

1 **Q. Provide a comparison of the cost to the consumer to heat a typical home with oil,**
2 **wood and electricity at current rates. In the comparison, show Newfoundland**
3 **Power's cost of supplying electricity for home heating for a typical home.**
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5 A. The cost to the consumer to heat a typical home with electricity is \$1,091 per year
6 (excluding taxes). This calculation assumes energy usage of 15,700 kWh per year and
7 electrical rates effective September 1, 2002.
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9 The cost to the consumer to heat a typical home with furnace oil is \$1,221 per year
10 (excluding taxes). This cost is calculated using the following assumptions:

- 11 (i) the amount of furnace oil equivalent to 15,700 kWh per year was based on a seasonal
12 efficiency of 78 per cent (1,874 litres);
- 13 (ii) the average price of furnace oil in Newfoundland Power's service area is 50.5 cents
14 per litre (as posted by the Petroleum Products Pricing Commission on December 15,
15 2002);
- 16 (iii) the electricity usage for a furnace is 1,440 kWh per year;
- 17 (iv) the electrical rates are those in effect as of September 1, 2002; and
- 18 (v) the maintenance plan for a typical furnace is \$175 per year.
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20 The Company has insufficient data to accurately calculate the cost to the consumer to heat
21 a home with wood.
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23 The cost to the consumer to heat a home with either electricity or furnace oil includes only
24 annual operating costs and excludes the capital costs related to the purchase and
25 installation of the heating systems.
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27 Newfoundland Power's cost of supplying electricity for home heating can be viewed from
28 either an embedded cost basis or from a marginal/incremental cost basis. Electricity rates
29 are reasonably reflective of embedded costs for each class of service, as indicated by the
30 revenue to cost ratios of between 90% and 110% (as shown on page 12 of Mr.
31 Henderson's testimony). Therefore, Newfoundland Power's embedded cost of supplying
32 electric heat can be approximated by the costs to the consumer for the electricity used.
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34 The marginal/incremental cost of supplying electricity can be divided between the cost of
35 supplying energy and the cost of providing capacity. The incremental cost of supplying
36 electrical energy for home heating can be approximated using the short run marginal
37 energy cost of 5.07 cents/kWh shown in the Company's response to Request for
38 Information PUB-221. The incremental cost of providing capacity on the electrical system
39 for home heating is not available. The Company does not have a reliable estimate for
40 incremental capacity costs that can be used to provide a reasonable estimate of the
41 incremental costs of supplying different forms of home heating.