

Undertaking 41**Test Year forecast normalization impact on proposed rates for Island Industrial Customers using the forecasted increased load of Vale and Praxair.****IIC Demand Growth in 2016 and 2017**

Attachment 1 to this undertaking provides a demand unit cost comparison based on the 2015 Test Year, forecasts for 2016 and 2017 and based on the average of the demand forecasts for 2015 Test Year to 2017. Under the current rate design methodology, the unit demand cost in the test year is used to determine the demand rate for IIC. The analysis assumes no change in demand cost revenue requirement from that reflected in the 2015 Test Year revenue requirement.

Table 1 summarizes the results of the analysis on the unit demand costs for the IIC and the forecast impact on demand billing beyond the test year using the unit demand cost for each year as the test year billing rate.

Table 1
Impact of Normalization of Test Year Forecast on IIC Test Year Demand Charge

	2015 Test Year (A)	2016F (B)	2017F (C)	Average 2015TY-2017F (D)
IC Allocated Demand Revenue Requirement (\$)	\$ 8,920,028	\$ 10,058,214	\$ 11,649,250	\$ 10,235,517
IC Demand Billing Units (kW)	1,064,800	1,207,100	1,390,600	1,220,833
IC Demand Cost (\$/kW)	\$ 8.38	\$ 8.33	\$ 8.38	\$ 8.38
IIC Demand Billing Impact beyond Test Year		\$ (60,355)	\$ -	\$ -

Table 1 shows that while the allocated demand revenue requirement to IIC increases materially using the 2016 and 2017 forecasts reflecting the higher demand requirements for the IIC, there is minimal change in the unit demand costs as a result of the higher demand billing units used to compute the unit cost.

IIC Energy Growth in 2016 and 2017

Attachment 2 to this undertaking provides an energy unit cost comparison based on the 2015 Test Year, forecasts for 2016 and 2017 and based on the average of the energy forecasts for 2015 Test Year to 2017. Under the current rate design methodology, the unit energy cost in the test year is used to determine the energy rate for IIC. The analysis assumes no change in energy cost revenue requirement from that reflected in the 2015 Test Year revenue requirement.

Table 2 summarizes the results of the analysis on the unit energy costs for the IIC and the forecast impact on energy billing beyond the test year using the unit energy cost for each year as the test year billing rate.

Table 2
Impact of Normalization of Test Year Forecast on IIC Test Year Energy Charge

	2015 Test Year (A)	2016F (B)	2017F (C)	Average 2015TY-2007F (D)
IIC Allocated Energy Revenue Requirement (\$)	\$ 32,010,206	\$ 38,628,580	\$ 42,877,313	\$ 37,946,805
IIC Energy Billing Units (kWh)	621,400	777,900	873,500	757,600
IIC Energy Cost (¢/kWh)	\$ 5.151	\$ 4.966	\$ 4.909	\$ 5.009
IIC Energy Billing Impact beyond Test Year (\$)	\$ -	\$ (144,342)	\$ (211,933)	\$ (107,948)

Table 2 shows that while the allocated energy revenue requirement to IIC increases materially using the 2016 and 2017 forecasts reflecting the higher energy requirements for the IIC, there is minimal change in the unit energy costs as a result of the higher energy billing units used to compute the unit cost.

Additional fuel costs incurred at Holyrood to serve the increased IIC load beyond the 2015 Test Year will be shared between Newfoundland Power and IIC through the load variation component of the RSP which all parties have agreed will be based on the percentage of annual energy use. This approach is consistent with the cost of service methodology. This ensures IIC pays a fair portion of the additional fuel costs incurred as a result of load growth beyond the test year.

Summary

Based on the combined effect of the minimal change in unit costs and the operation of the RSP to recover additional fuel costs to serve IIC load growth, Hydro does not consider it necessary to adjust the test year used in the 2015 Test Year cost of service to reflect a normalization of demand and energy allocators.

Allocation of 2015 Test Year Demand Revenue Requirement Using Forecast Billing Demand

Line No	2015 Test Year				2016 Forecast				2017 Forecast				3 Yr Average			
	Production Demand		Transmission Demand		Production Demand		Transmission Demand		Production Demand		Transmission Demand		Production Demand		Transmission Demand	
	(1 CP kW)	% of Total	(CP kW)	% of Total	(1 CP kW)	% of Total	(CP kW)	% of Total	(1 CP kW)	% of Total	(CP kW)	% of Total	(1 CP kW)	% of Total	(CP kW)	% of Total
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
Amounts																
1 Newfoundland Power	1,296,965	88.6%	1,288,061	88.5%	1,319,456	88.2%	1,309,600	88.5%	1,342,123	87.5%	1,331,700	87.8%	1,319,518	88.1%	1,309,860	88.4%
2 Industrial - Firm	75,597	5.2%	73,040	5.0%	86,940	5.8%	84,000	5.7%	103,190	6.7%	99,700	6.6%	89,575	5.9%	85,580	5.8%
3 Rural	91,636	6.3%	88,537	6.1%	89,838	6.0%	86,800	5.9%	88,182	5.8%	85,200	5.6%	89,885	6.0%	86,846	5.9%
4 Total	1,464,218 ¹		1,449,658 ²		1,496,234		1,480,600		1,533,494		1,516,600		1,497,979		1,482,286	
Total Allocated Revenue Requirement																
5 Newfoundland Power	126,280,957	88.5%	27,529,848	88.8%	125,848,726	88.2%	27,536,080	88.5%	124,900,308	87.5%	27,331,925	87.8%	125,708,073	88.1%	27,506,026	88.4%
6 Industrial - Firm	7,354,554	5.2%	1,555,473	5.0%	8,292,272	5.8%	1,765,942	5.7%	9,602,998	6.7%	2,046,251	6.6%	8,438,405	5.9%	1,797,112	5.8%
7 Rural	9,074,169	6.4%	1,931,507	6.2%	8,568,581	6.0%	1,824,807	5.9%	8,206,374	5.8%	1,748,652	5.6%	8,563,203	6.0%	1,823,590	5.9%
8 Total	142,709,680 ³		31,126,828 ⁴		142,709,680		31,126,828		142,709,680		31,126,828		142,709,680		31,126,828	
9 IC Allocated Revenue Requirement (\$)	8,920,028	(Line 6, Col A and Col C)			10,058,214	(Line 6, Col A and Col C)			11,649,250	(Line 6, Col A and Col C)			10,235,517	(Line 6, Col A and Col C)		
10 IC Demand Billing Units (kW)	1,054,300	Line 9/Line 10			1,207,100	Line 9/Line 10			1,390,600	Line 9/Line 10			1,220,833	Line 9/Line 10		
11 IC Demand Cost (\$/kW)	\$8.38	Line 9/Line 10			\$8.33	Line 9/Line 10			\$8.38	Line 9/Line 10			\$8.38	Line 9/Line 10		
12 NP Allocated Revenue Requirement (\$)	153,910,805	(Line 5, Col A and Col C)			153,384,806	(Line 5, Col A and Col C)			152,232,233	(Line 5, Col A and Col C)			153,214,099	(Line 5, Col A and Col C)		
13 NP Demand Billing Units (kW)	15,122,049	Line 12/Line 13			15,401,172	Line 12/Line 13			15,665,052	Line 12/Line 13			15,396,091	Line 12/Line 13		
14 NP Demand Cost (\$/kW)	\$10.18	Line 12/Line 13			\$9.96	Line 12/Line 13			\$9.72	Line 12/Line 13			\$9.95	Line 12/Line 13		
15 Rural Allocated Revenue Requirement (\$)	11,005,676				10,393,488				9,955,026				10,386,893			
16 Total Allocated Revenue Requirement (\$)	173,836,508	(Line 9+12+15)			173,836,508	(Line 9+12+15)			173,836,508	(Line 9+12+15)			173,836,508	(Line 9+12+15)		

Notes:

¹ Exhibit 13, Schedule 3.1A, Page 1 of 2, Col 3.

² Exhibit 13, Schedule 3.1A, Page 1 of 2, Col 5.

³ Exhibit 13, Schedule 3.2A, Page 3 of 4, Col 3.

⁴ Exhibit 13, Schedule 3.2A, Page 3 of 4, Col 5.

Allocation of 2015 Test Year Energy Revenue Requirement Using Forecast Energy

Line No	2015 Test Year		2016 Forecast		2017 Forecast		3 Yr Average		
	(MWh @ Gen)	% of Total	(MWh @ Gen)	% of Total	(MWh @ Gen)	% of Total	(MWh @ Gen)	% of Total	
	A	B	A	B	A	B	A	B	
Basis of Allocation - Energy									
Amounts									
1	Newfoundland Power	6,118,065	85%	6,227,277	83%	6,238,298	82%	6,194,547	83%
2	Industrial - Firm	641,746	9%	801,237	11%	899,705	12%	780,896	10%
3	Rural	479,089	7%	474,933	6%	452,685	6%	468,902	6%
4	Total	7,238,900	¹	7,503,447		7,590,688		7,444,345	
Total Allocated Revenue Requirement									
5	Newfoundland Power	305,414,747	84%	300,224,366	83%	297,299,067	82%	301,017,406	83%
6	Industrial - Firm	32,010,206	9%	38,628,580	11%	42,877,313	12%	37,946,805	10%
7	Rural	24,325,073	7%	22,857,080	6%	21,573,645	6%	22,785,815	6%
8	Total Energy Costs	361,750,026	²	361,750,026		361,750,026		361,750,026	
9	IC Energy Billing Units (kWh)	621,400		777,900		873,500		757,600	
10	IC Energy Cost (¢/kWh)	5.151	(Line 6/Line 9)	4.966	(Line 6/Line 9)	4.909	(Line 6/Line 9)	5.009	(Line 6/Line 9)
11	NP Energy Billing Units (kWh)	5,924,100		6,045,900		6,056,600		6,008,867	
12	NP Energy Cost (¢/kWh)	5.16	(Line 5/Line 11)	4.97	(Line 5/Line 11)	4.91	(Line 5/Line 11)	5.01	(Line 5/Line 11)

Notes:

¹ Exhibit 13, Schedule 3.1A, Page 1 of 2, Col 4.² Exhibit 13, Schedule 3.2A, Page 3 of 4, Col 4.