customer Impact

The Company's ability to provide quality customer service, meet regulatory requirements (particularly with respect to accounting and human resources) and ensure efficiency in its daily operations is directly affected by its use of the information systems identified above. This project is necessary to ensure the continued availability of these systems and to take advantage of the capabilities of emerging technology.

Project Justification

The Customer Service System (CSS) is being migrated to a new technical environment to take advantage of the capabilities of new technology to better position the Company to deliver value to customers and shareholders. With the migration of the CSS, only a number of smaller corporate systems will be running in the old mainframe environment. The migration of these applications to the new technical environment will result in benefits to the Company similar to those expected with the CSS. In addition, the costs and technical challenges of maintaining the old environment for these applications are prohibitive. Annual operating costs for the old environment are estimated at $100,000. The Company would also incur costs to maintain technical competence in the old environment and may be faced with having to maintain technology which is no longer supported by the vendor.

If this project is not completed it will restrict the ability of Operations and Engineering departments to effectively carry out their work.

Future Commitments

None.

BASIC INTERNET CUSTOMER SERVICES

Project Cost $129,000

Nature of Project

Newfoundland Power established a Home Page on the Internet in 1995 to promote the Company and to improve communications with its customers and shareholders. Through the Company's Home Page, customers are able to access information about Company management, financial results, regulations and rates, services offered by the Company, Company sponsored energy programs, and the efficient use of electrical energy.

The Company's future investments in the Internet will determine the extent to which it is able to take further advantage of the technology. To date, the Company has been limited in its use of the Internet as a forum for communicating with customers since its Home Page only supports one way communications. Customers are able to retrieve information, but are not able to correspond with the Company, other than through electronic mail. The real opportunity associated with the Internet is to use it as a medium for completing business transactions.

In 1998, Newfoundland Power plans to pursue these opportunities. The Company will initially focus on ensuring the validity and accuracy of the information that is available, as well as improving the user interface. Subsequently, the Company will implement functionality that will allow customers to complete some of the more routine transactions through the Internet. Examples include obtaining account balance and payment information, requesting final readings, and requesting account name changes.

Customer Impact

The Company's ability to provide quality customer service and to minimize costs is directly affected by its use of information technology. In addition to providing customers with improved access to information, this project will provide customers with more flexibility for conducting business with the Company outside normal business hours. In addition, Customers who have a preference for conducting business electronically will be provided with that alternative.

Project Justification

This project is justified on the basis of increased customer satisfaction and a reduction in response to routine information requests and processing routine transactions.

Future Commitments

None.

INTERACTIVE VOICE RESPONSE (IVR) SYSTEM

Project Cost $198,000

Nature of Project

Interactive Voice Response (IVR) systems are used in all types of businesses today and offer companies opportunities to achieve greater levels of productivity, efficiency and customer service. IVR systems allow a caller to interact directly with information stored in a database through a touch-tone telephone. Effective use of IVR systems in Call Centre environments provides customers with the ability to choose automated inquiries. IVR systems allow companies to redirect the skill set of Call Centre agents to handle callers requiring more attention thus increasing customer satisfaction.

At Newfoundland Power's Call Centre, 20% of calls received on a yearly basis are for basic account information such as balance on accounts and payment histories. These requests are ideal candidates for an IVR Application. As well, there are future opportunities for items such as final read requests, customer meter readings, and requests for service. others.

The return on this IVR investment will be seen through a reduction in abandoned calls, more efficient handling and processing of calls, reduced operating costs, 24 hours and 7 days a week service and increased customer satisfaction.

Customer Impact

The Company's ability to provide quality customer service and to minimize costs is directly affected by its use of information technology. In addition to providing customers with improved access to information, this project will provide customers with more flexibility for conducting business with the Company outside normal business hours. In addition, customers who have a preference for conducting business electronically will be provided with that alternative.

Project Justification

This project is justified on the basis of increased customer satisfaction and a reduction in the response to routine information requests and processing routine transactions.

Future Commitments

None.

DISTRIBUTION

EXTENSIONS

Project Cost

St. John's	$857,000
Avalon	$300,000
Burin	$ 65,000
Bonavista	$129,000
Gander	$263,000
Grand Falls	$217,000
Corner Brook	$204,000
Stephenville	$241,000
Total	$2,276,000

Nature of Project

Extensions cover many projects driven by customer activity, the specifics of which are unknown at the time of budgeting, and consist of both primary and secondary line work associated with the day to day connection of customers and work required as a result of existing customers increasing their electrical load.

Customer Impact

These projects provide electrical service to new customers or increase supply capacity to existing customers.

Project Justification

These projects are justified on the basis of customer requirements.

Future Commitments

None.

INTEREST DURING CONSTRUCTION

Project Cost $100,000

Nature of Project

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. This calculation is based on an estimated monthly average of total distribution work in progress of $1,000,000. The interest rate which is applied each month is dependent on the source of funds to finance the capital expenditure and, in accordance with Order No. P.U. 37 (1981), this rate will be the mid-point of the rate of return on all internally generated funds or the prime bank rate on externally derived funds.

Customer Impact

No direct customer impact.

Project Justification

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

Future Commitments

None.

PURCHASE METERS

Project Cost $357,000

Nature of Project

This includes the cost of purchasing and handling revenue meters for new customers as well as replacement meters for existing customers. For replacements the quantities of meters required are determined using historic data for damaged meters and sampling results from previous years. Sampling is done in accordance with regulations by Industry Canada.

Customer Impact

New meters are required to provide service to new customers and to maintain service to existing customers.

Project Justification

This project is justified on the basis of customer requirements.

Future Commitments

None.

RECONSTRUCTION

Project Cost

St. John's	$201,000
Avalon	$300,000
Burin	$159,000
Bonavista	$184,000
Gander	$188,000
Grand Falls	$163,000
Corner Brook	$206,000
Stephenville	$196,000
Total	$1,597,000

Nature of Project

This includes the reconstruction of existing distribution lines due to the deterioration of plant which cannot be deferred to the next budget period. These are normally small projects consisting of one or two poles per project. Reconstruction is budgeted based on historical data.

Customer Impact

These projects maintain or improve reliability to existing customers.

Project Justification

These projects are justified on the basis of reliability to existing customers.

Future Commitments

None.

SERVICES

Project Cost

St. John's,	New	$ 425,000
	Replacements	$ 165,000
Avalon,	New	$ 170,000
	Replacements	$ 50,000
Gander,	New	$ 75,000
Grand Falls,	New	$ 74,000
Corner Brook,	New	$ 90,000
Stephenville,	New	$ 98,000
Total		$1,147,000

Nature of Project

Services cover many projects driven by customer requirements and include all costs associated with the installation of new and replacement services. The quantities of new services are calculated from the customer forecast, whereas quantities of replacement services are estimated as a percent of customers in service based on historical data.

Customer Impact

These projects provide and maintain electric service to new and existing customers.

Project Justification

These projects are justified on the basis of customer requirements.

Future Commitments

None.

STREET LIGHTING

Project Cost

St. John's,	New	$232,000
	Replacements	$208,000
Avalon,	Replacements	$ 89,000
Total		$529,000

Nature of Project

Street lighting covers many projects driven by customer requirements and includes all costs associated with the installation of new and replacement street lights. Quantities of new street lights are estimated as a percent of new customers, whereas quantities of replacement street lights are estimated as a percent of existing in-service street lights based on historical data.

Customer Impact

These projects provide and maintain street lighting service to new and existing customers.

Project Justification

These projects are justified on the basis of customer requirements.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
#2 AL INSTALLATION UPGRADE

Project Cost $250,000

Nature of Project

St. John's Region is experiencing a high incidence of #2 Al (aluminum) conductor failures. The failures result from deterioration of conductor which has reached the end of its useful life. The failures cause power outages, increase operating costs, and pose a safety risk to personnel and the general public. This project entails the replacement of deteriorated #2 Al conductors.

Customer Impact

This project improves service reliability and safety.

Project Justification

This project is justified on the basis of reliability and safety.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
CONVERT 1 PHASE TO 3 PHASE

Project Cost $65,000

Nature of Project

In 1997, the Company conducted a loading study of single phase branch lines in the St. John's region. The study identified a number of branch lines that are overloaded and that may fail thereby posing a safety and reliability risk. This project eliminates the overloading problem by upgrading the single phase branch lines to three phase.

Customer Impact

This project improves service reliability and safety.

Project Justification

This project is justified on the basis of reliability and safety.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
INSTALL CURRENT LIMITING FUSES ON DISTRIBUTION TRANSFORMERS

Project Cost $325,000

Nature of Project

A current limiting fuse is a device which limits the amount of energy flowing to equipment during a power system fault and, thereby prevents catastrophic failures of power system components. In 1998, St. John's Region, which has the highest fault levels, will install current limiting fuses on distribution transformers and cutouts in selected areas to improve the safety of the power system.

Customer Impact

This project improves public and personnel safety.

Project Justification

This project is justified on the basis of safety.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
FEEDER RELIABILITY REBUILDS

Project Cost $300,000

Nature of Project

As a major initiative to improve service reliability, the St. John's Region will perform concentrated rebuilding projects on five feeders annually. This project focuses on feeders that exhibit the worst reliability performance. The rebuilding involves upgrading the distribution system to current standards and correcting all deficiencies identified through infra-red thermoscanning and line inspections.

Customer Impact

This project improves service reliability.

Project Justification

This project is justified on the basis of reliability.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
REPLACE CP8080 INSULATORS

Project Cost $425,000

Nature of Project

The Company is experiencing a high incidence of CP8080 insulators failures. (CP8080 is an abbreviation for the manufacturer and model number, i.e. Canadian Porcelain, 8080). The failures stem from a phenomenon known as 'cement-growth' where cracks develop in insulators due to the expansion and contraction of the cement compound used in the construction of the insulator. These cracks eventually lead to the structural failure of the insulator which causes power interruptions, poses a safety hazard for personnel, and increases operating costs. The Company is committed to the replacement of all CP8080s on critical sections of the system such as hospital feeders and multi-circuit feeders by the year 2002.

Customer Impact

This project improves service reliability and safety.

Project Justification

This project is justified on the basis of reliability and safety.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
UPGRADE DISTRIBUTION (<$50K)

Project Cost $233,000

Nature of Project

This project is comprised of several planned projects, each costing less than $50,000, that are grouped together for budgeting purposes. These projects are identified through routine inspections and are not of an emergency nature but, if left unresolved, could result in a degradation of service. Typical projects include the replacement of secondary conductor and poles.

Customer Impact

This project improves service reliability.

Project Justification

This project is justified on the basis of reliability.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
POLE REPLACEMENTS DUE TO VEHICLE ACCIDENTS

Project Cost $55,000

Nature of Project

This project involves the replacement of poles and other distribution equipment required as a result of vehicle accident damages.

Customer Impact

These projects restore electrical service.

Project Justification

These projects are justified on the basis of customer requirements. Most of the costs are recovered from third parties.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
RELOCATE LINES FOR PRIVATE CUSTOMERS

Project Cost $50,000

Nature of Project

This work is initiated at customer requests to have poles and anchors relocated or removed from private property. A portion of the cost of this work is recovered from the customer.

Customer Impact

No direct customer impact.

Project Justification

This project is justified on the basis of customer requirements.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
NEWTEL COMMUNICATIONS WORK REQUESTS

Project Cost $100,000

Nature of Project

This work is required by Newtel Communications pursuant to the Joint Use Agreement. A portion of the cost of this work is recovered from Newtel Communications.

Customer Impact

No direct customer impact.

Project Justification

This project is justified as it arises from a contractual agreement for the joint use of facilities.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
RELOCATIONS FOR ROAD REALIGNMENTS

Project Cost $100,000

Nature of Project

This project involves work that is initiated by municipal, provincial, and federal governments in conjunction with road widening and road realignment. A portion of the cost of this work is recovered from the appropriate level of government.

Customer Impact

No direct customer impact.

Project Justification

This project is justified as a response to legitimate third party requirements.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
STUDY OF WATER STREET UNDERGROUND

Project Cost $50,000

Nature of Project

The Water Street underground power system is 30 years old. In 1998, the Company will undertake an engineering study of the Water Street underground system with a view to extending the service life of the system. The more important issues to be addressed will be replacement parts and drainage. This project will also entail experimental work to install oil traps and piping to improve the drainage of manholes.

Customer Impact

This project aims to improve service reliability and safety.

Project Justification

This project is justified on the basis of reliability and safety.

Future Commitments

None.

TRUNK FEEDERS - ST. JOHN'S
REPLACE 5 kV TRANSFORMERS BELOW SECONDARY

Project Cost $50,000

Nature of Project

The placement of 5 kV distribution transformers below secondary is non-standard construction that poses a safety hazard for personnel. This project will upgrade these transformers to current standards.

Customer Impact

This project improves safety.

Project Justification

This project is justified on the basis of safety.

Future Commitments

None.

TRUNK FEEDERS - AVALON
PRIMARY UPGRADES

Project Cost $113,000

Nature of Project

Miscellaneous projects including: replacing deteriorated poles; replacing sections of deteriorated conductor; and replacing neutral on crossarms.

Customer Impact

This project will improve reliability and personal safety.

Project Justification

This project is justified on the basis of reliability and personal safety.

Future Commitments

None.

TRUNK FEEDERS - AVALON
RECONDUCTOR DUN-01 FEEDER

Project Cost $266,000

Nature of Project

Reconductoring and upgrading of DUN-01 feeder to improve the voltage to customers on the Cape Shore. Significant upgrading of this feeder has been already been completed since it was built in the 1950s. Over the period 1985 to 1996, approximately $1,700,000 has been spent on relocating the main line primary, replacing deteriorated poles/insulators, and reconductoring the section of feeder between Patrick's Cove and Branch. Over the next four years, the plan is to relocate and reconductor the section of feeder from Pointe Verde to Patrick's Cove requiring the following expenditures:

1997	$143,000
1998	$266,000
1999	$192,000
2000	$185,000

Customer Impact

This project will improve voltage and reliability.

Project Justification

The Company conducted a study on this feeder in 1994. Based on the number of interruptions on this feeder and the realization that a 5th set of regulators was required to maintain voltage on the existing line which is in excess of 80 km, the recommendation was to reconductor the feeder from Pointe Verde to Branch. DUN-01 feeder was built in the 1950s and very little major work has been carried out on the feeder since that time. This project is justified on the basis of reliability.

Future Commitments

None.

TRUNK FEEDERS - AVALON
RECONDUCTOR RVH-01 FEEDER

Project Cost $50,000

Nature of Project

Reconductor and upgrade RVH-01 feeder due to deterioration.

Customer Impact

This project will improve reliability.

Project Justification

The RVH-01 feeder was constructed in 1963 with #2 ACSR conductor. Tests on sections of the feeder show deterioration of the center phase and neutral. The other phases have been upgraded to 4/0 AASC. This project is justified on the basis of reliability.

Future Commitments

None.

TRUNK FEEDERS - AVALON
REPLACE CP 8080S AND 2 PIECE INSULATORS

Project Cost $125,000

Nature of Project

The Company is experiencing a high incidence of CP8080 insulators failures. (CP8080 is an abbreviation for the manufacturer and model number, i.e. Canadian Porcelain, 8080). The failures stem from a phenomenon known as 'cement-growth' where cracks develop in insulators due to the expansion and contraction of the cement compound used in the construction of the insulator. These cracks eventually lead to the structural failure of the insulator which causes power interruptions, poses a safety hazard for personnel, and increases operating costs. The Company is committed to the replacement of all CP8080s on critical sections of the system such as hospital feeders and multi-circuit feeders by the year 2002.

Customer Impact

This project improves service reliability and safety and reduces operating costs.

Project Justification

This project is justified on the basis of reliability and safety.

Future Commitments

None.

FEEDERS - AVALON
RECONDUCTOR RVH-02 FEEDER

Project Cost $240,000

Nature of Project

The first component of the project is to study and determine the most cost effective solution to a voltage problem that has developed on the RVH-02 feeder as a result of a load increase at a fish plant in St. Joseph's. The project cost is based on the option of reconductoring 8 km of the feeder. Depending on the results of the study, the scope of this project may change. Included in the reconductoring option is an allowance to upgrade deteriorated sections of the feeder.

Customer Impact

This project will improve service voltage and reliability.

Project Justification

This project is required to improve the voltage levels on RVH - 01.

Future Commitments

None.

TRUNK FEEDERS - AVALON
REPLACE AERIAL CABLE AT PLACENTIA

Project Cost $90,000

Nature of Project

This project is to replace the faulted cable at Placentia Lift Bridge.

Customer Impact

This project will improve reliability.

Project Justification

The present backup cable is faulted and has to be replaced since it is the only backup feed to Placentia. Presently the cable is tied to the bridge. The new cable will be installed in a 6 inch conduit similar to the main cable. This project is justified on the basis of reliability.

Future Commitments

None.

TRUNK FEEDERS - AVALON
NEWTEL COMMUNICATIONS WORK REQUESTS

Project Cost $86,000

Nature of Project

This work is required by NewTel Communications pursuant to the Joint Use Agreement. A portion of this amount will be recovered from NewTel Communications. Projects include line transfers at Bay Robert's and Long Cove.

Customer Impact

No direct customer impact.

Project Justification

The cost of this project is justified as it arises from a contractual arrangement for the joint use facilities.

Future Commitments

None.

TRUNK FEEDERS - GANDER
NEWTEL COMMUNICATIONS WORK REQUESTS

Project Cost $60,000

Nature of Project

This work is required by NewTel Communications pursuant to the Joint Use Agreement. A portion of this amount will be recovered from NewTel Communications.

Customer Impact

No direct customer impact.

Project Justification

The cost of this project is justified as it arises from a contractual arrangement for the joint use facilities.

Future Commitments

None.

TRUNK FEEDERS - GRAND FALLS
UPGRADE GFS 4 KV TO 25 KV STANDARDS

Project Cost $54,000

Nature of Project

This plant was installed between 1958 and 1962 and has deteriorated. During reconstruction the plant will be made suitable for 25 kV to permit a future voltage conversion to 25 kV.

Customer Impact

This project maintains and improves service reliability.

Project Justification

This project is justified on the basis of reliability.

Future Commitments

None.

TRUNK FEEDERS - GRAND FALLS
INSTALL LIGHTNING ARRESTERS

Project Cost $53,000

Nature of Project

Installation of lightning arresters in areas subject to high levels of lightning.

Customer Impact

This project improves service reliability.

Project Justification

A cost benefit study has established that this project is cost effective.

Future Commitments

None.

TRUNK FEEDERS - CORNER BROOK
RELOCATE BVS-01 RIVERSIDE DRIVE

Project Cost $85,000

Nature of Project

Relocate a 2 km section of BVS-01 along Riverside Drive to allow for construction of Marine Drive.

Customer Impact

No direct customer impact.

Project Justification

This work is being requested and will be paid for by the Department of Works and Services.

Future Commitments

None.

TRUNK FEEDERS - CORNER BROOK
REPLACE WAL 4/0 FEEDER CABLES

Project Cost $68,000

Nature of Project

Replace 4/0 feeder cables. Both of these cables faulted in 1996 and had to be re-terminated. The 4/0 cables are reaching their loading capacity.

Customer Impact

The project will increase reliability of supply to the Civic Center and Sir Wilfred Grenfell College areas which are important venues for the 1999 Winter Games.

Project Justification

This project is justified on the basis of reliability.

Future Commitments

None.

TRUNK FEEDERS - STEPHENVILLE
RECONDUCTOR PORT AU PORT PENINSULA

Project Cost $54,000

Nature of Project

The existing #2 ACSR is 40 years old and is deteriorated. While reconductoring, the plant will be made suitable for 25 kV to permit a future voltage conversion to 25kV.

Customer Impact

This project maintains and improves service reliability.

Project Justification

This project is justified on the basis of reliability.

Future Commitments

None.

TRUNK FEEDERS - STEPHENVILLE
NEWTEL COMMUNICATIONS WORK REQUESTS

Project Cost $54,000

Nature of Project

This work is required by NewTel Communications pursuant to the Joint Use Agreement. Newtel Communications fibre optic projects over the last few years have involved installing new pole line sections along the road in cases where the existing line is away from the road in difficult terrain or in close proximity to houses. The Company is relocating its facilities to those poles at its own pace. These line sections are located on the Port Au Port peninsula, Port Aux Basques to Rose Blanche and the Codroy Valley.

Customer Impact

No direct customer impact.

Project Justification

The cost of this project is justified as it arises from a contractual arrangement for the joint use facilities.

Future Commitments

None.

TRANSFORMERS

Project Cost

St. John's	$468,000
Avalon	$459,000
Burin	$102,000
Clarenville	$205,000
Gander	$158,000
Grand Falls	$125,000
Corner Brook	$194,000
Stephenville	$120,000
Total	$1,831,000

Nature of Project

This includes the cost of purchasing transformers for customer growth, replacement of failed units and conversions.

Customer Impact

These units provide and maintain service to new and existing customers.

Project Justification

This project is justified on the basis of customer requirements.

Future Commitments

None.

ENERGY SUPPLY

HORSECHOPS HYDRO PLANT
REHABILITATE UPPER SECTION OF PENSTOCK

Project Cost $200,000

Nature of Project

Preserve the competency of the upper section of penstock by installing 600 meters of internal plywood liner. The upper section of this penstock is in poor condition. The liner will provide a seal for the water and an enhancement of the deteriorated staves. The bands are in good condition and the new system will allow for safe operation.

Customer Impact

This project will ensure the lowest possible power rate to customers by maintaining and enhancing existing hydro generation thus reducing more expensive purchased power.

Project Justification

The life expectancy of the penstock will be extended by more than five years. The alternative to making this significant improvement would be to replace this section of penstock at an additional cost of approximately $3 million. Also, severe damage could cause a temporary shutdown of the facility resulting in the hydraulic energy being replaced by more expensive purchased power.

Future Commitments

None.

SANDY BROOK HYDRO PLANT
REPLACE EMERGENCY SPILLWAY

Project Cost $100,000

Nature of Project

This project involves the rebuilding of the emergency spillway at the Sandy Brook Forebay. The existing spillway has deteriorated and is not able to function as designed. Replacement of the spillway is part of the ongoing Dam Safety Program.

Customer Impact

Customer impact for this project will be indirect. If this project is not undertaken, the risk to property and the environment is greater due to possible damage during extreme floods. Also, severe damage could cause a temporary shutdown of the facility with the energy replaced by more expensive purchased power.

Project Justification

This project is being carried out to ensure the safe operation of this system and has been recommended during Dam Safety inspections. Failure to do this work would necessitate shutting down the plant.

Future Commitments

None.

LOOKOUT BROOK HYDRO PLANT
REPLACE RUNNER AND WICKET GATES UNIT # 3

Project Cost

1998	$117,000
1999	$217,000
TOTAL	$334,000

Nature of Project

Replace existing 1957 vintage turbine runner. The existing runner and wicket gates are deteriorated resulting in a loss of efficiency. The last inspection revealed that the runner hub was cracked which compromises the structural integrity of the equipment. The older equipment is also causing operating difficulty.

Customer Impact

This project will ensure the lowest possible power rate to customers by maintaining and enhancing existing hydro generation thus reducing more expensive purchased power.

Project Justification

A cost benefit study has established that this project is cost effective.

Future Commitment

The project costs for 1999 are outlined above.

LOOKOUT BROOK HYDRO PLANT
REPLACE VALVE UNIT # 3

Project Cost $100,000

Nature of Project

Replace existing 1957 vintage inlet valve to turbine. The valve leaks excessively due to erosion of the valve thus making it impossible to seal off the turbine for maintenance.

Customer Impact

This project will ensure the lowest possible power rate to customers by maintaining and enhancing existing hydro generation thus reducing more expensive purchased power.

Project Justification

Required to isolate unit to permit safe and effective maintenance.

Future Commitment

None.

LOOKOUT BROOK HYDRO PLANT
REPLACE TURBINE RUNNER UNIT # 4

Project Cost

1997	$93,000
1998	$177,000
TOTAL	$270,000

Nature of Project

Replace existing 1984 vintage runner. The runner is a very high maintenance item due to a design problem causing the runner blades to crack. The material cannot be readily repaired. The concern is that the unit will fail completely leaving the plant with only one generator which cannot handle the full flow to the plant. This is the completion of a project approved in the 1997 Capital Budget, and commenced in 1997.

Customer Impact

This project will ensure the lowest possible power rate to customers by maintaining and enhancing existing hydro generation thus reducing more expensive purchased power.

Project Justification

A cost benefit study has established that this project is cost effective.

Future Commitment

None.

MISCELLANEOUS
CONVERTING CROWN LEASES TO GRANTS

Project Cost $73,000

Nature of Project

Purchase land rights for various Crown land sites across the island.

Customer Impact

No direct customer impact.

Project Justification

Recent government changes in Crown land rentals caused the Company to look at its leases with a view to purchasing them outright or continuing with the new rental scheme. Regulation changes provide for annual rental, based on 20% of the assessed value of the property for five years. Each of our leases was reviewed and a decision was made to apply to purchase sites where it is cost effective to do so.

Future Commitments

None.

ROSE BLANCHE BROOK
HYDRO DEVELOPMENT

Project Cost $11,141,000

The project is a continuation of the project approved in the 1997 capital budget. The project is predominantly energy supply, however, it includes expenditures in other categories as listed below.

Energy Supply	$11,141,000	
Transmission	$ 142,000	
Substation	$ 524,000	[(includes Long Lake Substation ($132,000) and Rose Blanche Substation ($392,000)]
Communications	$ 95,000	[(includes Communications Cable ($50,000), Forebay Cable ($20,000) & Remote Terminal Unit ($25,000)]
Total	$11,902,000	

Cost to end of 1997 (site selection, road, environmental cost, transmission, etc.)	$ 1,887,000
Total Project Cost	$13,789,000

Nature of Project

The project involves the construction of a 6.1 MW Hydroelectric Generating Plant at Rose Blanche Brook in the southwest coast of Newfoundland.

Customer Impact

This project will minimize rates to all customers in the long term and improve the reliability and security of the power supply to the southwest corner of the province of Newfoundland.

Project Justification

The cost benefit analysis presented to the Board in1996 shows this project is a cost effective source of new generation. The revised cost estimates and revised design capacity are not material enough to change the conclusion of the 1996 analysis.

Future Commitments

None.

PORTABLE DIESEL # 2
CHASIS REPLACEMENT

Project Cost $50,000

Nature of Project

Replace existing trailer chassis on 700 kW portable diesel. The chassis is badly corroded compromising the structural integrity of the frame thus preventing road travel.

Customer Impact

This project will ensure the security of power supply to customers by maintaining existing mobile diesel generation to provide backup for emergency situations.

Project Justification

A cost benefit analysis has shown this project to be cost effective.

Future Commitment

None.

MAJOR ELECTRICAL EQUIPMENT REPAIRS

Project Cost $150,000

Nature of Project

Cost allowance to cover the unforeseen expense of rewinding generators and power transformers as well as other major electrical equipment expenses as may be incurred during the year. This cash reserve will reduce large swings in capital budget systems.

Customer Impact

No direct customer impact.

Project Justification

This project is justified on the basis of reliability. The amount is based on historic experience.

Future Commitments

None.

VOLTAGE REGULATORS

Project Cost $60,000

Nature of Project

Purchase three 200 amp 12.5 kV voltage regulators. These regulators are required as spare units to provide adequate backup for regulators in service.

Customer Impact

This equipment will reduce abnormal voltage variations to customers.

Project Justification

The Company has concluded that regulators are the least cost alternative for improving voltage levels. Having spare regulators allows the Company to efficiently schedule maintenance work on existing regulators.

Future Commitments

None.

GENERAL PROPERTY

TOOLS AND EQUIPMENT - HEAD OFFICE
OFFICE FURNITURE AND EQUIPMENT

Project Cost $75,000

Nature of Project

This project includes additional filing and storage requirements for all departments of the company. In addition, provision of ergonomic furniture and the replacement of broken and deteriorated furniture and office equipment is included in this item.

Customer Impact

No direct customer impact.

Project Justification

This project will improve the safety and health of employees and help maintain a safe and productive work environment.

Future Commitments

None.

TOOLS AND EQUIPMENT - HEAD OFFICE
25 kV PROTECTIVE GEAR TEST EQUIPMENT

Project Cost $62,000

Nature of Project

Purchase equipment to test the integrity of the rubber cover-up tools used to perform hot line work.

Customer Impact

This project will help to maintain a safe work environment for personnel.

Cost Benefit

The rubber cover-up tools are currently shipped to Nova Scotia for testing at a cost in excess of $10,000 per year. A cost benefit study showed that the acquisition of appropriate equipment will make in house testing more cost effective.

Future Commitment

None.

TOOLS AND EQUIPMENT - HEAD OFFICE
VOLTAGE SENSORS AND ONE PC C/W SOFTWARE

Project Cost $50,000

Nature of Project

Purchase equipment to monitor the quality of power supplied to customers at various locations across the Company.

Customer Impact

This project will help the company address power quality issues in a more proactive manner.

Project Justification

Customers are more sophisticated, and are demanding improved quality of the power being supplied. This equipment will help the Company better understand these customer requirements.

Future Commitment

None.

TOOLS AND EQUIPMENT - ST. JOHN'S
ENGINEERING AND CONSTRUCTION

Project Cost $70,000

Nature of Project

This project involves the purchase of various line tools, load survey equipment, and test instruments each costing less than $50,000 which are grouped together for budget purposes. Individual items include $34,500 for a motion analyzer to improve the quality of preventive maintenance on breakers, $13,500 for power quality monitoring equipment to assist employees in troubleshooting customers' power quality problems, and $8,500 for two 'rangefinders' which will improve productivity by enabling technical staff to take faster measurements in the field. The remainder of the project consists of the replacement of existing tools that are beyond economical repair.

Customer Impact

This project improves service reliability.

Project Justification

This project is justified on the basis of reliability and safety.

Future Commitments

None.

TOOLS AND EQUIPMENT- ST. JOHN'S
VEHICLE SERVICE CENTRE

Project Cost $116,000

Nature of Project

This project involves the purchase of various tools and equipment to improve service at the Vehicle Service Center. The most significant item is $90,000 for an acoustic emissions boom tester which will be used to improve the safety of the fleet by measuring the structural integrity of line truck booms. The remainder of the project consists of the purchase of new mechanical tools for two new employees at the center and the replacement of existing tools that are beyond economical repair.

Customer Impact

This project improves service and safety.

Project Justification

The acoustic emissions boom tester is a new initiative and will improve the safety of the fleet. This service is provided by an outside agency at a cost of $400 per vehicle plus travel expenses. Total cost would be $40,000 per year to test all line vehicles. At a capital cost of $90,000, it is more economical to purchase the unit and perform the testing in-house. Newfoundland and Labrador Hydro and Newtel Communications have expressed an interest in cost-sharing the unit.

Future Commitments

None.

TOOLS AND EQUIPMENT - AVALON
PURCHASE ENGINEERING AND LINE TOOLS

Project Cost $53,000

Nature of Project

These tools are required to carry out day to day operations. Included are digital recording ammeters and voltmeters, megger, impact wrenches, ratiometer, Y35 press, portable oil tester, variac and wire tongs.

Customer Impact

No direct customer impact.

Project Justification

These items are small test devices that help employees carry out their activities effectively.

Future Commitments

None.

BUILDING RENOVATIONS (INFORMATION SYSTEMS AND MAILROOM)

Project Cost $50,000

Nature of Project

Due to the many changes in the Human Resources and Information Systems Departments, some renovations are required to permit personnel and equipment to operate in an effective manner.

Customer Impact

No direct customer impact.

Project Justification

This project is required to permit the effective operation of these departments.

Future Commitments

None.

PAVING AND SITE DRAINAGE-WHITBOURNE

Project Cost $65,000

Nature of Project

This project will consolidate three projects of similar nature that have been needed in Whitbourne for the last few years. The project will provide paving for a small section of yard that will help to reduce maintenance, allow for a cleaner appearance, and improve the drainage on a poorly drained site. It will also include changes to the drainage system for the site that will eliminate the problems with surface water flooding in the building, and improve forklift access to the outdoor storage ramps.

Customer Impact

No direct customer impact.

Project Justification

The project is being carried out to improve the facilities at Whitbourne to allow employees and equipment to operate more effectively.

Future Commitments

None.

ROOF - CARBONEAR OFFICE BUILDING

Project Cost $110,000

Nature of Project

The roof over the office area in the Carbonear building has been a problem for the past number of years. The main problem is condensation caused by the numerous ducts and wires in the ceiling cavity and a poor vapour barrier. The Company has made attempts to solve this problem by repairing the vapour barrier with limited success. This project is a long term solution and will involve placing an insulated deck on the existing roof.

Customer Impact

No direct customer impact.

Project Justification

This project is required to protect the integrity of the building.

Future Commitments

None.

ALLOWANCE FOR UNFORESEEN ITEMS

Project Cost $750,000

Nature of Project

This fund is required to cover any unforeseen capital expenditures which have not been budgeted elsewhere. Examples of such expenditures are the replacement of facilities and equipment due to major storm damages or equipment failure.

Customer Impact

This project provides funds for service restoration.

Project Justification

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

Future Commitment

None.

TELECOMMUNICATIONS

ROSE BLANCHE COMMUNICATION LINE

Project Cost $50,000

Nature of Project

Install a communication line from Rose Blanche Hydro Plant to Long Lake Substation to remotely monitor and control the plant. (See page 65 of Schedule B)

Customer Impact

See page 65 of Schedule B.

Project Justification

See page 65 of Schedule B.

Future Commitments

None.

FIBRE OPTIC CABLE OXP - VIR

Project Cost $100,000

Nature of Project

The protective relaying at Oxen Pond Substation is slow to react in cases of electrical faults on 58L and 34L near Virginia Waters substation. This project will install a fibre optic link between Oxen Pond Substation and Virginia Waters Substation which will improve clearing times in the event of an electrical fault.

Customer Impact

This project will help to improve the overall reliability and security of the power system and improve the quality of the power supply.

Project Justification

This project is justified on the basis of reliability. The current situation causes problems not only for our customers but also for some of Newfoundland Hydro's large industrial customers.

Future Commitments

None.

REPEATER BUCHANS

Project Cost $55,000

Nature of Project

This project involves the establishment of a new VHF mobile radio repeater site in the Buchans area.

Customer Impact

This project will improve operating efficiency in the area and improve response time in the restoration of service during outages.

Project Justification

This project is required to improve the level of service and to enhance safety for Company personnel in the area.

Future Commitments

None.

UPGRADE RADIO TOWERS

Project Cost $70,000

Nature of Project

Our existing radio towers have been reviewed for compliance with the applicable Canadian Standards Association (CSA) standards and a number of deficiencies have been identified. This project will allow us to bring the radio towers in line with CSA requirements.

Customer Impact

This project will help to improve the overall safety of our radio towers.

Project Justification

This project is necessary to meet CSA compliance and for safety reasons.

Future Commitments

None.

STUDY OF THE DISTRIBUTION SCADA SYSTEM

Project Cost $50,000

Nature of Project

The Supervisory Control and Data Acquisition (SCADA) system enables the Company to monitor and control its electrical system from a central control center. The existing system was designed in the late 1970's and installed in the mid 1980's. It is limited in functionality and restricts the Company from monitoring and controlling individual distribution lines and from making further advances in distribution automation focusing on improved reliability and customer services.

This project will determine the feasibility of upgrading or replacing the SCADA system.

Customer Impact

If the project eventually proceeds, reliability will be enhanced.

Project Justification

A cost benefit study will be completed prior to proceeding with upgrading or replacing the SCADA system.

Future Commitments

None.

TELEPHONE SYSTEM CALL CENTER

Project Cost $435,000

Nature of Project

This project involves the installation of integrated call center technologies such as automatic call distribution, auto attendant, and other voice processing features which will permit the Company to enhance customer service and to improve call center operations.

Customer Impact

This project will improve customer service by reducing the turnaround time on customers' inquiries. It will reduce the number of abandoned calls and the amount of time a customer is in a queue.

Project Justification

Project will improve customer service. Various alternatives will be reviewed to ensure the most cost effective solution is selected.

Future Comments

None.

SUBSTATION TELEPHONE CIRCUIT PROTECTION

Project Cost $ 124,000

Nature of Project

This project will upgrade existing telephone line isolation equipment in substations to ensure that the equipment operates properly during electrical fault conditions.

Customer Impact

This project will ensure adequate protection is available to personnel responsible for work on telecommunication devices in substations.

Project Justification

Newtel Communications requires isolation equipment on telephone lines for protection of personnel.

Future Commitments

None.

TROUBLE CALL ANSWERING SYSTEM

Project Cost 1997 - $ 240,000[1]
1998 - $ 75,000

Nature of Project

This project involves the installation of a system to provide large numbers of customers with telephone access so that they can get timely information regarding any power interruptions which might be in progress.

Customer Impact

This project will improve response times to customers during times of power outages.

Project Justification

A review of alternatives indicated that this was the most feasible option.

Future Commitments

None.

Note 1: This project was not included in the detailed listing of projects greater than $50,000 approved in the 1997 Capital Budget, but the 1997 expenditure was allocated from Allowance for Unforeseen Items in the 1997 Capital Budget.

SUBSTATIONS

GOULDS SUBSTATION
REPLACE DETERIORATED SWITCHES ON 4L AND 18L

Project Cost $57,000

Nature of Project

This project will replace deteriorated line and bus switches on lines 4L and 18L with new switches.

Customer Impact

This project will help to maintain the reliability and security of the power system.

Project Justification

This project is justified on the basis of the replacement of deteriorated equipment.

Future Commitments

None.

REPLACE BUS AND SWITCH INSULATORS (VARIOUS SUBSTATIONS)

Substation	Project Cost
Greenhill Substation	$120,000
Humber Substation	$ 67,000
Laurentian Substation	$ 91,000
Lockston Substation	$ 66,000
New Chelsea Substation	$ 93,000
New Grand Falls Substation	$ 93,000
St. John's Main Substation	$ 65,000

Nature of Project

This project involves replacement of all cap and pin insulators as well as transmission and distribution suspension insulators which are prone to failure due to manufacturing defects. These replacements are part of an ongoing replacement program. This program, initiated in 1997, covers all substations and is spread over four years. Estimates of expenditures in this program are listed below.

1997	$ 808,000
1998	$1,090,000
1999	$1,093,000
2000	$1,028,000

Customer Impact

This project will improve the reliability and continuity of customer service.

Project Justification

This project is justified on the basis of the replacement of defective equipment, reliability and safety. Furthermore, the original manufacturer is no longer in business.

Future Commitments

None.

GREENHILL SUBSTATION
REPLACE RADIATORS ON TRANSFORMER 200282

Project Cost $59,000

Nature of Project

This project will replace deteriorated radiators on power transformer 200282 with new galvanized radiators.

Customer Impact

This project will help to maintain the reliability and security of the power system.

Project Justification

This project is justified on the basis of the replacement of deteriorated equipment, safety and environmental regulations.

Future Commitments

None.

LONG LAKE SUBSTATION
REPLACE TRANSFORMER (ROSE BLANCHE PROJECT)

Project Cost $132,000

Nature of Project

This project will replace the transformer, regulators and metering tank at Long Lake Substation in order to accommodate the integration of the Rose Blanche Hydro Plant into the power system.

Customer Impact

See page 65 of Schedule B.

Project Justification

See page 65 of Schedule B.

Future Commitments

None.

RATTLING BROOK SUBSTATION
REPLACE DETERIORATED SWITCHES

Project Cost $68,000

Nature of Project

This project will replace deteriorated 66 kV switches on lines 101L and 102L and transformers T1 and T2.

Customer Impact

This project will help to maintain the reliability and security of the power system.

Project Justification

This project is justified because of the need to replace deteriorated equipment.

Future Commitments

None.

BUILD NEW SUBSTATION FOR ROSE BLANCHE HYDRO PLANT

Project Cost $392,000

Nature of Project

Build a new substation with a new 6 MVA power transformer and associated equipment for the Rose Blanche hydroelectric plant.

Customer Impact

See page 65 of Schedule B.

Project Justification

See page 65 of Schedule B.

Future Commitments

None.

STAMPS LANE SUBSTATION
REPLACE RADIATORS ON TRANSFORMER 200245

Project Cost $51,000

Nature of Project

This project will replace deteriorated radiators on power transformer 200245 with galvanized radiators.

Customer Impact

This project will help to maintain the reliability and security of the power system.

Project Justification

The cost of this project is justified because of the need to replace deteriorated equipment, improve safety and comply with environmental regulations.

Future Commitments

None.

PRINCETON POND SUBSTATION
PREPARE SITE FOR PORTABLE SUBSTATION INSTALLATION

Project Cost $122,000

Nature of Project

This project will create a substation site with appropriate grading, grounding and fencing for installation of a mobile substation to provide service to Catalina and Bonavista Substations during times of trouble with either 123L or 110L transmission lines.

Customer Impact

This project will help to maintain the reliability and security of the power system.

Project Justification

This project is the lowest cost option to safely install the mobile substation.

Future Commitments

None.

MISCELLANEOUS - SUBSTATIONS
REPLACE BATTERIES AND CHARGERS

Project Cost $83,000

Nature of Project

This project will replace battery banks and chargers. The Company has approximately 106 battery banks in service in stations and plants. Each year a number of battery banks and chargers require replacement. These units have reached the end of useful life due to age or loss of capacity. Prior to replacement, loss of capacity is confirmed through a battery load test.

Customer Impact

This project will help to maintain the reliability and security of the power system.

Project Justification

The cost of this project is justified because of the need to replace deteriorated equipment.

Future Commitments

None.

MISCELLANEOUS - SUBSTATIONS
PURCHASE REPLACEMENT EQUIPMENT

Project Cost $71,000

Nature of Project

Replacement of equipment which fails in service including hookstick switches, airbreak/sidebreak switches, regulator by-pass switches, potential transformers and current transformers.

Customer Impact

This project will help to maintain the reliability and security of the power system.

Project Justification

The cost of this project is justified because of the need to replace damaged/deteriorated equipment.

Future Commitments

None.

MISCELLANEOUS - SUBSTATIONS
PURCHASE RECLOSERS

Project Cost $53,000

Nature of Project

Purchase of two reclosers as replacements for those which have reached the end of their service life.

Customer Impact

This project will help to maintain the reliability and security of the power system.

Project Justification

This project is justified because of the need to replace damaged/deteriorated equipment.

Future Commitments

None.

MISCELLANEOUS - SUBSTATIONS
REPLACE RADIATORS ON TRANSFORMER 200241

Project Cost $58,000

Nature of Project

This project will replace deteriorated radiators on power transformer 200241 with galvanized radiators.

Customer Impact

This project will help to maintain the reliability and security of the power system.

Project Justification

This project is justified because of the need to replace deteriorated equipment, maintain safety, and comply with environmental regulations.

Future Commitments

None.

TRANSMISSION

TRANSMISSION - ST. JOHN'S
RELOCATE 34L FOR OUTER RING ROAD

Project Cost $55,000

Nature of Project

This project will involve the relocation of a section of 34L in the vicinity of Portugal Cove Road to permit construction of the Outer Ring Road.

Customer Impact

No direct customer impact.

Project Justification

The Department of Transportation will pay all costs associated with the relocation.

Future Commitments

None.

REPLACE SUSPENSION INSULATORS (VARIOUS TRANSMISSION LINES)

Transmission Line	Project Cost
39L - Carbonear	$54,000
110L - Bonavista	$51,000
94L - Whitbourne	$70,000
95L - Whitbourne	$53,000

Nature of Project

This project involves replacement of transmission line suspension insulator strings which have tested defective or are prone to failure due to manufacturing defects. This is a continuation of our suspension insulator program initiated in 1994 and scheduled for completion in 2000. Expenditure to date and estimated future expenditures are listed below:

1994	$189,000
1995	$485,000
1996	$616,000
1997	$509,000
1998	$580,000
1999	$258,000
2000	$ 55,000

Customer Impact

This project will improve the reliability, continuity and security of the power system.

Project Justification

This project is justified because of the need to replace defective equipment, and improve reliability and safety.

Future Commitments

None.

TRANSMISSION - BONAVISTA
SOUTHWEST RIVER DEVELOPMENT TRANSMISSION TAP

Project Cost $52,000

Nature of Project

This project will involve the installation of equipment to tie the Southwest River Development [a Non Utility Generator (NUG)] into the power system.

Customer Impact

No direct customer impact .

Project Justification

The NUG will reimburse the Company for this cost.

Future Commitments

None.

TRANSMISSION - GANDER
RELOCATE 114L (PHILPOTTS MILL)

Project Cost $75,000

Nature of Project

This project will involve the relocation of a section of 114L which now passes over a saw mill building which was constructed after the power line was built.

Customer Impact

No direct customer impact.

Project Justification

The customer's building has encroached on the transmission line easement. The customer will pay all costs associated with the relocation.

Future Commitments

None.

BUILD NEW LINE TO ROSE BLANCHE HYDRO PLANT

Project Cost	1997	$120,000
	1998	$142,000

Nature of Project

Build line from Rose Blanche Plant to Long Lake Substation in order to tie the plant into the power system. This is the completion of a capital project which commenced in 1997. (See page 65 of Schedule B).

Customer Impact

See page 65 of Schedule B.

Project Justification

See page 65 of Schedule B.

Future Commitments

None.

TRANSPORTATION

PURCHASE OF VEHICLES - ST. JOHNS
LIGHT DUTY AERIAL DEVICE, RE-CHASSIS

Project Cost $87,000

Nature of Project

This project involves the replacement of the chassis on vehicle #253 which is a light duty line truck. The existing chassis has reached the end of its useful life and is beyond economical repair.

Customer Impact

This project maintains an acceptable level of customer service and personnel safety.

Project Justification

This project is justified because of the need to replace deteriorated equipment.

Future Commitments

None.

PURCHASE OF VEHICLES - ST. JOHNS
DERRICK, COMPLETE

Project Cost $161,000

Nature of Project

This project involves the replacement of vehicle #271 which is a 1989 heavy duty derrick line truck. The existing unit has reached the end of its useful life and is beyond economical repair.

Customer Impact

This project maintains an acceptable level of customer service and personnel safety.

Project Justification

This project is justified because of the need to replace deteriorated equipment

Future Commitments

None.

PURCHASE OF VEHICLES - BONAVISTA
LIGHT DUTY AERIAL DEVICE,
UPGRADE TO A SINGLE BUCKET MATERIAL HANDLER

Project Cost $155,000

Nature of Project

This project involves the replacement of vehicle #71 which is a 1992 light duty line truck. The existing unit has reached the end of its useful life and is beyond economical repair. The replacement unit will be a medium duty (i.e., single bucket material handler) unit which will enable the Port Union district service crew to lift distribution transformers and thereby reduce the requirement for crews to travel from Clarenville.

Customer Impact

This project maintains an acceptable level of customer service and personnel safety.

Project Justification

This project is justified because of the need to replace deteriorated equipment

Future Commitments

None.

PURCHASE OF VEHICLES - GANDER
LIGHT DUTY AERIAL DEVICE,
UPGRADE TO A SINGLE BUCKET MATERIAL HANDLER

Project Cost $155,000

Nature of Project

This project involves the replacement of vehicle #56 which is a light duty line truck. The existing unit has reached the end of its useful life and is beyond economical repair. The replacement unit will be a medium duty (i.e., single bucket material handler) unit which will enable the Summerford district crew to lift distribution transformers and thereby, reduce the requirement for crews to travel from Gander.

Customer Impact

This project maintains an acceptable level of customer service and personnel safety.

Project Justification

This project is justified because of the need to replace deteriorated equipment

Future Commitments

None.

PURCHASE OF VEHICLES - STEPHENVILLE
DOUBLE BUCKET MATERIAL HANDLER, COMPLETE

Project Cost $196,000

Nature of Project

This project involves the replacement of vehicle #228 which is a 1987 heavy duty line truck. The existing unit has reached the end of its useful life and is beyond economical repair.

Customer Impact

This project maintains an acceptable level of customer service and personnel safety.

Project Justification

This project is justified because of the need to replace deteriorated equipment

Future Commitments

None.

Schedule C

Newfoundland Light & Power Co. Limited
Capital Budget 1998

Leases over $5,000

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Leases over $5,000

	Yearly	Term
Alpha Processor	$75,000	4 Years
Memory Upgrade for existing Alpha	$10,500	4 Years
Disk Storage Equipment	$105,000	4 Years

Schedule D

Newfoundland Light & Power Co. Limited
Capital Budget 1998

Expenditures by Category
1994 to 1998 (exclusive of GEC)

Newfoundland Light & Power Co. Limited
Capital Budget 1998 (exclusive of GEC)
($'000)

SUBSTATIONS

Region/Area	1998 Budget	1997 Revised	1996 Actual	1995 Actual	1994 Actual
Head Office	303	314	179	157	159
St. John's	498	382	258	314	503
Avalon	276	228	147	396	167
Burin	319	156	90	72	52
Bonavista	188	192	75	17	51
Gander	74	362	168	69	34
Grand Falls	223	35	66	48	-
Corner Brook	178	48	56	105	83
Stephenville	601	208	140	102	88
	2,660	1,925	1,179	1,280	1,137

Newfoundland Light & Power Co. Limited
Capital Budget 1998 (exclusive of GEC)
($'000)

TRANSMISSION

Region/Area	1998 Budget	1997 Revised	1996 Actual	1995 Actual	1994 Actual
Head Office	-	-	-	-	-
St. John's	312	121	341	1,269	631
Avalon	524	488	202	39	78
Burin	62	48	57	19	157
Bonavista	257	86	198	109	183
Gander	330	742	619	69	151
Grand Falls	96	200	134	222	115
Corner Brook	69	40	21	18	48
Stephenville	199	183	62	46	200
	1,849	1,908	1,634	1,791	1,563

Newfoundland Light & Power Co. Limited
Capital Budget 1998 (exclusive of GEC)
($'000)

DISTRIBUTION

Region/Area	1998 Budget	1997 Revised	1996 Actual	1995 Actual	1994 Actual
Head Office	2,308	2,596	2,170	2,399	2,604
St. John's	4,221	3,072	3,807	2,905	3,327
Avalon	1,984	1,350	1,526	1,902	2,842
Burin	554	459	442	582	634
Bonavista	679	869	676	756	1,015
Gander	881	660	787	1,245	1,147
Grand Falls	786	808	617	659	832
Corner Brook	919	812	655	704	887
Stephenville	928	812	768	689	726
	13,260	11,438	11,448	11,841	14,014

Newfoundland Light & Power Co. Limited
Capital Budget 1998 (exclusive of GEC)
($'000)

GENERAL PROPERTY

Region/Area	1998 Budget	1997 Revised	1996 Actual	1995 Actual	1994 Actual
Head Office	1,532	1,674	1,392	1,318	1,844
St. John's	186	87	19	36	43
Avalon	234	71	36	7	55
Burin	16	3	4	18	102
Bonavista	30	8	62	25	36
Gander	38	565	9	19	15
Grand Falls	27	52	28	5	29
Corner Brook	71	31	16	10	65
Stephenville	59	24	20	39	51
	2,193	2,515	1,586	1,477	2,240

Newfoundland Light & Power Co. Limited
Capital Budget 1998 (exclusive of GEC)
($'000)

TRANSPORTATION

Region/Area	1998 Budget	1997 Revised	1996 Actual	1995 Actual	1994 Actual
Head Office	96	401	1,273	403	462
St. John's	341	79	-	490	219
Avalon	187	337	-	888	787
Burin	87	127	-	339	147
Bonavista	247	35	-	85	114
Gander	155	129	-	224	238
Grand Falls	29	278	-	205	77
Corner Brook	70	14	-	167	316
Stephenville	203	240	-	164	132
	1,415	1,640	1,273	2,965	2,492

In 1996, the Transportation Costs were centralized at Head Office.

Newfoundland Light & Power Co. Limited
Capital Budget 1998 (exclusive of GEC)
($'000)

ENERGY SUPPLY

Subclass	1998 Budget	1997 Revised	1996 Actual	1995 Actual	1994 Actual
Diesel & Gas Turbine	163	212	862	230	284
Hydro	12,127	2,718	1,169	1,087	1,867
Other	291	274	30	4	8
Thermal	-	-	-	-	3
	12,581	3,204	2,061	1,321	2,162

Newfoundland Light & Power Co. Limited
Capital Budget 1998 (exclusive of GEC)
($'000)

TELECOMMUNICATIONS

Subclass	1998 Budget	1997 Revised	1996 Actual	1995 Actual	1994 Actual
Communications Integration	15	76	527	189	66
Cable & Links Telecomm	210	-	8	14	25
Mobile Radio Equipment Telecomm	50	41	34	40	10
Radio System Upgrade Telecomm	134	165	141	83	138
SCADA Telecommunications	85	86	111	158	357
Test Equipment - Telecomm	30	22	15	39	3
Telephone Equipment Telecomm	649	132	94	29	61
	1,173	522	930	552	660

Newfoundland Light & Power Co. Limited
Capital Budget 1998 (exclusive of GEC)
($'000)

COMPUTER EQUIPMENT

Subclass	1998 Budget	1997 Revised	1996 Actual	1995 Actual	1994 Actual
Central Computing Equipment	195	392	256	38	28
Micro Computers	1,078	707	634	564	213
Major Software	1,566	1,541	1,215	613	'549
	2,839	2,640	2,105	1,215	790

Schedule E

Newfoundland Light & Power Co. Limited
Capital Budget 1998

Estimate of Future Required Expenditures on
Projects Commenced in 1998

Newfoundland Light & Power Co. Limited
Capital Budget 1998
Estimate of Future Required Expenditures on
Projects Commenced in 1998
($'000)

Project and Budget Class - Subclass	1998	1999
Major Software		
Facilities Resource Management System	86	50
Lookout Brook Plant		
Replace Runner and Wicket Gate Unit #3	117	217

Schedule F

Newfoundland Light & Power Co. Limited
Capital Budget 1998

1997 Capital Budget Variances

Newfoundland Light & Power Co. Limited
Capital Budget 1998
***1997 Capital* Budget Variances**
($'000)

	Approved by Order No. PU. 9 (1996-97)	Revised to Dec. 31, 1997	Variance
Energy Supply	3,726	3,204	(522)
Substations	1,992	1,925	(67)
Transmission	2,008	1,908	(100)
Distribution	12,794	11,438	(1,356)
General Property	2,247	2,515	268
Transportation	2,286	1,640	(646)
Telecommunications	1,074	522	(552)
Computer Equipment	2,055	2,640	585
General Expenses Capital	5,023	4,760	(263)
	33,205	30,551	(2,654)