

**Q. (a) Provide a comparison of the cost to the consumer to heat a typical home with oil and electricity at current and proposed rates. (b) Provide a comparison of the cost to the consumer of hot water for a typical home using oil and electricity at current rates. (c) Show Newfoundland Power's cost of supplying electricity for 1) hot water, and 2) home heating for a typical home.**

**A.** Table 1 provides the requested cost comparisons along with the estimated cost of supplying the electricity for those uses based on marginal costs.<sup>1</sup>

**Table 1**  
**Annual Space and Water Heating Costs for a Typical Home**  
**(excluding taxes)**

	Furnace Oil	Electricity		
		July 1, 2012 Rates <sup>2</sup>	Proposed Rates <sup>2</sup>	Marginal Supply Costs
<b>Space Heating</b>	\$2,236	\$1,754	\$1,893	\$3,250
<b>Water Heating</b>	\$696	\$603	\$651	\$1,118

The cost comparisons provided in Table 1 are based on the following assumptions:

- (i) 15,700 kWh per year for space heating and 5,400 kWh for water heating;
- (ii) seasonal oil furnace efficiency of 78 per cent;
- (iii) 1,771 litres of furnace oil is equivalent to 15,700 kWh, and 615 litres is equivalent to 5,400 kWh; accounts for cross-over heating impact of furnace/boiler electricity use.
- (iv) the average price of furnace oil in Newfoundland Power's service area is \$1.056 per litre (as posted by the Petroleum Pricing Office of the Board of Commissioners of Public Utilities on October 11, 2012);
- (v) furnace electricity usage is 1,440 kWh per year for space heating and 410 kWh per year for water heating;

<sup>1</sup> Newfoundland Power's cost of supplying electricity for home heating may be viewed from either an embedded cost basis or a marginal/incremental cost basis. Since electricity rates are reasonably reflective of embedded costs for each class of service, Newfoundland Power's *embedded* cost of supplying electric heat can be approximated by consumer costs at proposed rates. An estimate of the supply costs from a *marginal* cost perspective is also provided in Table 1.

<sup>2</sup> The electricity cost under existing and proposed rates are calculated using the Domestic - Rate#1.1 provided in Volume 2, Exhibits & Supporting Materials, Exhibit 13, page 1 of 5.

- 1       (vi)   furnace maintenance plan costs \$205 per year;  
2       (vii)   cost of electricity supply to a furnace is based on electricity rates, not the marginal  
3               supply costs; and,  
4       (viii)   marginal supply cost is based on the marginal cost of energy for supplying the  
5               Domestic customer class during 2012 (20.7 ¢/kWh).<sup>3</sup>  
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7       The costs shown in Table 1 include only annual operating costs and exclude the capital  
8       costs related to the purchase and installation of the heating systems. Consumers who use  
9       an oil-fired stand-alone water heater usually rent these units from their supplier for an  
10       additional \$200 per year. This fee has not been included in the Table 1 comparison.

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<sup>3</sup> The estimate of the marginal cost of energy supplied to the Domestic Class is based on the cost of production at the Holyrood thermal generating plant. The estimate is based on conversion efficiency of 630 kWh/bbl, losses from generation to domestic customer of 9.4% and an oil price forecast from Hydro of \$118.80 per barrel for 2012. The oil price forecast was provided in Newfoundland and Labrador Hydro's letter regarding the Rate Stabilization Plan – Fuel Price Projection, dated March 31, 2012.