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*Renfrew Hydro Inc.* - Electric Distribution Services  
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ONTARIO ENERGY BOARD

November 30, 2004

Mr. John Zych  
Board Secretary  
Ontario Energy Board  
P.O. Box 2319  
2300 Yonge Street  
26<sup>th</sup> Floor  
Toronto, Ontario  
M4P 1E4

Dear Mr. Zych: *70 2/12*

Re: Board File No: RP-2004-0203 Approval of Renfrew Hydro Inc.'s Conservation and Demand Management Program

The Minister has authorized distributors to apply for their third installment of market adjusted revenue requirement. This third installment for Renfrew Hydro Inc. is \$70,555 according to the Regulatory Information summary sheet. The Minister has also stated that approval of the recovery of this amount in rates is to be conditional on a financial commitment to invest an amount equal to one years incremental return on conservation and demand management activities.

In accordance with the procedural order issued by the Ontario Energy Board on October 5, 2004, Renfrew Hydro Inc. submits its Conservation and Demand Management Program for approval and makes application for a final order of the Board (subject only to the ultimate review of the actual expenditures).

Yours truly,

*Tom Freemark*

Tom Freemark  
President  
Renfrew Hydro Inc.

RENFREW HYDRO INC.

CONSERVATION & DEMAND  
MANAGEMENT PROGRAM

November 30, 2004

## **BACKGROUND – Energy Conservation & Demand**

In his letter of May 31, 2004 , the Minister of Energy indicated his expectation of expedited short-term actions in energy conservation and demand programs, and identified some of the areas for which prudent expenditures could be recovered:

- Energy efficiency
- Behavioral and operational changes, including the application of benchmarking or “smart control” systems;
- Load management measures which facilitate interruptible and dispatchable loads, dual fuel applications, thermal storage, and demand response;
- Measures to encourage fuel switching which reduces the total system energy for a given end use;
- Programs and initiatives targeted to low income and other hard to reach consumers; and
- Distributed energy options behind a customer’s meter such as tri-generation, co-generation, ground source heat pumps, solar, wind, and biomass systems
- The Minister tabled new legislation ( Bill 100) in June 2004, which would establish an Ontario Power Authority that would include a Conservation Bureau. The OPA would engage in activities that promote electricity conservation and the efficient use of electricity, and would be permitted to enter into contracts with LDC’s for this service. The Conservation Bureau would provide leadership in planning and coordination of measures for electricity conservation and load management.

Renfrew Hydro Inc. will apply for its third installment of market adjusted revenue in its March 2005 rate adjustment. This will amount to a total of \$70,555 that will be recovered in rates beginning March 1, 2005. Renfrew Hydro Inc. plans to invest these funds in its Conservation and Demand Management Program. The expenditures will begin early in 2005 and it is expected the program will carry through to the fourth quarter of 2006.

## **OUR CUSTOMERS**

The 2002 Statistics reported to the O.E.B. indicate the following:

Residential Class	32,014,612 kwh	3,440 customers	34.5% total kwh
Gen. Service <50kw	14,861,373,373 kwh	490 customers	16% total kwh
Gen. Service >50kw	44,773,681 kwh	54 customers	48.3% total kwh
Street Lighting	1,053,865	2 customers	1.1% total kwh
Total	92,703,531 kwh	3986 customers	

Internal losses for the year was 4,366,413 kwh.

## **THE PROGRAM**

Renfrew Hydro enjoys a strong visual presence in the Town of Renfrew and its staff and its services are readily available to its customers. Many of our customers continue to pay their accounts in person at our office and new customers come in to open up accounts with Renfrew Hydro. Energy inquiries are handled promptly by our office staff and the more technical questions are forwarded to our line supervisor or President. We plan to build on this relationship with our customer and create an environment of energy awareness and conservation in the town of Renfrew.

### **Program Element 1) Customer Awareness and Education**

Renfrew Hydro Inc. will use bill stuffers, the local newspaper, and the local radio station to convey the energy conservation message to its customers. We will use material that is developed in house as well as brochures supplied by outside agencies. It is planned to use the local radio station to notify customers of critical peak periods and the need to conserve. Renfrew Hydro Inc. will seek opportunities to attend local exhibitions (ie: fairs) and meetings (ie: senior groups, council meetings) to promote energy efficiency and its demand management programs. Displays will be set up in the local hydro office to promote energy efficiency and demand management initiatives. The Budget for this will be **\$20,000.00**

### **Program Element 2) Reduce Line losses on Renfrew Hydro's distribution System**

In the past two years there has been a major shift in the load distribution in the town of Renfrew due to the relocation of commercial development from one side of the town to the other. This requires the addition of a new feeder to supply the additional growth and also requires the rebalancing of loads on the existing feeders. Renfrew Hydro intends to collect all physical data (conductor size, length between switches, amp loading, power factor readings) and use the services of a consultant to model the Town and do a load optimization study. This study will determine the optimum location for open points, the need for capacitance, and provide optimal switching arrangements for station isolation for maintenance. The Budget for this element will be **\$25,000 and a saving of .25% on our line losses will mean a saving of 240,000 kwh per year.**

### **Program Element 3) Conservation & Demand Programs**

We have identified certain projects that have the potential to achieve permanent reductions in energy usage that require low to medium levels of capital outlay. In order to promote these projects we propose that an incentive be used to encourage our customers to make the change. We propose that the incentive will be equal to the interest costs required to finance the project. For example: The conversion of all traffic lights to LED lamps may have a capital cost of \$3,000.00. If we use a borrowing rate of 8.5% with a 3 year term the interest payable would be \$409.00. The incentive to the customer would then be \$409.00 to complete the project.

The proposed programs are:

**A) Conversion of traffic lamps to LED**

Measurement of new LED traffic lamps in town has shown a drop in average consumption from 16.5 amps to 2 amps, an 85% reduction. We plan to do an energy report for the town of Renfrew with the proposal to convert all traffic lamps to LED. Potential energy savings are 40,000 kwh per year.

**B) Conversion of Business Improvement Lighting to LED**

Downtown decorative lighting is controlled by timers and left on for an average of 5 hours per day. Potential energy savings after a conversion to LED lights are 15,000 kwh per year.

**C) Street Light Illumination Study**

The Town of Renfrew owns over 1000 fixtures consisting of 250HPS, 150 HPS and 400 watt MH floodlights. We plan to do an illumination study to determine if any 250 HPS luminaries can be changed to 150 HPS and identify areas where floodlights can be put on timers. A 10% changeover to 150 HPS luminaries represents potential energy savings of 20,000 kwh per year.

**D) Power Factor Improvement**

There are 54 customers of Renfrew Hydro Inc. that have demand measurement and billing. We plan to examine the billing history of all these customers, determine the power factor penalty that each is paying, if any and do an individual analysis of potential payback for the installation of power factor correction. Individual reports will be made and discussed with each customer.

**E) Conversion to Interval Meters**

Renfrew Hydro owns its own MV 90 interval meter interrogation and reporting system. At present we have 13 customers with interval meters and need to add another 10 to meet the 200 kw threshold proposed by the Ontario Energy Board. We propose to begin the installation of these meters early in the first quarter of 2005. We will review the advantages of interval metering with each customer, review their individual load patterns, help identify potential savings, and set up a reporting system to deliver their daily load report to their assigned representative. At the same time a notification system for delivering critical peak alerts will be set up with each customer.

#### **F) Electric Thermal Storage**

In anticipation of pricing changes and meter standards Renfrew Hydro installed three (3) demonstration electric thermal storage units in its office in January of 2004. We have been gathering operating data for these units and propose to perform a study to identify the potential impact on our load curve if these units were promoted in Renfrew. The study will include installation costs, energy savings, and the affect of load shifting.

#### **G) Programmable Thermostats, Timers, Compact Fluorescents**

We propose to use these items in our promotions of energy conservation measures to our customers. The benefits of programmable thermostats for lowering heat settings and raising air conditioner settings will be promoted. Timers for portable air conditioners will be promoted. The use of compact fluorescents and lighting conversions such as T12 to T8 will be promoted.

#### **H) Energy Star Program**

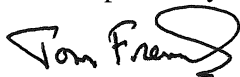
We propose to encourage the use of replacing existing appliances with Energy Star rated equipment. In addition, we recognize the benefit of removing old inefficient appliances from being connected to our system. We propose to provide an incentive for customers to decommission old refrigerators and air conditioners.

The budget for the above programs is **\$25,000**.

#### **Conclusion:**

We believe Renfrew Hydro Inc.'s Conservation and Demand Management Program will aggressively seek out energy savings for its customers and meet the requirements of the governments mandate to introduce a culture of conservation in Ontario. This program is a major undertaking for the staff of a small utility and we will seek opportunities to partner with our fellow LDC's.

We respectfully submit this plan for your approval.



J. Thomas Freemark  
President – Renfrew Hydro Inc.  
Nov 30<sup>th</sup>, 2004