

**Newfoundland Power**

**2003**

**Environmental Commitment  
& Responsibility (ECR) Program**

April 2, 2004

## **An Introduction to Newfoundland Power**

Newfoundland Power and its predecessor companies have been engaged in the production and sale of electricity since 1885. Newfoundland Power, a regulated investor owned electric utility serves approximately 222,000 customers throughout the island portion of the province of Newfoundland and Labrador.

The Company purchases about 90 per cent of its electricity from the Crown Corporation Newfoundland and Labrador Hydro, and generates the balance from its own smaller hydroelectric stations. The enclosed map (Map A) identifies the location of these generating facilities.

Newfoundland Power services approximately 85 per cent of the 513,000 people of the province with Newfoundland and Labrador Hydro servicing the remainder. The enclosed map (Map B) depicts the geographic areas serviced by the respective utilities. Sales to residential customers represent approximately 60 per cent of the Company's operating revenue.

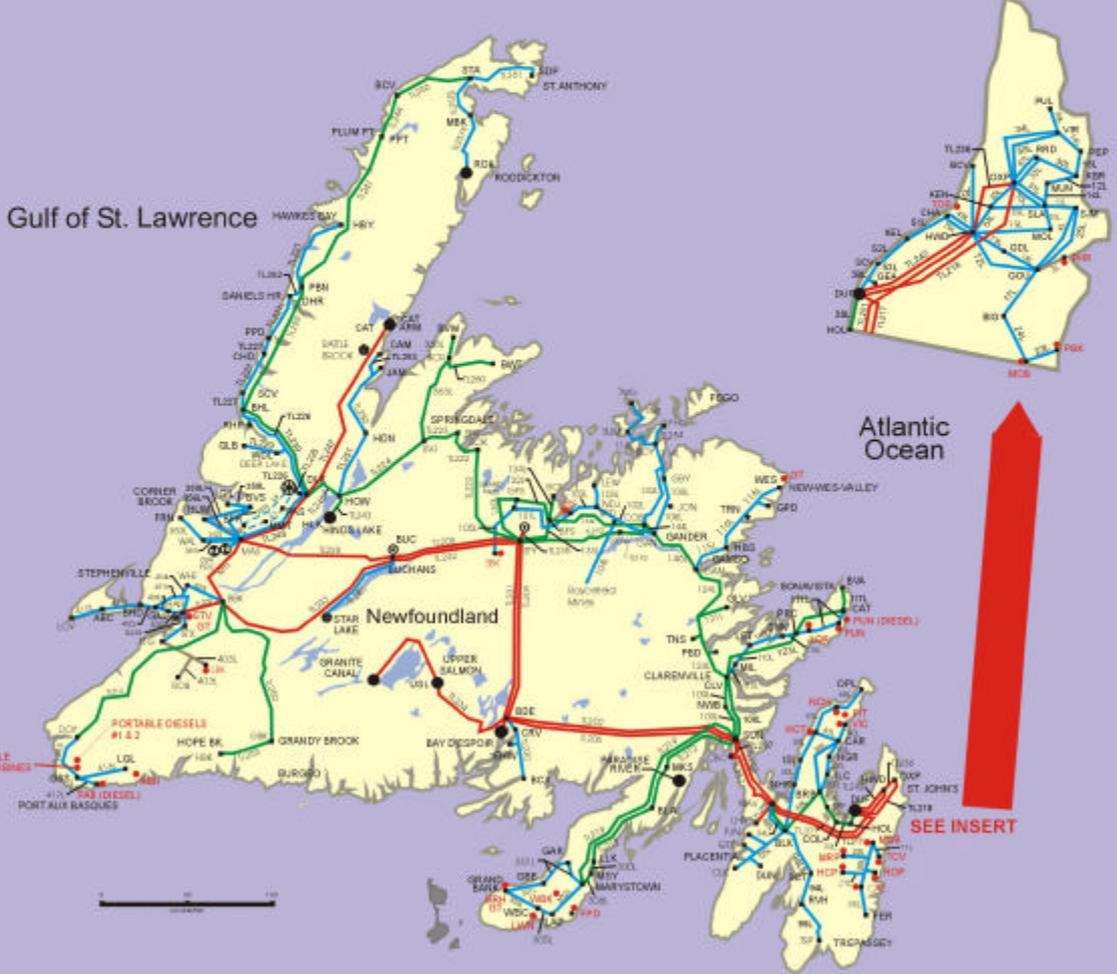
Newfoundland Power...

- Operates 23 hydro generating plants, five diesel plants and three gas turbine facilities.
- Operates 137 substations.
- Maintains 10,400 km of transmission and distribution lines.
- Has a total installed capacity of 144.4 MW.

Newfoundland Power operates under jurisdiction of the Board of Commissioners of Public Utilities of Newfoundland which has regulatory authority over rates, policies, capital expenditures and the issue of securities.

All of the common shares of Newfoundland Power are owned by Fortis Inc., a diversified electric utility holding company.

LEGEND	
	230 kV
	138 kV
	69 kV
	33 kV
	CORNER BROOK PULP AND PAPER
	INDICENTINE POWER GENERATION
	NLH GENERATION PLANT
	NF GENERATION PLANT
	TRANSFORMER STATION
	NLH TRANSMISSION LINE
	NF TRANSMISSION LINE
	REGUL. CONVERTER
	AWES-CONCELADED GENERATION
	CORNER BROOK PULP AND PAPER GENERATION



**ISLAND GENERATION AND TRANSMISSION GRID**

REV. 040216

MAP A



MAP B

### **3. GENERAL UTILITY INFORMATION REQUIREMENTS**

**Table A: Generating Facilities Included in 2003 Reporting**

<b>Name of Facility</b>	<b>Gross Maximum Output MW</b>
<b><u>Fossil</u></b>	
Greenhill Gas Turbine	22.00
Wesleyville Gas Turbine	14.70
Portable Gas Turbine	7.20
Port Union Diesel	0.50
Port Aux Basques Diesel	2.50
Portable Diesel #1	0.70
Portable Diesel #2	0.67
Leased Unit (Diesel)	1.50
<b>Total (Fossil)</b>	<b>49.77</b>

Note:

- St. John's Diesel has been removed. This unit did not operate in 2003 and is scheduled for decommissioning in 2004.
- In 2003, the Gas Turbine at Salt Pond was relocated to Wesleyville.
- Fossil fuel units are used for peaking and emergency standby only.
- Fuel used for generation is #2 Diesel.

**Table A: Generating Facilities Included in 2003 Reporting (Continued)**

<b><u>Hydroelectric</u></b>	
Petty Harbour	5.250
Pierres Brook	4.300
Tors Cove	6.500
Rocky Pond	3.250
Mobile	12.000
Cape Broyle	6.280
Horsechops	8.130
Topsail	2.600
Seal Cove	3.180
Hearts Content	2.370
Victoria	0.550
New Chelsea	3.700
Pitmans	0.625
Morris	1.135
West Brook	0.680
Fall Pond	0.350
Lawn	0.600
Rattling Brook	11.500
Sandy Brook	6.310
Lockston	3.000
Port Union	0.511
Lookout Brook	5.800
Rose Blanche	6.000
<b>TOTAL (Hydroelectric)</b>	<b>94.621</b>

**TOTAL GENERATION****144.391**

**Table B: Summary of 2003 - Generation Statistics**

	Gross Generation (GWh)		Net Generation (GWh)		Station Use (GWh)	
	2002	2003	2002	2003	2002	2003
Fossil	1.785	0.706	1.339 <sup>1</sup>	0.385 <sup>1</sup>	0.446	0.321
Hydroelectric	436.761	404.521	434.281	401.994	2.480	2.527
Nuclear	N/A	N/A	N/A	N/A	N/A	N/A
Alternative	N/A	N/A	N/A	N/A	N/A	N/A
Totals	438.546	405.227	435.620	402.379	2.926	2.848
Purchases of Alternate Energy	NA	N/A	N/A	N/A	NA	N/A

(1) At some fossil fuel plants the Net Generation was negative because more Station Service was consumed than energy generated. Neither of the fossil fuel plants have time-lagged station service meters, meaning Station Service can be calculated only for those hours that the plants generate electricity. Also, there are a small number of fossil fuel plants that do not have station service meters, thereby, possibly resulting in slightly higher numbers than actual.

Notes:

- While 21 of our 23 hydro plants have gross maximum output of less than 10 MW, we list all 23 plants in the hydroelectric category. We will continue to do so until such time as clear definitions and directions are given dictating otherwise. We consider all our hydro plants as naturally occurring and renewable energy sources.
- In 2002 a fossil fuel generation facility operated for an extended period of time while awaiting repair of a failed major electrical component. There was no such demand on the system in 2003.
- Hydro generation was reduced due to below average precipitation levels in 2003.

**Table C: Total Length of Transmission and Distribution Lines**

	2002	2003
Total Length of Distribution Lines (km)	8300	8300
Total Length of Transmission Lines (km)	2100	2100
Total Area of Distribution Rights-of-Way (ha)	N/A <sup>1</sup>	N/A <sup>1</sup>
Total Area of Transmission Rights-of-Way (ha)	N/A <sup>1</sup>	N/A <sup>1</sup>

(1) The requested rights-of-way information is not collected.

## 4. EMS IMPLEMENTATION

### EMS Value and Environmental Performance Improvement

A formal, corporate environmental policy, endorsed by the executive, is a required element of an ISO14001 modeled Environmental Management System (EMS). At Newfoundland Power one of our policy commitments states *The Company is committed to supporting and participating in community-based projects that focus on the environment. The Company recognizes the contribution environmental groups can offer on environmental issues and will participate in meaningful dialogue with these groups.*

Newfoundland Power demonstrates this commitment in many ways. For example, the following capsulizes the Company's **Community Involvement and Partnering** achievements in 2003. Newfoundland Power's efforts in this area were recognized in 2003 with presentation of the EECOM Award of Excellence in environmental education.

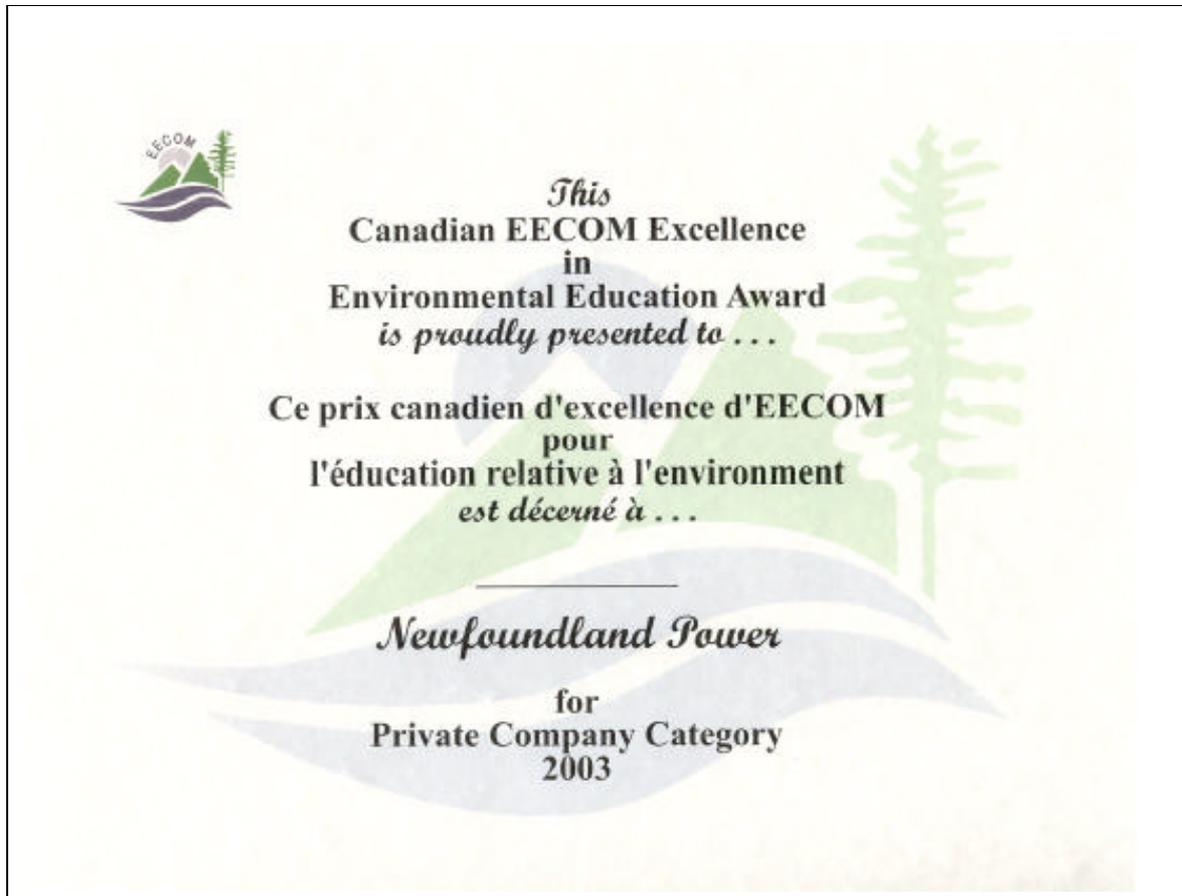
### Community Involvement and Partnering

	
<p>Newfoundland Power employees assist school children release salmon fry into a local stream as part of the Fish Friends Program.</p>	<p>Newfoundland Power employees and their families took part in many EnviroFest activities, such as tree planting at local schools.</p>

Newfoundland Power continued to partner with community and school groups on a number of cleanup and beautification projects throughout the Province. It is notable that an estimated 5,800 community members and 126 organizations participated in EnviroFest 2003. The Company is a Corporate Sponsor of *Fish Friends*, which is a public education program focused on educating elementary students about the importance of maintaining diverse ecosystems and the challenging task of sustaining our natural resources. This year, employees helped students in approximately 70 schools across the Province release thousands of salmon fry into provincial waterways.

In 2003, the Company partnered with Tree Canada to coordinate tree planting to enhance community beautification initiatives. Shared initiatives with Tree Canada resulted in approximately 160 trees and shrubs planted throughout the Company's service area.

## Newfoundland Power Receives Award of Excellence



In 2003 Newfoundland Power received an Award of Excellence in Environmental Education by the Canadian Network for Environmental Education and Communication (EECOM). The EECOM awards are designed to recognize excellence in environmental education in seven categories, including Outstanding Private Company, which Newfoundland Power was awarded.

Newfoundland Power's Environmental Commitment Program is an employee-driven program that focuses on developing and supporting environmental initiatives throughout the island. Each year employees organize events aimed at helping safeguard the environment, such as Christmas tree mulching, roadside clean-ups, Tree Canada planting and EnviroFest, an annual celebration which brings together over 100 community partners for environmental education and fun. The Company, through its employees, retirees and their families, has initiated more than 300 environmental partnerships with local community groups and schools across the island.

## **5. GUIDELINES FOR REPORTING THE ENERGY EFFICIENCY OF LIQUID FILLED DISTRIBUTION TRANSFORMERS PURCHASED FOR INSTALLATION DURING THE YEAR 2003**

Data for Newfoundland Power will be found in Appendix "B".

## **6. INDICATORS AND PROTOCOLS**

### **6.1 Indicators and Protocols to Support Principle 1**

#### **P1.1 Energy Conversion Efficiency of Fossil Fuel Generating Stations**

	<b>2002</b>	<b>2003</b>
Net Generation (GWh)	1.34	0.385
Thermal Energy Sales (GWh)	0	0
Net Energy Output (GWh)	1.34	0.385
Total Energy Input (GWh)	10.26	3.772
Fuel Conversion Efficiency (%)	13.05	10.2

Note:

- In 2002 a fossil fuel generation facility operated for an extended period of time while awaiting repair of a failed major electrical component. There was no such demand on the system in 2003.
- The type of fuel used at Newfoundland Power Fossil Plants is #2 Diesel.
- Plants are used for stand-by and emergency situations only.

#### **P1.2 Internal Energy Efficiency**

<b>For Generation:</b>	<b>2002</b>	<b>2003</b>
Gross Generation (GWh)	438.55	405.23
Net Generation (GWh)	435.62	402.38
Generation Energy Efficiency (%)	99.33	99.30

In 2003 our Seal Cove Plant (gross maximum output of 3.18 MW) was refurbished which resulted in improved efficiency at this facility. New switchgear/instrumentation, two electric governors and an Automation and Water Management System were installed. The switchgear/instrumentation allows for the remote monitoring and control of forebay water levels. The electric governors replaced mechanical/hydraulic governors and reduces the use of oil in the Plant. The Automation and Water Management System provides for the more efficient use of natural water resources and reduces the spill at the forebay. These improvements translate into a 10% to 20% increase in the availability of water for generation.

<b>For Transmission:</b>	<b>2002</b>	<b>2003</b>
Transmission System Energy Input (GWh) <sup>1</sup>	5085.28	5105.88
Transmission System Energy Output (GWh) <sup>1</sup>	5009.76	5027.10
Transmission Energy Efficiency %	98.51	98.46

<b>For Distribution:</b>	<b>2002</b>	<b>2003</b>
Distribution System Energy Input (GWh) <sup>1</sup>	4989.93	5006.39
Distribution System Energy Output (GWh) <sup>1</sup>	4713.78	4728.74
Distribution Energy Efficiency %	94.47	94.45

(1) Newfoundland Power purchases energy from Newfoundland and Labrador Hydro at both the transmission and distribution levels.

### P1.3 Reuse of Electrical Insulating Oil

	2002 (litres)	2003 (litres)
Volume of Insulating Oil Reused (L) following processing or cleaning at your utilities central maintenance facility(ies)	0 - Records Unavailable	0 - Records Unavailable
Volume of Insulating Oil Reused (L) following processing or cleaning during field operations	0 - Records Unavailable	0 - Records Unavailable
Volume of Insulating Oil Reused (L) following processing or cleaning by third party contractors, either in the field or through a central facility.	0 - Records Unavailable	0 - Records Unavailable
Volume of Insulating Oil Reused (A+B+C)	0	0
Volume of Insulating Oil Recycled (L) by a third party for use other than in electrical equipment	0 - Records Unavailable	0 - Records Unavailable
Volume of Insulating Oil Recovered (L) for energy recovery	229 741	202 678
Volume of Insulating Oil Disposed of as a waste	0	0
Volume of Insulating Oil Recycled, Recovered and Disposed of as waste	229 741	202 678
Percent Reuse of Insulating Oil	0 - Records Unavailable	0 - Records Unavailable
Percent of Insulating Oil Recycled	100.0	0

#### Notes:

- Records are not maintained on the volume of oil reused. Therefore, it is not possible to calculate the percentage of insulating oil reused. Insulating oil pumped from power transformers in the field is passed through a filter press and returned to the transformer, unless the oil is unfit for reuse. If unfit, the oil is collected for energy recovery.
- The Company does not track the quantity of insulating oil disposed of as a separate figure.
- Contractors collect our electrical insulating oil and ship out of province for energy recovery.
- The numerator (D+E+F) of the equation used in the 2002 Report to calculate the percent of insulating oil recycled resulted in the answer of 100%. We have shown “0” in the 2003 Report as the numerator has been changed to “D” only. We have no records quantifying the value of “D”.

### P1.4 Utilization of Solid Combustion By-Products

Newfoundland Power does not use solid combustible fuels.

## 6.2 Indicators and Protocols to Support Principle 2

### P2.1 Atmospheric Emissions

<b>Emissions of Carbon Dioxide CO<sub>2</sub></b>	<b>2002</b>	<b>2003</b>
Total Gross Annual CO <sub>2</sub> Emission - fossil fuel related (tonnes)	2600.0	956
Total CO <sub>2</sub> Emission Offsets and Credits (tonnes)	0	0
Total Net Annual CO <sub>2</sub> Emission (tonnes)	2600.0	956
Mass Gross CO <sub>2</sub> Emitted Per Unit of Net Fossil Generation (kg/kWh)	1.94	2.483
Mass Gross CO <sub>2</sub> Emitted Per Unit of Net System Generation (kg/kWh)	0.006	0.0024
Mass Net CO <sub>2</sub> Emitted Per Unit of Net Fossil Generation (kg/kWh)	1.94	2.483
Mass Net CO <sub>2</sub> Emitted Per Unit of Net System Generation (kg/kWh)	0.006	0.0024

Notes:

- In 2002 a fossil fuel generation facility operated for an extended period of time while awaiting repair of a failed major electrical component. There was no such demand on the system in 2003.
- Newfoundland Power did not claim CO<sub>2</sub> offsets or credits in 2003.

<b>Emissions of Sulphur Dioxide SO<sub>2</sub></b>	<b>2002</b>	<b>2003</b>
Total Gross Annual SO <sub>2</sub> Emission (tonnes)	3.298	1.213
Total SO <sub>2</sub> Emission Offsets and Credits (tonnes)	0	0
Total Net Annual SO <sub>2</sub> Emission (tonnes)	3.298	1.213
Mass Gross SO <sub>2</sub> Emitted Per Unit of Net Fossil Generation (g/kWh)	2.460	3.151
Mass Gross SO <sub>2</sub> Emitted Per Unit of Net System Generation (g/kWh)	0.0076	0.0030
Mass Net SO <sub>2</sub> Emitted Per Unit of Net Fossil Generation (g/kWh)	2.460	3.151
Mass Net SO <sub>2</sub> Emitted Per Unit of Net System Generation (g/kWh)	0.0076	0.0030

Note:

- In 2003 Newfoundland Power did not claim SO<sub>2</sub> offsets or emissions reduction credits.

<b>Emissions of Nitrogen Oxides NO<sub>x</sub></b>	<b>2002</b>	<b>2003</b>
Total Gross Annual NO <sub>x</sub> Emission (tonnes)	8.517	5.374
Total NO <sub>x</sub> Emission Offsets and Credits (tonnes)	0	0
Total Net Annual NO <sub>x</sub> Emission (tonnes)	8.517	5.374
Mass Gross NO <sub>x</sub> Emitted Per Unit of Net Fossil Generation (g/kWh)	6.360	13.958
Mass Gross NO <sub>x</sub> Emitted Per Unit of Net System Generation (g/kWh)	0.0196	0.0134
Mass Net NO <sub>x</sub> Emitted Per Unit of Net Fossil Generation (g/kWh)	6.360	13.958
Mass Net NO <sub>x</sub> Emitted Per Unit of Net System Generation (g/kWh)	0.0196	0.0134

Notes:

- Greenhouse gas emissions (GHG) from reservoirs are not available. These will be included when either industry or government establishes a methodology to calculate these emissions.
- Fossil fuel generating units were used only in emergencies and for peaking purposes thereby keeping emissions from these facilities to a minimum. Such an emergency occurred in 2002, necessitating usage of a fossil fuel generating unit for an extended period of time.

## **P2.2 Spills and Unintended Releases**

	<b>2002</b>	<b>2003</b>
Number of Reportable Spills	11	8
Number of Priority Spills	2	4
Total volume of Liquid Reportable Spills	945	884
Total volume of Gaseous and Solid Unintended Releases (m <sup>3</sup> )	0	0

## **2003 Priority Spills Information**

### **Priority Spill #1**

Did the priority spill involve a petroleum product?	Yes	
Did the priority spill involve a PCB contaminated substance?		No
Was the priority spill volume greater than 500 litres?		No
Did the spilled substance enter a waterway?	Yes	
Did the priority spill attract local, provincial or national attention?		No
What was the source of the spill?	Transformer	

**Priority Spill #2**

Did the priority spill involve a petroleum product?	Yes	
Did the priority spill involve a PCB contaminated substance?		No
Was the priority spill volume greater than 500 litres?		No
Did the spilled substance enter a waterway?	Yes	
Did the priority spill attract local, provincial or national attention?		No
What was the source of the spill?	Truck	

**Priority Spill #3**

Did the priority spill involve a petroleum product?	Yes	
Did the priority spill involve a PCB contaminated substance?		No
Was the priority spill volume greater than 500 litres?		No
Did the spilled substance enter a waterway?	Yes	
Did the priority spill attract local, provincial or national attention?		No
What was the source of the spill?	Generator	

**Priority Spill #4**

Did the priority spill involve a petroleum product?	Yes	
Did the priority spill involve a PCB contaminated substance?		No
Was the priority spill volume greater than 500 litres?		No
Did the spilled substance enter a waterway?	Yes	
Did the priority spill attract local, provincial or national attention?		No
What was the source of the spill?	Generator	

Notes:

- A significant effort has been put in place to train employees on the importance of reporting spills.
- The Company records those spills resulting from its operation, including those of its contractors.

While Newfoundland Power's focus is on identifying risks and acting upon them before environmental incidents take place, incidents sometime occur. The Company has an emergency response plan in place to effectively and efficiency react to these situations.

Spill response materials are available at various locations throughout the Company, as well as on line trucks. The Company has contracts in place with companies qualified to expeditiously react to spill situations. With these resources available, Newfoundland Power has positioned itself to address these occurrences in a prompt and environmentally responsible manner.

We believe that our approach to risk identification and mitigation, coupled with employee environmental awareness training, has been effective. By way of example, our ongoing, proactive program to identify and remove PCB's is working, as we did not have a single reportable PCB spill throughout our entire operating area in 2003.

This Company continues to purchase stainless steel pole-mounted transformers to address rust issues. In 2003, this program was expanded. In future, all pad-mounted distribution transformers shall be of stainless steel construction as well. Also in 2003, the Company completed its hydraulic hose replacement program. The wire braided hydraulic hoses on line trucks were replaced with thermoplastic. These initiatives, together with other ongoing programs, create positive environmental impacts.

### **P2.3 Environmental Aspects Indicator for Fish (Hydroelectric Generation)**

In 2003, a major reconstruction initiative was completed at our Lockston hydroelectric development. As Newfoundland Power is sensitive to providing a sustainable environment for aquatic life at its hydroelectric developments, we installed a fish flow compensation valve to provide a continuous supply of water during times of low water and plant shutdown. This uninterrupted water supply will support the marine life present.

### **P2.4 PCB Management**

	<b>2002</b>	<b>2003</b>
Total inventory of high level PCB material in storage (tonnes) – (estimate)	0.0	0.0
Total inventory of low level PCB material in storage (tonnes) – (estimate)	0.0	13.1
Total amount of high level PCB material sent for destruction (tonnes)	0.4	0.6
Total amount of low level PCB material sent for destruction (tonnes)	40.5	20.2
Total amount of high level PCB material taken out of service (tonnes)	0.0	0.6
Total amount of low level PCB material taken out of service (tonnes)	27.6	29.0

<b>For Information Purposes Only (not part of indicator)</b>	<b>2002</b>	<b>2003</b>
Total estimated inventory of high level PCB material in service (tonnes)	10	3
Total estimated inventory of low level PCB material in service (tonnes)	115	86

## **Management of PCB Waste**

The Company has an ongoing program to minimize its inventory of PCB waste. In 2003, PCB waste in inventory was disposed of through a licensed PCB waste disposal company. As further inventories of PCB waste are generated, due to the removal of PCB waste from oil filled electrical equipment in service, it will be disposed of in an environmentally responsible manner.

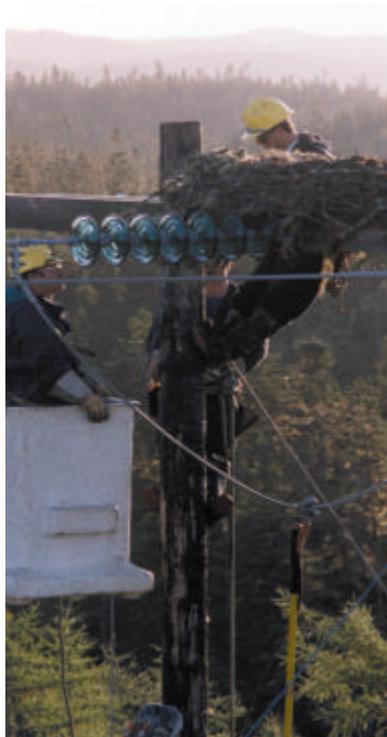
The estimated total inventory of high-level PCB material in service was again reassessed, utilizing updated information. The resultant analysis indicates that there is an estimated 3 tonnes of high-level PCB material in service, rather than the previous estimate of 10 tonnes.

## **P2.5 Generation of Low and Intermediate Level Radioactive Waste**

Not applicable as Newfoundland Power does not have nuclear powered plants.

## **P2.6 Species at Risk and Habitat Stewardship**

Newfoundland Power is very sensitive to situations that may affect wildlife. This is demonstrated in many ways such as our treatment of ospreys that occasionally construct nests in our poles. When we encounter such a nest we consult with wildlife officials with a view to nest relocation. In the past, we have installed poles adjacent to the nests and, under direction of wildlife officials, successfully transferred the nests to the newly installed poles. This has worked very well with no apparent adverse impact upon the birds, as they return to the nests in following seasons.



Our continued dialogue with officials of the Endangered Species and Biodiversity Section of the Provincial Department of Forest Resources and Agrifoods has not identified areas of concern whereby Newfoundland Power’s operations are in conflict with “Species at Risk”. We will continue to communicate with the Endangered Species and Biodiversity Section to flag and address issues, if any, when they arise.

Projects proposed by Newfoundland Power, including construction, larger maintenance and decommissioning are applied for under the Environmental Assessment Regulations, created under jurisdiction of the Environmental Protection Act. The environmental assessment staff forward referrals to all parties identified as being potentially impacted by the proposed undertaking. Should the Endangered Species and Biodiversity Section express concerns, alternatives will be explored in an effort to avoid identified sensitive areas. If avoidance is impractical, mitigative measures will be developed in partnership with the Endangered Species and Biodiversity Section.

**6.3 Indicators and Protocols to Support Principle 3**

**P3.1 Public Reporting of Environmental Performance**

	<b>2002</b>	<b>2003</b>
Number of residential customers	188 925	191 314
Does the utility produce a publicly available report on environmental performance?	Yes	Yes
Does the utility include environmental or sustainable development indicators as part of its publicly available report on environmental performance?	Yes	Yes
Does the utility include environmental or sustainable development objectives and targets as part of its report on environmental performance?	Yes	Yes
Does the utility report achievements in comparison to the objectives and targets that are described in its report on environmental performance?	Yes	Yes
Does the report include a public feedback and response mechanism?	Yes	Yes

Newfoundland Power distributed approximately 1,500 copies of our Annual Report in 2003. Newfoundland Power utilizes the Internet to provide unrestricted access to its Annual Reports, ECR Reports and other environmental information, which as a total package, addresses the public reporting requirements of this indicator. We do not specifically track the number of website hits on our Annual Reports.

Newfoundland Power's parent company, Fortis Inc., distributed approximately 30,000 copies of its Annual Report in 2003. There is an environmental section in this report that discusses environmental issues at Fortis' subsidiaries including Newfoundland Power.

### **P3.2 Responding to External Input Concerning Environmental Performance**

<b>All Business Units (T/D/G)</b>	<b>2002</b>	<b>2003</b>
Does the utility have a procedure in place to <i>document</i> relevant information and requests on environmental performance from external interested parties?	Yes	Yes
Does the utility have a procedure in place to <i>respond to</i> relevant information and requests on environmental performance from external interested parties?	Yes	Yes
Does the utility track responses to document, non-government external inquiries to ensure they are timely?	Yes	Yes
Does the utility have a process in place to consider documented, non-government external inputs as part of its decision-making?	Yes	Yes
Is there documentation in place describing how documented, non-government external inputs are considered as part of the utility's decision-making?	Yes	Yes

Queries of an environmental nature are addressed through a formalized process. Inquiries are captured through an electronic tracking system entitled "Environmental Communications Report". When an inquiry has been received it is inputted into this system and assigned to appropriate personnel for action. The Environmental Management Representative (EMR) monitors all Environmental Communications Reports to ensure prompt attention and closure.

Newfoundland Power solicits input and commentary from interested parties through both a formal, regulated process and an informal, voluntary process.

Proposed undertakings that satisfy specific criteria are presented for consideration through the environmental assessment process. Governmental departments, regulatory authorities and the general public are afforded an opportunity to comment.

Other proposed projects may not receive as broad an announcement. However, we are transparent and forthright in advertising our proposed projects. We contact governmental departments/agencies and municipal councils. Also, we may hold public meetings.

## 6.4 Indicator and Protocol to Support Principle 4

### P4.1 Evidence of an Effective Employee Awareness and Training Program

All Business Units (T/D/G)	2002	2003
Has the utility implemented a procedure to identify environmental training needs?	Yes	Yes
Has the utility implemented procedures or information systems to track the number of employees that require environmental training?	Yes	Yes
Is your training consistent with ISO 14001 requirements?	Yes	Yes

All employees of Newfoundland Power receive environmental awareness training. Job specific training modules have been developed for delivery to those employees whose job activities may impact the environment.

Annually, environmental aspects are ranked to determine significance. For each significant aspect a plan must be in place to manage the identified risk. Also, training needs originating from the significant aspects are determined. Affected personnel then receive this training.

## 7.0 PILOT INDICATORS AND PROTOCOLS TO SUPPORT PRINCIPLE 2

### 7.1 Pilot Indicator for Treated Wood Poles

	2002	2003
Which of the recommendations set out in the User Guidance Document has your utility committed to implementing by the end of 2003?	All	All
Has a schedule been prepared for the implementation of each recommendation?	Yes	Yes
When will the recommendations that you have committed to be fully implemented?	Dec.31 2002	Dec.31 2002

All poles treated with either PCP or CCA will be reused, providing they are no older than 25 years and are in suitable condition. Treated poles up to 10 years of age will be reused as if new. Those between 10 and 25 years will be reused for secondary purposes, e.g. service and street light poles. Treated timbers are reused, when practicable to do so.

With the exception of a small inventory of approximately 60 larger transmission poles, Newfoundland Power does not store poles. As part of contractual agreements, contractors store

poles at their premises. Ownership becomes vested in Newfoundland Power after the poles have been installed, as directed by Newfoundland Power. When poles are removed, they become property of the contractor removing the poles. The contract document stipulates that the contractor will handle, use, and dispose of chemically treated poles and timbers in accordance with the CCME publication “Wood Treatment, the Canadian Perspective”.

Newfoundland Power is unable to quantify the amount of treated wood going to landfills. As previously mentioned, contractors own the poles after removal. They are responsible to dispose of the used poles that are unsuitable for reuse.

In 2003 Newfoundland Power installed approximately:

- 110 PCP treated transmission poles
- 460 CCA treated transmission poles
- 630 PCP treated distribution poles
- 5120 CCA treated distribution poles

While Newfoundland Power has investigated life-enhancing treatment for poles, we have yet to embark upon any formalized program.

## **Appendix A**

### **Success Stories and Pictures**

(These will also be sent electronically)



Lockston Penstock with creosoted treated timbers prior to replacement



Lockston Penstock after installation of steel penstock

### **Lockston Penstock Replacement**

Approximately 600 metres of creosoted penstock at Lockston Plant was replaced with steel. The project is part of an initiative to replace decommissioned creosoted wooden penstock with more environmentally friendly materials.

In addition to the penstock replacement at this Plant, a fish flow compensation valve was installed. This valve will allow water to be released when the Plant is not operating, thus providing water to support an aquatic environment for fish.

This project is an example of the following Principles of the ECR Program:

- Principle 1 - to be more efficient in our use of resources.
- Principle 2 – to reduce the adverse environmental impact of our business.



### **Transmission Line in National Park**

A rebuild project involved the replacement of 6.5 km of distribution line that meanders through Terra Nova National Park at Malady Head. The poles used in this project were airlifted to their respective locations on the right-of-way, thereby minimizing the potential adverse impact upon flora and fauna. Over a two day period a total of 55 poles were airlifted into place.

This project is an example of the following Principle of the ECR Program:

- Principle 2 – to reduce the adverse environmental impact of our business.



### **Chemically Treated Wooden Poles Replaced with Steel in Watershed Area**

An ageing transmission line was being replaced. A two-kilometre section of this line runs along the shore of Bay Bulls Big Pond, a part of the St. John's Regional Water Supply. Unable to find an alternate route away from the pond, it was decided to build this section of line using steel poles with armless framing. Thirty-nine steel poles were installed in the watershed.

This project is an example of the following Principles of the ECR Program:

- Principle 2 – to reduce the adverse environmental impact on our business.
- Principle 3 – to be accountable to our customers.

## **Appendix B**

### **Energy Efficiency of Liquid Filled Distribution Transformers Purchased for Installation during the Year 2003**

(These will also be sent electronically)

Note: Transformer data includes information received  
from the manufacturers as of March 19, 2004.

CEA – ECR Program 2003 Electronic Data Reporting Template

**Transformer Data for the year of 2003**

Utility Name : **Newfoundland Power Inc.** (Combined manufacturers data)

	kVA Size	Transformer Quantity	Total Compliant kVA	Total Non-compliant kVA	S kVA (Compliant and Non-compliant)	S(kVA x Efficiency)	Average Efficiency at 50% load, weighted by kVA : S(kVA x Eff.) / S kVA
1f	25 & below	1439	28055		28055	2777783	99.01204776
1f	37.5 - 75	1346	77325		77325	7673737	99.24005173
1f	100 - 167	168	18006		18006	1788697	99.33894257
1f	250 - 833	11	3249		3249	323044	99.42874731
3f	45 and below	0	0		0	0	#DIV/0!
3f	75 - 300	3	900		900	89358	99.28666667
3f	500 - 750	7	4000		4000	397600	99.4
3f	1000 - 3000	8	10000		10000	994970	99.497
<b>TOTAL</b>		<b>2982</b>	<b>141535</b>	<b>0</b>	<b>141535</b>		

**Instruction :**

1. This sheet is to be completed by the utility representative with the information provided by all of the transformer manufacturers.
2. The value of Efficiency is to be in percent.

## **Appendix C**

### **CEA – ECR Program 2003 Electronic Data Reporting Template**

(These will also be sent electronically)

**CEA – ECR Program 2003 Electronic Data Reporting Template (02/03/04)**

**Company Name: NEWFOUNDLAND POWER INC.**

**Table A - Generating Facilities Included in 2003 Reporting**

(Not part of the electronic data template it is to be included in your company ECR Utility Progress Report only)

**Table B: Summary of Generation Statistics**

**Gross Generation (GWh)**

Fossil	0.7
Hydroelectric	404.5
Nuclear	-
Alternative	-
Total	405.2
Alternative Energy purchased from non-CEA members	

**Net Generation (GWh)**

Fossil	0.4
Hydroelectric	402.0
Nuclear	0.0
Alternative	0.0
Total	402.4

**Station Use (including plant losses)(GWh)**

Fossil	0.3
Hydroelectric	2.5
Nuclear	0.0
Alternative	0.0
Total	2.8

**Table C: Total Length and Area of Transmission and Distribution Lines**

Total Length of Distribution Lines (km)	8300.0
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Total Length of Transmission Lines (km)	2100.0
Total Area of Distribution Rights-of-Way (ha)	unknown
Total Area of Transmission Rights-of-Way (ha)	unknown

**Table D: Status of EMS Implementation – Only for member utilities that have not completed EMS implementation**

Name of business units or facilities for which an EMS is to be implemented.  
Planned date of implementation

**Section 6 - Guideline for Reporting the Energy Efficiency of Liquid Filled Distribution Transformers Purchased for Installation during the Year 2003**  
(SEE SEPARATE WORKSHEET (TAB) "EE\_Transformers" TO INPUT DATA)

**P1.1 Energy Conversion Efficiency of Fossil Fuel Generating Stations**

Net Generation (GWh)	0.4
Thermal Energy Sales (GWh)	0
Net Energy Output (GWh)	0.4
Total Energy Input (GWh)	3.8
Fuel Energy Conversion Efficiency (%)	10.20%

**P1.2 Internal Energy Efficiency For Generation:**

Gross Generation (GWh)	405.2
Net Generation (GWh)	402.4
Generation Energy Efficiency (%)	99.30%

**P1.2 Internal Energy Efficiency For Transmission:**

Transmission System Energy Input (GWh)	5105.9
Transmission Energy Output (GWh)	5027.1
Transmission Energy Efficiency (%)	98.46%

**P1.2 Internal Energy Efficiency For Distribution:**

Distribution System Energy Input (GWh)	5006.4
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Distribution System Energy Output (GWh)	4728.7
Distribution Energy Efficiency %	94.45%

### P1.3 Reuse of Electrical Insulating Oil

Volume of Insulating Oil Reused (L) following processing or cleaning at your utilities central maintenance facility(ies)	0.0
Volume of Insulating Oil Reused (L) following processing or cleaning during field operations	0.0
Volume of Insulating Oil Reused (L) following processing or cleaning by third party contractors, either in the field or through a central facility.	0.0
Volume of Insulating Oil Reused (A+B+C)	0.0
Volume of Insulating Oil Recycled (L) by a third party for use other than in electrical equipment	0.0
Volume of Insulating Oil Recovered (L) for energy recovery	202678.0
Volume of Insulating Oil Disposed of as a waste	0.0
Volume of Insulating Oil Recycled, Recovered and Disposed of as waste (D+E+F)	202678.0
Percent Reuse of Insulating Oil	0.00%
Percent of Insulating Oil Recycled	0.00%

### P1.4 Utilization of Solid Combustion By Products

Total Ash + FGD/FBC Residue Produced (tonnes)	0
Total Ash + FGD/FBC Residue Utilized (tonnes)	0
Percent Utilization	#DIV/0!
Amount sent to landfill (tonnes)	0
Amount sent to recoverable storage (tonnes)	0

### P2.1 Atmospheric Emissions - Carbon Dioxide CO2

Total Gross Annual CO2 Emission - fossil fuel related(tonnes)	956
Total CO2 Emission Offsets and Credits (tonnes)	0
Total Net CO2 Emission (tonnes)	956.0
Mass Gross CO2 Emitted Per Unit of Net Fossil Generation (kg/kWh)	2.4831169
Mass Gross CO2 Emitted Per Unit of Net System Generation (kg/kWh)	0.0023759
Mass Net CO2 Emitted Per Unit of Net Fossil Generation (kg/kWh)	2.4831169
Mass Net CO2 Emitted Per Unit of Net System Generation (kg/kWh)	0.0023759

### P2.1 Atmospheric Emissions - Sulphur Dioxide SO2

Total Gross Annual SO2 Emission (tonnes)	1.2
Total SO2 Emission Offsets and Credits (tonnes)	0.0
Total Net SO2 Emission (tonnes)	1.2
Mass Gross SO2 Emitted Per Unit of Net Fossil Generation (g/kWh)	3.15
Mass Gross SO2 Emitted Per Unit of Net System Generation (g/kWh)	0.00
Mass Net SO2 Emitted Per Unit of Net Fossil Generation (g/kWh)	3.15
Mass Net SO2 Emitted Per Unit of Net System Generation (g/kWh)	0.00

### P2.1 Atmospheric Emissions - Nitrogen Oxides NOx

Total Gross Annual NOx Emission (tonnes)	5.4
Total NOx Emission Offsets and Credits (tonnes)	0.0
Total Net NOx Emission (tonnes)	5.4
Mass Gross NOx Emitted Per Unit of Net Fossil Generation (g/kWh)	13.96
Mass Gross NOx Emitted Per Unit of Net System Generation (g/kWh)	0.01
Mass Net NOx Emitted Per Unit of Net Fossil Generation (g/kWh)	13.96
Mass Net NOx Emitted Per Unit of Net System Generation (g/kWh)	0.01

### P2.2 Spills and Unintended Releases

Number of Reportable Spills	8
Number of Priority Spills	4
Total volume of Liquid Reportable Spills (litres) [Note: Reportable Spills includes Priority Spills]	884
Total volume of Gaseous and Solid Unintended Releases (m <sup>3</sup> )	0

### Priority Spills Information (SEE SEPARATE WORKSHEET (TAB) "Priority\_Spills" TO INPUT DATA)

	# Yes
Did the priority spill involve a petroleum product?	4
Did the priority spill involve a PCB contaminated substance?	0
Was the priority spill volume greater than 500 litres?	0
Did the spilled substance enter a waterway?	4
Did the priority spill attract local, provincial or national attention?	0

### P2.4 PCB Management

Total inventory of high level PCB material in storage (tonnes)	0
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Total inventory of low level PCB material in storage (tonnes)	13
Total amount of high level PCB material sent for destruction (tonnes)	1
Total amount of low level PCB material sent for destruction (tonnes)	20
Total amount of high level PBC material taken out of service (tonnes)	1
Total amount of low level PBC material taken out of service (tonnes)	29

#### For Information Purposes Only ( Not part of Indicator)

Total estimated inventory of high level PCB material in service (tonnes)	3
Total estimated inventory of low level PCB material in service (tonnes)	86

#### P2.5 Generation of Low and Intermediate Level Radioactive Waste

Total volume of low level radioactive waste sent to storage (m3)	0
Total volume of intermediate level radioactive waste sent to storage (m3)	0
Number of Nuclear Units Generating Radioactive Waste	0
Rate of generation of low and intermediate radioactive waste (m3/unit)	#DIV/0!

#### For Information Purposes Only (Not part of Indicator)

Total Weight of High Level Radioactive Waste (used/spent fuel) in Storage to Date (Mg uranium)	0
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#### P3.1 Public Reporting of Environmental Performance

Number of residential customers	191314
Does the utility produce a publicly available report on environmental performance?	Yes
Does the utility include environmental or sustainable development indicators as part of its publicly available report on environmental performance?	Yes
Does the utility include environmental or sustainable development objectives and targets as part of its report on environmental performance?	Yes
Does the utility report achievements in comparison to the objectives and targets that are described in its report on environmental performance?	Yes
Does the report include a public feedback and response mechanism?	Yes

#### P3.2 Responding to External Input Concerning Environmental Performance

Does the utility have a procedure in place to <u>document</u> relevant information and requests on environmental performance from external interested parties?	Yes
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Does the utility have a procedure in place to respond to relevant information and requests on environmental performance from external interested parties? Yes

Does the utility track responses to documented, non-government external inquiries to ensure they are timely? Yes

Does the utility have a process in place to consider documented, non-government external inputs as part of its decision-making? Yes

Is there documentation in place describing how documented, non-government external inputs are considered as part of the utility's decision-making? Yes

#### **P4.1 Evidence of an Effective Employee Awareness and Training Program**

Has the utility implemented a procedure to identify environmental training needs? Yes

Has the utility implemented procedures or information systems to track the number of employees that require environmental training? Yes

Is your training consistent with ISO 14001 requirements? Yes

#### **7.1 Pilot Indicator for Treated Wood Poles**

**Which of the recommendations set out in the Draft User Guidance Document has your utility implemented or committed to implement?**

Use purchasing policies that make certain any treated wood purchased has been treated appropriately. Yes

Address potential impacts appropriately in locating storage facilities for treated wood. Yes

Address potential impacts appropriately in managing storage facilities for treated wood. Yes

Consider, where practicable, alternatives to the use and in-service re-treatment of wood treated with CEPA-toxic substances in areas that may be sensitive in terms of the environment and human health, such as areas in close proximity to potable water supplies and aquatic resources. Yes

Encourage the original user to re-use treated wood to the extent practicable, and where such reuse occurs, make every reasonable effort to manage the handling of that wood and any by-products (e.g., wood chips, saw dust, extracted preservatives) in a manner that prevents or minimizes: Yes

a) preservatives being released to the environment; and

b) risks to human health.

Develop procedures to keep account of treated wood taken out of service. Whenever the transfer of possession of treated wood occurs, make every reasonable effort to include an advisory bulletin for the subsequent user that details: Yes

a) that wood has been treated with a wood preservative; and

b) any suggested management practices related to its future handling and use.

When the user is disposing of treated wood, make every reasonable effort to utilize the recommended waste management hierarchy that includes reuse, recycle, recovery options for treated wood.	Yes
Make every effort to continually improve the handling and management practices of treated wood	Yes
	Yes
Has a schedule been prepared for the implementation of each recommendation?	Yes
When will the recommendations that you have committed to be fully implemented?	31/12/2002