

- 1 **Q. Please provide in Excel file format, where applicable, the following information**  
 2 **regarding historical energy efficiency and conservation programs broken out by**  
 3 **program and by year, where applicable, for the period 2009 to 2018, or provide or**  
 4 **reference published reports, or evaluation studies that provide this information:**  
 5
- 6 (a) **Budgets and expenditures;**
  - 7
  - 8 (b) **Savings (peak demand, first year and lifetime savings for electricity; first year**  
 9 **and lifetime savings for other fuels);**
  - 10
  - 11 (c) **Average measure life (years);**
  - 12
  - 13 (d) **Number of customers eligible for the program;**
  - 14
  - 15 (e) **Number of customers participating in the program;**
  - 16
  - 17 (f) **Cost effectiveness results, assumptions, and methodology, including avoided**  
 18 **cost information; and**
  - 19
  - 20 (g) **A description of the cost recovery mechanism in these programs, and what costs**  
 21 **are recovered.**
  - 22
- 23 **A.**
- 24 (a) Attachment A to this response provides Newfoundland Power’s annual expenditures  
 25 by program for the period 2009 to 2020F. Attachment A is available in Excel format  
 26 on Newfoundland Power’s stranded website at <https://ftp.nfpower.nf.ca/>.
  - 27
  - 28 (b) Attachment A to this response provides customers’ annual energy savings by  
 29 program for the period 2009 to 2020F.<sup>1</sup>
  - 30
  - 31 (c) Attachment A to this response provides the average measure life by program for the  
 32 period 2009 to 2020F.
  - 33
  - 34 (d) Attachment A to this response provides the number of customers eligible to  
 35 participate in each program for the period 2009 to 2020F.
  - 36
  - 37 (e) Attachment A to this response provides the number of customers participating in  
 38 each program for the period 2009 to 2020F.
  - 39
  - 40 (f) All programs included in the current *Five-Year Conservation Plan: 2016-2020* were  
 41 screened using the Total Resource Cost (“TRC”) test and the Program Administrator  
 42 Cost (“PAC”) test. These are standard industry metrics that assess the cost-  
 43 effectiveness of conservation programs and facilitate program planning. The use of

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<sup>1</sup> Newfoundland Power does not track savings for other fuels beyond electricity.

1 these tests was approved by the Board in Order No. P.U. 18 (2016). Available test  
2 results are provided by program in Attachment A to this response.<sup>2</sup>  
3

4 Newfoundland Power also uses the Levelized Utility Cost (“LUC”) test to measure  
5 program cost-effectiveness.<sup>3</sup> Available test results are provided by program in  
6 Attachment A to this response.  
7

- 8 (b) Attachment B to this response provides estimated avoided costs for the *Five-Year*  
9 *Energy Conservation Plan: 2008-2013*, the *Five Year Energy Conservation Plan:*  
10 *2012-2016* and *Five-Year Conservation Plan: 2016-2020*. Attachment B is available  
11 in Excel format on Newfoundland Power’s stranded website at  
12 <https://ftp.nfpower.nf.ca/>.  
13

- 14  
15  
16 (g) Newfoundland Power's current conservation cost recovery practice reflects Order  
17 No. P.U. 13 (2013). The costs incurred to implement the Company’s Conservation  
18 and Demand Management programs are deferred and amortized over a 7-year  
19 period. The cost amortizations are recovered through operation of the Company's  
20 Rate Stabilization Adjustment, which adjusts customer rates annually on July 1<sup>st</sup>.  
21

22 Attachment C to this response provides the definition of the Conservation and  
23 Demand Management (“CDM”) Cost Deferral Account approved in Order No. P.U.  
24 13 (2013).

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<sup>2</sup> Since 2015, Newfoundland Power has been unable to run the TRC and PAC tests due to the uncertainty and lack of updated future avoided cost estimates. On November 15, 2018, Hydro filed marginal cost estimates in its *Marginal Cost Study Update – 2018 Summary Report*.

<sup>3</sup> The LUC test represents the economic cost to the utility (per kWh) to generate energy savings and does not require information on marginal costs. Newfoundland Power has been using the LUC test to assess conservation programs since 2015.

**Newfoundland Power**  
**takeCHARGE Programs**

**Newfoundland Power  
takeCHARGE Thermostat Rebate Program**

Year	Expenditures (000s)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Lifetime Savings (MWh)	Average Measure Life (Years)	# Customers Eligible*	# of Customers Participating	TRC	LUC (c/kWh)	PAC
2009	\$85	-	470	8,460	18	92,840	915	1.4	-	N/A
2010	\$100	-	1,186	21,348	18	92,984	1,538	2.2	-	N/A
2011	\$101	-	1,350	24,300	18	98,570	1,808	3.9	-	N/A
2012	\$445	-	1,380	24,840	18	98,158	1,705	3.2	-	N/A
2013	\$202	-	1,302	23,436	18	103,809	1,641	3.1	-	N/A
2014	\$192	-	1,117	20,106	18	111,698	1,442	3.8	-	N/A
2015	\$298	-	2,119	38,142	18	113,371	2,981	N/A	1.6	N/A
2016	\$415	-	2,364	42,552	18	109,691	2,924	N/A	2.0	N/A
2017	\$538	-	4,028	72,504	18	111,550	3,257	N/A	1.5	N/A
2018	\$412	-	3,180	57,240	18	110,569	2,668	N/A	1.4	N/A
2019F	\$580	-	3,128	56,304	18	110,177	2,530	N/A	2.0	N/A
2020F	\$580	-	4,420	79,560	18	110,796	3,575	N/A	1.4	N/A

\* # of Customers Eligible is based on the number of electrically heated residential accounts. Actual number of eligible customers may be higher because customers who have a secondary heat source are also eligible as long as they utilize 15,000 kwh/year.

**Newfoundland Power  
takeCHARGE Insulation Rebate Program**

Year	Expenditures (000s)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Lifetime Savings (MWh)	Average Measure Life (Years)	# Customers Eligible*	# of Customers Participating	TRC	LUC (c/kWh)	PAC
2009	\$150	488	1,588	39,700	25	92,840	607	2.1	-	N/A
2010	\$241	674	2,177	54,425	25	92,984	661	1.9	-	N/A
2011	\$1,548	2,322	7,525	188,125	25	98,570	2,628	3.6	-	N/A
2012	\$756	1,150	3,725	93,125	25	98,158	1,071	2.3	-	N/A
2013	\$935	1,213	3,931	98,275	25	103,809	1,254	2.6	-	N/A
2014	\$704	1,014	3,285	82,125	25	111,698	1,566	3.0	-	N/A
2015	\$741	848	2,748	68,700	25	113,371	1,050	N/A	2.7	N/A
2016	\$771	662	2,144	53,600	25	109,691	884	N/A	3.6	N/A
2017	\$1,082	1,693	3,654	91,350	25	111,550	1,242	N/A	2.8	N/A
2018	\$1,152	1,814	4,374	109,325	25	110,569	1,494	N/A	2.6	N/A
2019F	\$1,049	1,594	4,172	104,300	25	110,177	1,490	N/A	2.5	N/A
2020F	\$1,173	1,723	3,635	90,875	25	110,796	1,241	N/A	2.8	N/A

\* # of Customers Eligible is based on the number of electrically heated residential accounts. Actual number of eligible customers may be higher because customers who have a secondary heat source are also eligible as long as they utilize 15,000 kwh/year.

**Newfoundland Power  
takeCHARGE Heat Recovery Ventilator Rebate Program**

Year	Expenditures (000s)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Lifetime Savings (MWh)	Average Measure Life (Years)	# Customers Eligible	# of Customers Participating	TRC	LUC (c/kWh)	PAC
2009										
2010										
2011										
2012										
2013	\$48	5	17	255	15	221,995	29	0.2	-	N/A
2014	\$49	29	93	1,395	15	224,824	164	2.1	-	N/A
2015	\$109	70	226	3,390	15	227,455	398	N/A	5.8	N/A
2016	\$132	73	228	3,420	15	229,815	416	N/A	7.0	N/A
2017	\$125	54	176	2,640	15	231,639	320	N/A	8.6	N/A
2018	\$209	107	344	5,160	15	233,104	609	N/A	6.6	N/A
2019F	\$187	66	214	3,210	15	234,419	375	N/A	9.5	N/A
2020F	\$223	81	258	3,795	15	235,736	463	N/A	9.1	N/A

Program started in 2013

**Newfoundland Power  
takeCHARGE Business Efficiency Program**

Year	Expenditures (000s)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Lifetime Savings (MWh)	Average Measure Life (Years)	# Customers Eligible	# of Customers Participating	TRC	LUC (c/kWh)	PAC
2009	\$67	85	217	3,255	15	21,962	168	1.6	-	N/A
2010	\$83	296	707	10,605	15	22,185	232	9.8	-	N/A
2011	\$157	464	1,292	19,380	15	22,372	227	10.6	-	N/A
2012	\$101	262	778	11,670	15	22,809	132	5.0	-	N/A
2013	\$166	163	496	7,440	15	23,044	88	7.6	-	N/A
2014	\$714	728	2,381	35,715	15	23,324	204	1.4	-	N/A
2015	\$1,009	654	3,668	55,020	15	23,443	283	N/A	3.4	N/A
2016	\$1,303	741	2,798	41,970	15	23,630	294	N/A	5.4	N/A
2017	\$2,044	933	8,246	123,690	15	23,849	223	N/A	3.1	N/A
2018	\$1,716	1,298	7,595	113,925	15	24,024	299	N/A	2.7	N/A
2019F	\$1,847	1,701	8,370	125,550	15	24,204	384	N/A	2.9	N/A
2020F	\$2,089	2,229	9,978	155,370	15	24,381	576	N/A	2.6	N/A

**Newfoundland Power  
takeCHARGE Small Technologies Rebate Program\***

Year	Expenditures (000s)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Lifetime Savings (MWh)	Average Measure Life (Years)	# Customers Eligible	# of Customers Participating	# of Units Rebated	TRC	LUC (c/kWh)	PAC
2009											
2010											
2011											
2012											
2013											
2014	\$1,625	1,026	5,354	107,080	20	224,824	425	251,791	2.3	-	N/A
2015	\$2,137	1,929	7,831	156,620	20	227,455	1,938	432,747	N/A	2.7	N/A
2016	\$4,110	5,464	17,677	353,540	20	229,815	2,417	1,155,415	N/A	3.8	N/A
2017	\$2,133	2,541	9,172	183,440	20	231,639	2,508	565,832	N/A	2.1	N/A
2018	\$1,742	2,162	11,834	94,696	8	233,104	-	435,938	N/A	3.1	N/A
2019F	\$2,023	2,306	12,459	99,672	8	234,419	-	656,900	N/A	3.5	N/A
2020F											N/A

Program Started in 2014

Program to End in 2019

\* The Small technologies program was made up of two components, Appliance and Electronics rebates and Instant Rebates which are campaign based rebates where customers receive a point of purchase rebate on many energy saving technologies. Appliance and Electronics participants are counted as the number of applicants, but Instant Rebates are counted as the number of SKUs that were rebated. The Appliance and Electronics program ended in 2017.



**Newfoundland Power  
takeCHARGE Benchmarking Program**

Year	Expenditures (000s)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Lifetime Savings (MWh)	Average Measure Life (Years)	# Customers Eligible	# of Customers Participating	TRC	LUC (c/kWh)	PAC
2009										
2010										
2011										
2012										
2013										
2014										
2015										
2016	\$474	-	-	-				N/A	N/A	N/A
2017	\$837	1,183	6,645	6,645	1	54,392	54,392	N/A	12.6	N/A
2018	\$813	1,920	12,156	12,156	1	62,508	62,508	N/A	6.7	N/A
2019F	\$920	2,300	13,559	13,559	1	62,508	62,508	N/A	6.8	N/A
2020F										N/A

Program Launched in 2017

Program to End in 2019

**Newfoundland Power  
takeCHARGE ENERGY STAR Windows Rebate Program**

Year	Expenditures (000s)	Peak Demand Savings (kW)	First Year Energy Savings (MWh)	Lifetime Savings (MWh)	Average Measure Life (Years)	# Customers Eligible*	# of Customers Participating	TRC	LUC (c/kWh)	PAC
2009	\$254	125	405	10,125	25	92,840	478	0.9	-	N/A
2010	\$320	305	989	24,725	25	92,984	899	1.2	-	N/A
2011	\$577	605	1,961	49,025	25	98,570	1,867	3.8	-	N/A
2012	\$1,056	783	2,537	63,425	25	98,158	2,075	3.8	-	N/A
2013	\$1,465	730	2,365	59,125	25	103,809	2,234	2.5	-	N/A
2014	\$660	452	1,464	36,600	25	111,698	1,352	4.8	-	N/A
2015										
2016										
2017										
2018										

Program Ended in 2014

\* # of Customers Eligible is based on the number of electrically heated residential accounts. Actual number of eligible customers may be higher because customers who have a secondary heat source are also eligible as long as they utilize 15,000 kwh/year.

**Avoided Costs for Five Year Energy Conservation Plans:  
2008 – 2013; 2012 – 2016 and 2016 – 2020**

**Island Interconnected System**  
**Avoided Costs at Secondary Sales Level <sup>1</sup>**  
**Five-Year Conservation Plan: 2016-2020**

Year	Capacity Costs \$/kW-yr	Energy Costs ¢/kWh
2016	95.1	14.0
2017	99.4	14.2
2018	125.8	5.0
2019	127.7	5.3
2020	137.6	5.7
2021	141.7	6.0
2022	145.9	6.3
2023	150.3	6.6
2024	154.9	6.9
2025	159.5	7.1
2026	159.4	7.4
2027	159.4	7.7
2028	159.3	8.0
2029	159.3	8.3
2030	159.2	8.6
2031	156.7	9.0
2032	154.2	9.4
2033	151.7	9.8
2034	149.4	10.2
2035	147.1	10.6

Notes

1 Costs are based on Newfoundland and Labrador Hydro's (Hydro's) Marginal Costs of Generation provided to Newfoundland Power in January 2015, Hydro's Marginal Costs of Transmission estimated from 2006 Marginal Cost Study and Newfoundland Power's 2007 Marginal Cost Study. All figures include losses to secondary delivery voltages.

**Island Interconnected System**  
**Avoided Costs at Secondary Sales Level <sup>1</sup>**  
**Five-Year Conservation Plan: 2012-2016**

Year	Capacity Costs \$/kW-yr	Energy Costs ¢/kWh
2012	48.94	18.4
2013	83.28	18.9
2014	194.85	20.7
2015	143.92	22.0
2016	169.81	22.7
2017	114.39	6.4
2018	113.80	6.9
2019	113.22	7.5
2020	112.65	8.1
2021	118.68	8.6
2022	125.09	9.2
2023	131.89	9.8
2024	139.08	10.5
2025	146.71	11.2
2026	149.59	11.4
2027	152.53	11.4
2028	155.53	11.6
2029	158.18	11.8
2030	160.88	12.0
2031	163.62	12.2

<sup>1</sup> Costs are based on Newfoundland and Labrador Hydro's (Hydro's) Marginal Costs of Generation provided to Newfoundland Power in February 2012, Hydro's Marginal Costs of Transmission estimated from 2006 Marginal Cost Study and Newfoundland Power's 2007 Marginal Cost Study. All figures include losses to secondary delivery voltages.

**Island Interconnected System**  
**Avoided Costs at Secondary Sales Level<sup>1</sup>**  
**Five-Year Conservation Plan: 2008-2013**

Year	Demand Costs \$/kW-yr	Energy Costs ¢/kWh
2009	18.7	9.8
2010	19.8	9.6
2011	21.2	10.1
2012	26.0	10.4
2013	26.4	10.5
2014	26.6	10.6
2015	26.6	10.9
2016	24.7	11.1
2017	26.7	11.4
2018	28.5	11.6
2019	28.7	11.8
2020	27.9	12.1
2021	72.8	12.4
2022	89.2	12.6
2023	122.8	12.9
2024	168.8	13.2
2025	208.7	13.5
2026	249.9	13.7

Notes:

1 Costs are based on Newfoundland Power's 2007 Marginal Cost Study Schedule filed as part of Newfoundland Power's 2008 General Rate Application and Newfoundland and Labrador Hydro's Marginal Costs of Generation and Transmission, filed in May 2006. All figures include losses to secondary delivery voltages.

**Conservation and Demand Management (“CDM”) Cost Deferral Account**

**Newfoundland Power Inc.**

**Conservation and Demand Management (“CDM”) Cost Deferral Account**

**Proposed Definition**

*CDM Cost Deferral Account*

188xx

This account shall be charged with the costs incurred in implementing the CDM Program Portfolio.

These costs include the CDM Program Portfolio costs incurred by Newfoundland Power for: detailed program development, promotional materials, advertising, pre and post customer installation checks, incentives, processing applications and incentives, training of employees and trade allies, and program evaluation costs.

This account shall also be charged the costs of major CDM studies such as comprehensive customer end use surveys and CDM potential studies that cost greater than \$100,000.

Transfers to, and from, the proposed account will be tax-effected.

This account will maintain a linkage of all costs recorded in the account to the year the cost was incurred.

Recovery of annual amortizations of costs in this account shall be through the Company’s Rate Stabilization Plan or as otherwise ordered by the Board.