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November 27, 2004

Mr. Peter O'Dell, Asst. Board Secretary
Ontario Energy Board
2300 Yonge Street
Toronto ON M4P 1E4

Via E-mail - boardsec@oeb.gov.on.ca

Re: Conservation and Demand Management Programs
RP 2004 0203/EB-2004-0435

Please accept this letter as request for interim approval of the following C&DM programs to be conducted by Ottawa River Power Corporation using funding from the 3rd tranche rate increase in 2005. The 3rd tranche represents increased revenue of approximately $296,000 for our utility.

In summary, the proposed programs are:

No.	Description	Estimated Cost
1	Load Management – return to service of the load management system with the Pembroke area controlling 7833kW of water heater, furnaces, and A/C units in residential and commercial classes	$142,000
2	Energy Conservation Challenge – a twelve month energy conservation challenge for residential and commercial customers	$105,500
3	System Loss Analysis Study – model of distribution system to identify areas for future economic capital betterments	$25,000
4	Municipal Street Lighting – efficient lighting retrofit program	$6,000
	Estimated lost distribution revenue in 2005 due to C&DM Programs	$51,500
Total Cost of Programs		**$330,000**

Attached is a more complete description of the programs.

While we are seeking interim approval of these programs, we have been involved with the 2005EDR. We have also been part of the discussion of the C&DM working group and their thoughts on posting of approved C&DM programs that would allow utilities throughout the province to review, and possibly adopt, programs that would work in their area; thus alleviating the burden on the Board in approving and monitoring the programs. If this process was to be established, we may wish to modify or substitute our proposed programs with alternatives that may be more effective.

In addition, Program 2 is aimed at the wider customer base which is one that it may very well be more effective if run in conjunction or in parallel to a wider based program in the Province to take a greater advantage of mass media advertising. This program may want to be modified as a result of discussions with utilities in our area.

We would be pleased to provide any additional information or clarification you may require to assist in the approval.

Yours truly,

Original signed by Douglas Fee

Douglas Fee, P.Eng.
President

Attach.

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Ottawa River Power Corporation

Program 1 – Load Shifting Through Load Control

1. Background

Ottawa River Power Corporation (ORPC) inherited a load control system established by Pembroke Hydro prior to market opening. The new market rules resulted in the system being shut down and the incentives given to customers were discontinued.

Historically, Pembroke has had a load control system in the service area for many years. The earlier system was a frequency controlled which was later changed to a radio controlled system in 1994. The system is still in place and can be cost effectively returned to service.

Load control was aggressively pursued and the load controlled consists of hot water tanks, electric furnaces, baseboard heaters and air conditioning. The program would have to be performed with the cooperation of Ottawa River Energy Solutions (ORES), ORPC's competitive affiliate that owns many of the hot water heaters that would be controlled.

A summary of the controlled appliances:

Appliance	Number		Connected kW	
	Residential	GS	Residential	GS
Hot Water Tanks	454	16	1440	585
Electric Furnaces	112	7	2249	240
Baseboard Heaters	274	30	2497	432
Air Conditioners	35	9	128	92
Heat Pumps	16	3	101	69
Air Ventilators	4	2	N/A	N/A
Totals	**895**	**67**	**6415**	**1418**

These appliances involve 472 residential homes, 28 General Service less that 50 kW and 6 General Service greater than 50 kW. It is anticipated that, since the program was discontinued, the amount of controlled load would have decreased due to conversions.

2. Basis of Program

The program would be established based on a one-year time frame as a result of the funding provided through the 3rd tranche with the provision of continuing it on an ongoing basis if 2006 and future rates allow for this type of incentive.

Load would be controlled to shift the load off peak the day of the forecasted provincial peak during the peak winter and summer periods of the year to provide relief to provincial generation capacity.

The financial incentive for the customer would be $2.00/kW/month of controlled load for twelve months for water heating, 4 months for summer air conditioning load and 8 months for heating loads. Payment for load would be credited to the customer account on a quarterly basis.

In general terms, the implementation of the program would be:

a. Preparation of marketing material
b. Bring load control system back into service and verify operation
c. Contact customers with installed load controllers and sign them up for program
d. Daily operating of the controlled load and ongoing credit on hydro bills
e. Wrap up of program at year end (it is anticipated that the 2006 rate setting process and future rates will make allowance for this type of program to continue on an ongoing basis)

It is hoped that the proposed program will be modified as required to bring it in line with new rate structures and can be expanded once there is certainty and the additional capital investment can be justified based on long term operation.

3. Anticipated Benefits and Costs

The benefit derived will be the reduced impact on the provincial peak and, to a lesser extent, the Pembroke peak (the Pembroke peak tends to lead the provincial peak by an hour through most of the year). The controlled load in the past has resulted in a summer peak reduction of 650 kW and a winter reduction of 1,400 kW.

The budgeted cost for the program based on 80% retention of the controlled load is:

Marketing and Customer Education	$4,000
Restoring and testing load shedding devices in 440 home/business	$22,200
Record updating on control system software	$2,100
Processing check rebates	$9,200
Load shifting rebate to customers	$100,600
Contingency	$4,000
Total Budget Cost	**$142,100**

4. Measurement of Effectiveness

The utility SCADA system can be used to monitor the effectiveness of the load-shifting program.

Ottawa River Power Corporation
Program 2 – 12 Month Energy Challenge
Conservation Program

5. Background

The ongoing success of the Ministry's effort to reduce energy consumption in the Province is to create a culture of conservation. The biggest challenge is to raise the education level around energy consumption and an ongoing interest of consumers to do the "right" thing and change their habits to use energy more wisely.

6. Basis of Program

The program would be aimed at all customer classes and would provide an incentive to customers to reduce their energy consumptions.

The program would challenge the 10,000 customers of Ottawa River Power to reduce their year over year energy consumption and, if successful, reap the benefit of, firstly, the saving as a result of not having to pay for the energy and, secondly, a chance to win home or business energy audits and energy saving retrofits.

The implementation of the program in general terms would be:

a. Development of marketing plan
b. Advertising in the service area of the program
c. Signing up customers for the Challenge (Start and end dates would be tied to existing meter reading periods). It would have to be limited to customers that have a 12 month history of consumption.
d. Ongoing promotion of the Challenge through stuffers, media, high profile citizen examples, energy saving tips, etc.
e. Closing of year end Challenge and distribution of prizes to customers.

The tentative prize incentives would be:

Residential	Commercial	Industrial
1st Prize – 4 Enerstar Appliances, home energy audit and $5000 worth of home energy improvements ($10,000 value) Runner Up Prizes – 25 - $500 certificates for purchase of Enerstar Appliance ($12,500 value) Consolation – for those successful in reaching 10% reduction goal Certificate and Compact light Bulb ($5,000 value)	1st Prize – Premise audit and implementation of energy saving work ($10,000 value) Runner Up – 10 Prizes for energy audit of premise ($10,000 value)	1st Prize – Premise audit and implementation of energy saving work ($20,000 value) Runner Up - 10 Prizes for energy audit of premise ($10,000 value)

7. Anticipated Benefits and Costs

The benefit of the program would be the education and the ongoing conservation measures that were undertaken under the Challenge.

The budgeted costs for the program are:

Roll out advertising (newspapers and billing inserts)	$4,500
Support advertising (newspapers and local radio)	$2,000
Staffing costs (summer student and regular staff)	$22,000
Residential prizes	$27,000

Commercial prizes	$20,000
Industrial prizes	$30,000
Total Budget Cost	**$105,500**

8. Measurement of Effectiveness

The measure of the success is more problematic to measure. Degree of success will be the amount of customer interest in the program and their success in reducing their load.

The shortcomings of the program could be:

- Load reduction as a result in weather changes (i.e. reduced air conditioning/heating load due to weather). The mild past year would help to reduce this risk and, in fact, should make the program more of a challenge.
- Existing conserving customers would have less opportunity to achieve the challenge.
- Customers with lifestyle changes (i.e. child leaving home, etc.) would automatically reduce energy consumption with no effort.
- Energy switching would be encouraged.

Ottawa River Power Corporation
Program 3 – Distribution System Study

9. Background

The Ministry of Energy has identified system losses as being a significant source of energy loss within the electrical system in the Province. System losses within a utility relate to:

- I^2R losses on conductor
- Load and no load losses on step down transformers

Losses can be reduced through:

- Increasing conductor sizes (to reduce the resistance)
- Decreasing current through the use of capacitors
- Purchasing of more efficient transformers
- Reconfiguring the system to make use of larger capacity conductor or shorten the path to the load
- Voltage conversion to higher voltage

The distribution system in the service areas supplied by Ottawa River Power varies in age and voltage level. The system load in the past has been greater due to electric heat and there is over capacity in many areas. This results in oversized equipment and lower losses. On the other hand much of the equipment is older and efficiency is unknown.

It is not evident whether there are economic upgrades or where they should be made on the system in order to reduce system losses.

10. Basis of Program

The program would be to conduct an inventory of the system and model the system to ascertain where it is economic to undertake system betterments to reduce system losses.

11. Anticipated Benefits and Costs

The estimated cost to collect data and model the system would be $25,000. The outcome of the study would be to provide data for future decisions to be made on system reconfiguration or betterments.

12. Measurement of Effectiveness

The success of the program would be the completion of the system study and analysis.

Ottawa River Power Corporation
Program 4 – Municipal Street Lighting Retrofit

13. Background

The municipal street lighting systems within the Ottawa River Power Corporation service area has undertaken some retrofit programs in the past but there still remains street lighting fixtures that are not energy efficient.

Currently, of the 2,581 lights in the system, there are 708 that are not energy efficient.

14. Basis of Program

The program would be focused at the municipal sector and would undertake to provide an incentive to the local municipalities to replace their least efficient fixtures with lower wattage High Pressure Sodium light sources and high efficient ballasts.

The program would be dependent on receiving the cooperation and shared funding of the municipalities.

15. Anticipated Benefits and Costs

The funding for the program would be $6,000 representing the 3rd tranche amount for street lighting energy costs. If the municipalities shared in the program on a 50% basis, this would allow the changing of 80 heads.

16. Measurement of Effectiveness

The success of the program would be the kW and energy reduction in lighting load.