

*Renfrew Hydro Inc.* - Electric Distribution Services

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RENFREW HYDRO INC. – RP-2004-0203\EB 2004-0521  
CONSERVATION AND DEMAND ANNUAL REPORT  
YEAR 2005

INTRODUCTION:

Renfrew Hydro Inc. has received approval to invest \$70,555.00 in a Conservation & Demand Management Program. In 2005 there were limited expenditures in three (3) areas: Customer Awareness & Education – Home Show, Reduce Line Losses in Renfrew Hydro's distribution system and Conservation & Demand Programs – Smart Meters.

EVALUATION:

The expenditures in 2005 were preliminary in nature and there are no total Resource Cost Analysis to report in 2005.

DISCUSSION OF THE PROGRAMS

Appendix B has been completed for the three (3) elements of Renfrew Hydro Inc.'s plan that incurred expenditures in 2005. Please see attached.

LESSON LEARNED

A utility of Renfrew Hydro Inc.'s size must be careful and invest its resources in areas that will achieve the maximum benefit. In 2005 there were no significant partnership opportunities for Renfrew Hydro to participate in.

CONCLUSION

Renfrew Hydro Inc. continues to explore partnerships in established Conservation & Demand Programs and has registered with both the PowerWise Program and the OPA's Conservation Bureau - Spring 2006 Program.

March 30, 2006

## Appendix A - Evaluation of the CDM Plan

	Total	Residential	Commercial	Institutional	Industrial	Agricultural	LDC System	Other 1	Other 2	Other 3	Other 4
<i>Net TRC value (\$):</i>											
<i>Benefit to cost ratio:</i>											
<i>Number of participants or units delivered:</i>											
<i>Total kWh to be saved over the lifecycle of the plan (kWh):</i>											
<i>Total in year kWh saved (kWh):</i>											
<i>Total peak demand saved (kW):</i>											
<i>Total kWh saved as a percentage of total kWh delivered (%):</i>											
<i>Peak kW saved as a percentage of LDC peak kW load (%):</i>											
<i>Gross in year C&amp;DM expenditures (\$):</i>											
<i>Expenditures per kWh saved (\$/kWh)*:</i>											
<i>Expenditures per kW saved (\$/kW)**:</i>											
<i>Utility discount rate (%):</i>											

\*Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate energy savings.

\*\*Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate capacity savings.

# Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Conservation and Demand Programs

**Description of the program (including intent, design, delivery, partnerships and evaluation):**

Smart Meters - Renfrew Hydro Inc. became a member of the Ontario Utility Smart Meter group in 2005. There were no expenditures on Smart meter test programs in Renfrew in 2005.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):

TRC Costs (\$):

Utility program cost (less incentives):

Participant cost:

Total TRC costs:

Net TRC (in year CDN \$):

Benefit to Cost Ratio (TRC Benefits/TRC Costs):

C. **Results:** (one or more category may apply)

**Conservation Programs:**

Demand savings (kW):

Summer	
Winter	
lifecycle	in year

Energy saved (kWh):

Other resources saved :

Natural Gas (m3):

Other (specify):

**Demand Management Programs:**

Controlled load (kW)

Energy shifted On-peak to Mid-peak (kWh):

Energy shifted On-peak to Off-peak (kWh):

Energy shifted Mid-peak to Off-peak (kWh):

**Demand Response Programs:**

Dispatchable load (kW):

Peak hours dispatched in year (hours):

**Power Factor Correction Programs:**

Amount of KVar installed (KVar):

Distribution system power factor at beginning of year (%):

Distribution system power factor at end of year (%):

**Line Loss Reduction Programs:**

Peak load savings (kW):		
	<i>lifecycle</i>	<i>in year</i>
Energy savngs (kWh):		

**Distributed Generation and Load Displacement Programs:**

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

**Other Programs (specify):**

Metric (specify):	
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D. **Program Costs\*:**

Utility direct costs (\$):	Incremental capital:	
	Incremental O&M:	\$ 3,654.49
	Incentive:	
	Total:	
Utility indirect costs (\$):	Incremental capital:	
	Incremental O&M:	
	Total:	
Participant costs (\$):	Incremental equipment:	
	Incremental O&M:	
	Total:	

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E. **Comments:**

\*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

## Appendix A - Evaluation of the CDM Plan

	Total	Residential	Commercial	Institutional	Industrial	Agricultural	LDC System	Other 1	Other 2	Other 3	Other 4
<i>Net TRC value (\$):</i>											
<i>Benefit to cost ratio:</i>											
<i>Number of participants or units delivered:</i>											
<i>Total kWh to be saved over the lifecycle of the plan (kWh):</i>											
<i>Total in year kWh saved (kWh):</i>											
<i>Total peak demand saved (kW):</i>											
<i>Total kWh saved as a percentage of total kWh delivered (%):</i>											
<i>Peak kW saved as a percentage of LDC peak kW load (%):</i>											
<i>Gross in year C&amp;DM expenditures (\$):</i>											
<i>Expenditures per kWh saved (\$/kWh)*:</i>											
<i>Expenditures per kW saved (\$/kW)**:</i>											
<i>Utility discount rate (%):</i>											

\*Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate energy savings.

\*\*Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate capacity savings.

# Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Customer Awareness and Education

**Description of the program (including intent, design, delivery, partnerships and evaluation):**

Participated in May 2005 District Home Show promoting Energy Conservation and Education with regards to the use of compact fluorescents, timers, Energy efficient appliances and smart meters. No specific CDM program was promoted.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	
TRC Costs (\$):	
Utility program cost (less incentives):	
Participant cost:	
Total TRC costs:	
<u>Net TRC (in year CDN \$):</u>	
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	

C. **Results:** (one or more category may apply)

**Conservation Programs:**

Demand savings (kW):	Summer	
	Winter	
	lifecycle	in year
Energy saved (kWh):		
Other resources saved :		
Natural Gas (m3):		
Other (specify):		

**Demand Management Programs:**

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

**Demand Response Programs:**

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

**Power Factor Correction Programs:**

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

**Line Loss Reduction Programs:**

Peak load savings (kW):		
	<i>lifecycle</i>	<i>in year</i>
Energy savngs (kWh):		

**Distributed Generation and Load Displacement Programs:**

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

**Other Programs (specify):**

Metric (specify):	
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D. **Program Costs\*:**

Utility direct costs (\$):	<i>Incremental capital:</i>	
	<i>Incremental O&amp;M:</i>	\$ 4,787.50
	<i>Incentive:</i>	
	<i>Total:</i>	
Utility indirect costs (\$):	<i>Incremental capital:</i>	
	<i>Incremental O&amp;M:</i>	
	<i>Total:</i>	
Participant costs (\$):	<i>Incremental equipment:</i>	
	<i>Incremental O&amp;M:</i>	
	<i>Total:</i>	

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E. **Comments:**

\*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.

## Appendix A - Evaluation of the CDM Plan

	Total	Residential	Commercial	Institutional	Industrial	Agricultural	LDC System	Other 1	Other 2	Other 3	Other 4
<i>Net TRC value (\$):</i>											
<i>Benefit to cost ratio:</i>											
<i>Number of participants or units delivered:</i>											
<i>Total kWh to be saved over the lifecycle of the plan (kWh):</i>											
<i>Total in year kWh saved (kWh):</i>											
<i>Total peak demand saved (kW):</i>											
<i>Total kWh saved as a percentage of total kWh delivered (%):</i>											
<i>Peak kW saved as a percentage of LDC peak kW load (%):</i>											
<i>Gross in year C&amp;DM expenditures (\$):</i>											
<i>Expenditures per kWh saved (\$/kWh)*:</i>											
<i>Expenditures per kW saved (\$/kW)**:</i>											
<i>Utility discount rate (%):</i>											

\*Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate energy savings.

\*\*Expenditures include all utility program costs (direct and indirect) for all programs which primarily generate capacity savings.



# Appendix B - Discussion of the Program

(complete this section for each program)

A. **Name of the Program:** Reduce Line Losses on Renfrew Hydro's Inc. Distribution System

**Description of the program (including intent, design, delivery, partnerships and evaluation):**

Renfrew Hydro Inc. has hired an outside consultant to perform a system analysis of the distribution system. Intent is to optimize distribution system to reduce line losses. Preliminary data collection was performed in 2005 with the study to be completed in 2006. There are no results to be reported for the year 2005.

**Measure(s):**

	Measure 1	Measure 2 (if applicable)	Measure 3 (if applicable)
Base case technology:			
Efficient technology:			
Number of participants or units delivered:			
Measure life (years):			

B. **TRC Results:**

TRC Benefits (\$):	
TRC Costs (\$):	
Utility program cost (less incentives):	
Participant cost:	
Total TRC costs:	
<u>Net TRC (in year CDN \$):</u>	
Benefit to Cost Ratio (TRC Benefits/TRC Costs):	

C. **Results:** (one or more category may apply)

**Conservation Programs:**

Demand savings (kW):	Summer	
	Winter	
	lifecycle	in year
Energy saved (kWh):		
Other resources saved :		
Natural Gas (m3):		
Other (specify):		

**Demand Management Programs:**

Controlled load (kW)	
Energy shifted On-peak to Mid-peak (kWh):	
Energy shifted On-peak to Off-peak (kWh):	
Energy shifted Mid-peak to Off-peak (kWh):	

**Demand Response Programs:**

Dispatchable load (kW):	
Peak hours dispatched in year (hours):	

**Power Factor Correction Programs:**

Amount of KVar installed (KVar):	
Distribution system power factor at beginning of year (%):	
Distribution system power factor at end of year (%):	

**Line Loss Reduction Programs:**

Peak load savings (kW):		
	<i>lifecycle</i>	<i>in year</i>
Energy savngs (kWh):		

**Distributed Generation and Load Displacement Programs:**

Amount of DG installed (kW):	
Energy generated (kWh):	
Peak energy generated (kWh):	
Fuel type:	

**Other Programs (specify):**

Metric (specify):	
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D. **Program Costs\*:**

Utility direct costs (\$):	Incremental capital:	
	Incremental O&M:	\$ 3,242.60
	Incentive:	
	Total:	
Utility indirect costs (\$):	Incremental capital:	
	Incremental O&M:	
	Total:	
Participant costs (\$):	Incremental equipment:	
	Incremental O&M:	
	Total:	

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E. **Comments:**

\*Please refer to the TRC Guide for the treatment of equipment cost in the TRC Test.