

Modelling Mitigation Options for Hydro One R1 Rate Class Distribution Cost

Issue:

- A request for additional modelling to show the impact of reducing Hydro One R1 distribution costs by 5%, 10% and 15%, respectively.

Context:

- The government recently announced additional relief for approximately 330,000 rural customers served by Hydro One in the R2 low-density rate class, through enhanced funding for Rural or Remote Rate Protection (RRRP).
- Hydro One's low-density R2 customers have always received RRRP subsidy. However, the amount these customers receive was capped at about \$125.5M¹ prior to 2004 and has not been adjusted until now. The RRRP continued rate assistance that was available to rural customers under the former Ontario Hydro regime.
- The intent of the announced enhanced funding is to bring the delivery portion of an average R2 customer using 1,000 kWh per month in line with what an R1 customer would pay at the same consumption level. This is similar to previous goals of rural rate protection where rural rate subsidy brought rural customers' bills within a range of an average municipal customer's bill.

Key Facts:

- Analysis on distribution cost reduction for R1 class customers assumes a monthly consumption level of 1,000 kWh per month, similar to the assumption used for R2 RRRP enhancement.
- Analysis is based on 2016 rates, customer counts² and Ontario grid demand estimate³. These values will change for 2017; therefore all figures provided below are estimates only. All rates, including the RRRP charge and RRRP benefit, are subject to OEB processes and approval.
- The following table shows the current R2, R1 and UR monthly distribution cost and total bill cost for 1,000 kWh consumption, before HST. These figures are based on OEB approved rates for 2016.

¹ The amount these rural customers was capped at \$127, which includes about \$1.6M per year for three James Bay First Nations. Under the enhanced funding, the amount for the three James Bay First Nations remains the same, with all additional funds flowing to Hydro One R2 customers.

² This note has used R1 customer count for December 2016 as provided by Hydro One.

³ Used to calculate the RRRP charge per kWh payable by all customers.

**2016 Monthly Bills for Hydro One R2, R1 and UR Customers using 1,000 kWh/month
Excluding HST**

<i>Rate Class</i>	<i>Monthly Distribution @ 1,000 kWh</i>	<i>Monthly Total Bill @ 1,000 kWh</i>
R2 – 2016	\$86.81	\$229.04
R1 – 2016	\$61.47	\$200.51
UR - 2016	\$39.65	\$176.45

- The increased RRRP subsidy would bring the average bill for a Hydro One R2 customer closer in line with the average bill for other rural customers across the province.
- The table below outlines the additional cost of providing a reduction to the monthly distribution bill of a customer using 1,000 kWh per month of 5%, 10% and 15%.
 - The analysis assumes that the benefit is a fixed monthly amount, similar to RRRP benefit available to R2 customers. This means all customers would receive the same \$/month benefit. Those customers consuming less than 1,000 kWh per month would receive a larger than 5%, 10%, or 15% reduction. Those consuming more than 1,000 kWh per month would receive a smaller than 5%, 10% or 15% reduction.
 - The table assumes using 441,169 customers in the R1 class, the customer count as of December 2015, as provided by Hydro One to ENERGY in July 2016.

Impact of Reducing R1 Distribution Bill (@ 1,000 kWh) by 5, 10 and 15%

<i>Reduction</i>	<i>Monthly Benefit</i>	<i>New Dx Bill @1,000</i>	<i>New Total Bill @ 1,000</i>	<i>Total Cost</i>
5%	\$3.07	\$58.40	\$197.44	\$16,271,195
10%	\$6.15	\$55.32	\$194.36	\$32,542,390
15%	\$9.22	\$52.25	\$191.29	\$48,813,585

- The following table outlines the current (2016) cost of RRRP to a typical customers, the cost of adding the proposed \$116.4M enhancement for R2, and the additional cost if levels of R1 support outlined above was added.

Estimated Monthly Costs of RRRP

			Monthly Bill Impact for Typical Customers					
	<i>Total (\$M)</i>	<i>Rate per kWh</i>	<i>Typical Residential (750 kWh)</i>	<i>Small Restaurant (5,000 kWh)</i>	<i>Large Farm (50,000 kWh)</i>	<i>Large Grocery Store (300,000 kWh)</i>	<i>Chemical Company (6,000,000 kWh)</i>	<i>Large Mine (60,000,000 kWh)</i>
Current (2016)	\$175.5M	\$0.0013	\$0.97	\$6.47	\$64.66	\$387.99	\$7,759.76	\$77,597.64
Include \$116.4M enhancement	\$291.9M	\$0.0022	\$1.61	\$10.76	\$107.55	\$645.32	\$12,906.41	\$129,064.11
Include R1 5%	\$308.17	\$0.0023	\$1.70	\$11.35	\$113.55	\$681.29	\$13,625.85	\$136,258.45
Include R1 10%	\$324.44	\$0.0024	\$1.79	\$11.95	\$119.54	\$717.26	\$14,345.28	\$143,452.79
Include R1 15%	\$340.71	\$0.0025	\$1.88	\$12.55	\$125.54	\$753.24	\$15,064.71	\$150,647.13

Considerations:

- Using the RRRP mechanism to provide support to R1 class customers would require amending O. Reg. 442/01, and may possibly require amending the OEB Act.
- Providing support to R1 customers, but not to any other class of customers who are not currently designated as remote or rural, may raise significant equity concerns.
 - R2 customers, along with Remotes and Algoma customers, are acknowledged as either remote or low-density customers.
 - The OEB has seen evidence, filed by Hydro One, that customer density is a driver for the cost to serve.
 - The R1 rate class, while having less density than Hydro One's high density class (UR), may not be significantly less dense than residential classes in some other LDCs.
 - There may be some question as to why rates for one of the least efficient, highest cost distributors, are being subsidized by other ratepayers while other customers are not.
 - If R1 customers were provided subsidy at the 15% level, the distribution charge would be less than what is charged by Algoma Power to its residential (R1 class) customers. Algoma's customers are likely more remote and less dense than most, if not all, Hydro One R1 customers, raising significant equity concerns.

Appendix

