Q. **Reference: Rates and Regulation Evidence**

For each of the Provincial electrical systems, provide the detailed reasons (and related dollar impacts) for the annual changes in the rural deficit for the period from 2007 to 2012 and forecast 2013, 2014, 2015 and 2016. (Rates and Regulation Evidence, page 4.4, lines 3 to 4)

A. [ ]

Please see NP-NLH-099 Attachment 1 (Revision 2) for the Rural Deficit Reports from 2007 to 2013. These reports provide the reasons for the annual changes in the Rural Deficit.

The Rural Deficit has increased further from 2013 to 2014 and 2015 Test Years primarily due to increased fuel costs, inclusion of rural assets in the calculation of return on equity, and additional operating and maintenance expenses. Detailed information on the forecast Rural Deficit for 2016 is not available.

File No. _____

NEWFOUNDLAND AND LABRADOR HYDRO
Head Office: St. John's, Newfoundland P.O. Box 12400 A1B 4K7
Telephone (709) 737-1400 • Fax (709) 737-1231 • Website: www.nlh.nf.ca

November 13, 2008

Board of Commissioners
of Public Utilities
P.O. Box 21040
St. John's, NL
A1A 5B2

Attention: Cheryl Blundon – Director of Corporate Services and Board Secretary

Dear Ms. Blundon:

Re: 2007 Rural Deficit Initiatives Report

Further to the Board's letter of May 16, 2008 and in accordance to Order No. P.U. 14(2004) regarding the above-noted subject, enclosed are ten copies of Hydro's 2007 Rural Deficit Initiatives report.

If you have any questions or comments, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Senior Legal Counsel

Encl.

1.0 Introduction

Newfoundland and Labrador Hydro (Hydro) serves approximately 35,000 rural customers. Hydro remains committed to providing least-cost, reliable power to all its customers. With few exceptions, Hydro's rural customers on the Island Interconnected and all diesel systems pay less than the cost of serving those customers. Population trends vary on a community by community basis, and generally speaking, contribute to the magnitude of the deficit incurred in rural areas. While there is no cost of service available by diesel area, a declining population would typically mean there are fewer customers available to contribute to fixed costs. In 2006, the latest available review, all but five diesel communities were experiencing population decline. The five communities with a modest population growth are:

- Cartwright,
- Charlottetown,
- Hopedale,
- Makkovik, and
- Nain.

Increasing costs to service the customers are also contributing to the magnitude of the deficit. Rising fuel costs in diesel areas remain a challenge, and unlike changes in fuel costs that are reflected in changes to the Rate Stabilization Plan component of Island Interconnected customers' rates, Hydro currently has no means to recover these costs until rates are reset through a general rates application. Increasing wages and other costs are also factors which impact the rural deficit. However, Hydro continues to seek opportunities to control costs in all areas.

2.0 2007 Capital Initiatives

The diesel unit replacement and fuel storage system upgrade at Williams Harbour[1] includes improved fuel efficiency, lower emissions and reduced maintenance costs. Detailed data is not available to quantify the savings.

Upgrades to exhaust stacks in Grey River[2] include expected benefits of eliminating cleaning costs and future damage claims.

The Automated Meter Reading Project[3] is justified based on a positive net present value, reducing the rural deficit in the long term.

[1] Page B-65, Hydro's 2007 Capital Budget Application
[2] Page B-67, , Hydro's 2007 Capital Budget Application
[3] Page B-71, , Hydro's 2007 Capital Budget Application

3.0 2007 Operating Initiatives

Ongoing Initiatives

Hydro's control measures which contribute to controlling the rural deficit include:

- Continuing to capture waste heat in many diesel plants to heat Hydro premises;
- Planning diesel unit replacement size to optimize fuel efficiency;
- Utilizing commercial air flights during regular work hours where practical, rather than more expensive helicopter use and overtime hours;
- Continually monitoring engine mix in plants to ensure we have the right size engines for the anticipated year round loading;
- Having, when possible, operators choose the most fuel efficient mix of engines to supply the community load. This is done automatically in automated plants.

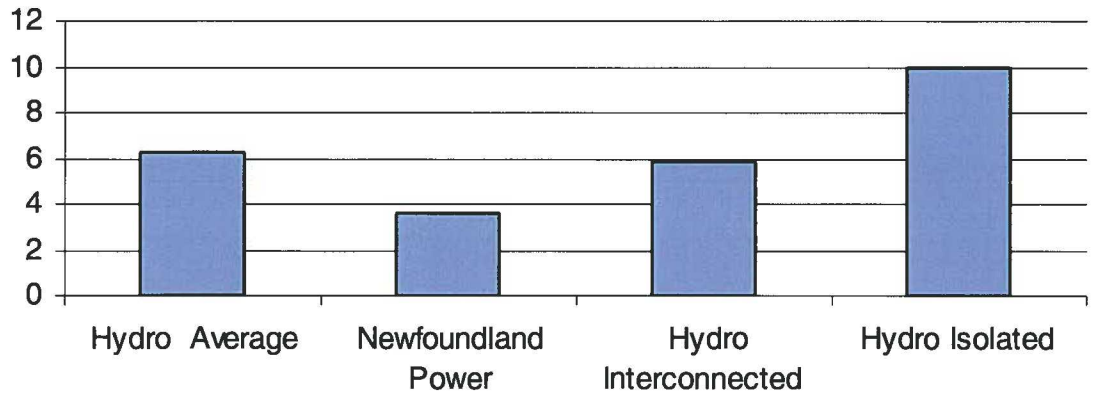
In 2007, Hydro determined that it was economic to move the printing of customer bills to in-house rather than continue to incur the cost of using an outside printing service company. This change took effect in 2008.

For further on-going initiatives, please see response to NP-102-NLH filed during Hydro's 2006 General Rate Application.

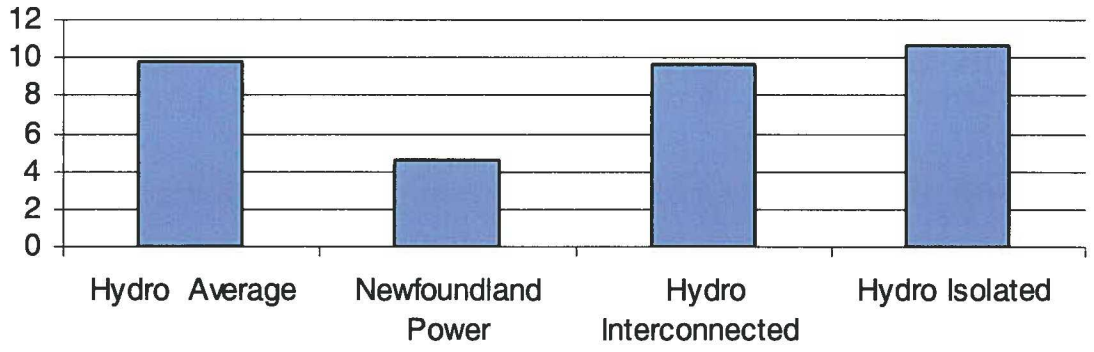
Reliability

It should be noted that cost reductions and increased system reliability are sometimes conflicting goals. The following charts show five-year simple average reliability comparisons.

Service Continuity - Five-Year
System Average Interruption Frequency Index
(SAIDI)



Service Continuity - Five Year
System Average Interruprion Duration Index
(SAIFI)



Rural Deficit control measures must be considered with due consideration given to reliability issues.

newfoundland labrador hydro
a nalcor energy company

Hydro Place. 500 Columbus Drive.
P.O. Box 12400. St. John's. NL
Canada A1B 4K7
t. 709.737.1400 f. 709.737.1800
www.nlh.nl.ca

March 31, 2009

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL
A1A 5B2

ATTENTION: Ms. Cheryl Blundon
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Rural Deficit - Summary of Specific Initiatives

Pursuant to Order No. P.U. 14(2004) page 166, item 13 (vi), please find enclosed the original and eight copies of the above-noted report.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Senior Legal Counsel

GPY/jc

A REPORT TO
THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES
(pursuant to Order No. P.U. 14(2004))

RURAL DEFICIT
Summary of Specific Initiatives

NEWFOUNDLAND AND LABRADOR HYDRO

March 2009

newfoundland labrador hydro
a nalcor energy company

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1 Introduction

Newfoundland and Labrador Hydro (Hydro) serves approximately 36,000 rural customers. Electrical service is provided to the majority of these customers at an operating loss or deficit. The number of customers in rural deficit areas is as follows:

Island Interconnected	23,000
Island Isolated	800
Labrador Isolated	2,500
L'Anse au Loup	1,000

There are approximately 9,000 rural customers served on the Labrador Interconnected System who pay rates which both recover costs as well as contribute to funding a portion of the rural deficit.

Population trends vary on a community by community basis, and generally speaking, can affect the magnitude of the deficit incurred in rural areas. While there is no cost of service available by diesel area, a declining population would typically mean there are fewer customers available to contribute to fixed costs. An increase in a population of a community can result in an improvement in per capita cost recovery, at least to the point where the increase in population causes an increase in load that drives a capital investment requirement. The following table provides the population trends for the isolated diesel areas:

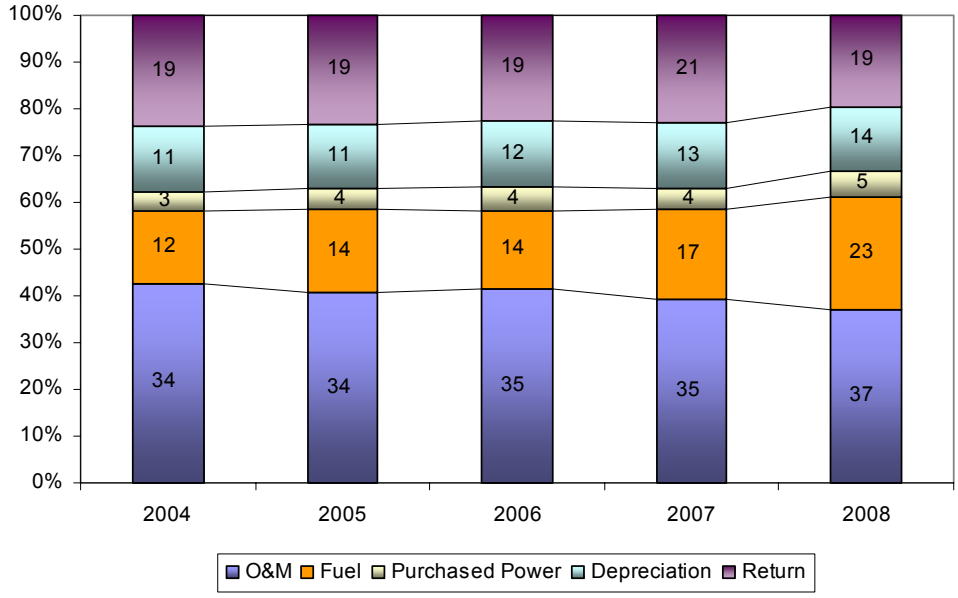
Forecast Trends for Isolated Diesel Communities			
Fast Decline	**Slow Decline**		**Modest Growth**
Ramea	Francois	Cartwright	Charlottetown
Little Bay Islands	Grey River	Makkovik	Nain
St Brendan's	McCallum	Postville	
	Black Tickle	St. Lewis	
	L'Anse au Loup	Norman Bay	
	Mary's Harbour	Paradise River	
	Port Hope Simpson	William's Harbour	
	Rigolet	Hopedale	

Hydro remains committed to providing least-cost, reliable power to all its customers, however increasing costs to service Rural Customers are also contributing to the magnitude of the deficit. Rising fuel costs in diesel areas remain a challenge, with no technically and economically feasible options presently identified to switch from fuel-based generation. Hydro continues to investigate options for this area. Increasing wages and other costs, such as those related to legislation, are also factors which impact the rural deficit. However, Hydro continues to seek opportunities to control costs in all areas, as illustrated in the following chart which shows the costs of operating the rural

systems, excluding Labrador Interconnected. The primary controllable cost, Operating and Maintenance Expense (O&M), has increased from $34 million in 2004 to $37 million in 2008, a compound annual growth rate of approximately 1.6 %. O&M comprises a smaller percentage of total costs each year since 2004, while fuel based costs, which includes purchased power, are forming ever larger percentages, having just about doubled in size from $12 million in 2004 to $23 million in 2008.

Chart 1

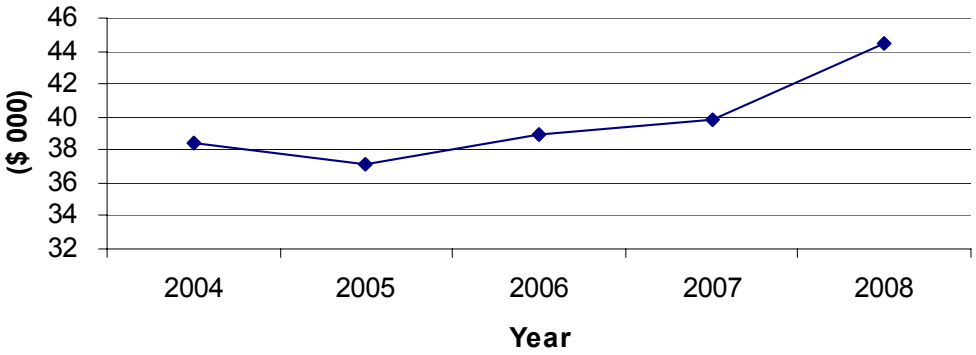
Rural Costs ($ millions)



The overall deficit has not grown at the same rate as costs, due to increasing revenues and the application of the Canadian Forces Base Goose Bay (CFB) credit. The deficit level since 2004 is shown in Chart 2.

Chart 2

Rural Deficit



2 2008 Operating Initiatives

Conservation and Demand Management
Hydro and Newfoundland Power have teamed up to develop a new provincial energy conservation plan. Significant activities in 2008 include completion and filing with the Public Utilities Board of the conservation and demand management potential study of January 2008 prepared by Marbek Resource Consultants Limited and the joint Newfoundland Power/Newfoundland and Labrador Hydro five-year energy conservation plan of June 2008. The conservation programs for rural customers focus primarily on energy savings which will have a beneficial impact on the rural deficit through fuel savings at Holyrood and the isolated diesel plants.

Internal Energy Use
In 2008, Hydro raised its focus on improving internal efficiency to reduce the internal use of energy. This initiative is targeting reductions in energy usage in all facilities including diesel plants and offices within the areas affecting the rural deficit. As in the Conservation and Demand Management initiative with customers, this will result in reduced fuel requirements to supply load in these areas.

Bill Printing
In 2008, Hydro moved the printing of customer bills to in-house to save the printing costs incurred by using an outside printing service company.

3 2008 Capital Initiatives

The replacement of mufflers on diesel units in L'Anse au Loup and St. Anthony[1] is expected to prolong the life of the exhaust systems. The new stainless steel systems are less prone to corrosion as a result of the intermittent operations of these units than the previously installed carbon steel systems.

The continuation of the Automated Meter Reading (AMR) Project[2] is justified based on a positive net present value, reducing meter reading aspect of the rural deficit in the long term. Savings in meter reading costs associated with salaries, safety supplies and transportation are anticipated. The AMR endpoints due to be installed are as follows:

St. Anthony	-	2,400
Barachoix	-	114

[1] Pages B-128 to B-131, Hydro's 2008 Capital Budget Application.
[2] Pages B-153 to B-155, Hydro's 2008 Capital Budget Application; Pages C-87 to C-95, Hydro's 2009 Capital Budget Application.

Bay d'Espoir	-	1,324
Cow Head	-	454
Conne River	-	341
Daniel's Hr.	-	292
Hawke's Bay	-	968
Parson's Pond	-	250

4 Ongoing Initiatives

As previously reported, Hydro's control measures which contribute to controlling the rural deficit include:

- Continuing to capture waste heat in many diesel plants to heat Hydro premises;
- Planning diesel unit replacement size to optimize fuel efficiency;
- Monitoring diesel system fuel efficiency to identify poor performers so that corrective action may be taken;
- Utilizing commercial air flights during regular work hours where practical, rather than more expensive helicopter use and overtime hours;
- Having, when possible, operators choose the most fuel efficient mix of engines to supply the community load. This is done automatically in automated plants.
- The interconnection of Rencontre East, completed in 2006, was the least-cost alternative to supply long term reliable power to the former diesel plant community. A present worth comparison of costs for continued diesel operation versus the interconnection indicates the interconnection alternative would provide a 15-year payback under base case conditions. At the end of the 31-year study period, the interconnection provides a CPW (cumulative present worth) cost preference of $1,042,907 over continued diesel operation.
- Through its conservation programs, recently rebranded "TakeCharge" in partnership with Newfoundland Power, Hydro continues to inform its customers of ways to reduce energy consumption and save money. Up to the end of 2005, Hydro distributed approximately 14,000 compact fluorescent lights to its customers in diesel systems. For further details regarding a current update on this initiative, see Attachment 2 in response to CA 5 NLH of Hydro's 2006 General Rate Application.
- More effective planning and scheduling has helped maintain reliable service during a period in which the operating and maintenance costs have tracked below inflation. There is a significant coordination effort in the up-front planning process to ensure delays and duplicate asset outages are minimized. Planning and scheduling results in better utilization of the workforce with the planner ensuring the available weekly capacity of each crew is matched to the estimated weekly work. Overall, planning and scheduling helps Hydro perform effective maintenance activities in the most efficient manner.

- Completing a life cycle cost analysis to help ensure the overall least-cost option is chosen when analyzing tenders for the purchase of new diesel engines. In the life cycle cost analysis such things as capital cost, overhaul cost, fuel cost (based upon fuel efficiency data), and routine operation and maintenance cost are considered.

5 Reliability

It should be noted that cost reductions and increased system reliability are sometimes conflicting goals. Please refer to Hydro's 2008 Key Performance Indicator Report for distribution reliability statistics and commentary. Rural deficit control measures must be considered with due consideration given to reliability issues.

newfoundland labrador hydro
a nalcor energy company

Hydro Place. 500 Columbus Drive.
P.O. Box 12400. St. John's. NL
Canada A1B 4K7
t. 709.737.1400 f. 709.737.1800
www.nlh.nl.ca

March 31, 2010

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL
A1A 5B2

ATTENTION: Ms. Cheryl Blundon
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Rural Deficit - Summary of Specific Initiatives

Pursuant to Order No. P.U. 14(2004) page 166, item 13 (vi), please find enclosed the original and eight copies of the above-noted report.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Wayne D. Chamberlain
General Counsel Corporate Secretary

WDC/jc

cc: Gerard Hayes – Newfoundland Power
Paul Coxworthy – Stewart McKelvey Stirling Scales
Thomas Johnson – Consumer Advocate
Joseph S. Hutchings, Q.C. – Poole Althouse

A REPORT TO
THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES
(pursuant to Order No. P.U. 14(2004))

RURAL DEFICIT
Summary of Specific Initiatives

NEWFOUNDLAND AND LABRADOR HYDRO

March 2010

newfoundland labrador hydro
a nalcor energy company

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1 Introduction

Newfoundland and Labrador Hydro (Hydro) serves approximately 36,000 Rural Customers. Electrical service is provided to the majority of these customers at an operating loss or deficit.

There are approximately 9,000 Rural Customers served on the Labrador Interconnected System who pay rates which both recover costs as well as contribute to funding a portion of the rural deficit.

As stated in the 2008 Rural Deficit report, population trends vary on a community by community basis, and generally speaking, can affect the magnitude of the deficit incurred in rural areas. While there is no cost of service available by each diesel area or community, a declining population would typically mean there are fewer customers available to contribute to fixed costs. An increase in a population of a community can result in an improvement in per capita cost recovery, at least to the point where the increase in population causes an increase in load that drives a capital investment requirement. Population trend data has not been updated since the 2008 report, but Hydro's customer numbers[1] from 2000 to 2009 (Table 1 below) show the number of customers on the Labrador Isolated Systems are generally increasing. The reverse is true in the Island Isolated Systems.

[1] Excludes streetlights

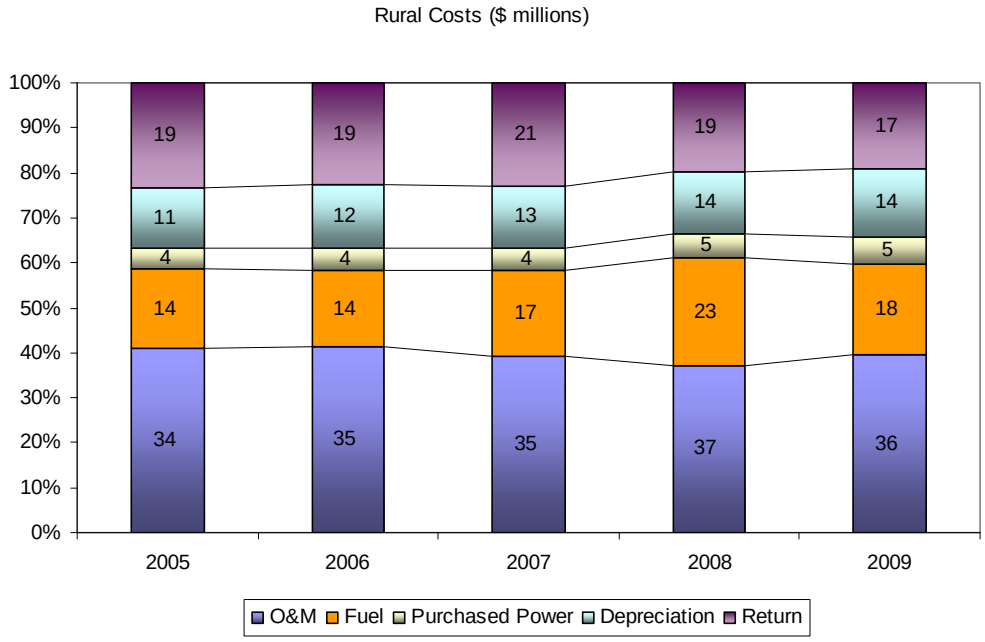
Table 1: Number of Customers

Community	Number of Customers 2000	2005	2009	Percent Increase (Decrease) 2000 to 2009
Labrador				
Charlottetown	177	197	208	18%
Mary's Harbour	212	255	255	20%
Norman Bay	20	20	19	-5%
Port Hope Simpson	208	221	228	10%
St. Lewis	133	133	131	-2%
Williams Harbour	39	39	38	-3%
Black Tickle	95	100	105	11%
Cartwright	306	326	337	10%
Hopedale	198	217	227	15%
Makkovik	162	179	194	20%
Nain	327	401	426	30%
Paradise River	27	29	32	19%
Postville	99	113	123	24%
Rigolet	140	151	159	14%
L'Anse au Loup	928	957	969	4%
Island				
Francois	85	78	77	-9%
Grey River	78	71	70	-10%
Little Bay Islands	150	137	136	-9%
McCallum	78	67	64	-18%
Rencontre	398	356	349	-12%
St. Brendan's	109	87	87	-20%
	152	143	143	-6%

Hydro remains committed to providing least-cost, reliable power to all its customers; however increasing costs to service Rural Customers, many of which Hydro has limited control over are contributing to the magnitude of the deficit. Rising fuel costs in diesel areas, increasing wages, general inflationary pressure on material supply costs and other costs, such as those required to meet legislative requirements impact the rural deficit. However, Hydro continues to seek opportunities to control costs in all areas, but the results are not quantifiable year over year. Chart 1 below shows the trends in the share of each cost category to the total cost of operating the rural systems, excluding Labrador Interconnected. The primary controllable cost, Operating and Maintenance

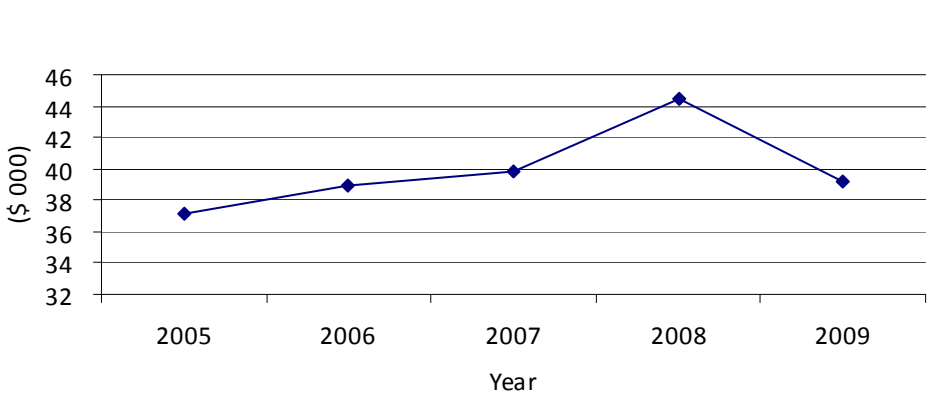
Expense (O&M), has increased from $34.3 million in 2005 to $36 million in 2009, with a slight decrease in 2009 from the 2008 O&M. This represents a slight rise in O&M as a percentage of total costs, as fuel based costs declined primarily due to overall fuel savings at Holyrood. The magnitude of the O&M cost increase is minor relative to the more significant changes that can occur to the fuel based costs.

Chart 1



The overall deficit was reduced in 2009 compared to 2008, primarily due to the $5 million reduction in fuel costs and return shown in Chart 1 above.

Chart 2



2 2009 Operating Initiatives

2.1 Conservation and Demand Management

Hydro and Newfoundland Power have teamed up to develop a new provincial energy conservation plan. In addition, it has on behalf of the Department of Natural Resources completed a conservation project in Hopedale and Port Hope Simpson to assess the opportunities for customers to save energy and provide them with some energy saving devices which are resulting in reduced energy usage in those communities. The 2009 initiatives are included in Section 3.2 of Hydro's December 2009 quarterly report previously filed with the Board.

2.2 Labrador Isolated Fuel Tanks

Since the road interconnection of the Southern Labrador communities, where possible, Hydro has reduced its reliance on large fuel storage tanks. The result is a reduction in the associated capital requirements and ongoing maintenance costs of these large storage tanks.

2.3 Station Service Loading

Hydro completed a review of the station service loading in all diesel plants and as a result engaged a consultant to complete a detailed review of Grey River in 2009. Improvements from this initiative will be brought forward in a future year capital project.

2.4 In-line Heating

Hydro has started installing in-line heaters (1500 W, 120 V) at diesel plants and terminal stations which will help reduce energy consumption.

3 2009 Capital Initiatives

The conductor on Line 2 in the Rocky Harbour distribution system was replaced[2] with a larger conduction which will reduce annual line losses by approximately 75,400 kWh which is equivalent to displacing 120 barrels of fuel at the Holyrood Thermal Generating Station.

As stated in the 2008 Rural Deficit Report, the ongoing implementation of Automated Meter Reading (AMR) Project[3] is reducing meter reading aspect of the rural deficit in the long term. In 2009, AMR implementation was completed in numerous distribution systems. The savings from AMR are associated with salaries, safety supplies and transportation for meter readers.

[2] Pages C-124 to C-129, Hydro's 2009 Capital Budget Application
[3] Pages B-153 to B-155, Hydro's 2008 Capital Budget Application; Pages C-87 to C-95, Hydro's 2009 Capital Budget Application

4 Ongoing Initiatives

As previously reported, Hydro's control measures which contribute to controlling the rural deficit include:

- Continuing to capture waste heat in many diesel plants to heat Hydro premises;
- Planning diesel unit replacement size to optimize fuel efficiency;
- Monitoring diesel system fuel efficiency to identify poor performers so that corrective action may be taken;
- Utilizing commercial air flights during regular work hours where practical, rather than more expensive helicopter use;
- Having, when possible, operators choose the most fuel efficient mix of engines to supply the community load. This is done automatically in automated plants;
- More effective planning and scheduling has helped maintain reliable service during a period in which the operating and maintenance costs have tracked below inflation. There is a significant coordination effort in the upfront planning process to ensure delays and duplicate asset outages are minimized. Planning and scheduling results in better utilization of the workforce with the planner ensuring the available weekly capacity of each crew is matched to the estimated weekly work. Overall, planning and scheduling helps Hydro perform effective maintenance activities in the most efficient manner;
- Completing a life cycle cost analysis to help ensure the overall least-cost option is chosen when analyzing tenders for the purchase of new diesel engines. In the life cycle cost analysis such things as capital cost, overhaul cost, fuel cost (based upon fuel efficiency data), and routine operation and maintenance cost are considered;
- In 2008, Hydro raised its focus on improving internal efficiency to reduce the internal use of energy. This ongoing activity is targeting reductions in energy usage in all facilities including diesel plants, offices and line depots within the areas affecting the rural deficit. As in the Conservation and Demand

Management initiative with customers, this will result in reduced fuel requirements to supply load in these areas;

- Also in 2008, Hydro moved the printing of customer bills to in-house and is saving the printing costs it would have incurred by continued use of an outside printing service company; and
- In 2009, mailing costs were reduced by improved sorting of customer bills to avoid multiple mailouts to customers with multiple accounts and by eliminating return envelops for customers not paying by mail.

5 Reliability

It should be noted that cost reductions and increased system reliability are sometimes conflicting goals. Please refer to Hydro's 2009 Key Performance Indicator Report for distribution reliability statistics and commentary. Rural deficit control measures must be considered with due consideration given to reliability issues.

newfoundland labrador hydro
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Hydro Place. 500 Columbus Drive.
P.O. Box 12400. St. John's. NL
Canada A1B 4K7
t. 709.737.1400 f. 709.737.1800
www.nlh.nl.ca

April 7, 2011

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road
St. John's, Newfoundland
A1A 5B2

ATTENTION: Ms. Cheryl Blundon
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Enclosed please find the original and eight copies of Hydro's annual financial return filed pursuant to Section 59 (2) of the Public Utilities Act. Return 20, regarding the rural deficit, has been supplemented by the 2010 Report on the Rural Deficit filed under separate cover.

The 2010 annual report on strategic goals and objectives and productivity initiatives required to be filed by paragraphs 16 (i) and (iii) of Order No. P.U. 14 (2004), p. 166 – 167 was filed in Hydro's December 31, 2010 quarterly report. Quarterly updates are now being filed in Hydro's Quarterly Regulatory reports.

The 2010 annual report on Key Performance Indicators required to be filed by paragraph 16 (ii) of Order No. P.U. 14(2004), p. 166, with the exception of the financial KPIs, was filed in Hydro's December 31, 2010 quarterly report. The financial KPIs will be provided with the year-end financial statements.

The 2010 Newfoundland and Labrador Hydro audited financial statements are currently being finalized and are therefore excluded from this filing. They will be provided under separate cover within the next couple of weeks.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Senior Legal Counsel

GPY/jc

cc: Gerard Hayes – Newfoundland Power
Paul Coxworthy – Stewart McKelvey Stirling Scales
Thomas Johnson – Consumer Advocate
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A REPORT TO
THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES
(pursuant to Order No. P.U. 14(2004))

RURAL DEFICIT ANNUAL REPORT
Summary of Specific Initiatives

NEWFOUNDLAND AND LABRADOR HYDRO

April 2011

newfoundland labrador hydro
a nalcor energy company

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1 Introduction

Newfoundland and Labrador Hydro (Hydro) serves approximately 37,000 Rural Customers. Electrical service is provided to the majority of these customers at an operating loss or deficit.

There are approximately 10,000 Rural Customers served on the Labrador Interconnected System who pay rates which both recover costs as well as contribute to funding a portion of the rural deficit.

As stated in prior years, population trends vary on a community by community basis, and generally speaking, can affect the magnitude of the deficit incurred in rural areas. While there is no cost of service available by each diesel area or community, a declining population would typically mean there are fewer customers available to contribute to fixed costs. An increase in a population of a community can result in an improvement in per capita cost recovery for fixed cost, at least to the point where the increase in population does not cause an increase in load that drives a capital investment requirement. Population trend data has not been updated since the 2008 report, but Hydro's customer numbers[1] from 2000 to 2010 (Table 1 below) show the net number of customers on the Labrador Isolated Systems are generally increasing. The reverse is true in the Island Isolated Systems.

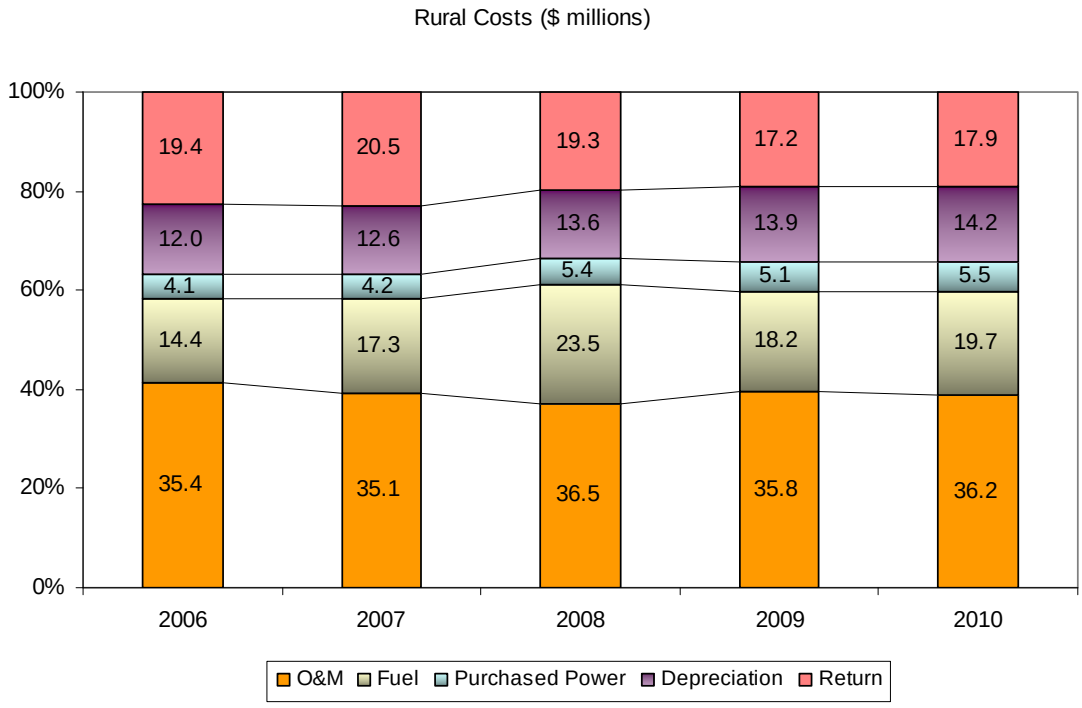
[1] Excludes streetlights

Community	Number of Customers 2000	2005	2010	Percent Increase (Decrease) 2000 to 2010
Labrador				
Charlottetown	177	197	212	20%
Mary's Harbour	212	255	259	22%
Norman Bay	20	20	18	-10%
Port Hope Simpson	208	221	233	12%
St. Lewis	133	133	130	-2%
Williams Harbour	39	39	35	-10%
Black Tickle	95	100	103	8%
Cartwright	306	326	340	11%
Hopedale	198	217	238	20%
Makkovik	162	179	212	31%
Nain	327	401	443	35%
Paradise River	27	29	35	30%
Postville	99	113	125	26%
Rigolet	140	151	164	17%
L'Anse au Loup	928	957	981	6%
Island				
Francois	85	78	78	-8%
Grey River	78	71	68	-13%
Little Bay Islands	150	137	131	-13%
McCallum	78	67	63	-19%
Ramea	398	356	350	-12%
St. Brendan's	152	143	141	-7%

Hydro remains committed to providing least-cost, reliable power to all its customers; however increasing costs to service Rural Customers, many of which Hydro has limited control over are contributing to the magnitude of the deficit. Rising fuel costs in diesel areas over which Hydro has no control and no regulatory protection, increasing wages, general inflationary pressure on material supply costs and other costs, such as those required to meet legislative requirements impact the rural deficit. However, Hydro continues to seek opportunities to control costs in all areas, but the results are not quantifiable year over year. Chart 1 below shows the trends in the share of each cost category to the total cost of operating the rural systems, excluding Labrador Interconnected. The primary controllable cost, Operating and Maintenance Expense

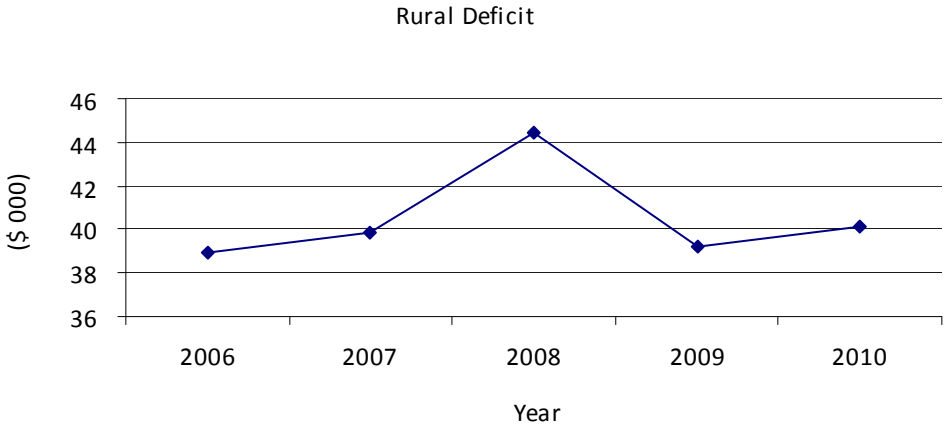
(O&M), has increased from $35.4 million in 2006 to $36.2 million in 2010 with a slight decrease in 2009 from the 2008 O&M. In 2010, there was a slight decrease in O&M as a percentage of total costs. The magnitude of the O&M cost increase remains minor relative to the more significant changes that can occur to the fuel based costs.

Chart 1



The overall deficit in 2010 exceeded the 2009 deficit by approximately $1 million primarily due to the $1.5 million increase in fuel costs shown in Chart 1 above.

Chart 2



2 2010 Operating Initiatives

2.1 Fuel Additive Pilot Project

Hydro has targeted three diesel sites to add a fuel additive called ACES. This product has testing and documentation to support it being capable of improving the fuel efficiency by up to 10%, with side benefits of reduced emissions, increased engine and fuel pump lubrication and prevention of algae growth if applied to the bulk storage. The ACES was added in December of 2010 in Rigolet and Mary's Harbour but the pilot only started in Feb/March 2011. If this project proves itself, and then applied across the diesel systems, it could result in a savings between $750,000 and $1 million.

2.2 Internal Energy Efficiency Initiatives

In 2010, Hydro's internal energy efficiency measures contribute to overall cost containment, some of which is allocated to Rural Customers and therefore contributes to deficit reduction. These measures include:

<u>Bay d'Espoir – 404 MWh estimated annual energy savings</u>

- Equivalent fuel reduction of 640 barrels of oil at HTGS.
- Further to previous year's actions, additional electric heaters at the Upper Salmon, West Salmon, and North Salmon intake structures are operated according to seasonal requirements.

<u>Holyrood Thermal Generating Station – 690 MWh estimated annual energy savings</u>

- Equivalent fuel reduction of 1,095 barrels of oil at HTGS.
- Further to previous year's actions, a large station service transformer at the Roddickton Woodchip Facility was de-energized.

<u>Hydro Place – 1,500 MWh estimated annual energy savings</u>

- Equivalent fuel reduction of 2,381 barrels of oil at HTGS.

- Further to previous year's upgrades, computer room air conditioning requirements have been reduced by approximately 13 tons of refrigeration.

TRO Central – 4.5 MWh estimated annual energy savings

- Equivalent to 7 barrels of oil reduction.
- Further to previous year's actions, roof upgrade work at the Stoney Brook Terminal Station Control Building included increased insulation levels, and low flow faucet aerators were installed to help reduce hot water use at the Bishop's Falls complex.
- Energy audit completed of the Hydro complex at Bishop's Falls in 2010. Quick hit recommendations to be acted on in 2011.

2.3 Introduced e-billing

Hydro began offering e-billing to its customers in 2010. E-billing is an electronic paperless form of receiving a bill by email. This method of billing is convenient, beneficial to the environment and offers a small cost savings on postage, paper and envelopes. To the end of 2010, approximately $480 was being saved monthly.

3 2010 Capital Initiatives

Enhancements to the set points of the Cartwright Diesel plant units[2] allows improved load sharing and cycling with improved fuel consumption. The system automation to ensure the right unit is dispatched at the correct time to maximize efficiency for the plant which will reduce fuel consumption.

The ongoing implementation of Automated Meter Reading (AMR) Project[3] is reducing meter reading costs aspect of the rural deficit in the long term. Automated Meter Reading (AMR) was implemented for the Fogo/Change Islands System in 2010 displacing one full-time Meter Reader position. This initiative reduced operating cost by approximately $63,000 annually based on current salary and benefits.

Distribution capital upgrades are completed with a focus of replacing any known troublesome assets. For example, in 2011 a capital project is scheduled to upgrade the distribution system in Francois. The scope will include replacement of deteriorated poles, insulators, secondary conductor, transformers and know customer service connection deterioration. The upgrade in an isolated community addresses any known concerns, and trouble calls in the future will be reduced.

The Norman's Bay Diesel Plant upgrade capital project[4] resulted in three new, more efficient engines being installed.

[2] Pages B-125 to B- 126. Hydro's 2008 Capital Budget Application - Replace Switchgear – Cartwright, project completed.
[3] Pages B-153 to B-155, Hydro's 2008 Capital Budget Application; Pages C-87 to C-95, Hydro's 2009 Capital Budget Application
[4] Pages B-17 to B-18, Hydro's 2009 Capital Budget Application.

4 Ongoing Initiatives

As previously reported, Hydro's control measures which contribute to controlling the rural deficit include:

- Continuing to capture waste heat in many diesel plants to heat Hydro premises;
- Planning diesel unit replacement size to optimize fuel efficiency;
- Monitoring diesel system fuel efficiency to identify poor performers so that corrective action may be taken;
- Utilizing commercial air flights during regular work hours where practical, rather than more expensive helicopter use;
- Having operators choose the most fuel efficient mix of engines, when possible, to supply the community load. This is done automatically in automated plants;
- More effective planning and scheduling has helped maintain reliable service during a period in which the operating and maintenance costs have tracked below inflation. There is a significant coordination effort in the upfront planning process to ensure delays and duplicate asset outages are minimized. Planning and scheduling results in better utilization of the workforce with the planner ensuring the available weekly capacity of each crew is matched to the estimated weekly work. Overall, planning and scheduling helps Hydro perform effective maintenance activities in the most efficient manner;
- Completing a life cycle cost analysis to help ensure the overall least-cost option is chosen when analyzing tenders for the purchase of new diesel engines. In the life cycle, cost analysis such things as capital cost, overhaul cost, fuel cost (based upon fuel efficiency data), and routine operation and maintenance cost are considered;
- In 2008, Hydro raised its focus on improving internal efficiency to reduce the internal use of energy. This ongoing activity is targeting reductions in energy usage in all facilities including diesel plants, offices and line depots within the areas affecting the rural deficit. As in the Conservation and Demand

Management initiative with customers, this will result in reduced fuel requirements to supply load in these areas;

- Also in 2008, Hydro moved the printing of customer bills to in-house and is saving the printing costs it would have incurred by continued use of an outside printing service company;
- In 2009, mailing costs were reduced by improved sorting of customer bills to avoid multiple mailouts to customers with multiple accounts and by eliminating return envelops for customers not paying by mail;
- Conservation and Demand Management initiatives continue, as reported in Section 3.3 of Hydro's Quarterly Regulatory report for the year ended December 31, 2010; and
- Since 2009, Hydro has been installing in-line heaters (1500 W, 120 V) at diesel plants and terminal stations which will help reduce energy consumption.

5 Reliability

It should be noted that cost reductions and increased system reliability are sometimes conflicting goals. Please refer to Hydro's 2009 Key Performance Indicator Report for distribution reliability statistics and commentary. Rural deficit control measures must be considered with due consideration given to reliability issues.

newfoundland labrador hydro
a nalcor energy company

Hydro Place. 500 Columbus Drive.
P.O. Box 12400. St. John's. NL
Canada A1B 4K7
t. 709.737.1400 f. 709.737.1800
www.nlh.nl.ca

April 5, 2012

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road
St. John's, Newfoundland
A1A 5B2

ATTENTION: Ms. Cheryl Blundon
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Enclosed please find the original and eight copies of Hydro's annual financial return filed pursuant to Section 59 (2) of the Public Utilities Act. Return 20, regarding the rural deficit, has been supplemented by the 2011 Report on the Rural Deficit filed under separate cover.

The 2011 annual report on strategic goals and objectives and productivity initiatives required to be filed by paragraphs 16 (i) and (iii) of Order No. P.U. 14 (2004), p. 166 – 167 was filed in Hydro's December 31, 2011 quarterly report. Quarterly updates are now being filed in Hydro's Quarterly Regulatory reports.

The 2011 Newfoundland and Labrador Hydro audited financial statements and the 2011 annual report on Key Performance Indicators are currently being finalized and are therefore excluded from this filing. They will be provided under separate cover within the next couple of weeks.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Angela M. Dunphy, CGA
Team Lead, Rates and Regulatory Affairs

AMD/jc

cc: Gerard Hayes – Newfoundland Power
Paul Coxworthy – Stewart McKelvey Stirling Scales
Thomas Johnson – Consumer Advocate
Dean Porter – Poole Althouse

A REPORT TO
THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES
(pursuant to Order No. P.U. 14(2004))

RURAL DEFICIT ANNUAL REPORT
Summary of Specific Initiatives

NEWFOUNDLAND AND LABRADOR HYDRO

April 2012

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a nalcor energy company

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1 Introduction

Newfoundland and Labrador Hydro (Hydro) serves approximately 37,800 Rural Customers. Electrical service is provided to the majority of these customers at an operating loss or deficit, except for the approximately 10,000 Rural Customers served on the Labrador Interconnected System who pay rates which both recover costs as well as contribute to funding a portion of the rural deficit.

As stated in prior years, population trends vary on a community by community basis, and generally speaking, can affect the magnitude of the deficit incurred in rural areas. While there is no cost of service available by each diesel area or community, a declining population would typically mean there are fewer customers available to contribute to fixed costs. An increase in a the number of customers in a community can result in an improvement in per capita cost recovery for fixed cost, at least to the point where the increase in population does not cause an increase in load that drives a capital investment requirement. In isolated diesel communities, in particular, the incremental cost of fuel would rarely be recovered by increased sales due to increased population, number of customer accounts or simply increased load.

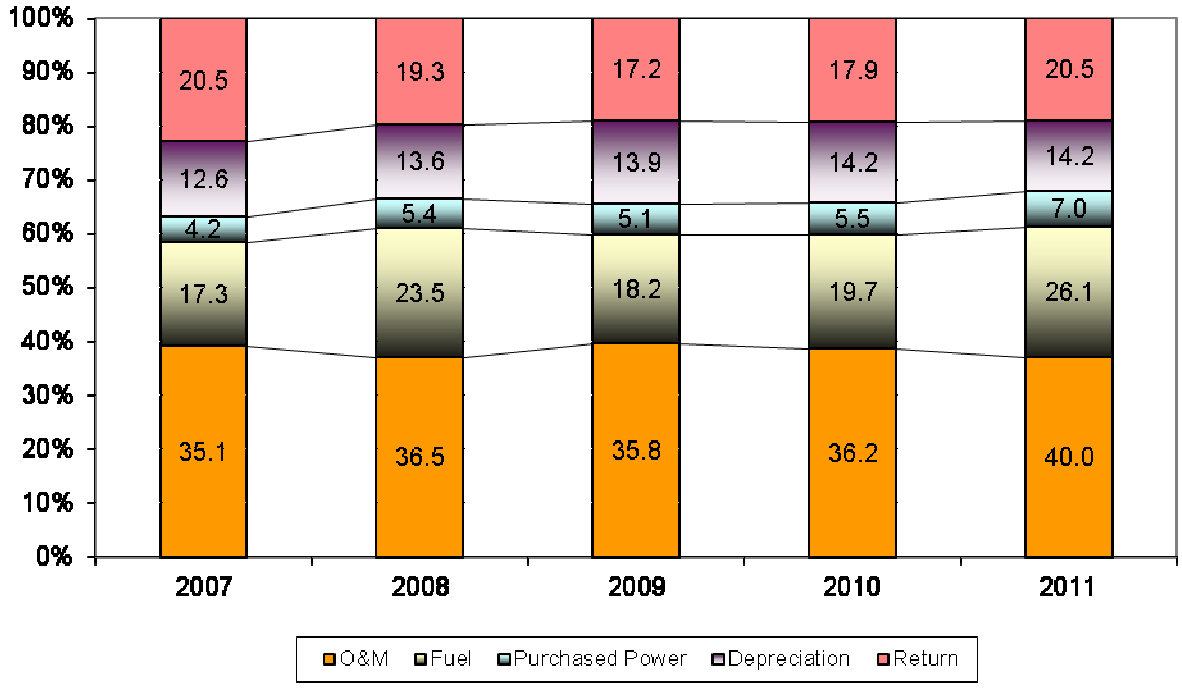
Hydro's mandate to provide least-cost, safe and reliable power to all its customers remains its primary focus. Controllable costs, primarily Operating and Maintenance (O&M) costs remain relatively consistent from year to year, despite increasing wages, general inflationary pressure on material supply costs and other costs. The current provincial economy remains an increasing cost driver. Hydro continues to control its O&M costs using measures such as Conservation and Demand Management (CDM) aimed at internal energy efficiency. Such efforts both reduce Hydro's O&M costs and assist in reducing overall system fuel costs. Hydro remains committed to influencing non-controllable costs such as fuel prices by its efforts placed upon CDM initiatives aimed at its customers.

Chart 1 below shows the trends in the share of each cost category to the total cost of operating the rural systems, excluding Labrador Interconnected. The primary controllable cost, O&M, has increased from $35.1 million in 2007 to $40.0 million in 2011. O&M cost increases have been driven primarily by increases in wages and benefits, as explained in the Financial Key Performance Indicator (KPI) section of Hydro's 2011 KPI report.

In 2011, O&M as a percentage of total costs decreased from a high of 40% in 2009 to 37% in 2011.

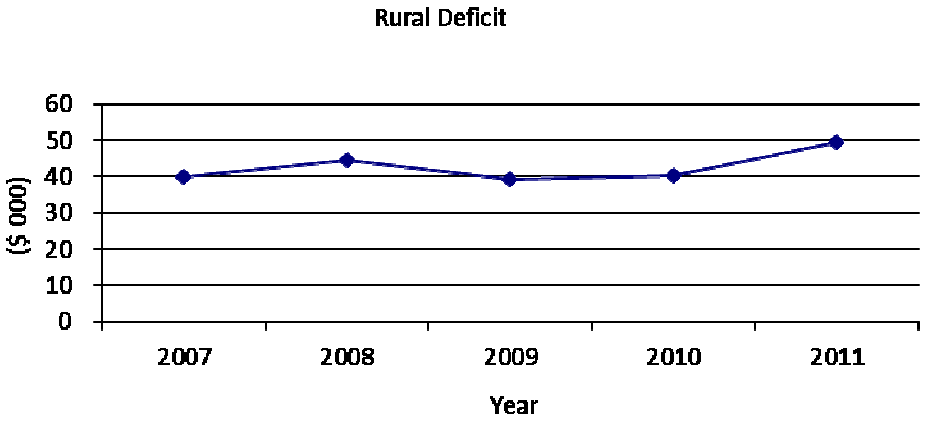
Chart 1

Rural Costs ($ millions)



The overall deficit in 2011 exceeded the 2010 deficit by approximately $9.2 million, primarily due to the $1.5 million increase in fuel costs shown in Chart 1 above. Note that the capital related fixed costs (return on rate base and depreciation expense) continue to account for approximately 60% of the overall costs.

Chart 2



The overall change in the deficit is broken down as shown in Table 1 below.

Table 1

Change in Deficit by Component	
	From 2010 to 2011
O&M	3.8
Fuel	6.4
Purchased Power	1.5
Depreciation	(0.1)
Return	2.6
Revenue	(5.1)
Total Increase (Decrease) in Deficit	**9.2**

2 2011 Operating Initiatives

2.1 Internal Energy Efficiency Initiatives

In 2011, Hydro's internal energy efficiency measures contribute to overall cost containment, some of which is allocated to Rural Customers and therefore contributes to deficit reduction. These measures include:

Nain[1] Diesel Plant Waste Heat Recovery System for Space Heating - 60 MWh estimated annual savings

Previously, the diesel plant relied on several electric resistance heaters for space heating. In 2011, a system was installed to utilize the waste heat from the diesel generators to provide space heating throughout the building. The system is working well, and in addition to providing a more effective heating system, it has reduced the station service by an average of 24%. Based on the system's performance to date, it is expected to save approximately 60 MWh of electricity.

Bishop's Falls[2] Low-Cost Energy Conservation Measures - 55 MWh estimated annual savings

An energy audit of the Bishop's Falls complex was completed in 2010 which identified several opportunities for reducing energy consumption. In 2011, low-cost measures identified in the audit report were implemented for an estimated annual savings of 55 MWh of electricity.

Holyrood[3] Thermal Generation Station (Holyrood): Efficient Operating Practices - 114 MWh estimated annual savings

Holyrood has a 1.2 km pipe line which transports No. 6 fuel oil from tanker ships to the tank farm for storage. This line is equipped with electric heat tracing which operates continuously in order to maintain an acceptable viscosity for pumping. During the summer months, when shipments are not being received, the temperature set point was reduced in order to reduce unnecessary electricity consumption. Due to the size of the heat trace system and line, the small adjustment resulted in an estimated savings of 114 MWh.

[1] Savings directly affect Labrador Isolated Rural Customers.
[2] Allocated between Island Interconnected and Island Isolated systems, and among all functions. Approximately 7% of island Interconnected costs assigned to Rural Customers.
[3] Approximately 7% of island Interconnected costs assigned to Rural Customers.

3 2011 Capital Initiatives

The ongoing implementation of Automated Meter Reading (AMR) Project[4] is reducing meter reading costs aspects of the rural deficit in the long term. AMR is being implemented at Labrador West during 2011/2012 that will displace temporary help approximately equivalent to 1/2 an FTE position, which was required to meet the expansion occurring at Labrador West and corresponding customer growth. Upon completion, this initiative will reduce operating cost by approximately $50,000 annually based on current salary and benefits.

Hydro's 2011 project, Replace Mini Hydro Turbine in Roddickton[5], includes an energy efficiency component where additional energy will be generated and supplied into the Island Interconnected System because of an increase in turbine efficiency. While it is not possible to accurately measure turbine efficiency at this plant, it is estimated that the deteriorated turbine is operating at an efficiency of 77 percent as compared to its original guaranteed efficiency of 82 percent, and the project when completed in 2012 will result in an efficiency rate of 85 percent, resulting in a 10.4 percent increase in energy production. Although this project is of benefit to the entire Island Interconnected System, there will be an impact in the total fuel required for the system and therefore an impact upon the rural deficit.

[4] Pages B-75 to B-76, Hydro's 2011 Capital Budget Application
[5] Pages C-89 to B-97, Hydro's 2011 Capital Budget Application, scheduled to be completed in 2012

4 Ongoing Initiatives

As previously reported, Hydro's control measures which contribute to controlling the rural deficit include:

- Continuing to capture waste heat in more than half of Hydro's diesel plants to heat Hydro premises;
- Planning diesel unit replacement size to optimize fuel efficiency;
- Monitoring diesel system fuel efficiency to identify poor performers so that corrective action may be taken;
- Utilizing commercial air flights during regular work hours where practical, rather than more expensive helicopter use;
- Having operators choose the most fuel efficient mix of engines, when possible, to supply the community load. This is done automatically in automated plants;
- More effective planning and scheduling, which includes a significant coordination effort in the upfront planning process to ensure delays and duplicate asset outages are minimized. Planning and scheduling results in better utilization of the workforce with the planner ensuring the available weekly capacity of each crew is matched to the estimated weekly work. Overall, planning and scheduling helps Hydro perform effective maintenance activities in the most efficient manner;
- Completing a life cycle cost analysis to help ensure the overall least-cost option is chosen when analyzing tenders for the purchase of new diesel engines. For example, new engines were put in service in Little Bay Islands, McCallum and Francois in 2011. In the life cycle, cost analysis such things as capital cost, overhaul cost, fuel cost (based upon fuel efficiency data), and routine operation and maintenance cost are considered;
- In 2008, Hydro raised its focus on improving internal efficiency to reduce the internal use of energy. This ongoing activity is targeting reductions in energy usage in all facilities including diesel plants, offices and line depots within the areas affecting the

rural deficit. As in the Conservation and Demand Management initiative with customers, this will result in reduced fuel requirements to supply load in these areas;

- Also in 2008, Hydro moved the printing of customer bills to in-house and is saving the printing costs it would have incurred by continued use of an outside printing service company;
- In 2009, mailing costs were reduced by improved sorting of customer bills to avoid multiple mailouts to customers with multiple accounts and by eliminating return envelops for customers not paying by mail;
- Conservation and Demand Management initiatives continue, as reported in Section 3.3 of Hydro's Quarterly Regulatory report for the year ended December 31, 2011;
- Since 2009, Hydro has been installing in-line heaters (1500 W, 120 V) at diesel plants and terminal stations which will help reduce energy consumption;
- Hydro began offering e-billing to its customers in 2010. E-billing is an electronic paperless form of sending customer bills by email. This method of billing is convenient, beneficial to the environment and offers a small cost savings on postage, paper and envelopes. To the end of 2011, approximately $740 was being saved monthly.

5 Reliability

It should be noted that cost reductions and increased system reliability are sometimes conflicting goals. Please refer to Hydro's 2011 Key Performance Indicator Report for distribution reliability statistics and commentary. Rural deficit control measures must be considered with due consideration given to reliability issues.

newfoundland labrador hydro
a nalcor energy company

Hydro Place. 500 Columbus Drive.
P.O. Box 12400. St. John's. NL
Canada A1B 4K7
t. 709.737.1400 f. 709.737.1800
www.nlh.nl.ca

May 31, 2013

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, NL
A1A 5B2

ATTENTION: Ms. Cheryl Blundon
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Rural Deficit Annual Report - Summary of Specific Initiatives

Further to Hydro's letter of April 1, 2013, please find enclosed the original and eight copies of Hydro's above-noted report for 2012.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Senior Legal Counsel

GPY/jc

cc: Gerard Hayes – Newfoundland Power
Paul Coxworthy – Stewart McKelvey Stirling Scales
Thomas Johnson – Consumer Advocate
Dean Porter – Poole Althouse

A REPORT TO
THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES
(pursuant to Order No. P.U. 14(2004))

RURAL DEFICIT ANNUAL REPORT
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NEWFOUNDLAND AND LABRADOR HYDRO

May 2013

newfoundland labrador hydro
a nalcor energy company

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As stated in prior years, population trends vary on a community-by-community basis, and generally speaking, can affect the magnitude of the deficit incurred in rural areas. While there is no cost of service available by each diesel area or community, a declining population would typically mean there are fewer customers available to contribute to fixed costs. An increase in the number of customers in a community can result in an improvement in per capita cost recovery for fixed cost, at least to the point where the increase in population does not cause an increase in load that drives a capital investment requirement. In isolated diesel communities, in particular, the incremental cost of fuel would rarely be recovered by increased sales due to increased population, number of customer accounts or simply increased load.

Hydro's mandate to provide least-cost, safe and reliable power to all its customers remains its primary focus. Controllable costs, primarily operating expenses, remain relatively consistent from year to year, despite increasing wages, general inflationary pressure on material supply costs and other costs. Hydro continues to control its operating expenses using measures such as Conservation and Demand Management (CDM) aimed at internal energy efficiency. Such efforts both reduce Hydro's costs and assist in reducing overall system fuel costs. Hydro remains committed to influencing non-controllable costs such as fuel prices by its efforts placed upon CDM initiatives aimed at its customers.

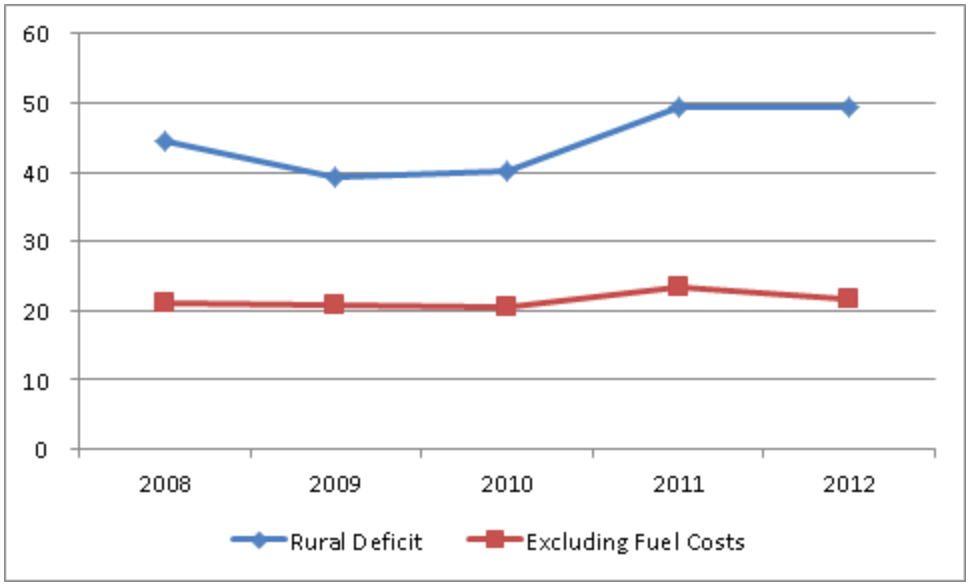
Table 1 below shows each cost category of operating the rural systems, excluding Labrador Interconnected. The primary controllable cost, Operating Expenses, has increased from $36.5 million in 2008 to $43.0 million in 2012. Operating Expense increases have been driven primarily by increases in wages and benefits.

Table 1
($ millions)

	2008	**2009**	**2010**	**2011**	**2012**
Operating Expenses	36.5	35.8	36.2	40.0	43.0
Fuel	23.5	18.2	19.7	26.1	27.6
Purchased Power	5.4	5.1	5.5	7.0	7.5
Depreciation	13.6	13.9	14.2	14.2	11.6
Return	19.3	17.2	17.9	20.5	20.4
Total	**98.3**	**90.4**	**93.4**	**107.8**	**110.1**

The overall deficit in 2012 remained level with the 2011 deficit. Increases in operating expenses and fuel costs were offset by decreased depreciation expense and increased revenue. Chart 1 below shows the level of the rural deficit since 2008.

Chart 1
Five-Year Rural Deficit



The overall change in the deficit is broken down as shown in Table 2 below.

Table 2

Change in Deficit by Component	
	From 2011 to 2012 ($ millions)
Operating Expenses	3.0
Fuel	1.5
Purchased Power	0.4
Depreciation	(2.6)
Return	(0.1)
Revenue	(2.3)
Total Increase (Decrease) in Deficit	**0.0**

2 2012 Operating Initiatives

2.1 Internal Energy Efficiency Initiatives

Hydro continues to consider internal energy efficiency measures, which contribute to overall cost containment, some of which are allocated to Rural Customers. Hydro's Quarterly Regulatory Report for the Quarter Ended December 31, 2012 included reporting on annual energy savings from Internal Energy Efficiency Programs. With 2012 targeted savings of 0.15 GWh, Hydro achieved 0.26 GWh, exceeding the target and increasing the energy savings over 2011 by over 50 percent. The 2012 savings were primarily realized through retrofits of lighting and heating controls, along with heating equipment and lighting optimization.

3 2012 Capital Initiatives

The ongoing implementation of Automated Meter Reading (AMR) Project is reducing meter reading costs aspects of the rural deficit in the long term. An AMR project began in the fall of 2012 for the Plum Point/Bear Cove Distribution System. This is a two-year project (2012-2013) that upon completion will offset one full-time position to produce annual operating savings of approximately $87,000.

4 Ongoing Initiatives

Hydro continues to control costs, using initiatives reported in prior years. The major initiatives continue to be related to CDM and AMR, and the 2012 impacts of these initiatives are reported above.

5 Reliability

It should be noted that cost reductions and increased system reliability are sometimes conflicting goals. Please refer to Hydro's 2012 Key Performance Indicator Report for distribution reliability statistics and commentary. Rural deficit control measures must be considered with due consideration given to reliability issues.

A REPORT TO
THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES
(pursuant to Order No. P.U. 14(2004))

RURAL DEFICIT ANNUAL REPORT
Summary of Specific Initiatives

NEWFOUNDLAND AND LABRADOR HYDRO

March 2014

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1 Introduction

Newfoundland and Labrador Hydro (Hydro) serves approximately 38,000 Rural Customers. Electrical service is provided to the majority of these customers at an operating loss or deficit, except for the approximately 10,900 Rural Customers served on the Labrador Interconnected System who pay rates which both recover costs as well as contribute to funding a portion of the rural deficit.

While there is no cost of service available by each diesel area or community, generally speaking, revenues from Rural Customers, particularly diesel areas, do not fully offset fixed costs. Therefore, the incremental cost of fuel is a direct impact to the rural deficit as it is not fully recovered from revenues from increased sales.

Hydro's mandate to provide least-cost, safe and reliable power to all its customers remains its primary focus. Controllable costs, primarily operating expenses, remain relatively consistent from year to year, despite increasing wages, general inflationary pressure on material supply costs and other costs. Hydro continues to control its operating expenses using measures such as Conservation and Demand Management (CDM) aimed at internal energy efficiency. Such efforts both reduce Hydro's costs and assist in reducing and/or limiting growth of overall system fuel costs.

Table 1 below shows the rural deficit for 2009 to 2013, excluding Labrador Interconnected. The primary controllable cost, operating expenses, has increased from $35.8 million in 2009 to $44.4 million in 2013, primarily driven by increases in wages and benefits and increases in maintenance and material costs due to investment in aging assets.

Table 1
Hydro Rural (Excluding Labrador Interconnected)

$ millions	Annual Amounts					Year over Year			
	2009	2010	2011	2012	2013	2010/ 2009	2011/ 2010	2012/ 2011	2013/ 2012
Revenues	51.2	53.3	58.4	60.8	62.5	2.1	5.1	2.4	1.7
Costs:									
Operating Expenses	35.8	36.2	40.0	43.0	44.4	0.3	3.8	3.0	1.4
Fuel	18.2	19.7	26.1	27.6	28.9	1.5	6.4	1.5	1.2
Purchased Power	5.1	5.5	7.0	7.5	7.7	0.4	1.5	0.4	0.2
Depreciation	13.9	14.2	14.2	11.6	12.5	0.3	(0.1)	(2.6)	0.9
Return[1]	17.2	17.9	20.5	20.4	19.7	0.7	2.6	(0.1)	(0.8)
Total	90.4	93.4	107.8	110.1	113.1	3.1	14.3	2.3	3.0
Rural Deficit	39.2	40.2	49.4	49.3	50.6	1.0	9.2	(0.1)	1.3

1. Reflects return on debt only, equity return on rate base excludes rural assets.

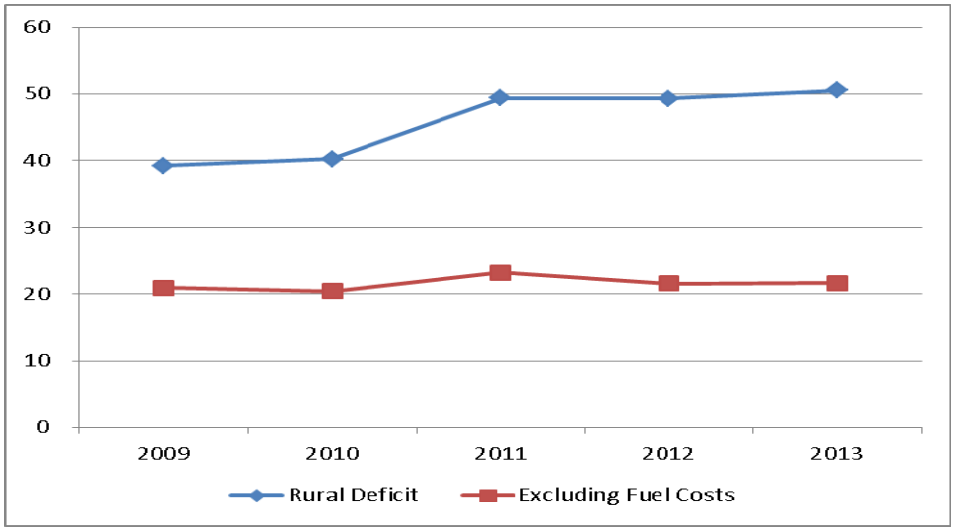
Table 1 shows the overall rural deficit of $50.6 million in 2013 was higher than 2012 by approximately $1.3 million or 2.6%, due to increases in operating expenses, fuel cost, and depreciation partially offset by higher revenues. Revenues were higher in 2013 due to increased sales (12 GWh or 2.6%) and the impact of the July 1, 2012 rate increase of approximately 6.6%[1].

Energy supply to the isolated rural areas (excludes rural Island Interconnected) increased by 5.1% or 3.5 GWh in 2013, resulting in higher fuel costs. The increase in sales in 2013 relative to 2012 is primarily attributable to colder weather in 2013.

Chart 1 illustrates that the rural deficit has been relatively consistent year over year when the impact of fuel costs is excluded.

[1] The rates for Rural Customers, other than Labrador Interconnected, are adjusted annually each July 1 as a result of the operation of Newfoundland Power's Rate Stabilization Account.

Chart 1
Five-Year Rural Deficit ($ millions)



The 2013 Test Year rural deficit estimate filed with Hydro's General Rate Application (GRA) was $60.7 million. The material increase relative to the 2013 actual rural deficit of $50.6 million is a result of higher return on equity[2], higher fuel costs, and lower revenues resulting from the proposed rate decrease.

2 Operating Initiatives

2.1 Internal Energy Efficiency Initiatives

In 2013, Hydro completed or launched operating initiatives that are part of multi-year projects through its internal energy efficiency program. Such initiatives contribute to overall cost containment, a portion of which is allocated to Rural Customers and therefore contributes to deficit reduction.

[2] In 2009, under the authority of Section 5.1 of the Electrical Power Control Act, 1994, the Province directed the following: in calculating the return on rate base, the same return on equity would be set for Hydro as was set for Newfoundland Power (NP); Hydro would earn ROE on its entire rate base, including amounts related to rural assets; Hydro would be permitted to have a proportion of equity in its capital structure up to a maximum of the same as is approved for NP; and these policies would become effective commencing with the first GRA after January 1, 2009.

- Retrofit existing T12 light fixtures with more energy efficient T8 lamps and electric ballasts at three area offices (Wabush, Port Saunders, and Bishop's Falls) beginning in 2014;
- Retrofit of existing T12 light fixtures with more energy efficient T8 lamps and electric ballasts in a facility in each Transmission and Rural Operations (TRO) region (Bishop's Falls Services Building, Cow Head Line Depot, HVY/GB North Plant) in 2013; and
- Installation of automatic temperature set back controls in a facility in each TRO region (HVY/GB North Plant, Bishop's Falls Services Building, Cow Head Line Depot) with ceiling mounted electric fan heaters in 2013.

In addition, as previously reported, Hydro continues with its ongoing control measures which also contribute to controlling the rural deficit, as follows:

- Continuing to capture waste heat in more than half of Hydro's diesel plants to heat Hydro premises;
- Planning diesel unit replacement size to optimize fuel efficiency;
- Monitoring diesel system fuel efficiency to identify poor performers so that corrective action may be taken;
- Utilizing commercial air flights during regular work hours where practical, rather than more expensive helicopter use;
- Having operators choose the most fuel efficient mix of engines, when possible, to supply the community load. This is done automatically in automated plants;
- More effective planning and scheduling, which includes a significant coordination effort in the upfront planning process to ensure delays and duplicate asset outages are minimized. Planning and scheduling results in better utilization of the workforce with the planner ensuring the available weekly capacity of each crew is matched to the estimated weekly work. Overall, planning and scheduling helps Hydro perform effective maintenance activities in the most efficient manner;

- Completing a life cycle cost analysis to help ensure the overall least-cost option is chosen when analyzing tenders for the purchase of new diesel engines. For example, new engines were put in service in Little Bay Islands, McCallum and Francois in 2011. In the life cycle, cost analysis such things as capital cost, overhaul cost, fuel cost (based upon fuel efficiency data), and routine operation and maintenance cost are considered;
- In 2008, Hydro raised its focus on improving internal efficiency to reduce the internal use of energy. This ongoing activity is targeting reductions in energy usage in all facilities including diesel plants, offices and line depots within the areas affecting the rural deficit;
- Also in 2008, Hydro moved the printing of customer bills to in-house and is saving the printing costs it would have incurred by continued use of an outside printing service company;
- In 2009, mailing costs were reduced by improved sorting of customer bills to avoid multiple mail outs to customers with multiple accounts and by eliminating return envelops for customers not paying by mail;
- Since 2009, Hydro has been installing in-line heaters (1500 W, 120 V) at diesel plants and terminal stations which will help reduce energy consumption; and
- Hydro began offering e-billing to its customers in 2010. E-billing is an electronic paperless form of sending customer bills by email. This method of billing is convenient, beneficial to the environment and offers a small cost savings on postage, paper and envelopes. For 2013, there were 2,469 customers using E-bills as their method of billing. Based on a cost of approximately $0.70 to mail a customer bill, the savings from E-bills are $1,728 per month, or $20,740 per year.

2.2 Conservation and Demand Management (CDM) Program Initiatives

The high cost of generation in isolated diesel communities and growing system load in the L'Anse au Loup system provides opportunity for Hydro to implement aggressive programs

for energy efficiency. In 2012, two programs were launched to offer incentives and technologies for both residential and commercial customers.

Isolated System Community Energy Efficiency Program

The Isolated System Community Energy Efficiency Program (Community Program) provided kits of small technologies for both home and business customers, a total of more than 2,500 installs by the end of 2013. Items including water conservation and efficient lighting technologies were installed for homeowners and additional information on energy efficiency options and behaviours were shared. Coupons are currently available at 15 retailers across the communities for discounts on a number of technologies including CFLs, block heater timers and thermostats. Increased incentives for home insulation retrofits were provided for customers who qualified through the existing takeCHARGE rebate program and mail in rebates were provided for a number of appliances including Energy Star refrigerators, freezers and televisions. Additional exchange events were held to promote holiday LED lighting, and smart power bars that include timer options.

In 2013, 33 homes received installation of drainwater heat recovery systems as a pilot to assess this technology in isolated systems and monitoring of these homes will continue through 2014. In 2014, additional work will be completed to assess the opportunity and challenges for conducting bigger scale home retrofits that would provide larger energy savings for homeowners through work on the building envelope.

Commercial customers received a kit of items including an LED exit sign and CFLs and were provided additional information on ways to conserve and promotions of the Isolated Systems Business Energy Efficiency Program as the next step to save. The Community Program is a three-year program and is expected to result in a total energy savings of 3.3 GWh/year and fuel cost savings of $1.1 million.

Isolated Systems Business Efficiency Program

The Isolated Systems Business Efficiency Program was also launched in 2012 and provides a free walkthrough audit of the facility and report on energy saving opportunities for commercial customers. To the end of 2013, more than 40 audits had been completed with recommendation reports provided to customers. Incentives are based on a cents per kWh saved and ongoing technical support for projects is made available. This custom approach has led to projects addressing lighting, refrigeration and processes and others. This program deals primarily with small business customers and over the three-year program life is expected to result in total energy savings of 180 MWh.

3 Capital Initiatives

Automated Meter Reading Project

The ongoing implementation of Automated Meter Reading (AMR) will reduce meter reading costs inherent in the rural deficit over the long term. An AMR project began in the fall of 2012 for the Plum Point/Bear Cove Distribution System. This two-year project (2012-2013) was completed at the end of 2013. As of February 1, 2014, Hydro has been using the AMR system for meter reading and has discontinued the manual readings resulting in a reduction of one full-time position. This equates to operating savings of approximately $87,000. A two-year 2013/2014 AMR project for the Rocky Harbour, Glenburnie, Wiltondale, and Sally's Cove distribution systems is scheduled to be commissioned and completed by year-end 2014.

LED Streetlight Replacement Project

Hydro is planning a pilot LED streetlight replacement project for the Town of Nain. Nain was chosen because there is a preexisting capital work plan for the town which will help minimize overall pilot implementation cost. Also, given the location and climate of Nain, this area will help provide for a full evaluation of the performance of LED lights on an isolated system with challenging weather conditions. The results of the pilot project will then assist

Hydro in deciding if the implementation of LED streetlights should be implemented on a larger scale.

LED streetlights will yield fuel cost savings due to lower energy requirements compared to high pressure sodium (HPS) lights (Hydro estimates approximately 50% energy savings). LED streetlights may also result in lower operating and maintenance costs than the existing HPS lights. Should LED streetlights prove to be cost effective in Nain, Hydro will propose an expanded implementation program for LED street lighting.