

1 **Q. (page 5-7, lines 14-17) What is the current marginal cost of energy on the Island**
2 **Interconnected System?**

3
4 A. The marginal energy costs provided for the Isolated System scenario in Appendix C of
5 the Rate Design Report represent reasonable estimates of the current marginal energy
6 costs for the Island interconnected system.

7
8 Appendix C of the Rate Design Report is provided as Attachment A.

Rate Design Report
Appendix C

1.0 Background

A primary objective of the rate design review is to evaluate retail rates against marginal costs to assess the efficiency of the rate designs.

The Marginal Costs to be used to assess existing and alternative rate design are based on the *Newfoundland Power Marginal Cost of Electricity Study* (the “Marginal Cost Study”) dated January 2007. The Study was completed by NERA Economic Consulting. The Marginal Cost Study includes both Hydro’s marginal costs of generation and transmission and Newfoundland Power’s marginal costs related to distribution and customer service.¹

Hydro’s marginal costs of generation and transmission were determined based on two scenarios. Scenario 1 assumed that the Island Interconnected System will remain isolated from Labrador and the rest of the northeastern North American region (“Isolated System” scenario). Scenario 2 assumed that a high voltage transmission interconnection to Labrador will go into service in 2014 providing Hydro with the opportunity to become an active participant in a regional market for energy and generation capacity (“Labrador Infeed” scenario).

The Marginal Cost Study results, which were prepared in 2006, were updated for the following:

Isolated System scenario

- The cost of No. 6 fuel oil burned used at Holyrood was updated to reflect Hydro’s forecast dated June 2008.
- The marginal capacity costs were increased to \$48 /kW per year. This was to deal with concerns that the very low generation capacity costs estimated in the Marginal Cost Study are unreasonably low for use in comparing them to retail rates.
- The marginal costs were escalated to 2008 dollars.

Labrador Infeed scenario

- The market prices used to determine the marginal generation costs were updated. The marginal generation costs were based on a long term forecast of market prices prepared by the US Department of Energy (“DOE”) in 2006. A review of that same forecast for 2008 indicates that the marginal generation costs increased by approximately 12%.²
- The marginal costs were escalated to 2008 dollars.

¹ The report *Newfoundland and Labrador Hydro Marginal Costs of Generation and Transmission* completed by NERA was filed by Hydro in May 2006.

² To compute the price comparison, the 7.1¢ per kWh forecast price for 2015 in \$2004 was converted to \$2006 based on US CPI of 3.4% for 2005 and 3.2% for 2006.

2.0 Marginal Cost Results Update - Isolated System

The marginal cost under the Isolated System scenario is based on the following costing periods.

Winter: January – March and December
 Peak: Weekdays, 7:00 am to 12:00 pm & 4:00 pm to 8:00 pm.
 Off-Peak: All remaining hours.

Non-Winter: April - November
 No time-of-day differentiation.

The marginal cost by costing period is calculated for customers served at the transmission, distribution primary and distribution secondary level. Marginal capacity costs can be expressed in units of \$ per kW and in units of ¢ per kWh.

Table 1 shows the marginal cost for supply to customers served at secondary voltages with energy costs expressed in units of ¢ per kWh and capacity costs expressed in units of \$ per kW.

Table 1
Marginal Cost Results Update – Isolated System
 ¢/kWh and \$/kW
 (\$2008)

	Winter		Non-Winter
	Peak	Off-Peak	All hours
Energy (¢ per kWh)	15.1	14.8	14.2
Generation Capacity (\$/kW-mo.)	7.07	0.95	0.02
Transmission (\$/kW-mo.)	1.54	0.38	0.00
Distribution Substation (\$/kW-mo.)	1.16	1.13	0.01
Total Demand-Related Cost (\$/kW-mo.)	9.78	2.46	0.03

The total capacity related cost in Table 1 is equivalent to an annual cost of \$49.20 per kW.³

³ \$49.20 per kW = (\$9.78 per kW x 4 winter months + \$2.46 per kW x 4 winter months + \$0.03 per kW x 8 summer months) The \$49.20 per kW is the assumed \$48 per kW marginal capacity cost times 1.026 to escalate the cost from \$2007 to \$2008.

Table 2 provides the marginal energy and capacity costs on a ¢ per kWh basis.

Table 2
Marginal Cost Results Update – Isolated System
¢ per kWh
(\$2008)

	Winter		Non-Winter
	Peak	Off-Peak	All hours
Energy	15.1	14.8	14.2
Generation Capacity	3.6	0.2	0.0
Transmission Capacity	0.8	0.1	0.0
Distribution Substation Capacity	0.6	0.2	0.0
Total Marginal Cost	20.1	15.3	14.2

3.0 Marginal Cost Results Update – Labrador Infeed

The marginal cost for the Labrador Infeed scenario is based on the following costing periods.

Winter: January – February and November – December

Peak: Weekdays, from 5:30 to 9:30 pm.

Shoulder: Weekdays, from 8:30 am to 5:30 pm, and 9:30 to 11:30 pm.
Weekends: 5:30 to 9:30 pm.

Off-Peak: All remaining hours.

Spring & Fall: March – May and September – October

Peak: Weekdays, from 8:30 am to 11:30 pm. Weekends: 10:30 am to 11:30 pm.

Off-Peak: All remaining hours.

Summer: June – August

Peak: Weekdays, 1:30 to 7:30 pm.

Shoulder: Weekdays, 8:30 am to 1:30 pm and 7:30 to 11:30 pm; Weekends, 10:30 am to 12:30 pm.

Off-Peak: All remaining hours.

Table 3 shows the marginal energy costs and capacity costs on a ¢ per kWh basis.

Table 3
Marginal Cost Update – Labrador Infeed Scenario
(¢ per kWh)
(\$2008)

	Winter			Spring/Fall		Summer		
	Peak	Sh	Off-Peak	Peak	Off-Peak	Peak	Sh	Off-Peak
Energy	9.0	7.7	5.8	7.2	4.9	8.2	6.8	4.6
Generation Capacity	17.1	1.3	0.0	0.0	0.0	11.2	0.0	0.0
Transmission Capacity	0.8	0.3	0.1	0.0	0.0	0.0	0.0	0.0
Distribution Substation	1.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0
Total	27.9	9.8	6.0	7.2	4.9	19.4	6.8	4.6

4.0 Marginal Costs in Rate Design Report

To compare rates and marginal costs, it is necessary express the results on a comparable basis. This requires an aggregation of the marginal cost by costing periods to the time period over which a particular retail rate applies. For example, a flat domestic energy rate applies to a period containing all the hours during the year. The domestic flat energy rate recovers both capacity and energy costs, therefore the marginal costs needs to be aggregates into an equivalent annual marginal cost.

Retail rates include Municipal Taxes Adjustment (MTA) and a Rate Stabilization Adjustment (RSA) factors which are not included in the marginal costs. Therefore, marginal costs are increased to include both the RSA and MTA factors for comparison to retail rates. To derive the marginal costs on a seasonal or annual basis, the Company used kWh sales or class maximum demand information data by costing interval as weightings to combine the marginal costs.

Table 4 provides the computation approach used to determine the annual average marginal costs in ¢ per kWh for the Domestic Class.

Table 4
Average Annual Marginal Cost - Domestic

Costing Period	Marginal Cost ¢ per kWh	kWh Weighting ⁴ %	Weighted Cost ¢ per kWh	Marginal Cost ¢ per kWh
Winter on-peak	20.1	14.3%	2.87	15.4
Winter off peak	15.3	33.1%	5.06	
Non-Winter	14.2	52.6%	<u>7.47</u>	
Total			15.4	

⁴ Weighting based on Domestic kWh sales by costing interval determined from the Company's 2006 Load Research Study.

Table 5 provides the adjustment to include for RSA and MTA effective July 1, 2008.

Table 5
Annual Average Marginal Cost - Domestic
including RSA and MTA

Annual Average Marginal Cost	A	15.4 ¢/kWh
RSA Factor	B	<u>0.761 ¢/kWh</u>
	A+B=C	16.2 ¢/kWh
MTA factor	D	1.02359
Total	C x D	16.6 ¢/kWh

Schedule A to this Appendix provides the marginal costs by class.

1.0 Marginal Costs to Serve - Domestic Rate 1.1

Table 1-1
Rate 1.1 Marginal Costs – Isolated System
Energy and Capacity Costs in ¢ per kWh

Costing Period	Marginal Costs			Marginal Cost Including RSA and MTA		
	Energy	Capacity	Total	Energy	Capacity	Total
Winter						
On-Peak	15.1	5.0	20.1	16.2	5.2	21.4
Off Peak	14.8	0.5	15.3	15.9	0.5	16.4
All Hours	14.9	1.8	16.7	16.0	1.9	17.9
Non-Winter						
All Hours	14.2	0.0	14.2	15.3	0.0	15.3
Annual						
All Hours	14.5	0.9	15.4	15.7	0.9	16.6

Table 1-2
Rate 1.1 Marginal Costs – Isolated System
Capacity Costs in \$/kW-mo.

Costing Period	Marginal Costs	Marginal Costs Including RSA and MTA
	Capacity \$/kW-mo.	Capacity \$/kW-mo.
Winter		
On-Peak	9.8	10.0
Off Peak	2.5	2.5
All Hours	12.2	12.5
Non-Winter		
All Hours	0.0	0.0
Annual		
All Hours	4.1	4.2

**Table 1-3
Rate 1.1 Marginal Costs – Labrador Infeed
Energy and Capacity Costs in ¢ per kWh**

Costing Period	Marginal Costs			Marginal Cost Including RSA and MTA		
	Energy	Capacity	Total	Energy	Capacity	Total
Winter						
On-Peak	9.0	18.9	27.9	10.0	19.3	29.3
Shoulder	7.7	2.1	9.8	8.7	2.1	10.8
Off-Peak	5.8	0.1	5.9	6.7	0.2	6.9
All Hours	7.0	3.6	10.6	8.0	3.6	11.6
Spring/Fall						
Peak	7.2	0.0	7.2	8.2	0.0	8.2
Off-Peak	4.9	0.0	4.9	5.8	0.0	5.8
All Hours	6.4	0.0	6.4	7.4	0.0	7.4
Summer						
On-Peak	8.2	11.2	19.5	9.3	11.4	20.7
Shoulder	6.8	0.0	6.8	7.8	0.0	7.8
Off-Peak	4.6	0.0	4.6	5.5	0.0	5.5
All hours	6.5	2.3	8.8	7.4	2.4	9.8
Non-Winter						
All Hours	6.5	0.6	7.1	7.4	0.6	8.0
Annual						
All Hours	6.7	1.9	8.6	7.6	2.0	9.6

Table 1-4
Rate 1.1 Marginal Costs – Labrador Infeed
Capacity Costs in \$/kW-mo.

Costing Period	Marginal Costs	Marginal Cost Including RSA and MTA
	Capacity \$/kW-mo.	Capacity \$/kW-mo.
Winter		
On-Peak	16.2	16.6
Shoulder	5.6	5.7
Off-Peak	0.5	0.6
All Hours	22.3	22.9
Spring/Fall		
Peak	0.0	0.0
Off-Peak	0.0	0.0
All Hours	0.0	0.0
Summer		
On-Peak	14.7	15.0
Shoulder	0.0	0.0
Off-Peak	0.0	0.0
All hours	14.7	15.0
Non-Winter		
All Hours	5.5	5.6
Annual		
All Hours	11.1	11.4

Rate Design Report

2.0 Marginal Cost to Serve - General Service Rate 2.1

Table 2-1
Rate 2.1 Marginal Costs – Isolated System
Energy and Capacity Costs in ¢ per kWh

Costing Period	Energy	Marginal Costs		Total	Marginal Cost Including RSA and MTA		
		Capacity			Energy	Capacity	Total
Winter							
On-Peak	15.1	5.0		20.1	16.2	5.2	21.4
Off Peak	14.8	0.5		15.3	15.9	0.5	16.4
All Hours	14.9	1.8		16.7	16.0	1.9	17.9
Non-Winter							
All Hours	14.2	0.0		14.2	15.3	0.0	15.3
Annual							
All Hours	14.5	0.7		15.2	15.6	0.8	16.4

Table 2-2
Rate 2.1 Marginal Costs – Isolated System
Capacity Costs in \$/kW-mo.

Costing Period	Marginal Costs	Marginal Cost Including RSA and MTA
	Capacity \$/kW-mo.	Capacity \$/kW-mo.
Winter		
On-Peak	9.8	10.0
Off Peak	2.5	2.5
All Hours	12.2	12.5
Non-Winter		
All Hours	0.0	0.0
Annual		
All Hours	4.1	4.2

Table 2-3
Rate 2.1 Marginal Costs – Labrador Infeed
Energy and Capacity Costs in ¢ per kWh

Costing Period	Marginal Costs			Marginal Cost Including RSA and MTA		
	Energy	Capacity	Total	Energy	Capacity	Total
Winter						
On-Peak	9.0	18.9	27.9	10.0	19.3	29.3
Shoulder	7.7	2.1	9.8	8.7	2.1	10.8
Off-Peak	5.8	0.1	5.9	6.7	0.2	6.9
All Hours	7.0	3.1	10.1	7.9	3.2	11.1
Spring/Fall						
Peak	7.2	0.0	7.2	8.2	0.0	8.2
Off-Peak	4.9	0.0	4.9	5.8	0.0	5.8
All Hours	6.4	0.0	6.4	7.3	0.0	7.3
Summer						
On-Peak	8.2	11.2	19.4	9.3	11.4	20.7
Shoulder	6.8	0.0	6.8	7.8	0.0	7.8
Off-Peak	4.6	0.0	4.6	5.5	0.0	5.5
All hours	6.4	2.2	8.6	7.3	2.2	9.5
Non-Winter						
All Hours	6.4	0.7	7.1	7.3	0.7	8.0
Annual						
All Hours	6.6	1.7	8.3	7.5	1.7	9.2

Table 2-4
Rate 2.1 Marginal Costs – Labrador Infeed
Capacity Costs in \$/kW-mo.

Costing Period	Marginal Costs	Marginal Cost Including RSA and MTA
	Capacity \$/kW-mo.	Capacity \$/kW-mo.
Winter		
On-Peak	16.2	16.6
Shoulder	5.6	5.7
Off-Peak	0.5	0.6
All Hours	22.3	22.9
Spring/Fall		
Peak	0.0	0.0
Off-Peak	0.0	0.0
All Hours	0.0	0.0
Summer		
On-Peak	14.7	15.0
Shoulder	0.0	0.0
Off-Peak	0.0	0.0
All hours	14.7	15.0
Non-Winter		
All Hours	5.5	5.7
Annual		
All Hours	11.1	11.4

3.0 Marginal Cost to Serve- General Service Rate 2.2

Table 3-1
Rate 2.2 Marginal Costs – Isolated System
Energy and Capacity Costs in ¢ per kWh

Costing Period	Marginal Costs			Marginal Costs Including RSA and MTA		
	Energy	Capacity	Total	Energy	Capacity	Total
Winter						
On-Peak	15.1	5.0	20.1	16.2	5.2	21.4
Off Peak	14.8	0.5	15.3	15.9	0.5	16.4
All Hours	14.9	1.8	16.7	16.0	1.9	17.9
Non-Winter						
All Hours	14.2	0.0	14.2	15.3	0.0	15.3
Annual						
All Hours	14.5	0.7	15.2	15.6	0.8	16.4

Table 3-2
Rate 2.2 Marginal Costs – Isolated System
Capacity Costs in \$/kW-mo.

Costing Period	Marginal Costs	Marginal Cost Including RSA and MTA
	Capacity \$/kW-mo.	Capacity \$/kW-mo.
Winter		
On-Peak	9.8	10.0
Off Peak	2.5	2.5
All Hours	12.2	12.5
Non-Winter		
All Hours	0.0	0.0
Annual		
All Hours	4.1	4.2

Rate Design Report

Table 3-3
Rate 2.2 Marginal Costs – Labrador Infeed
Energy and Capacity Costs in ¢ per kWh

Costing Period	Marginal Costs			Marginal Cost Including RSA and MTA		
	Energy	Capacity	Total	Energy	Capacity	Total
Winter						
On-Peak	9.0	18.9	27.9	10.0	19.3	29.3
Shoulder	7.7	2.1	9.8	8.7	2.1	10.8
Off-Peak	5.8	0.1	5.9	6.7	0.2	6.9
All Hours	7.0	3.2	10.2	7.9	3.3	11.2
Spring/Fall						
Peak	7.2	0.0	7.2	8.2	0.0	8.2
Off-Peak	4.9	0.0	4.9	5.8	0.0	5.8
All Hours	6.4	0.0	6.4	7.3	0.0	7.3
Summer						
On-Peak	8.2	11.2	19.4	9.3	11.4	20.7
Shoulder	6.9	0.0	6.9	7.8	0.0	7.8
Off-Peak	4.6	0.0	4.6	5.5	0.0	5.5
All hours	6.4	2.4	8.8	7.4	2.4	9.8
Non-Winter						
All Hours	6.4	0.8	7.2	7.3	0.8	8.1
Annual						
All Hours	6.6	1.8	8.4	7.6	1.8	9.4

Table 3-4
Rate 2.2 Marginal Costs – Labrador Infeed
Capacity Costs in \$/kW-mo.

Costing Period	Marginal Costs	Marginal Cost Including RSA and MTA
	Capacity \$/kW-mo.	Capacity \$/kW-mo.
Winter		
On-Peak	16.2	16.6
Shoulder	5.6	5.7
Off-Peak	0.5	0.6
All Hours	22.3	22.9
Spring/Fall		
Peak	0.0	0.0
Off-Peak	0.0	0.0
All Hours	0.0	0.0
Summer		
On-Peak	14.7	15.0
Shoulder	0.0	0.0
Off-Peak	0.0	0.0
All hours	14.7	15.0
Non-Winter		
All Hours	5.5	5.7
Annual		
All Hours	11.1	11.4

Rate Design Report

4.0 Marginal Cost to Serve - General Service Rate 2.3

Table 4-1
Rate 2.3 Marginal Costs – Isolated System
Energy and Capacity Costs in ¢ per kWh

Costing Period	Marginal Costs			Marginal Cost Including RSA and MTA		
	Energy	Capacity	Total	Energy	Capacity	Total
Winter						
On-Peak	15.0	5.0	20.0	16.1	5.2	21.3
Off Peak	14.7	0.5	15.2	15.8	0.5	16.3
All Hours	14.8	1.8	16.6	15.9	1.9	17.8
Non-Winter						
All Hours	14.2	0.0	14.2	15.3	0.0	15.3
Annual						
All Hours	14.4	0.7	15.1	15.5	0.8	16.3

Table 4-2
Rate 2.3 Marginal Costs – Isolated System
Capacity Costs in \$/kW-mo.¹

Costing Period	Marginal Costs	Marginal Cost Including RSA and MTA
	Capacity \$/kW-mo.	Capacity \$/kW-mo.
Winter		
On-Peak	9.7	10.0
Off Peak	2.4	2.5
All Hours	12.2	12.5
Non-Winter		
All Hours	0.0	0.0
Annual		
All Hours	4.1	4.2

¹ - Billing for customers on Rate 2.3 is per kVA. kVA billing differ from kW billing by the customer power factor. To adjust marginal costs in units of \$ per kW-mo. to a comparable \$/kVA – mo. the costs is multiplied by 0.9.

Rate Design Report

Table 4-3
Rate 2.3 Marginal Costs – Labrador Infeed
Energy and Capacity Costs in ¢ per kWh

Costing Period	Marginal Costs			Marginal Cost Including RSA and MTA		
	Energy	Capacity	Total	Energy	Capacity	Total
Winter						
On-Peak	9.0	18.7	27.7	10.0	19.2	29.2
Shoulder	7.6	2.1	9.7	8.6	2.1	10.7
Off-Peak	5.8	0.1	5.9	6.7	0.1	6.8
All Hours	6.9	3.1	10.0	7.8	3.2	11.0
Spring/Fall						
Peak	7.2	0.0	7.2	8.1	0.0	8.1
Off-Peak	4.9	0.0	4.9	5.8	0.0	5.8
All Hours	6.3	0.0	6.3	7.3	0.0	7.3
Summer						
On-Peak	8.2	11.1	19.3	9.2	11.4	20.6
Shoulder	6.9	0.0	6.9	7.8	0.0	7.8
Off-Peak	4.6	0.0	4.6	5.5	0.0	5.5
All hours	6.4	2.2	8.6	7.3	2.2	9.5
Non-Winter						
All Hours	6.3	0.8	7.1	7.3	0.7	8.0
Annual						
All Hours	6.5	1.7	8.2	7.5	1.7	9.2

Table 4-4
Rate 2.3 Marginal Costs – Labrador Infeed
Capacity Costs in \$/kW-mo.²

Costing Period	<u>Marginal Costs</u>	<u>Marginal Cost</u>
	<u>Capacity</u> \$/kW-mo.	<u>Including RSA and MTA</u> <u>Capacity</u> \$/kW-mo.
Winter		
On-Peak	16.1	16.5
Shoulder	5.6	5.7
Off-Peak	0.5	0.6
All Hours	22.2	22.8
Spring/Fall		
Peak	0.0	0.0
Off-Peak	0.0	0.0
All Hours	0.0	0.0
Summer		
On-Peak	14.6	15.0
Shoulder	0.0	0.0
Off-Peak	0.0	0.0
All hours	14.6	15.0
Non-Winter		
All Hours	5.5	5.6
Annual		
All Hours	11.1	11.3

² - Billing for customers on Rate 2.3 is per kVA. kVA billing differ from kW billing by the customer power factor. To adjust marginal costs in units of \$ per kW-mo. to a comparable \$/kVA – mo. the costs is multiplied by 0.9.

Rate Design Report

5.0 Marginal Cost to Serve - General Service Rate 2.4

Table 5-1
Rate 2.4 Marginal Costs – Isolated System
Energy and Capacity Costs in ¢ per kWh

Costing Period	Marginal Costs			Marginal Cost Including RSA and MTA		
	Energy	Capacity	Total	Energy	Capacity	Total
Winter						
On-Peak	14.6	4.9	19.5	15.7	5.0	20.7
Off Peak	14.4	0.4	14.8	15.5	0.4	15.9
All Hours	14.4	1.8	16.2	15.5	1.9	17.4
Non-Winter						
All Hours	13.9	0.0	13.9	15.0	0.0	15.0
Annual						
All Hours	14.1	0.6	14.7	15.2	0.6	15.8

Table 5-2
Rate 2.4 Marginal Costs – Isolated System
Capacity Costs in \$/kW-mo.³

Costing Period	Marginal Costs	Marginal Cost Including RSA and MTA
	Capacity \$/kW-mo.	Capacity \$/kW-mo.
Winter		
On-Peak	9.5	9.8
Off Peak	2.4	2.4
All Hours	11.9	12.2
Non-Winter		
All Hours	0.0	0.0
Annual		
All Hours	4.0	4.1

³ - Billing for customers on Rate 2.4 is per kVA. kVA billing differ from kW billing by the customer power factor. To adjust marginal costs in units of \$ per kW-mo. to a comparable \$/kVA – mo. the costs is multiplied by 0.9.

Table 5-3
Rate 2.4 Marginal Costs – Labrador Infeed
Energy and Capacity Costs in ¢ per kWh

Costing Period	Marginal Costs			Marginal Cost Including RSA and MTA		
	Energy	Capacity	Total	Energy	Capacity	Total
Winter						
On-Peak	8.7	18.4	27.1	9.7	18.8	28.5
Shoulder	7.4	2.0	9.4	8.4	2.0	10.4
Off-Peak	5.6	0.2	5.8	6.5	0.2	6.7
All Hours	6.8	3.2	10.0	7.7	3.3	11.0
Spring/Fall						
Peak	7.0	0.0	7.0	8.0	0.0	8.0
Off-Peak	4.8	0.0	4.8	5.7	0.0	5.7
All Hours	6.2	0.0	6.2	7.2	0.0	7.2
Summer						
On-Peak	8.1	10.9	19.0	9.1	11.1	20.2
Shoulder	6.7	0.0	6.7	7.7	0.0	7.7
Off-Peak	4.5	0.0	4.5	5.4	0.0	5.4
All hours	6.2	2.3	8.5	7.2	2.3	9.5
Non-Winter						
All Hours	6.2	0.9	7.1	7.2	0.9	8.1
Annual						
All Hours	6.4	1.7	8.1	7.3	1.7	9.0

Table 5-4
Rate 2.4 Marginal Costs – Labrador Infeed
Capacity Costs in \$/kW-mo.⁴

Costing Period	Marginal Costs	Marginal Cost
	Capacity \$/kW-mo.	Including RSA and MTA Capacity \$/kW-mo.
Winter		
On-Peak	15.8	16.2
Shoulder	5.5	5.6
Off-Peak	0.5	0.5
All Hours	21.8	22.3
Spring/Fall		
Peak	0.0	0.0
Off-Peak	0.0	0.0
All Hours	0.0	0.0
Summer		
On-Peak	14.4	14.7
Shoulder	0.0	0.0
Off-Peak	0.0	0.0
All hours	14.4	14.7
Non-Winter		
All Hours	5.4	5.5
Annual		
All Hours	10.9	11.1

⁴ Billing for customers on Rate 2.3 is per kVA. kVA billing differ from kW billing by the customer power factor. To adjust marginal costs in units of \$ per kW-mo. to a comparable \$/kVA – mo. the costs is multiplied by 0.9.