

- 1 **Q. Please submit the NP curtailable service option report for the 2014-2015 winter**
2 **season.**
3
4 **A. Attachment A provides a copy of Newfoundland Power's 2015 Curtailable Service**
5 **Option Report.**

Newfoundland Power's 2015 Curtailable Service Option Report

2015 Curtailable Service Option Report

April 30, 2015

Curtailable Service Option Report

1. PURPOSE OF REPORT

This report summarizes the annual costs of maintaining Newfoundland Power's Curtailable Service Option (the "Option") and the Option statistics for the 2014-2015 winter season, including the impact of curtailment on the demand of customers availing of the Option.

This report is submitted in accordance with Order No. P.U. 7 (1996-97), which states:

"The Applicant shall follow the directions given in Items (4) and (5) of Order No. P.U. 4 (1994-95) and provide the updated statistics, thirty days after each 'winter season' for the Board's information and evaluation."

Items (4) and (5) of Order No. P.U. 4 (1994-95) are as follows:

- (4) "Accounts will be established to accumulate all costs associated with the curtailable service option for purpose of evaluation at the next rate hearing.
- (5) Statistics are to be compiled for the purpose of determining the impact on peak load conditions during the period in which curtailment occurred."

The instances of curtailment described in this report reflect the Board's decision in Order No. P.U. 47 (2014) that curtailments "...should only be requested from Newfoundland Power customers where there is a bona fide system constraint."¹ The effect of the Board's decision was to reduce the number of curtailment requests under the Option. Previously, curtailment requests pursuant to the Option were also used to reduce the demand requirements of Newfoundland Power during peak load conditions.

2. COSTS OF THE CURTAILABLE SERVICE OPTION

The operating costs incurred by Newfoundland Power in offering the Option include labour costs, telephone line rental costs and the cost of the curtailment credits. Table 1 compares the costs for the current period (April 2014 to March 2015) with the costs for the previous 12 months.

Table 1
Curtilable Service Option
Operating Costs

	April 2014 to March 2015	April 2013 to March 2014
Labour	\$ 12,970	\$ 8,507
Telephone Line Rentals	5,580	5,274
Curtailment Credits	345,837	241,622
Total Operating Costs	\$364,387	\$255,403
Customers	16	17

¹ See Order No. P.U. 47 (2014), page 4, lines 27 to 28.

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The total curtailment credits of \$345,837 for the current period compare to a total of \$241,622 for the same period during the previous year. The credit total for the 2014-2015 winter season is higher than the previous season's total primarily due to higher contracted load curtailment.²

Prior to the winter season, the Company contacted large general service customers that could potentially participate in the Option.³ Through this process the Company procured an additional participant with load curtailment potential of approximately 2.6 MW.⁴ This addition was partially offset by the election of two existing Option participants, representing approximately 0.7 MW in load curtailment, to not participate in the Option during the 2014-2015 winter season.⁵ On a net basis, the Option had approximately 1.9 MW higher contracted load curtailment for the 2014-2015 winter season than the previous season.⁶

3. CURTAILABLE SERVICE OPTION STATISTICS

There were 3 curtailment requests during the 2014-2015 winter season. Curtailment requests were made on the mornings of December 18th, 2014, March 4th, 2015 and March 13th, 2015.

The December 18th Request ("The Curtailment Test")⁷

The Curtailment Test was completed on the morning of December 18th, 2014 from 9:30 a.m. to 11:00 a.m. with Option customers curtailing an average load of 9.7 MW.⁸ During the request, 15 of the 16 Option customers successfully curtailed.

² Changes to curtailment credits year over year are also affected by variation in demand and consumption, and the mix of customers achieving full or partial credit.

³ Based on general service customers with a maximum billing demand greater than 350 kVA in 2013.

⁴ The exercise also identified customers that may be able to participate in the Option in the future. These customers will be contacted prior to the 2015-2016 winter season.

⁵ In accordance with normal practice, the Company contacted all participants on the Option prior to this winter season to ensure their curtailment compliance processes were in place. One of the two participants could not participate due to a change in their facilities since the previous winter season.

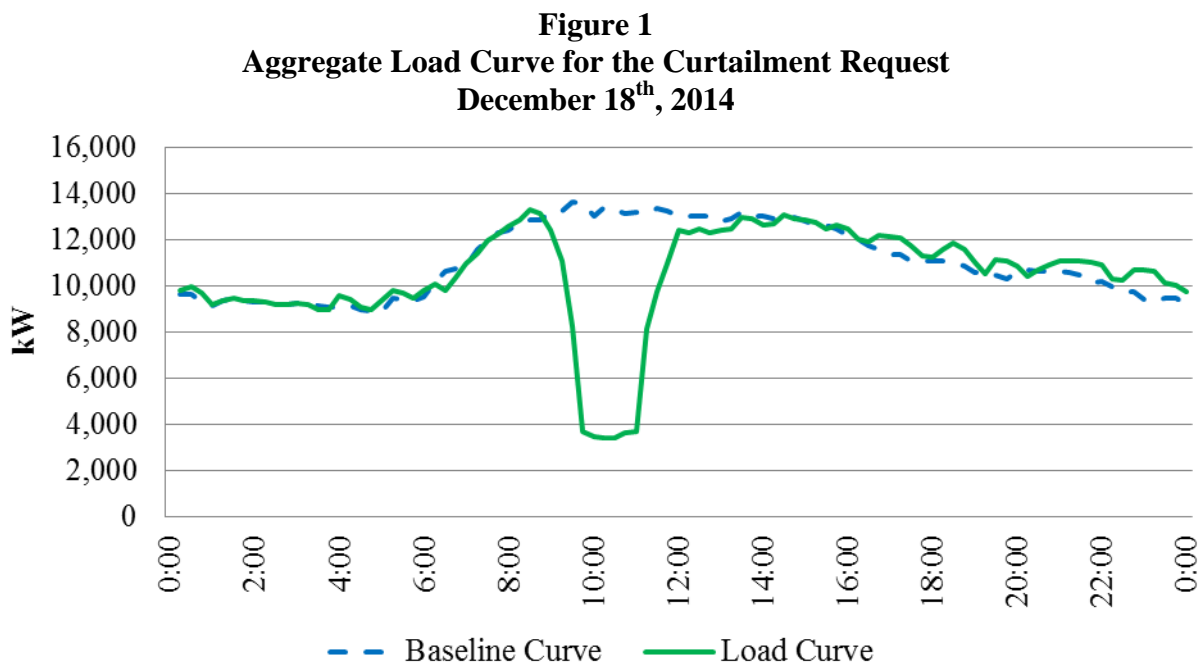
⁶ 2.6 MW - 0.7 MW = 1.9 MW.

⁷ In Order No. P.U. 47 (2014), the Board approved Newfoundland and Labrador Hydro's proposal to revise its Utility rate, on an interim basis, to include a revised calculation of billing demand to reflect a "Curtailable Credit" for the period December 1, 2014 to March 31, 2015. The Curtailable Credit was required to be verified by a test by curtailing load at a minimum of the Curtailable Credit for a period of one hour (the "Curtailment Test"). See paragraph 3 on page UT-2 of Hydro's interim Utility rate sheet, which was filed with the Board on December 4, 2014 pursuant to Order No. P.U. 47 (2014).

⁸ Curtailment is measured based on a comparison of the aggregate customer load curve for the curtailment event day to a *baseline curve*. A baseline curve is an estimate of what the customer aggregate load would have been had there been no curtailment. The difference between the baseline curve and the aggregate curve for the event day determines the impact of the curtailment. A baseline curve is the average of the aggregate load curves for the most recent 3 days of the same day type (i.e. weekday vs. weekend). Prior to averaging, the load data for each of the most recent 3 days are weather-adjusted (for temperature and wind) to match the weather on the day of curtailment event. The weather adjustment is based on a statistical regression analysis of the aggregate load data for the related winter season.

Curtable Service Option Report

Figure 1 illustrates the impact of the curtailment request on the demand of customers availing of the Option on December 18th, 2014.



The March 4th, 2015 Request

On the morning of March 4th, 2015, a load curtailment request was made in response to a supply shortage that began at 7:15 a.m.⁹ All customers were contacted by approximately 8:15 a.m. and requested to begin curtailment immediately.¹⁰ The request ended at approximately 11:30 a.m.¹¹

The average curtailed load by Option customers during the request was 11.1 MW. During the request, 15 of the 16 Option customers successfully curtailed.

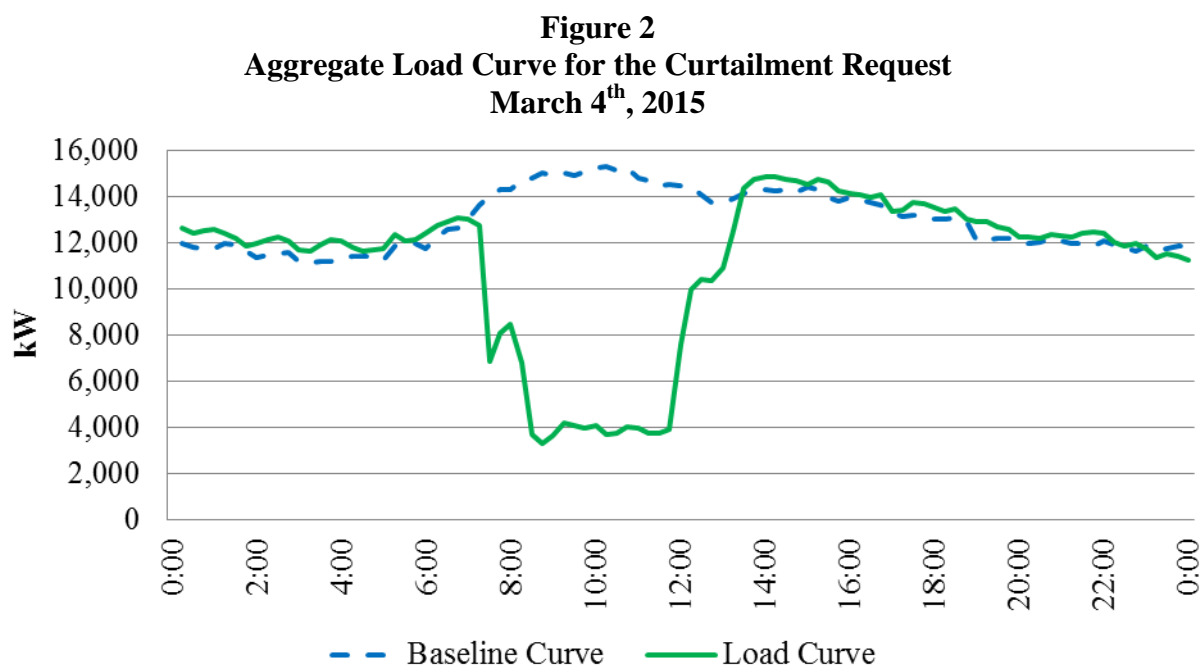
⁹ At 7:15 a.m., an under voltage trip caused load shedding in Central and Eastern Newfoundland. At 7:29 a.m., Hydro confirmed the supply shortage, leading to the issuance of a request for customer conservation and a curtailment request to customers on the Option. The loss of supply resulted in as many as 80,000 Newfoundland Power customers without electrical service.

¹⁰ Customers were asked to begin curtailment immediately; however, the terms and conditions of the Option give customers 1 hour from the time of the request to commence curtailment. The average curtailed load for this curtailment request is calculated based on the time period 9:15 a.m. to 11:30 a.m.

¹¹ By approximately 11:00 a.m., about 3,000 customers remained without service. Service was completely reinstated by approximately 12:00 p.m.

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Figure 2 illustrates the impact of the curtailment request on the demand of customers availing of the Option on March 4th, 2015.¹²



The March 13th, 2015 Request

On the morning of March 13th, 2015, a load curtailment request was made in response to a potential supply shortage.¹³ Customers were requested to begin curtailment at 7:00 a.m. and end at approximately 10:00 a.m.

The average curtailed load by Option customers during the request was 10.5 MW. During the request, 13 of the 16 Option customers successfully curtailed.

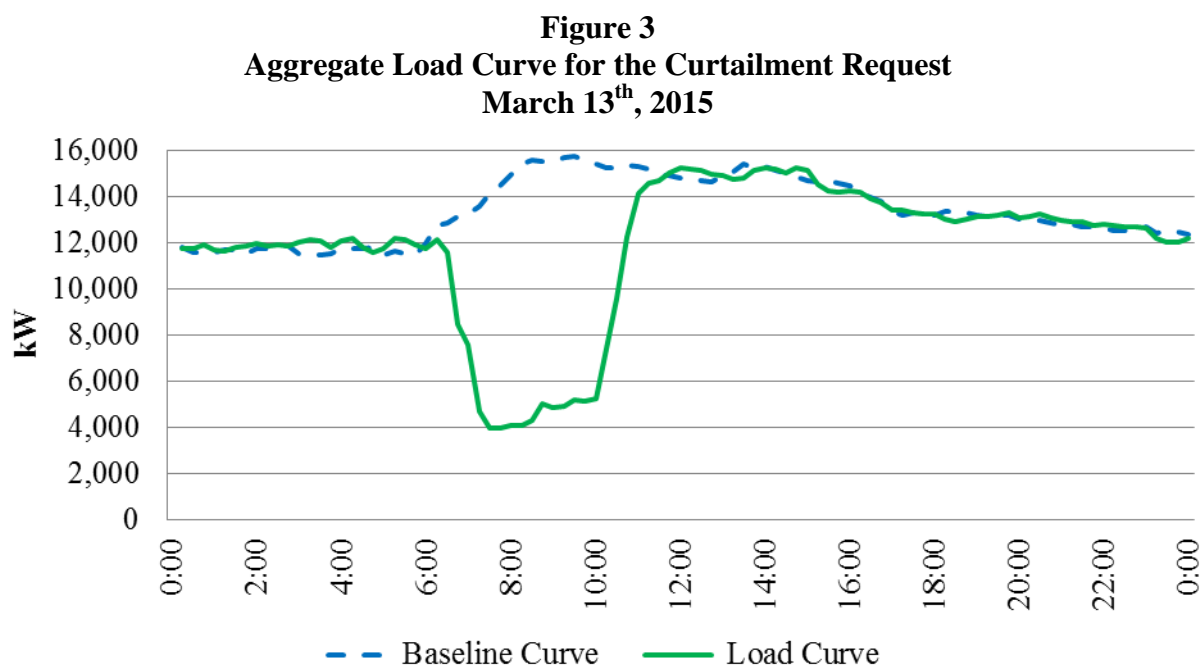
March 13th, 2015 was also Newfoundland Power's winter season peak day.

¹² The supply shortage impacted the March 4th, 2015 load curve shown in Figure 2. From 7:15 a.m. to approximately 8:50 a.m. load reductions occurred because of interruptions to the power supply of some of the customers participating in the curtailment request.

¹³ At approximately 3:45 p.m. on March 12th, 2015, Hydro requested Newfoundland Power to deploy the Option the following morning, March 13th, 2015. This was following a media advisory that was issued by Hydro at approximately 12:10 p.m. on March 12th, 2015 advising customers that one of the Holyrood generating units was offline for emergency repair.

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Figure 3 illustrates the impact of the curtailment request on the demand of customers availing of the Option on March 13th, 2015.



Total 2014-2015 Winter Season Curtailment Service Option Statistics

The Option customer statistics for the 2014-2015 winter season on a total basis are as follows:¹⁴

Number of Curtailment Requests	3
Number of Customers Available to Curtail	16
Total Number of Customer Curtailment Requests	48 ¹⁵
Number of Customer Curtailment Failures	5
Number of Successful Customer Curtailments	43
% of Successful Curtailments	89.58% ¹⁶
Requested Hours of Curtailment	6.75
Avoided Load due to Curtailment	10.4 MW ¹⁷

¹⁴ Includes the Curtailment Test.

¹⁵ Based on the number of Curtailment requests of 3 multiplied by the number of customers available to curtail of 16.

¹⁶ The percentage of successful curtailments is determined by dividing the number of successful customer curtailments (43) by the total number of customer curtailment requests (48).

¹⁷ This figure is the average curtailed load during the 3 requests $[(9.7 \text{ MW} + 11.1 \text{ MW} + 10.5 \text{ MW}) / 3 = 10.4 \text{ MW}]$.

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4. SUMMARY

The cost of offering the Option for the period April 2014 to March 2015 was \$364,387, of which \$345,837 was paid to customers in curtailment credits. The balance consists of internal labour and other costs associated with administration of the Option.

During the 2014-2015 winter season, a total of 16 customers participated in the Option. There were 3 curtailment requests, requiring a total of approximately 6.75 hours of curtailment.

The average curtailed load by Option customers during the 3 requests was 10.4 MW.