

Newfoundland Power

2007 Submission

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

CEA 2007 ECR Program Utility Data and Initiatives Template

General Utility Data

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 232,000 customers throughout the island portion of the province of Newfoundland and Labrador.

The Company purchases about 92 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) and table (Table A) identifies the location of these generating facilities and installed capacity.

Newfoundland Power services approximately 85 per cent of the electricity consumers in 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.

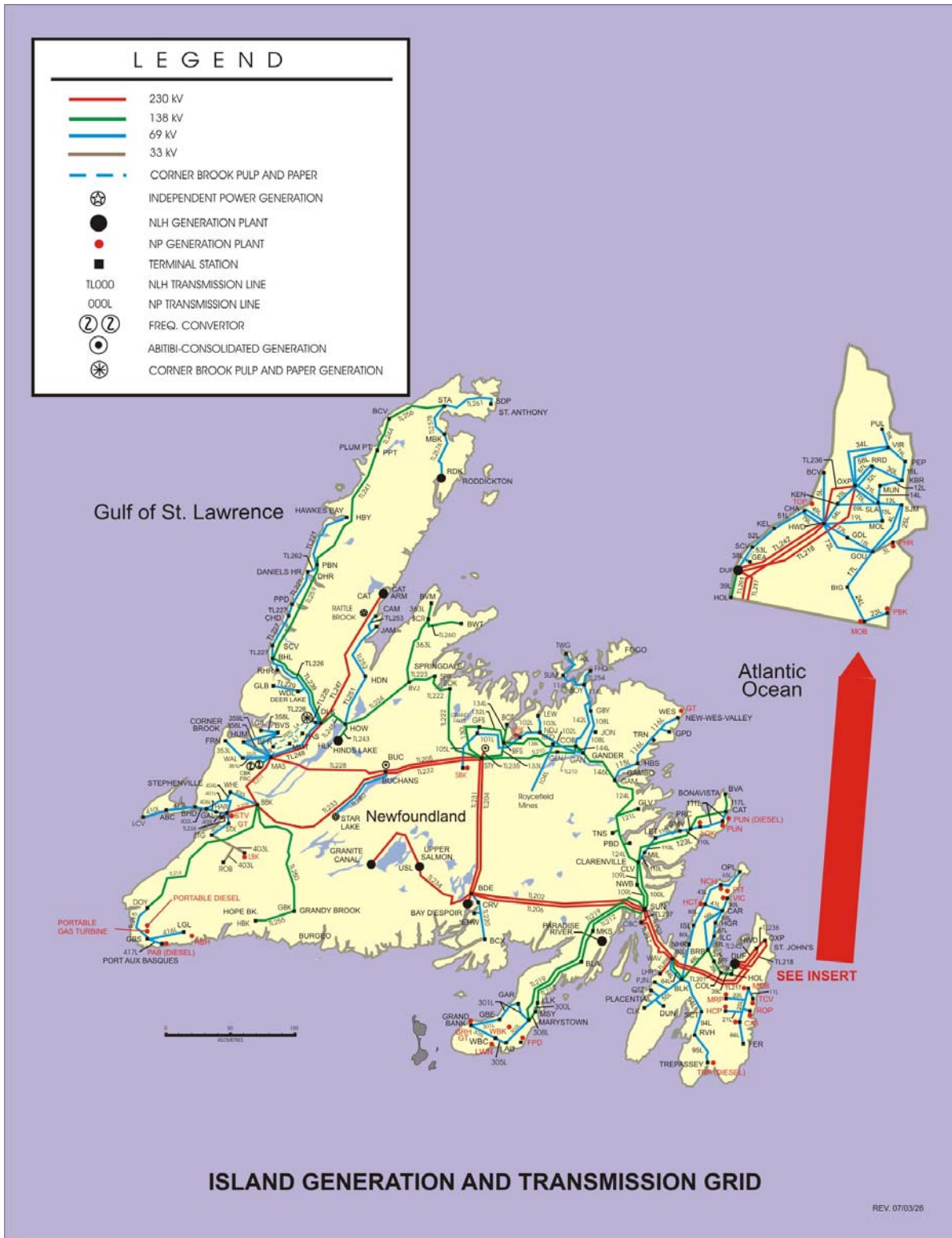
Newfoundland Power...

- Operates 23 hydro generating plants, four diesel plants and three gas turbine facilities.
- Operates 130 substations.
- Maintains over 10,000 km of transmission and distribution lines.

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

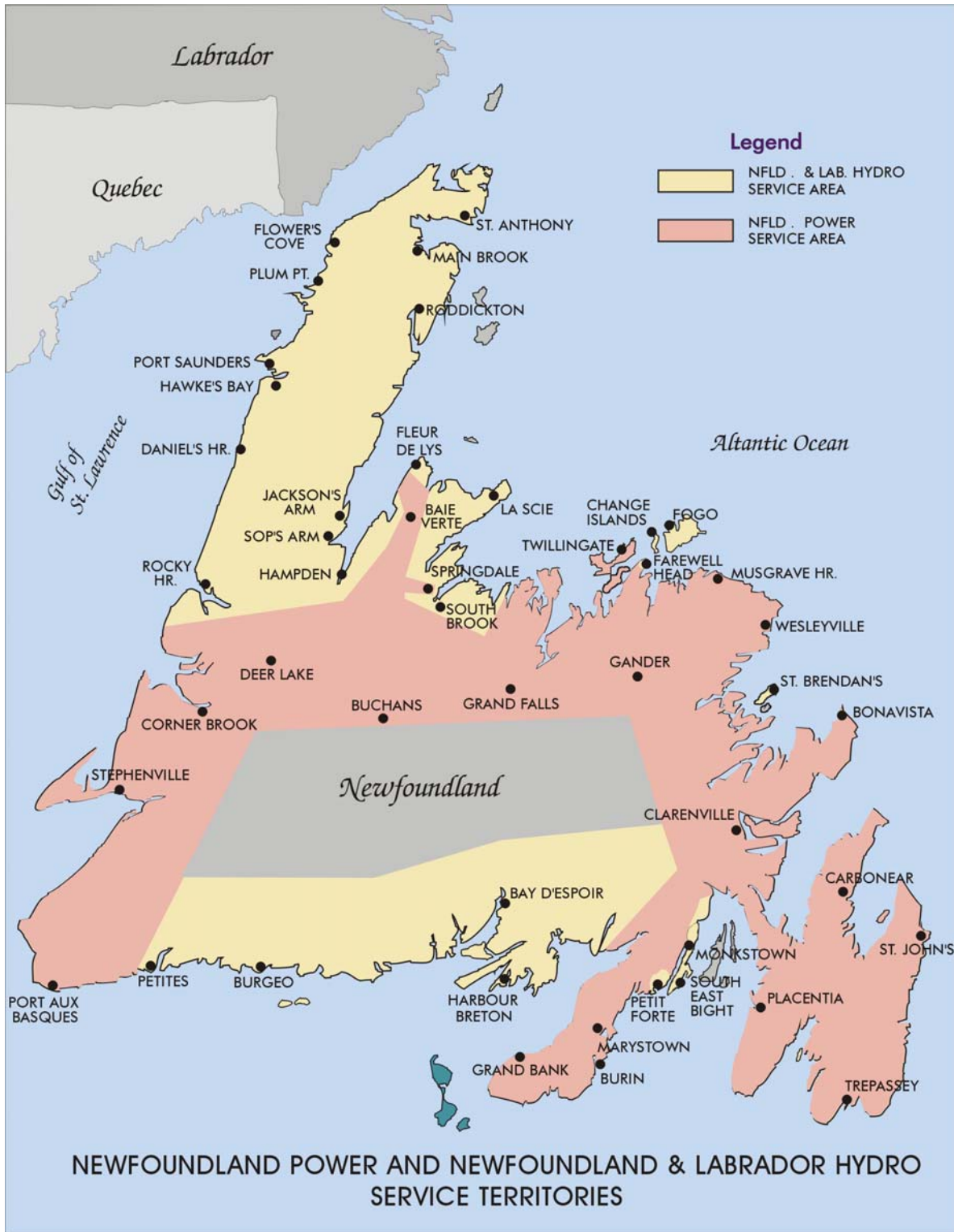
All of the common shares of Newfoundland Power are owned by Fortis Inc., a diversified international electric utility holding company.

General Utility Data



MAP A

General Utility Data



MAP B

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General Utility Data

Table A: Generating Facilities Included in 2007 Reporting

Name of Facility	Capacity Available (MW)
<u>Fossil</u>	
Greenhill Gas Turbine	20.00
Wesleyville Gas Turbine	10.00
Portable Gas Turbine	6.50
Port Union Diesel	0.50
Port Aux Basques Diesel	2.50
Portable Diesel	2.50
Leased Unit (Diesel)	1.50
Total (Fossil)	43.50

Note:

- Fossil fuel units are used for peaking and emergency standby only.
- Fuel used for generation is #2 Diesel.

<u>Hydroelectric</u>	
Petty Harbour	5.25
Pierres Brook	4.10
Tors Cove	6.50
Rocky Pond	3.25
Mobile	10.50
Cape Broyle	6.28
Horsechops	8.13
Topsail	2.60
Seal Cove	3.18
Hearts Content	2.37
Victoria	0.55
New Chelsea	3.70
Pitmans	0.63
Morris	0.80
West Brook	0.68
Fall Pond	0.35
Lawn	0.60
Rattling Brook	14.80
Sandy Brook	6.31
Lockston	3.00
Port Union	0.51
Lookout Brook	5.80
Rose Blanche	6.00
Total (Hydroelectric)	95.89

TOTAL GENERATION

139.4

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Alternative Energy

Please enter qualitative information regarding any ongoing initiatives addressed by the ECR Program.

Newfoundland Power worked with Newfoundland & Labrador Hydro on plans for the 2008 connection of two non-utility wind generating facilities. These facilities, with a total capacity of 54 MW, will be connected to the island grid through the Newfoundland Power transmission system.

In addition to the larger wind generation proposals, there a number of instances where Newfoundland Power has been approached by individuals who have expressed an interest in small, non-utility, wind generation (typically less than 100 kW). In these situations, the Company dealt directly with the interested party and indicated we were willing to purchase excess generation. As part of this process information was provided to the interested parties concerning our requirements. However, to date no small wind generation has been added to the grid.

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Environmental Management System Implementation

In 2007 the Company continued to maintain its Environmental Management System in accordance with the requirements of the ISO 14001 international standard. Procedures were reviewed and updated; training was given to employees; audits were conducted and work continued on a number of environmental programs.

Throughout the year the Company worked towards the target to phase out PCBs in all oil filled distribution equipment by 2009. With the phasing out of PCBs on 43 distribution lines in 2007, 69% of the Company's distribution lines have now been confirmed non PCB.

We have phased out PCBs on all major substation equipment, such as breakers and substation transformers, and plan to have all substation equipment, which the Company has identified as part of its phase out program, non PCB by the end of 2014. With the phasing out of PCBs in 43 substations in 2007, 82% of the Company's substations have also been confirmed non PCB.

Energy Efficiency

In December 2007 Newfoundland Power held the first annual *Holiday Lightswitch* program in 17 communities throughout the province. Customers could exchange two sets of incandescent outdoor holiday lights for two sets of light emitting diode (“LED”) holiday lights. Approximately 10,000 sets of LED holiday lights were distributed to customers.



Energy Efficiency

Through Newfoundland Power's *Bright Ideas* campaign we have been providing our customers with easy, practical tips that are helping them become more energy efficient. Our approach is very direct and involves hands-on interaction with customers through community outreach programs, tradeshows and partnerships. Our communications efforts have been effective, as the number of customers who contacted us about energy efficiency information in 2007 increased 55% compared to 2006. Visits to the *Saving Energy* section of our website were also up by 76% compared to 2006.



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Energy Efficiency

Newfoundland Power took part in the SAVE Energy Event which was part of the Newfoundland and Labrador component of the Shared Atlantic Vision for Energy Efficiency (“SAVE”) Program, which was launched by the four Atlantic provincial energy ministers. Our first-ever SAVE Energy Event was held in Burin in September 2007, and included an energy efficiency tradeshow and door-to-door delivery of approximately 6,400 CFLs to our customers.



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Air Quality and Climate Change

In 2007 there was a \$17.2 million refurbishment project of the Newfoundland Power Rattling Brook Hydroelectric Plant. This project represented the largest project, in dollar terms, ever undertaken by the Company. The plant, which began operation in 1958, received extensive renovation, including replacement of the woodstave penstock, refurbishment of the surge tank, and replacement of electrical protection and control systems.

The Rattling Brook project resulted in improved plant production of 9%, from 69.9 GWh to 76.0 GWh, and improved plant capacity of 26%, from 11.2 megawatt ("MW") to 14.1 MW. Completion of this project provides low-cost, clean electricity by displacing an additional 10,500 barrels of oil, for a total of approximately 129,000 barrels of oil per year. This will help minimize the impact of the cost of oil on electricity rates for our customers while benefiting the environment.



Creosote woodstave penstock being removed during construction.



Completed project with steel penstock and refurbished surge tank.

Air Quality and Climate Change

The Company uses Sulphur Hexafluoride (SF₆) in its circuit breakers. Sulphur Hexafluoride is a persistent greenhouse gas which contributes significantly to global warming. Its global warming potential (GWP) is estimated to be 23,900 Carbon Dioxide (CO₂) equivalent (over a period of one hundred years).

The Company, in its effort to limit the amount of SF₆ released, has over the years implemented a number of initiatives such as:

- Using SF₆ Gas Reclaimers to capture SF₆ gas during maintenance which significantly reduces the quantity of SF₆ being release.
- Maintaining SF₆ circuit breakers to include bushing gasket replacement and checks on the integrity of the SF₆ gas containment system.

The Company has an ongoing 10 year regular maintenance cycle of all SF₆ breakers. These breakers were built by various manufacturers and are of various vintages. Based on the service history it has been determined that certain breakers, which have been in service for some time, have a higher potential to release SF₆ gas. There were 30 of these particular breakers in service as of year end 2006. Over the last several years the Company started to conduct a much more comprehensive overhaul on these particular units, focusing on our most troublesome units. As of year end 2007, 14 of the troublesome breakers have had major overhauls completed leaving 16 units to be completed in future years.

The Company is determined to continue to ensure that SF₆ gas is managed in an environmentally responsible manner and implemented an objective to conduct major maintenance overhauls, which would address all components of the SF₆ equipment, so as to minimize the risk of leaks on the 16 troublesome SF₆ breakers by the end of 2012.



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Species and Habitat Diversity and Stewardship

The Company relocated 4 kilometers of transmission line located inside LaManche Provincial Park while rebuilding a section of line constructed in 1951. Throughout the project, all activities within the park were discussed and coordinated with the Provincial Department of Environment and Conversation. When the project was completed 25 structures were removed from environmentally sensitive park land.



Previous transmission line route through LaManche Provincial Park

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Reuse and Recycling

Since 1999 Newfoundland Power has been recycling desktop computers, laptops and printers that have been deemed to be not suitable for the corporate environment. Once a piece of computer equipment has been deemed not suitable for use by employees, the hard drive is completely erased and a new operating system is installed. All components such as keyboards, mouse, etc are confirmed to be in working order.

The distribution of the used computer equipment is handled by a group of retired Newfoundland Power employees, the Trail Blazers. Schools, churches, boys and girls clubs, individuals with disabilities, etc. send their requests for good used computers and printers to the Trail Blazers who match equipment available with computer requirements. Over the past seven years approximately 570 desktop computers, 60 laptops and 20 printers have been recycled through this donation program.

This program, coupled with the Company's Reuse/Recycle Program for paper, beverage containers, metals, treated wood, etc. greatly reduces the volume of waste going to the landfill.

Spills and Waste Management

Pole-mounted and padmounted transformers at Newfoundland Power are plagued by rust, especially those located in coastal areas. Eventually, rusty transformers will leak. To combat the problems associated with these rusty transformers the Company decided a number of years ago to purchase only those pole-mounted and padmounted transformers manufactured from stainless steel. The ongoing removal of rusty transformers coupled with the installation of stainless steel units is a very proactive spill prevention initiative.

In 2007 the company continued with its on-going rusty transformer replacement program and accelerated its replacement of padmount transformers.



Serving Communities and Responding to Customers

In 2007, Newfoundland Power combined our commitment to education, the environment and the community through our 10th annual *EnviroFest*, which was held in eight communities across the province during National Environment Week. The Provincial Government recognized the value of *EnviroFest* in terms of generating community support and environmental education in the province and partnered with us. While a large focus of our efforts are on environment education and awareness, together with the community, we have planted approximately 1,700 trees in the past 10 years.



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Serving Communities and Responding to Customers

In July 2007, Newfoundland Power received an award from the Newfoundland and Labrador Environmental Industry Association (NEIA) in the *Environmental Performance* category. The NEIA award recognizes significant achievements and contributions of companies and individuals in building environmental businesses in the province and in demonstrating leadership in environmental stewardship and sustainable development.



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Serving Communities and Responding to Customers

While our primary responsibility is to provide safe, reliable electricity, being a good corporate citizen is also very important at Newfoundland Power. Our employees are committed to giving back to the communities in which they work and live. They contribute by volunteering their time, knowledge and by providing financial assistance in a wide variety of areas including health, safety, environment, education, arts and cultural programs.

In 2007, The Power of Life Project pledged a donation of \$350,000 to “*PRIORITY: The Campaign for Cancer Care*”, an initiative of the Dr. H. Bliss Murphy Cancer Care Foundation. These funds have been earmarked for the purchase of a four-dimensional CT Simulator which will enable the province’s cancer care teams to enhance the accuracy of radiation treatment planning.

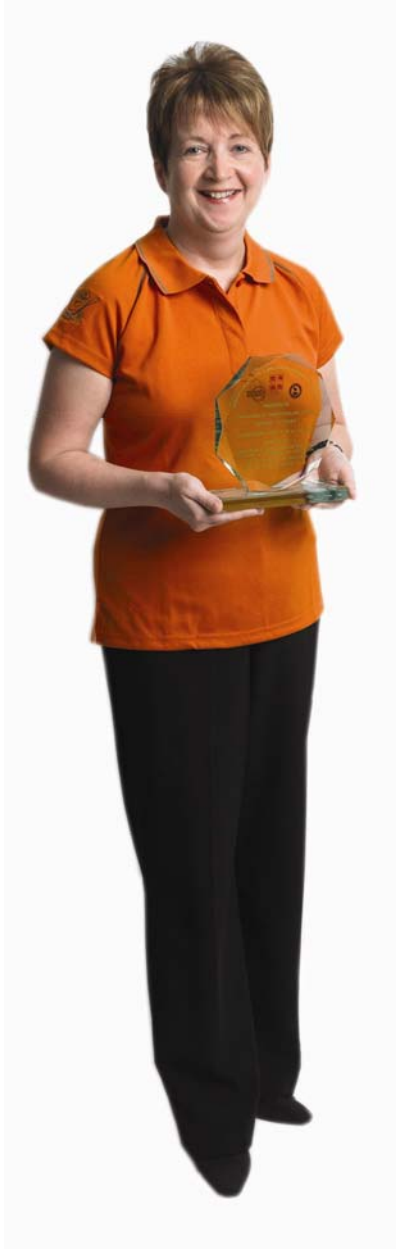
We also continue to support the Canadian Blood Services *Partners for Life* program. Newfoundland Power employees, families and friends have generously given over 1,100 blood donations in the past three years – that is the highest number of donations made by any of the 32 organizations involved in the Partners for Life program in our province.

Newfoundland Power’s community investment program positively affects the lives of people in the province through various other organizations such as the Janeway Children’s Hospital Foundation, the Newfoundland & Labrador Snowmobile Association, the Atlantic Salmon Federation and Junior Achievement of Newfoundland & Labrador.



Serving Communities and Responding to Customers

Newfoundland Power was presented with the St. John's Board of Trade Business Excellence Award in the category of *Contributing to Community and Community Service*. The award was presented to the Company in recognition of the community work done through *The Power of Life Project*, the *Partners for Life* program, as well as our environmental commitment. The award salutes all our employees, retirees and families and the work they do in communities across the province.



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Employee Training and Awareness

In house environmental training for employees continued in 2007. Courses included Environmental Awareness, Job Specific Training, Environmental Planner Training, Transportation of Dangerous Goods and WHMIS Training.

In 2007 Newfoundland Power introduced on-line web based environmental training. Job Specific Training is now offered in two formats, classroom and on-line, which allows for greater flexibility. Employees have been very pleased with the convenience of the on-line course.

CEA – ECR Program 2007 Electronic Data Reporting Template (January 2008)

NOTES

Company Name: Newfoundland Power

(see separate tab)

Table B: Summary of Generation Statistics**Gross Generation (GWh)**

B1	Fossil	0.4	(3)
B2	Hydroelectric	379.5	(4)
B3	Nuclear	Not App	(2)
B4	Alternative	Not App	(2)
B5	Total	379.9	
B16	Alternative Energy purchased from non-CEA members	Not App	(2)

Net Generation (GWh)

B6	Fossil	Not Avail	(1)
B7	Hydroelectric	377.0	
B8	Nuclear	Not App	(2)
B9	Alternative	Not App	(2)
B10	Total	377.0	

Station Use (including plant losses)(GWh)

B11	Fossil	Not Avail	(1)
B12	Hydroelectric	2.5	
B13	Nuclear	Not App	(2)
B14	Alternative	Not App	(2)
B15	Total	Not Avail	(1)

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

C1	Total Length of Distribution Lines (km)	8600.0	(5)
C2	Total Length of Transmission Lines (km)	2100.0	
C3	Total Area of Transmission Rights-of-Way (ha)	4400.0	(5)

P1.1 Energy Conversion Efficiency of Fossil Fuel Generating Stations

P1.1A	Net Generation (GWh)	Not Avail	(1)
P1.1B	Thermal Energy Sales (GWh)	0	
P1.1C	Net Energy Output (GWh)	Not Avail	(1)
P1.1D	Total Energy Input (GWh)	2.3	
P1.1E	Fuel Energy Conversion Efficiency (%)	Not Avail	(1)

P1.2 Internal Energy Efficiency For <u>Generation</u>:		
P1.2A	Gross Generation (GWh)	379.9
P1.2B	Net Generation (GWh)	377.0
P1.2C	Generation Energy Efficiency (%)	99.23%
P1.2 Internal Energy Efficiency For <u>Transmission</u>:		
P1.2F	Transmission System Energy Input (GWh)	5428.28
P1.2G	Transmission Energy Output (GWh)	5337.54
P1.2H	Transmission Energy Efficiency (%)	98.33%
P1.2 Internal Energy Efficiency For <u>Distribution</u>:		
P1.2I	Distribution System Energy Input (GWh)	5315.59
P1.2J	Distribution System Energy Output (GWh)	5000.22
P1.2K	Distribution Energy Efficiency %	94.07%
P1.3 Utilization of Solid Combustion By-Products		
P1.3A	Total Ash + FGD/FBC Residue Produced (tonnes)	Not App
P1.3B	Total Ash + FGD/FBC Residue Utilized (tonnes)	Not App
P1.3C	Percent Utilization	Not App
P1.3D	Amount sent to landfill (tonnes)	Not App
P1.3E	Amount sent to recoverable storage (tonnes)	Not App
P2.1 Atmospheric Emissions - Carbon Dioxide CO₂		
P2.1A	Total Gross Annual CO ₂ Emission - fossil fuel related (tonnes)	588.793 (3)
P2.1B	Total CO ₂ Emission Offsets and Credits (tonnes)	0
P2.1C	Total Net CO ₂ Emission (tonnes)	588.8
P2.1D	Mass Gross CO ₂ Emitted Per Unit of Net Fossil Generation (kg/kWh)	Not Avail (6)
P2.1E	Mass Gross CO ₂ Emitted Per Unit of Net System Generation (kg/kWh)	0.0015619 (6)
P2.1F	Mass Net CO ₂ Emitted Per Unit of Net Fossil Generation (kg/kWh)	Not Avail (6)
P2.1G	Mass Net CO ₂ Emitted Per Unit of Net System Generation (kg/kWh)	0.0015619 (6)
P2.1W	Total kg of SF ₆ Used for Maintenance Purposes (topping up)	24.7

P2.1 Atmospheric Emissions - Sulphur Dioxide SO₂		
P2.1H	Total Gross Annual SO ₂ Emission (tonnes)	0.7
P2.1I	Total SO ₂ Emission Offsets and Credits (tonnes)	0.0
P2.1J	Total Net SO ₂ Emission (tonnes)	0.7
P2.1K	Mass Gross SO ₂ Emitted Per Unit of Net Fossil Generation (g/kWh)	Not Avail (6)
P2.1L	Mass Gross SO ₂ Emitted Per Unit of Net System Generation (g/kWh)	0.00
P2.1M	Mass Net SO ₂ Emitted Per Unit of Net Fossil Generation (g/kWh)	Not Avail (6)
P2.1N	Mass Net SO ₂ Emitted Per Unit of Net System Generation (g/kWh)	0.00
P2.1 Atmospheric Emissions - Nitrogen Oxides NO_x		
P2.1O	Total Gross Annual NO _x Emission (tonnes)	3.3
P2.1P	Total NO _x Emission Offsets and Credits (tonnes)	0.0
P2.1Q	Total Net NO _x Emission (tonnes)	3.3
P2.1R	Mass Gross NO _x Emitted Per Unit of Net Fossil Generation (g/kWh)	Not Avail (6)
P2.1S	Mass Gross NO _x Emitted Per Unit of Net System Generation (g/kWh)	0.01
P2.1T	Mass Net NO _x Emitted Per Unit of Net Fossil Generation (g/kWh)	Not Avail (6)
P2.1U	Mass Net NO _x Emitted Per Unit of Net System Generation (g/kWh)	0.01
P2.1 Atmospheric Emissions - Mercury (Hg)		
P2.1AA	Total Gross Annual Mercury Emission (kilograms)	0.0 (9)
P2.1AB	Total Mercury Emission Offsets and Credits (kilograms)	0.0
P2.1AC	Total Net Mercury Emission (kilograms)	0.0
P2.1AD	Mass Gross Mercury Emitted Per Unit of Net Fossil Generation (kg/TWh)	0.00
P2.1AE	Mass Gross Mercury Emitted Per Unit of Net System Generation (kg/TWh)	0.00
P2.1AF	Mass Net Mercury Emitted Per Unit of Net Fossil Generation (kg/TWh)	0.00
P2.1AG	Mass Net Mercury Emitted Per Unit of Net System Generation (kg/TWh)	0.00
P2.2 Spills		
P2.2A	Number of Reportable Spills	10
P2.2B	Number of Priority Spills	4

Priority Spills Information (SEE SEPARATE WORKSHEET (TAB) "Priority_Spills" TO INPUT DATA)		# Yes	# No
P2.2H	Did the priority spill involve a petroleum product?	4	0
P2.2I	Did the priority spill involve a PCB contaminated substance?	0	4
P2.2J	Was the priority spill volume greater than 500 litres?	1	3
P2.2K	Did the spilled substance enter a waterway?	3	1
P2.3 PCB Management			
P2.3A	Total inventory of high level PCB material in storage (tonnes)		0
P2.3B	Total inventory of low level PCB material in storage (tonnes)		0
P2.3C	Total amount of high level PCB material sent for destruction (tonnes)		1
P2.3D	Total amount of low level PCB material sent for destruction (tonnes)		14
P2.3E	Total amount of high level PCB material taken out of service (tonnes)		1
P2.3F	Total amount of low level PCB material taken out of service (tonnes)		14
For Information Purposes Only (Not part of Indicator)			
P2.3G	Total estimated inventory of high level PCB material in service (tonnes)		4 (5)
P2.3H	Total estimated inventory of low level PCB material in service (tonnes)		20 (5)
P2.4 Generation of Low and Intermediate Level Radioactive Waste			
P2.4A	Total volume of low level radioactive waste sent to storage (m ³)	Not App	
P2.4B	Total volume of intermediate level radioactive waste sent to storage (m ³)	Not App	
P2.4C	Number of Nuclear Units Generating Radioactive Waste	Not App	
P2.4D	Rate of generation of low and intermediate radioactive waste (m ³ /unit)	Not App	
For Information Purposes Only			
P2.4E	Total Weight of High Level Radioactive Waste (used/spent fuel) in Storage to Date (Mg uranium)	Not App	
P3.1 Public Reporting of Environmental Performance			
P.3.1F	Number of residential customers	201045	
P3.1A	Does the utility produce a publicly available report on environmental performance?	Yes	
5.1 Pilot Indicator for Treated Wood Poles			
5.1.1.	Are you following the recommendations the User Guidance Document?	Yes	

NOTES

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Note #

- (1) Station Service meter readings were not available from all fossil fuel plants. These fossil fuel plants are not base load units. Since these plants are only used for peaking and emergency standby the gross energy production is very small. One would expect the net fossil fuel generation to be very low relative to gross fossil fuel generation.
- (2) The Company does not have nuclear or alternative energy generation and does not purchase alternative energy.
- (3) Gross Fossil Fuel Generation decreased in 2007 compared to 2006 due to a decrease need to operate standby generation.
- (4) There was lower than normal hydro generation in 2007 due to a plant being off-line for a major refurbishment.
- (5) Estimated.
- (6) Only Gross Generation is available for fossil fuel facilities. Fossil fuel generation is very small since the units only used for peaking and emergency standby. Due to the standby operating nature of these units one would expect the efficiency of these units to be very low.
- (7) The SF₆ number is based on weighing the SF₆ cylinders and reconciling the data throughout the maintenance process.
- (8) NO_x emissions is a blended total, including both NO and NO₂. The percentage breakdown is not readily available.
- (9) The type of fuel used at Newfoundland Power Fossil Plants is #2 Diesel. The Company has been advised by its supplier that Mercury is not present in this fuel.
- (10) In addition to the 201,045 residential customers, the Company has 31,217 commercial and street light customers for a total of 232,262.

CEA – ECR Program 2007 Electronic Data Reporting Template

(complete the number of columns as required for each spill)

Priority Spills Information		# Yes	# No	Spill # 1	Spill # 2	Spill # 3	Spill # 4
P2.2H	Did the priority spill involve a petroleum product?	4	0	Yes	Yes	Yes	Yes
P2.2I	Did the priority spill involve a PCB contaminated substance?	0	4	No	No	No	No
P2.2J	Was the priority spill volume greater than 500 litres?	1	3	No	Yes	No	No
P2.2K	Did the spilled substance enter a waterway?	3	1	Yes	No	Yes	Yes