

June 10, 2009

Via Email
Original via mail

Ms. Erica M. Hamilton
Commission Secretary
BC Utilities Commission
Sixth Floor, 900 Howe Street, Box 250
Vancouver, BC V6Z 2N3

Dear Ms. Hamilton:

Re: Net Metering Tariff Application Project No. 3698552

Please find enclosed for filing FortisBC Inc.'s responses to Information Request No. 1 received from the BC Utilities Commission (Commission), BCOAPO et al., OEIA, Resolution Electric, and Christina Postnikoff. Twenty copies will be couriered to the Commission.

Sincerely,



Dennis Swanson
Director, Regulatory Affairs

cc: Registered Intervenors

Net Metering Tariff Application

Requestor Name: BC Utilities Commission

Information Request No: 1

To: FortisBC Inc.

Request Date: May 27, 2009

Response Date: June 10, 2009

1.0 Reference: Exhibit B-1, Application, pp. 3, 7 Background

In Commission Letter L-37-03 to BC Hydro dated July 22, 2003 regarding the development and implementation of a net metering tariff, the Commission provided a list of guidelines. One of the parameters mentioned in the Letter is that net metering tariff should be available to the residential and commercial classes. On page 7 of this Application, FortisBC provides a list of customer classes that will be eligible for its proposed net metering tariff.

Q1.1 Please describe if the majority of ‘other interested parties’ referred to on page 2 line 30 who requested FortisBC to develop this Application are mostly customers. If possible, please provide the percentage share of those who made the request by customer class. Please comment if the ‘interested parties’ are also made up of potential manufacturers and distributors of generators.

A1.1 Over the past few years, FortisBC has received inquiries on the possibility of selling power from small customer-owned generation to the Company. The majority of these inquiries were from customers and occasionally referenced net-metering as a solution. A few such questions were posed by contactors on behalf of customers, however they occurred prior to the planning for the Net Metering Application and were not routinely recorded. A precise breakdown by customer class is therefore not available, however inquiries regarding generation on this scale possibly numbered between ten and fifteen.

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2.0 Reference: Exhibit B-1, Application, p. 3 Maximum Generation Size

FortisBC has specified a maximum permissible generation size of 50kW but did not specify the voltage.

Q2.1 If the supply voltage is single phase 120/240V then 50 kW is a 200A/phase rating but if the supply voltage is 600/347V then the 200A/phase becomes 200 kW (approximately). Would FortisBC please explain how it would increase the maximum permissible generation size at these higher voltage service ratings?

Section 3.5 of the FortisBC Electric Tariff specifies Voltages Supplied as follows:

Nominal Standard Secondary Voltage from Pole-Mounted Transformers

- Single phase: (i) 120/240 volts, 3 wire, maximum 600 amperes.
- Three phase: (i) 120/208 volts, 4 wire, 500 kVA maximum transformation capacity.
- (ii) 347/600 volts, 4 wire, maximum 500 kVA transformation capacity.

Nominal Standard Secondary Voltage from Pad-Mounted Transformers

Single phase: (i) 120/240 volts, 3 wire, maximum 600 amperes.

Three phase: (i) 120/208 volts, 4 wire, maximum 500 kVA transformation capacity.

(ii) 347/600 volts, 4 wire, maximum 2,500 kVA transformation capacity.

A2.1 The generation limit has been set on “power injected”, not “current injected” basis. Thus, the generator operating voltage and current is not relevant. The cut-off value specified (50 kW) was felt to be reasonable as it is the largest size unit that can be installed on standard 120/240V 200 amp service with self-

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1 contained metering. However, in general any installation beyond this 50 kW
2 power limit (regardless of the operating voltage) could have safety and
3 reliability impacts to the FortisBC distribution system.

4 **Q2.2 Why does the net metering program not allow for the same capacity by**
5 **voltage and type of service, instead of the maximum 50 kW? Please**
6 **explain.**

7 A2.2 Please refer to the response to BCUC IR No. 1 Q2.1 above.

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3.0 Reference: Exhibit B-1, Application, p. 5 Program Objectives

The Application states that it is the overriding intent of the program that customers gain the ability to offset their own consumption with a clean and renewable resource.

Q3.1 For each of the rate schedule class listed in the table on page 7 of the Application, please provide the annual energy demand and annual electricity consumption mean and frequency distribution.

A3.1 Rate schedules 4, 23, 24, 25, 26, 27, 62, and 63 currently do not have customers and energy sales associated with them. Forecast 2009 energy, demand and customers are outlined in Table A3.1a below.

Table A3.1a

Class	Rate	Annual Energy (GWh)	Annual Demand (MW)	Number of Customers
Residential	All Rates	1,221.7	n/a	97,255
General Service	All Rates	678.2	n/a	11,583
	Rate 21	474.7	1,720	2,494
	All other Rates	203.4	n/a	9,089
Irrigation	All Rates	47.8	110	1,051

FortisBC does not forecast demand for those classes that are not billed demand. The demand forecast for the Irrigation class in Table A3.1a above is for only those irrigation customers that consume electricity during the non-irrigation season (Nov 1 – Mar 31), during which time they are billed on the applicable General Service rate.

The tables below contain a frequency distribution of 2008 billings for the Residential, General Service and Irrigation classes respectively. The ranges contain the total GWh and number of bills for 2008 for all billings that fall within

the identified consumption ranges.

Table A3.1b: 2008 Residential Billings

GWh Range	Annual GWh	Annual # Bills
0 - 1,000	163.8	329,880
1,001 - 2,500	428.4	267,642
2,501 - 5,000	351.3	103,381
5,001 - 10,000	212.9	32,712
10,001 - 25,000	65.9	4,957
25,000 +	16.1	364
Annual Total	1,238.4	738,936

Table A3.1c: 2008 General Service Billings

GWh Range	Annual GWh	Annual # Bills
0 - 5,000	85.9	52,778
5,001 - 10,000	85.4	11,964
10,001 - 50,000	254.8	13,366
50,001 - 100,000	90.1	1,371
100,001 - 200,000	75.5	573
200,001 - 300,000	25.2	109
300,001 - 400,000	12.6	42
400,000 +	29.9	54
Annual Total	659.4	80,257

Table A3.1d: 2008 Irrigation Billings

GWh Range	Annual GWh	Annual # Bills
0-1,000	0.8	2790
1,001-3,000	2.2	1168
3,001-5,000	2.1	509
5,001-10,000	4.3	563
10,001-100,000	27.4	962
100,000 +	9.6	60
Annual Total	46.4	6,052

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1 **Q3.2 Please provide the projections of the number of customers who would**
2 **participate in the Net Metering Program from each of the eligible rate**
3 **classes for the next three years. For each of the eligible rate class as**
4 **well as the total Net Metering Program, please also provide for the next**
5 **three years:**

6 A3.2 For the purposes of this Information Request, eligible rates have been
7 consolidated into residential and small commercial classes. FortisBC has no
8 basis on which to further segment the customers and a further breakdown
9 does not affect the responses to the balance of the responses in this series of
10 questions.

11 Generally speaking, FortisBC has considered the results of the BC Hydro
12 experience with its Net Metering Tariff 1289 and considers that FortisBC
13 program take-up rates should be similar, subject to an adjustment for the
14 relative sizes of the customer base. BC Hydro summarized these results in
15 Appendix B of its October 3, 2008 Net Metering Re-pricing Application. At that
16 time, BC Hydro had 47 program participants, 40 of which used solar PV as the
17 generation resource, and had 23 pending applications. BC Hydro's program
18 has been running since 2004.

19 Using the information provided by BC Hydro for its residential solar participants,
20 the average installation size is 2.8 kW with an average annual energy
21 production of 2,500 kWh at a 10 percent capacity factor.

22 Of the 11 Commercial Solar installations reported by BC Hydro the average
23 installation size is 4.6 kW with an average annual energy production of 4,000
24 kWh at a 10 percent capacity factor.

25 FortisBC has only forecast the number of customers who choose to install solar

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systems as this is the dominant technology. These numbers appear in Line 1 of Table A3.2.1 below.

Q3.2.1 Projected power production

A3.2.1 In Table A3.2.1 below, it is assumed that the entire annual energy output as shown in Line 3 is available to the Customer-Generators to offset consumption. Line 1 contains a projection of the total annual program participants; however, FortisBC acknowledges that this participation rate could vary significantly.

Table A3.2.1

		2009	2010	2011	2012
		Residential			
1	Total Solar Installations	2	5	9	15
2	Average capacity (kW)	2.8	2.8	2.8	2.8
3	Annual Energy (kWh) ¹	4,905.6	12,264	22,075.2	36,792
4	Retail Rate RS01	0.07463	0.07463	0.07463	0.07463
5	Gross Revenue Loss	\$366	\$915	\$1,647	\$2,746
		2009	2010	2011	2012
		Commercial			
1	Total Solar Installations	1	3	5	10
2	Average capacity (kW)	4.6	4.6	4.6	4.6
3	Annual Energy (kWh) ¹	4,029.6	12,088.8	20,148	40,296
4	Retail Rate GS20	0.08507	0.08507	0.08507	0.08507
5	Gross Revenue Loss	\$343	\$1,028	\$1,714	\$3,428

¹Annual energy = average capacity x capacity factor (10%) x 8,760 hours.

Q3.2.2 Projected decrease in capacity demand

A3.2.2 The Company does not expect any decrease in capacity demand

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1 due to the nature of projects.

2 **Q3.2.3 Decrease in load requirements and accompanying decrease in**
3 **gross revenue**

4 A3.2.3 Please refer to Table A3.2.1 in the response to BCUC IR No. 1
5 Q3.2.1. Assuming that the energy contained in Line 3 is available
6 to offset consumption, a gross annual revenue loss would result as
7 shown in Line 5. The gross revenue figure does not however
8 consider the offsetting impact of the avoided cost of energy not
9 required in order to serve the load.

10 **Q3.3 What is the estimated rate impact as a result of the above three year**
11 **projections?**

12 A3.3 The rate impact of the above projections is effectively nil, considering the 2009
13 Revenue Requirement of \$233.1 million.

14 **Q3.3.1 Does FortisBC expect that the Net Metering Tariff could affect**
15 **the revenue-cost ratios of different rate classes?**

16 A3.3.1 At the participation levels currently anticipated, FortisBC does not
17 expect that revenue to cost ratios will be affected.

18 **Q3.4 Page 8 of the Application mentions the possibility of a program cap. At**
19 **which amount or percentage of total system capacity would FortisBC**
20 **consider imposing a cap on program participation?**

21 A3.4 It is not possible to set a specific limit or percentage at this time. Any future
22 program cap will depend on the number of Net Metering installations, and more
23 importantly, their physical distribution throughout the system. As a worst case

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example, if all Net Metering installations were to be interconnected with the same distribution feeder, it could be necessary to institute a cap for that feeder alone until such time that the feeder can accommodate additional installations, while not limiting installations on other feeders in the service territory.

4.0 Reference: Exhibit B-1, Application, pp. 7, 8 Eligible Technologies

Page 7 of the Application provides some of the sources of energy that are considered clean or renewable according to page 13 of the 2007 BC Energy Plan.

Q4.1 Please attach the latest provincial “Clean or Renewable Electricity Guidelines” in your response to this Information Request (“IR”).

A4.1 The latest Guidelines are attached as BCUC Appendix A4.1

Q4.2 Please comment if the Guidelines referred to in the above IR contains additional technologies recognized as clean or renewable in addition to those described on pages 7 and 8 of the Application. If yes, please comment if FortisBC would make any revisions to its Net Metering Program. If not, why not?

A4.2 The list of technologies included in Rate Schedule 95 is not meant to be all-inclusive and represents those technologies that are thought to be most common in a Net Metering situation. The other technologies listed in the Guidelines would be considered for the Net Metering Program provided that they met both the requirements of the Net Metering Program and the Provincial requirements, including Ministerial approval where needed. The Tariff itself does not need to be revised in order for the technologies to be considered eligible.

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Q4.3 Please provide FortisBC's projections, if any, of Customer-Generators' choices in clean or renewable energy technology. Please provide the projections by rate class.

A4.3 FortisBC has not projected participation rates on either a technology choice or other basis, however, as noted in the response to BCUC IR No. 1 Q3.2.1, the Company anticipates that solar installations will account for the majority of net metering systems under the program.

5.0 Reference: Exhibit B-1, Application, p. 10 Treatment of Excess Generation

The Application states that on an annual basis, at FortisBC's discretion, a credit balance may be refunded or continue to be carried over to reduce the amount payable in subsequent billing periods.

Q5.1 Please confirm that 'on an annual basis' is a reference to the anniversary of the individual Customer-Generator taking service under the new Net Metering Tariff and not the utility's year end accounting date.

A5.1 The process for annual reconciliation is contained on the third page of the draft Rate Schedule 95, paragraph 5 of the Billing Calculation section (Exhibit B-1). Reconciliation occurs at the end of the calendar year.

Q5.2 Please explain "FortisBC's discretion" criteria for refunding or continuing a credit balance to be carried over to reduce the amount payable in subsequent billing periods.

A5.2 FortisBC encourages, but does not require, customers to carry credit balances forward if the credit will be consumed within two billing periods.

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6.0 Reference: Exhibit B-1, Application, p. 10 Treatment of Excess Generation

“FortisBC is proposing to credit positive NEG at the end of each billing period in an amount equal to the NEG in kWh times the applicable retail energy rate contained in the Tariff rate under which the Customer-Generator receives service. This dollar amount will be transferred to the Customer-Generator’s account balance and will be available to reduce the amount payable in subsequent billing periods.”

Q6.1 Please explain whether NEG credits may be applied against late payment (and other non-consumption) customer charges.

A6.1 Billed NEG credits will be applied to the total outstanding account balance which could include both consumption and non-consumption charges.

7.0 Reference: Exhibit B-1, Application, p. 11 Metering

“FortisBC will provide the meters and any incremental costs over a standard meter will be shared among all FortisBC customers. Currently, the incremental cost for a four-quadrant, bi-directional meter over the FortisBC standard residential meter is approximately \$270.00.”

Q7.1 What is the current cost for a standard residential meter?

A7.1 The cost of a standard residential meter is approximately \$30.00

Q7.2 How does FortisBC intend to distribute the recovery of program’s costs through each of Basic Monthly, Demand, and Energy charges?

A7.2 At this time FortisBC expects that a cost of service analysis would attribute the program costs primarily to basic charges, consistent with other metering costs.

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1 However the 2009 cost of service analysis does not include Net Metering costs
2 and the appropriate allocation will be determined in a subsequent cost of
3 service analysis.

4 **8.0 Reference: Exhibit B-1, Application, p. 11 4-quadrant, bi-directional**
5 **meter**

6 **Q8.1 Please explain why the simple meter will not be permitted for net**
7 **metering.**

8 A8.1 FortisBC is aware that Measurement Canada has released bulletins outlining
9 its policy for the approval of meters to be used in Net Metering Applications
10 (see BCUC Appendix A8.1.) Although there is a grace period during which a
11 standard electromechanical meter may be used, subject to conditions, as
12 stated in section 7.2.1.2(b) at page 3 of Bulletin E-27 states that potential
13 inaccuracies of electro-mechanical meters may limit Measurement Canada's
14 ability to successfully conclude a dispute investigation. Therefore FortisBC will
15 not permit the use of electro-mechanical meters for Net Metering.

16 **Q8.2 Pease explain if there is any salvage cost associated with the existing**
17 **meters.**

18 A8.2 The existing standard electro-mechanical meter would be replaced at the same
19 time as the bi-directional meter is installed by a FortisBC metering technician.
20 There is no identifiable salvage cost associated with the replacement. Due to
21 the cost of the standard meter relative to the cost of having the unit re-sealed,
22 meters removed as part of the program would simply be recycled as scrap.

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Q8.3 Assuming that the customer were to pay for the standard residential meter, and based on information provided in IR 3.1 and IR 3.2 above, please provide a typical residential customer's payback to recover the \$270 incremental cost for the meter.

A8.3 Based on the annual energy cost displacement described in the responses to BCUC IR No. 1 Q3.2.1 and Q13.1 of \$183, were the customer responsible for the \$270 incremental cost of the bi-directional meter, the payback period for this item alone would be \$270/\$183, or approximately 1.5 years.

Q8.4 Please provide an explanation and sample calculation of how net metering will function with time of use rates, and green power rates for both residential and general service customers for the rate schedules shown on page 7.

A8.4 The following illustrative sample bill shows how residential customers on Schedule 4 would be billed over two billing periods. Customers in Schedules 2, 2A and 3 would have similar bills. In the case of customer on Schedules 2 and 2A, the "GPRS Green Power" lines would not be included. Customers billed on Schedule 3 would have the "on peak" "off peak" line items replaced with a single energy line item. Billing rates used in the examples are for ease of understanding only and are not the actual Tariff rates currently in effect.

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Residential Net Metering Green Power/TOU Sample Bill

<u>Billing Period 1</u>	<u>Rate</u>	<u>Amount</u>	<u>Total</u>
Previous Balance		0.00	
Payment		0.00	
Balance Outstanding			0.00
Current Electric Charges			
Customer Charge		20.00	
Energy Used On Peak kWh	500 0.10	50.00	
Energy Used Off Peak kWh	1,000 0.05	50.00	
		120.00	
GPRS Green Power Contribution	1,500 0.02	22.50	
		22.50	
Current Electric Credits			
Energy Generated On Peak kWh	-150 0.10	-15.00	
Energy Generated Off Peak kWh	-150 0.05	-7.50	
		-22.50	
GPRS Green Power Credit	-300 0.02	-4.50	
		-4.50	
Taxes			
GST Purchases	0.00 5.0%	0.00	
GST	142.50 5.0%	7.13	
PST	0.00 7.0%	0.00	
ICE	120.00 0.4%	0.48	
		3.11	
Total New Charges			118.61
Total Amount DUE			118.61

Meter Reading Information		
Previous	Current	Energy Used
0	1,500	1500
Previous	Current	Energy Generated
0	-300	300

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Residential Net Metering Green Power/TOU Sample Bill

<u>Billing Period 2</u>	<u>Rate</u>	<u>Amount</u>	<u>Total</u>
Previous Balance		118.61	
Payment		<u>-118.61</u>	
Balance Outstanding			0.00
Current Electric Charges			
Customer Charge		20.00	
Energy Generated On Peak kWh	50 0.10	5.00	
Energy Generated Off Peak kWh	250 0.05	<u>12.50</u>	
		37.50	
GPRS Green Power Contribution	300 0.02	<u>4.50</u>	
		4.50	
Current Electric Credits			
Energy Generated On Peak kWh	-250 0.10	<u>-25.00</u>	
Energy Generated Off Peak kWh	-750 0.05	<u>-37.50</u>	
		-62.50	
GPRS Green Power Credit	-1,000 0.02	<u>-15.00</u>	
		-15.00	
Taxes			
GST Purchases	0.00 5.0%	0.00	
GST	42.00 5.0%	2.10	
PST	0.00 7.0%	0.00	
ICE	37.50 0.4%	<u>0.15</u>	
		2.25	
Total New Charges			-33.25
Total Amount DUE			-33.25

Meter Reading Information		
Previous	Current	Energy Used
1,500	1,800	300
Previous	Current	Energy Generated
-300	-1,300	1000

Similarly, the next example shows how a customer on Schedule 26 or 27 would be billed. Customers on Schedule 22, 22A, 23, 24 and 25 would differ in the same way as described in the residential section, above.

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Commercial Net Metering Green Power/TOU Sample Bill

<u>Billing Period</u>	<u>Rate</u>	<u>Amount</u>	<u>Total</u>
Previous Balance		0.00	
Payment		0.00	
Balance Outstanding			0.00
Current Electric Charges			
Customer Charge		20.00	
Demand		10.00	
Energy Used On Peak kWh	500 0.10	50.00	
Energy Used Off Peak kWh	1,000 0.05	50.00	
		130.00	
GPRS Green Power Contribution	1,500 0.02	22.50	
		22.50	
Current Electric Credits			
Energy Generated On Peak kWh	-150 0.10	-15.00	
Energy Generated Off Peak kWh	-150 0.05	-7.50	
		-22.50	
GPRS Green Power Credit	-300 0.02	-4.50	
		-4.50	
Taxes			
GST Purchases	-27.00 5.0%	-1.35	
GST	152.50 5.0%	7.63	
PST	152.50 7.0%	10.68	
ICE	152.50 0.4%	0.61	
		13.06	
Total New Charges			138.56
Total Amount DUE			138.56

Meter Reading Information		
Previous	Current	Energy Used
0	1,500	1500
Previous	Current	Energy Generated
0	-300	300

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Commercial Net Metering Green Power/TOU Sample Bill

<u>Billing Period 2</u>	<u>Rate</u>	<u>Amount</u>	<u>Total</u>
Previous Balance		138.56	
Payment		<u>-138.56</u>	
Balance Outstanding			0.00
Current Electric Charges			
Customer Charge		20.00	
Demand		10.00	
Energy Generated On Peak kWh	50 0.10	5.00	
Energy Generated Off Peak kWh	250 0.05	<u>12.50</u>	
		47.50	
GPRS Green Power Contribution	300 0.02	<u>4.50</u>	
		4.50	
Current Electric Credits			
Energy Generated On Peak kWh	-250 0.10	<u>-25.00</u>	
Energy Generated Off Peak kWh	-750 0.05	<u>-37.50</u>	
		-62.50	
GPRS Green Power Credit	-1,000 0.02	<u>-15.00</u>	
		-15.00	
Taxes			
GST Purchases	-77.50 5.0%	<u>-3.88</u>	
GST	52.00 5.0%	2.60	
PST	52.00 7.0%	3.64	
ICE	52.00 0.4%	<u>0.21</u>	
		2.57	
Total New Charges			-22.93
Total Amount DUE			-22.93

Meter Reading Information		
Previous	Current	Energy Used
1,500	1,800	300
Previous	Current	Energy Generated
-300	-1,300	1000

Q8.5 Is there a restriction on power factor (lagging/leading) for those using generators or induction machines?

Please explain and justify the installation charge (\$175) for meter installation when the TOU meter charges are:

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<u>Current Meter Installation</u>	<u>Incremental Meter Cost</u>	<u>Monthly Installment Payment</u>	<u>Installation Charge</u>
Single Phase non-demand	\$190.00	\$16.67	\$50.00
Poly Phase, non-demand	\$315.00	\$27.08	\$50.00
All others	none	none	\$50.00

A8.5 Power factor issues are addressed in Appendix C ("Net Metering Interconnection Guidelines") of the Application (Exhibit B-1).

With respect to induction generators, Section 2.1.14 of Appendix C (Exhibit B-1) states:

"Induction generators shall be compensated in the DG system to a full load power factor of 90 percent or better."

The requirements for synchronous generators are discussed in general terms in Section 2.2.5:

"For synchronous generators, sufficient generator reactive power capability shall be provided to withstand normal voltage changes on the FortisBC system. The generator voltage-var schedule, voltage regulator, and transformer ratio settings will be jointly determined by FortisBC and the customer to ensure proper coordination of voltages and regulator action. Customers are encouraged to generate their own var requirements to minimize power factor adjustment charges and enhance generator stability."

In general, FortisBC would expect synchronous generators to be operated at unity power factor as this is the most efficient mode for the customer.

Installation costs for time-of-use and net meters are similar. In the case of time-of-use metering, \$50 of installation costs are recovered from customers.

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1 In the case of net metering, FortisBC bears the full cost of the installation.

2 **Q8.6 Please explain and justify the signing of agreements charge, account set**
3 **up charge, and metering reading cost of \$3.00 on page 13.**

4 A8.6 Each charge listed in Table 8.1 (Exhibit B-1) has been estimated on the basis
5 of the time necessary to perform the task involved. The signing of the Net
6 Metering Agreement would likely involve a meeting with the Customer-
7 Generator to discuss the document and ensure that the Agreement is in place
8 prior to final interconnection. Account set-up is required to add additional
9 billing information into the system to ensure that the account will bill correctly.
10 There is additional time required to read and record the additional information
11 collected from a bi-directional meter. This is captured in the incremental meter
12 reading cost of \$3.00.

13 **Q8.7 In the FortisBC AMI Application, Exhibit B-11, A46.3.1, and A46.3.2,**

14 **FortisBC states:**

15 **“Yes, the AMI enabled meters will support customer net metering”, and**

16 **“As net metering capabilities are standard on most AMI enabled meters**
17 **that support the other requirements listed in Amended Table 7.1 (Exhibit**
18 **B-6), there is expected to be no incremental cost to provide this**
19 **functionality”.**

20 **Q8.7.1 Please explain the \$270 Incremental cost to provide this meter**
21 **assuming that it is planning to resubmit the AMI Application**
22 **soon?**

23 A8.7.1 Due to the anticipated small quantities and to streamline the

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metering process, FortisBC intends to use a meter that encompasses several available options: net metering capabilities, Time of Use Capability; the ability to be remotely read via the meter reader handheld and load control contacts. The currently available meter that has these functions is an incremental cost of approximately \$270.00. In the future, AMI meters will also be net metering capable but will not require all of these functions mentioned above, resulting in a reduced the price for the meter.

At this time, it is unclear when an AMI application will be re-submitted and more importantly, when meters will be available to be installed to support the net metering function. However, if and when a less expensive is available and supportable, FortisBC will utilize them for future net metering applications.

Q8.7.2 Will these Net Meters be AMI compatible?

A8.7.2 The Net Meters may not be AMI compatible. Compatibility cannot be determined until a final decision on an AMI technology selection has been made.

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Q8.8 Provide full technical information on the 4-quadrant, bi-directional meter.

A8.8 The meter on which information in the Application is based is the Elster A3 Alpha meter that is configurable for many form types and applications. Full technical information can be found on the Elster web page <http://www.elster.com>. In general the A3 ALPHA meter is a very accurate revenue meter, 0.2 accuracy Class providing four quadrant revenue functions.

Q8.9 Provide the net metering wiring diagram and electrical characteristics especially the withstand overvoltage rating of the meter.

A8.9 Meters are not currently configured as net meters (kWh[del] minus kWh[rec]). Meters are configured as bi-directional with distinctive registers for energy delivered, kWh[del], and energy received, kWh[rec], and netted in the billing system allowing visibility of the total energy delivered and received. There is no net metering diagram as the meters are auto-voltage and auto-service configurable based on general form types and service configuration.

Voltage and overvoltage ratings of the meters are specified as below;

Voltage / Surge voltage withstand

Continuous 528 VAC (AnyPhase option: L-L or L-N)

ANSI C37.90.1 Oscillatory 2.5 kV, 2500 strikes

Fast transient 5 kV, 2500 strikes

ANSI C62.41 6 kV at 1.2/50 μ s, 10 strikes

IEC 61000-4-4 4 kV, 2.5 kHz repetitive burst for 1 minute

ANSI C12.1 insulation 2.5 kV, 60 Hz for 1 minute

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9.0 Reference: Exhibit B-1, Application, p. 12 Program Cost

Q9.1 Based on the information provided in IR 3.1 and IR 3.2, please provide a typical customer payback calculation to recover all customer costs for each installation charged by FortisBC for kWh generated in excess of load.

A9.1 The only charge that FortisBC passes directly to customers is the optional inspection fee described in Section 8, page 12 of the Application (Exhibit B-1). Using the data provided in response to BCUC IR No. 1 Q3.2.1 and assuming that an average single Customer-Generator used the entire output of the net-metered solar system to offset consumption, \$183 would be available annually (2.8kW capacity x .10 capacity factor x 8,760 hours x \$0.07463 / kWh). The maximum \$500 inspection fee would take \$500/\$183 per year, or 2.7 years.

10.0 Reference: Exhibit B-1, Application, p. 13 Table 8.1

Q10.1 Please comment if the annual reconciliation costs of \$160 includes cost that would be incurred in administering refunds as described on page 10. If a Customer-Generator credit balance is carried over, would the annual reconciliation cost per Installation be lower than the \$160 anticipated? If so, please provide the cost differential.

A10.1 The reconciliation cost is lower if the credit balance is carried over since a cheque does not have to be issued to the customer. The \$160 is an estimated average cost for reconciling both customers that request a refund and those that carry their credit balances over. The cost differential is approximately \$50.

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11.0 Reference: Exhibit B-1, Application, pp. 13, 14 Program Costs

FortisBC estimates that enhancements to the existing billing system for enhancements required to implement 'Net Metering Program as described' is ten thousand dollars (\$10,000).

Q11.1 Please comment if the main enhancement to the billing system is mainly linked to the ability to accommodate the treatment of excess generation, including time-of-use rates, as proposed in the Application. Please describe in detail the features of the main enhancements.

A11.1 The main enhancements to the billing system will be changes required to the format of the bill. These changes will ensure that the credit and debit register readings are accurately displayed and can be easily understood by the customer. Some minor changes to the meter reading and billing systems may also be required to accommodate the increased number of register readings on the net metering customers and to accurately rate the generation credit meter. The remaining costs are for a contingency fund to account for unexpected changes that may be required to the billing system as a result of the net metering rate.

Q11.2 What possible changes to the 'Net Metering Program as described' (page 14 line 1) have been contemplated and how would this change the anticipated costs of system enhancement? Please provide examples.

A11.2 The statement is not specific to any contemplated changes. Rather, it was included to indicate that any additional enhancements to the billing system would need to be evaluated and could potentially carry additional costs.

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12.0 Reference: Exhibit B-1, Application, p. 14 Cost of Generation System

The Application states that the use of a residential scale solar project would likely cost \$20,000 to \$30,000 or above.

Q12.1 Is this cost estimate based on FortisBC expecting an average generation of 2 to 3 kW per installation? Or is this estimate based on generation technology choice?

A12.1 The rough estimate for the system cost was added to the Application to help clarify the potential customer cost after Public Consultation revealed a desire for the information. The estimate was drawn from the Ontario Power Authority background material on its Feed in Tariff (FIT) Program and can be viewed at:

<http://www.powerauthority.on.ca/fit/Page.asp?PageID=122&ContentID=10099>

Q12.2 Please comment if FortisBC is involved in the financing or assistance in seeking financing, for or on behalf of potential Customer-Generators.

A12.2 FortisBC is not involved in financing of Net Metering systems in any way.

Q12.2.1 In FortisBC's view, what are the major barriers, if any, to a Customer-Generator seeking financing for the installation.

A12.2.1 The approval of financing is highly dependent on individual circumstances and an evaluation of credit-worthiness.

Q12.2.2 Is FortisBC aware of the approval rate for DSM investments from financial institutions?

A12.2.2 FortisBC does not have this information.

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13.0 Reference: Exhibit B-1, Application p. 15 \$/kW

Q13.1 Please provide the number of years for the payback to reach breakeven if the assumed cost is \$10,000 per kW? Please make explicit the assumptions used.

A13.1 Using the data provided in response to BCUC IR No. 1 Q3.2.1 and assuming that an average single Customer-Generator used the entire output of the net-metered solar system to offset consumption, \$183 would be available annually (2.8kW capacity x .10 capacity factor x 8,760 hours x \$0.07463 / kWh). Based on a cost of \$10,000 per kW such a system would cost \$28,000 and the payback period would be 153 years.

Q13.2 Please provide the number of years for the payback to reach breakeven if the assumed cost is \$20,000 to \$30,000 per kW?

A13.2 Using the assumptions from BCUC IR No. 1 Q13.1, the payback for a \$20,000 and \$30,000 cost per kW would be 306 and 459 years respectively.

Q13.3 In FortisBC's opinion, is net metering a cost effective means for its ratepayers to supply energy to FortisBC?

A13.3 Acquiring power through net metering is expected to be below the average BC market cost of energy of \$98.25 per MWh as provided in Table 7.4.4.2.2 in FortisBC's Resource Plan filed with the Commission on May 29, 2009.

Ratepayers considering the net metering tariff may also consider reducing their energy consumption. Ratepayers can reduce energy use in various ways, including behavioural changes and participation in demand side management programs and incentives already offered by the Company. In the Company's opinion, although net metering is not the least cost means for customers to

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1 reduce their purchased electricity, it may be a cost effective for customers
2 when balancing all factors, including social and environmental factors.

3 **14.0 Reference: Exhibit B-1, Application, pp. 16-23 General**

4 **Q14.1 Please provide a comparison of the BC Hydro Net Metering Service (RS**
5 **1289) with the FortisBC's proposed Net Metering Program (RS 95). The**
6 **suggested tabular format is as follows:**

	CURRENT BC HYDRO NET METERING SERVICE (RS 1289)	PROPOSED FORTISBC NET METERING PROGRAM (RS 95)
Eligibility	Residential and Commercial	Residential, Commercial, Irrigation. TOU rates are also eligible.
Generator Name Plate Rating	< 50kW	< 50kW
Eligible Technology	B.C. Clean Electricity	Clean or renewable based on the 2007 Energy Plan lists with the exception of 'tidal energy'
Billing Reconciliation		
Energy Price for Positive Net Excess Generation		
Financing of Customer Installation/Incentive s and Rebates		
Participation or Anticipate Participation by Customer and by Energy Consumption		
Monitoring, Evaluation and Reporting Requirements		
Interconnection Requirements		

Net Metering Tariff Application**Requestor Name:** BC Utilities Commission**Information Request No:** 1**To:** FortisBC Inc.**Request Date:** May 27, 2009**Response Date:** June 10, 2009

1 A14.1 Please see Table A14.1 below detailing the comparison.

2 **Table A14.1**

	CURRENT BC HYDRO NET METERING SERVICE (RS 1289)	PROPOSED FORTISBC NET METERING PROGRAM (RS 95)
Eligibility	Residential and Commercial	Residential, Commercial, Irrigation. TOU rates are also eligible.
Generator Name Plate Rating	< 50kW	< 50kW
Eligible Technology	B.C. Clean Electricity	Clean or renewable based on the 2007 Energy Plan lists with the exception of 'tidal energy'
Billing Reconciliation	Annually on Anniversary Date	Annually at the end of the calendar year
Energy Price for Positive Net Excess Generation	\$0.0816 per kWh derived from Standard Offer Rate	Retail Rate of underlying Tariff Schedule.
Financing of Customer Installation/Incentive s and Rebates	None	None
Participation or Anticipate Participation by Customer and by Energy Consumption	As at June 2008, 47 participants and 23 in the application stage.	Please see the response to BCUC IR No. 1 Q3.2.1
Monitoring, Evaluation and Reporting Requirements	As per Commission Order G- 26-04. Report filed June 1, 2005.	None
Interconnection Requirements	As published in the BC Hydro document "NET METERING INTERCONNECTION REQUIREMENTS, 50 KW & BELOW"	As per Program Guidelines. See Application Appendix C.

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Requestor Name: BC Utilities Commission

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15.0 Reference: Exhibit B-1, Application, p. 16 Public Consultation

“There were some common themes that emerged in the feedback received in both written form and from the public open house comments. The topics that received the most attention were the initial cost of setting up a Net Metering System, the perceived need for incentives and rebates on both the installation and price received for generation, and the technical standards required for installation.”

Q15.1 Will approved net-metered customer-generators be eligible for FortisBC PowerSense Conservation Excellence awards? Please explain.

A15.1 Eligibility for PowerSense Conservation Excellence awards is dependent on participation in a recognized FortisBC DSM program. As Net Metering is not part of the DSM program, customers would not be considered on the basis of being a customer-generator.

Q15.2 Does FortisBC intend to include new homes, which incorporate self-generation and apply to be part of the Net Metering program, as part of its New Home Program? Please explain.

A15.2 As described in response to BCUC IR No. 1 Q15.3 below, FortisBC does not consider the Net Metering Program to be part of the PowerSense demand side management program and therefore it is complementary to, but not part of, the New Home program.

Q15.3 Does FortisBC view the Net Metering program as a form of demand side management? Please explain.

A15.3 FortisBC views the Net Metering Program as a rate option for customers. FortisBC does not consider rate design to be part of its demand side

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management programs, although all rates have some effect on demand.

FortisBC may choose to provide incentives through its PowerSense program

for certain types of small generation technologies, which would be considered

by FortisBC to be demand side management.

16.0 Reference: Exhibit B-1, Application, p. 17 Maximum Generation Size

“Installations above the 50kW size limit may still be eligible to

interconnect to the FortisBC system, but would do so outside of the Net

Metering Program”.

Q16.1 Please explain how these installations would be able to do so outside of the net metering program and under which other program.

A16.1 The installation of Customer-Owned parallel generation is permitted and governed under Section 10 of FortisBC’s Electric Tariff Terms and Conditions.

Installations that exceed the 50 kW size limit in the Net Metering Program

would be considered Independent Power Producers and would be dealt with on an individual basis.

17.0 Reference: Exhibit B-1, Application, p. 18 Multi-Unit Dwellings

“It was also noted that customers in multi-unit dwellings will not be able

to participate in the Net Metering Program. FortisBC acknowledges this

fact but does not see a practical solution to this situation and is not

proposing any remedy at this time”.

Q17.1 Please explain why customers in multi-unit dwellings can not participate in the Net Metering Program as a group through the installation of a “Common area” Net meter.

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1 A17.1 The above noted reference from the Application (Exhibit B-1) describes the
2 common situation that exists in multi-unit dwellings where power enters the
3 common area as a single feed before being distributed through individual
4 meters to dwellings. In this case, it is not possible to install a Net Metering
5 system. If an installation exists where a distinct service that is common can be
6 isolated, and the account is held by a strata corporation or similar arrangement,
7 a net metered situation may be possible.

8 **Q17.2 Please explain if shopping mall, hotels, marinas, schools and other multi-**
9 **tenant facilities will be able to participate and if not why not.**

10 A17.2 Similar to the situation described above, provided that there is a single account
11 associated with the net metered installation, the payment arrangement details
12 or sharing of the common costs are not visible to FortisBC. The Company
13 requires only that there is a single party ultimately responsible for the account.

14 **18.0 Reference: Exhibit B-1, Application, p. 21 Treatment of Excess**
15 **Generation**

16 **“The current [BC Hydro Net Metering] rate based on the [BC Hydro**
17 **Standing] Offer Program does not have any particular relevance to**
18 **FortisBC and the Company does not agree that the arbitrary application**
19 **of a rate mirroring that of BC Hydro is in the best interest of either the**
20 **Company or its customers.”**

21 **Q18.1 Please explain whether FortisBC views its proposed Net Metering Rates**
22 **as being generally consistent with those in the BC Hydro Net Metering**
23 **program. (BC Hydro Standing Offer Program Application, Table 5-1,**
24 **showing those base prices, is attached.)**

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Requestor Name: BC Utilities Commission

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To: FortisBC Inc.

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Table 5-1 Energy Price by Region

Region of POI	Energy Price (\$2007/MWh)
Vancouver Island	79.00
Lower Mainland	78.00
Kelly/Nicola	75.00
Central Interior	72.00
Peace Region	65.00
North Coast	66.00
South Interior	67.00
East Kootenay	71.00

A18.1 At the present time, the prices contained in the BC Hydro Standing offer are generally similar to the retail rates proposed as the basis for payment in the FortisBC Net Metering Program. Their origin is, however, not consistent with the derivation of FortisBC's retail rates.

19.0 Reference: Exhibit B-1, Application, p. 22 Treatment of Excess Generation, and BC Energy Plan, Policy Action #11, and FortisBC 2009 Preliminary Revenue Requirements Application, Tab 6, p. 3

“...to ensure even treatment of new supply acquired through BC Hydro's net metering program and the Standing Offer approach, Government will issue a direction to the Commission that BC Hydro makes appropriate changes to its net metering program. This will ensure the price paid for net annual surpluses of generation 'purchased' by BC Hydro is generally consistent with the prices paid in the Standing Offer program. (BC Energy Plan, Policy Action #11)”

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Requestor Name: BC Utilities Commission

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1 **“Also expressed in each open house, and in the written submissions, is a**
2 **belief among some stakeholders that a premium should be offered on the**
3 **NEG purchase rate in order to promote the Program and reduce the**
4 **payback period on the initial investment. This was tempered a realization**
5 **on the part of some attendees that a higher rate would require some level**
6 **of subsidization by other customers. FortisBC has not included any**
7 **amount in the purchase rate as an incentive and notes that in its BC**
8 **Hydro Re-Pricing Application Decision the Commission stated,**

9 **The Province has not yet issued a directive to the Commission**
10 **with respect to incentive pricing and the specific role of the Net**
11 **Metering program in achieving conservation objectives. Until the**
12 **time that such a directive is issued, The Commission cannot**
13 **presume the details of potential Government Policy. The**
14 **Commission is therefore not persuaded that it should order BC**
15 **Hydro to include an incentive component into the Net Metering**
16 **price at this time. (Order G-4-09, Appendix A, page 2)”**

17 **“...the 2009 Power Purchase Expense is forecast at \$72.0 million**
18 **compared to \$66.1 million currently estimated for 2008. The increase is**
19 **primarily due to an increase in forecast load, greater use of the BC Hydro**
20 **Power Purchase Agreement, increased market requirements to meet peak**
21 **load, Brilliant Plant rate increases and reduced value of surplus sales.**
22 **(2009 FortisBC Preliminary Revenue Requirements Application, Tab 6, p.**
23 **3)”**

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Requestor Name: BC Utilities Commission

Information Request No: 1

To: FortisBC Inc.

Request Date: May 27, 2009

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1 **Q19.1 The BC Energy Plan specified that the Commission would receive**
2 **direction specific to BC Hydro. The FortisBC system experiences more**
3 **peaking, and features a summer peak, compared to BC Hydro. Solar**
4 **generation is the source most likely for residential participants. FortisBC**
5 **has time-of-use rate classes, whereas BC Hydro does not. Given these**
6 **factors, does FortisBC agree that an incentive component may be**
7 **warranted and appropriate as part of its Net Metering program as**
8 **compared to BC Hydro's? Please comment.**

9 A19.1 The existence of Time-of-Use rates does constitute an incentive for
10 participation in the Net Metering program, compared to BC Hydro's program.
11 On-peak rates for residential Time-of-Use are 15.9 cents per kW.h in summer
12 and 16.522 cents per kW.h in winter, compared to 7.46 cents for non Time-of-
13 Use residential rates. Although FortisBC's summer peak is growing more
14 rapidly than its winter peak, the Company does not consider that further
15 incentives for participation are required, particularly given the expected size of
16 installations under the Net Metering program.

17 **20.0 Reference: Exhibit B-1, Application, p. 22 First Nations Consultation**
18 **"Application review letters and copies of the draft application were**
19 **mailed to the six area bands and two nations. No responses were**
20 **received."**

21 **Q20.1 Please confirm whether FortisBC sent copies of the final version of the**
22 **Application to the six area bands and two First Nations.**

23 A20.1 Area bands and the two first nations were notified of the filing of the Application
24 during routine discussions with FortisBC's Manager of Aboriginal Affairs. A
25 hard copy of the Application was not requested.

Net Metering Tariff Application

Requestor Name: BCOAPO et al.

Information Request No: 1

To: FortisBC Inc.

Request Date: May 27, 2009

Response Date: June 10, 2009

1.0 Reference: Net Metering Tariff Application (NMTA), page 7

Q1a For customers currently taking service under each of the Rate Schedules listed on page 7, please outline FortisBC's current policies and practices with respect to customers seeking to install generation facilities on their premises.

A1a Please refer to the response to BCUC IR No. 1 Q16.1.

Q1b In responding to part (a), please specifically address the current practice in those circumstances where the on-premise generation output is always less than the customer's requirements (i.e. FortisBC is always "supplying" power to the customer).

A1b Under the current FortisBC practice, customer-owned generation is metered separately from customer consumption. Consumption is billed at the normal retail rate and generation is purchased at the current BC Hydro Rate Schedule 3808 rate. As the transactions are effectively separated, it does not matter whether the customer is a net generator or net consumer of electricity. This practice is sometimes termed "net billing".

Q1c In responding to part (a) please specifically address the current practice in those circumstances where the on-site generation output sometimes exceeds the customer's requirements.

A1c Please see the response to BCOAPO IR No. 1 Q1b above.

**2.0 Reference: NMTA, page 4 and 9
NMTA, Appendix I-Appendix 5**

Net Metering Tariff Application

Requestor Name: BCOAPO

Information Request No: 1

To: FortisBC Inc.

Request Date: May 27, 2009

Response Date: June 10, 2009

1 **Q2a** **Please further clarify the definitions of Net Consumption and Net**
2 **Generation. Page 4 states that Net Consumption occurs at any point in**
3 **time where “electricity supplied by FortisBC to the Customer-Generator**
4 **exceeds that being generated by the Customer-Generator’s Net Metered**
5 **System”. However, the example set out in Appendix I/Appendix 5, Slide 7**
6 **shows an example of Net Consumption where the electricity supplied by**
7 **FortisBC (25 kW) is less than that generated by the Customer-Generator’s**
8 **system (50 kW). Please reconcile.**

9 **A2a** The definition on page 4 of the Application (Exhibit B-1) should read “Net
10 Consumption occurs at any point in time where the electricity required to
11 serve the Customer-Generator’s load exceeds that being generated by
12 the Customer-Generator’s Net Metered System”. Please refer to the
13 erratum dated June 10, 2009.

14 **Q2b** **Please confirm whether, under a Net Metered System, the facility for the**
15 **production of electricity must be owned by the customer or whether it**
16 **can be owned by a third party.**

17 **A2b** In a limited number of circumstances the facility may be owned by a third
18 party, for example, the landlord of a customer. There can be only one
19 account associated with the installation and any benefit from the system
20 will accrue only to the account holder for the premises in question.

21 **Q2c** **What will be FortisBC’s policy and practices for customers in the Rate**
22 **Schedules listed on page 7 who wish to install on-premise generation but**
23 **where the generation does not meet the requirements of Net Metered**
24 **System (e.g., design capacity exceeds 50 kW or the fuel used does not**
25 **meet the definition of a clean and renewable resource)?**

Net Metering Tariff Application

Requestor Name: BCOAPO

Information Request No: 1

To: FortisBC Inc.

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1 A2c Please refer to the responses to BCOAPO IR No.1 Q1a and Q1b above.
2 FortisBC may decline to purchase power that is not generated by a clean
3 or renewable resource.

4 **3.0 Reference:NMTA, page 8**

5 **Q3a Has FortisBC done any assessment of what the likely number of Net**
6 **Metered Systems are likely to be for 2009 and 2010? If yes, please**
7 **provide the results.**

8 A3a Please refer to the response to BCUC IR No. 1 Q3.2.1.

9 **4.0 Reference:NMTA, pages 4, 9 and 11**

10 **Q4a What is the current time interval used to measure demand for those**
11 **customers on Rate Schedules that are demand-billed?**

12 A4a All new FortisBC meters, including those that will be used in Net Metering
13 applications, measure demand over a 15-minute sliding window.

14 **Q4b Will the meters be time of use meters or will they just record total Net**
15 **Consumption and total Net Generation? If time of use meters, at what**
16 **level of granularity will use be recorded?**

17 A4b FortisBC may not choose to install TOU-capable meters in all net
18 metering applications, and install meters that just record total Net
19 Consumption and total Net Generation. Time-of-use meters typically
20 have at least four registers for measuring consumption which can be
21 programmed to total consumption in any time period desired (although
22 usually within 15 minute blocks.)

Net Metering Tariff Application

Requestor Name: BCOAPO

Information Request No: 1

To: FortisBC Inc.

Request Date: May 27, 2009

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5.0 Reference:NMTA, page 13

Q5a Does the \$10,000 cost estimate include both the changes required to FortisBC's billing systems/processes and to permit the NEG account balance to be displayed on each bill (per page 10)?

A5a A NEG account (based on kW.h) is not a feature of the FortisBC proposed Net-Metering Program. Please also refer to the response to BCUC IR No. 1 Q11.1.

Q5b Are there any incremental costs for displaying this balance on a monthly basis or due to the more complex billing calculations required for Net Metered Systems? If not, why not?

A5b There are no incremental costs for displaying this balance on a monthly basis as it will be displayed as a dollar value credit the same way that account balance credits are displayed today. As discussed in the response to BCUC IR No. 1 Q11.1, some minor changes to the meter reading and billing systems may be required to accommodate the increased number of register readings on the net metering customers and to accurately rate the generation credit meter.

6.0 Reference:NMTA, page 10

Q6a On what basis will FortisBC decide whether to refund a credit balance in the NEG account versus use the credit balance to reduce the amounts payable in subsequent billing periods?

A6a Please refer to the response to BCUC IR No. 1 Q5.2.

Q6b If credit balances are to be carried for significantly more than one year,

Net Metering Tariff Application

Requestor Name: BCOAPO

Information Request No: 1

To: FortisBC Inc.

Request Date: May 27, 2009

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1 **has FortisBC considered whether interest should be credited to the**
2 **account?**

3 A6b Since the customer can request a refund for credit balances at the end of
4 each calendar year, FortisBC is not proposing to credit interest to the
5 account.

6 **7.0 Reference: NMTA, pages 11 and 13**

7 **Q7a What is the total cost for a four-quadrant bi-directional meter?**

8 A7a The total cost for the four-quadrant bi-directional meter is approximately
9 \$300.

10 **Q7b What are FortisBC plans regarding the use/disposal of the existing**
11 **meters? Are there any unrecovered costs and/or disposal costs and if so**
12 **what are they on a per installation basis?**

13 A7b Please refer to the response to BCUC IR No. 1 Q8.2.

14 **8.0 Reference: NMTA, page 19**

15 **Q8a Please provide a table that sets out for each of the applicable Rate**
16 **Schedules (per page 7):**

- 17 • The 2009 Energy Rate that will be used to value Net Generation
- 18 • The 2009 cost of purchased energy from BCHydro (with and without
19 an allowance for capacity costs)
- 20 • The 2009 avoided cost of energy for the class – as used by FortisBC
21 in the evaluation of its DSM programs.
- 22

Net Metering Tariff Application

Requestor Name: BCOAPO

Information Request No: 1

To: FortisBC Inc.

Request Date: May 27, 2009

Response Date: June 10, 2009

1 A8a Please see Table A8a below.

2 **Table A8a**

Schedule	Energy Rate	Cost of BC Hydro Purchased Energy		Avoided Cost of Energy
		With Capacity	Without Capacity	
1	7.463	\$43.45/MWh	\$30.14/MWh	\$30.83/MWh
2	2.866 – 16.522 ¹	\$43.45/MWh	\$30.14/MWh	Note 3
2a	4.056 – 12.521	\$43.45/MWh	\$30.14/MWh	
3	Note 2	\$43.45/MWh	\$30.14/MWh	
4	Note 2	\$43.45/MWh	\$30.14/MWh	
20	8.507	\$43.45/MWh	\$30.14/MWh	
21	8.507	\$43.45/MWh	\$30.14/MWh	
22	3.419 – 19.781	\$43.45/MWh	\$30.14/MWh	
22a	4.250 – 13.117	\$43.45/MWh	\$30.14/MWh	
23	3.276 – 18.942	\$43.45/MWh	\$30.14/MWh	
24	Note 2	\$43.45/MWh	\$30.14/MWh	
25	Note 2	\$43.45/MWh	\$30.14/MWh	
26	Note 2	\$43.45/MWh	\$30.14/MWh	
27	Note 2	\$43.45/MWh	\$30.14/MWh	
60	14.956	\$43.45/MWh	\$30.14/MWh	
61	2.269 – 13.134	\$43.45/MWh	\$30.14/MWh	
62	Note 2	\$43.45/MWh	\$30.14/MWh	
63	Note 2	\$43.45/MWh	\$30.14/MWh	

3 ¹ Time-of-use rates vary with the season and time as per the individual Tariff pages

4 Note 2 – Green Rates have a premium of either 1.5 cents per kWh over the rate stated in
5 the underlying rate or a minimum monthly premium payment.

6 Note 3 - BC Hydro Schedule 3808 energy rate for the avoided cost of power for evaluating DSM
7 programs in every rate class. This rate is currently \$30.83/MWh as of April 1, 2009. In its next
8 DSM application, FortisBC will start to value its avoided cost of energy for purchases from BC
9 Hydro at BC Hydro's long-term marginal cost of acquiring new energy in compliance with the
10 Demand Side Measures Regulation.

Net Metering Tariff Application

Requestor Name: BCOAPO

Information Request No: 1

To: FortisBC Inc.

Request Date: May 27, 2009

Response Date: June 10, 2009

1

2 **Q8b** With respect to part (a), are there any other values for purchased or
3 avoided cost of energy that FortisBC considers relevant and comparable
4 in considering the “rate” it is paying for Net Generation? If so, please
5 provide the values and explain why they are relevant.

6 A8b The program is designed to pay retail rates for Net Excess Generation.
7 No other values are considered.

8 **9.0** Reference: NMTA, page 21, lines 21-26

9 **Q9a** Assuming TOU rates better reflect system costs, why doesn't FortisBC
10 require all Net Metered System to be billed on time-of-use rates?

11 A9a FortisBC does not wish to discourage participation in the program by
12 restricting participation to those customers on Time-of-Use rates.

13 **10.0** Reference: NMTA, Appendix A

14 **Q10a** Please provide a schedule setting out all of the charges (from FortisBC)
15 that an electric service customer of FortisBC could potentially incur as
16 result of installing a Net Metered System (apart from the normal monthly
17 bill).

18 A10a With the possible exception of the Site Inspection fee, there are no costs
19 from FortisBC that are paid by the program participant.

20

Net Metering Tariff Application

Requestor Name: BCOAPO

Information Request No: 1

To: FortisBC Inc.

Request Date: May 27, 2009

Response Date: June 10, 2009

1 **11.0 Reference:NMTA, page 7**

2 **Q11a Please confirm that FortisBC is currently reviewing its cost allocation and**
3 **rate design and that the results of this review could impact the rates that**
4 **FortisBC charges the customer classes eligible for the Net Metering**
5 **Tariff.**

6 A11a FortisBC will file its Cost of Service Analysis ("COSA") on or before June
7 30, 2009, and a Rate Design Application ("RDA") on or before September
8 30, 2009. The Rate Schedules under which Net Metering may apply
9 could change as a result of the outcome of the RDA.

10 **Q11b Please confirm that the changes resulting from this review could impact**
11 **the "benefits" customers gain from the Net Metering Program.**

12 A11b Confirmed.

13 **Q11c Has FortisBC considered delaying the implementation of its Net Metering**
14 **Tariff until after the implementation of any changes arising from its**
15 **current cost allocation and rate design review? Please discuss the pros**
16 **and cons of such a delay.**

17 A11c The Net Metering Tariff itself does not contain any individual charges that
18 will change as a result of the rate design process. Any change in the
19 underlying rates will be immediately incorporated into the Net Metering
20 program. The only effect of the outcomes of the rate design would be to
21 change the payback period on the installation. As this change is not
22 expected to be material, there is no reason to delay the implementation of
23 the Net Metering Program.

Net Metering Tariff Application

Requestor Name: OEIA

Information Request No: 1

To: FortisBC Inc.

Request Date: May 28, 2009

Response Date: June 10, 2009

1 **1.0 Policy Action #20**

2 **FortisBC submits that its Net Metering Application supports Policy Action**
3 **#20 of the 2002 Energy Plan.**

4 **Q1.1 Please confirm that the attached Appendix A of this IR includes the full**
5 **Policy Action item #20 of the 2002 Energy Plan¹.**

6 **A1.1 Confirmed.**

7 **Q1.2 Policy Action item #20 states:**

8 ***“Examples may include small/micro hydro, wind, solar, photovoltaic,***
9 ***geothermal, tidal, wave and biomass energy, as well as cogeneration of***
10 ***heat and power, energy from landfill gas and municipal solid waste, fuel***
11 ***cells, and efficiency improvements at existing facilities.”²***

12 **FortisBC provides a slightly different list of eligible resources in**
13 **Appendix B:**

14 ***“Clean or renewable resources include sources of energy that are***
15 ***constantly renewed by natural processes, such as water power, solar***
16 ***energy, wind energy, geothermal energy, wood residue energy, and***
17 ***energy from municipal waste . . .”³***

18 **Please confirm that all examples listed in Policy Action item #20 are**
19 **eligible for FortisBC’s Net Metering proposed program. If not, please**
20 **explain why not.**

¹ Attached Appendix A, 2002 Energy Plan, “Policy Action Item #20”

² Attached Appendix A, 2002 Energy Plan, “Policy Action Item #20”, Page 32

³ Exhibit B-1, Appendix B, Page 2

Net Metering Tariff Application

Requestor Name: OEIA

Information Request No: 1

To: FortisBC Inc.

Request Date: May 28, 2009

Response Date: June 10, 2009

1 A1.2 With the exception of tidal energy, all listed technologies are eligible. Tidal was
2 not included as there are no tidal waters in the FortisBC service area.

3 **Q1.3 Policy Action #20 lists both solar and photovoltaic⁴. Please explain the**
4 **difference, and confirm if both types are eligible for FortisBC's Net**
5 **Metering proposed program.**

6 A1.3 "Solar" power is a general term which includes photovoltaic as well as thermal
7 conversion or "heat engine" systems. Photovoltaic systems convert solar
8 energy directly into electric energy, typically using silicon solar cells. In
9 contrast, a solar thermal conversion system first converts solar energy into heat
10 energy which is then used to do useful work. One method uses mirrors to
11 collect and concentrate solar energy to boil water; the resulting steam is then
12 used to power a turbine which drives an electric generator.

13 While either method would be eligible for the Net Metering program, it is
14 expected that most installations would be photovoltaic-based as this
15 technology is more economical and simpler to implement for small-scale sites.

⁴ Attached Appendix A, 2002 Energy Plan, "Policy Action Item #20", Page 32

Net Metering Tariff Application

Requestor Name: OEIA

Information Request No: 1

To: FortisBC Inc.

Request Date: May 28, 2009

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2.0 Water Power

FortisBC's Net Metering program lists "water power" as an eligible resource⁵. A number of comments expressed concerns about water related resources:

Chris Postnikoff notes: *"I know many people in the area are concerned about the Glacier/Howser independent project and removal of water from the creek/long power lines being built/rocks left because of digging."*⁶
*"How will this affect use of water for household use by residents."*⁷

Q2.1 Is the FortisBC Net Metering program related in any way to the Glacier/Howser project? Please explain.

A2.1 The FortisBC Net Metering program is unrelated to the Glacier/Howser project.

Q2.2 Will the FortisBC Net Metering program affect the use of water? If so, in what way?

A2.2 Assuming that the question refers to the household use of water as mentioned in the referenced text, the Net Metering program will not have any effect.

Q2.3 Please explain the difference between the FortisBC Net Metering program and the run-of-river IPPs.

A2.3 The differences between the FortisBC Net Metering ("NM") program and run-of-river IPPs are primarily ones of scale and intent. The difference in intent is clear on page 5 of the Application (Exhibit B-1) where it is stated, "the overriding intent of the program that customers gain the ability to offset their

⁵ Exhibit B-1, Appendix B, Page 2

⁶ Exhibit B-1, Appendix 1, Appendix 14, March 17, 2009 Email

Net Metering Tariff Application

Requestor Name: OEIA

Information Request No: 1

To: FortisBC Inc.

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own consumption with a clean and renewable resource. It is not the intent of the program to provide a means for larger scale Independent Power Producers (“IPP”) to bring their output to the market.”

Generally speaking, an IPP is a commercial venture with an output in excess of that allowed under the NM program.

Q2.4 Is a dam allowed for the Net Metering program?

A2.4 The use of a dam is not specifically excluded from the program however FortisBC is of the opinion that the likelihood of any party undertaking the construction of a dam in order to install a generation facility limited to 50 kW in size is remote in the extreme.

Q2.5 Could FortisBC please indicate an example of a water power project, including location, that would be suitable for the Net Metering program?

A2.5 FortisBC does not have information on stream locations on private land that may be suitable for small-scale hydro.

3.0 Section within 2002 Energy Plan

FortisBC references the 2002 Energy Plan in discussing the Background for the FortisBC Net Metering application⁸. Find attached the Table of Contents for the 2002 Energy Plan⁹ and the first page of “Secure, Reliable Supply” section¹⁰.

Q3.1 Since Net Metering involves generation, please explain why Net Metering

⁷ Exhibit B-1, Appendix 1, Appendix 14, March 25, 2009 Email, item #3

⁸ Exhibit B-1, Page 1, lines 3-4

⁹ Attached Appendix A, 2002 Energy Plan, “Table of Contents”, Page 4

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1 is not in the “Secure, Reliable Supply” section, but instead is included in
2 “Environmental responsibility and no nuclear power sources” section of
3 the 2002 Energy Plan.

4 A3.1 FortisBC cannot comment on why the report authors chose to organize the
5 report in the manner that was done.

6 4.0 Location of Generator

7 It is noted that BC Hydro’s Net Metering Tariff Schedule 1289:

8 *“is owned by the Customer and is located on the same parcel of land as*
9 *the Customer’s premises for which service is being provided under any*
10 *of the Rate Schedules listed above, or on an adjacent parcel of land*
11 *owned or leased by the Customer, and is connected to the same Point of*
12 *Delivery as the customer’s premises being serviced under any of the*
13 *Rate Schedules listed above”¹¹*

14 However, FortisBC states in regards to location:

15 *“is located on the Customer-Generator’s premises”¹² and “The*
16 *generation equipment must be located on the customer’s premises, . . .*
17 *“¹³*

18 Q4.1 Please why FortisBC does not allow the Generator to be located on an
19 adjacent parcel of land, while BC Hydro does allow this.

20 A4.1 FortisBC considers that the adjacent parcel of land, if owned or leased by the

¹⁰ Attached Appendix A, 2002 Energy Plan, “Secure, Reliable Supply”, Page 28

¹¹ Attached Appendix B, BC Hydro Schedule 1289

¹² Appendix B, Page 2

¹³ Appendix B, Page 2

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Customer-Generator, would be treated as part of the customer's premises.

5.0 Program Cap

FortisBC notes:

"FortisBC is not proposing to cap the program participation at either a fixed amount or percentage of total system capacity at this time.

*FortisBC will, however, monitor program participation and may impose such a cap should it become necessary."*¹⁴

Q5.1 Please explain why FortisBC cannot at this time set a program cap based on a percentage of total system capacity.

A5.1 Please refer to the response to BCUC IR No. 1 Q3.4.

Q5.2 Please explain what other factors than a fixed amount or percentage of total system capacity is involved in the monitoring of "*program participation*" – e.g. what other conditions might trigger FortisBC to impose such a program cap?

A5.2 Please refer to the response to BCUC IR No. 1 Q3.4.

Q5.3 If FortisBC did determine it necessary to impose a cap, what length of time for a notice would customers be given?

A5.3 In general, it is expected that there would be a six to twelve month window during which it would become evident that program take-up in a given area was reaching the ability of the system to safely and reliably accept new generation.

If a program cap is considered to be necessary, FortisBC will apply to the

¹⁴ Exhibit B-1, Section 4.4, Page 8

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Requestor Name: OEIA

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1 Commission for the proposed change to its Net Metering Tariff and would
2 include its recommendation for a notice period at that time.

3 **Q5.4 What would the risk be to FortisBC if for a set period of time there was a**
4 **guarantee of no program cap?**

5 A5.4 If there was no cap to limit the amount of generation added in a specific area, it
6 is possible the aggregate generation could exceed the ability of the system to
7 accept the in-feed. This could impact the reliability/power quality for customers
8 in the area, as well as raise safety concerns both for the general public and
9 utility workers.

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Q5.5 If there was a set period of time that there was a guarantee of no program cap, what would such a reasonable time period be?

A5.5 Without knowing the take-up rate for the Net Metering program, it is not possible to determine a time period in advance.

6.0 Report on Metering Program

FortisBC notes the BC Hydro Net Metering decision G-26-04 (find attached)¹⁵.

BCUC submits in granting its order to BC Hydro the following:

*“BC Hydro is to file a Net Metering Tariff – Monitoring and Evaluation Report one year after the filing of the permanent tariff pages. The Report should account for the specific directions articulated in the Commission’s Reasons for Decision (see Section 2.6). Based on its evaluation, BC Hydro should recommend any amendments to the net metering tariff, as necessary.”*¹⁶

In reviewing the regulatory process of FortisBC there is no mention of such a report¹⁷.

Q6.1 Is FortisBC planning to file a similar report? If so, please explain any changes that FortisBC plans compared to direction given to BC Hydro? If not, why does FortisBC not plan to file such a report?

A6.1 No, FortisBC is not planning to file an implementation report at this time.

¹⁵ Attached Appendix C, G-26-04,

¹⁶ Attached Appendix C, G-26-04, Item #3

¹⁷ Exhibit B-1, Section 11, Page 25

Net Metering Tariff Application

Requestor Name: OEIA

Information Request No: 1

To: FortisBC Inc.

Request Date: May 28, 2009

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7.0 Studies, Reports, Incentives

FortisBC notes:

“FortisBC view these guidelines as a reasonable means to ensuring that its program meets Provincial regulatory objectives and creates some consistency with the Province.”¹⁸

“As a starting point for the development of its program, FortisBC looked to the direction initially provided by BCUC in 2003.”¹⁹

FortisBC also refers to a Commission Letter L-37-03 (see attached)²⁰.

Q7.1 FortisBC indicated that it looked at the direction provided by BCUC in 2003 as a starting point; has FortisBC further developed for its Net Metering proposal beyond that initial direction? – if so, please provide detailed description in what ways it has been further developed. If not, why not?

A7.1 The development of the FortisBC Net Metering proposal has resulted in the filing of this Application (Exhibit B-1) of which the Information Request process forms a part. All of the applicable information is contained in the Net Metering Application (Exhibit B-1).

Q7.2 The letter L-37-03²¹ mentions that a white paper called “Net Metering in British Columbia” was submitted on June 27, 2003²². Please discuss whether or not FortisBC still considers this white paper relevant today.

¹⁸ Exhibit B-1, Section 1, Page 3

¹⁹ Exhibit B-1, Section 1, Page 3

²⁰ Exhibit B-1, Section 1, Page 3

²¹ Attached Appendix D, L-37-03

²² Attached Appendix D, L-37-03, Page 1

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To: FortisBC Inc.

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A7.2 At a high level, and recognizing that the background to the report and assumptions used in it are only as recent as 2003, FortisBC does not take issue with the report's conclusions.

Q7.3 Please provide any additional studies or reports regarding Net Metering used in the development of FortisBC's Net Metering proposal beyond the above white paper and beyond those studies or reports contained or referenced within the 2003-2004 BC Hydro Net Metering Application²³.

A7.3 FortisBC did not rely on additional studies or reports in the development of its Net Metering Program but did review a number of Tariffs used by other utilities from both Canada and the United States including BC Hydro and those included in the summary provided by the Interstate Renewable Energy Council (IREC) at <http://www.irecusa.org/index.php?id=24>.

Q7.4 FortisBC noted:

“expressed in each open house, and in the written submissions, is a belief among some stakeholders that a premium should be offered on the NEG purchase rate in order to promote the Program and reduce the payback period on the initial investment”²⁴.

Has FortisBC written or gathered any studies or reports regarding programs that have premiums offered? If so, please provide.

A7.4 Please refer to the response to OEIA IR No. 1 Q 7.3.

²³ Exhibit B-1, Section 1, Page 1

²⁴ Exhibit B-1, Section 10, Page 22

Net Metering Tariff Application

Requestor Name: OEIA

Information Request No: 1

To: FortisBC Inc.

Request Date: May 28, 2009

Response Date: June 10, 2009

1 **Q7.5** It is noted that FortisBC indicated that it “*has not included any amount in*
2 *the purchase rate as an incentive*”²⁵ and followed with a quote from the
3 Commission in its decision on BC Hydro’s Repricing application:

4 *“The Province has not yet issued a directive to the Commission with*
5 *respect to incentive pricing and the specific role of the Net Metering*
6 *program in achieving conservation objectives. Until the time that such a*
7 *directive is issued, the Commission cannot presume the details of*
8 *potential Government policy. The Commission is therefore not persuaded*
9 *that it should order BC Hydro to include an incentive component into the*
10 *Net Metering price at this time.”*²⁶

11 **Q7.5.1** FortisBC indicated that it did include any amount in the
12 purchase rate as an incentive, but it was not clear why it did
13 not do so. Please clarify specifically the reason. For example,
14 is FortisBC waiting for the details of the potential Government
15 policy; is FortisBC waiting for an order from the Commission?

16 **A7.5.1** FortisBC assumes the above question was intended to read
17 “FortisBC indicated that it did *not* include any amount in the
18 purchase rate as an incentive...”

19 The intent of the program is to allow customers to offset their own
20 consumption. The payment of an incentive on net excess
21 generation promotes a generation amount that is beyond the goal
22 of the program. Should Government or Commission policy
23 regarding a potential incentive be released, FortisBC will consider
24 it at that time.

²⁵ Exhibit B-1, Section 10, Page 22

²⁶ Exhibit B-1, Section 10, Page 22

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Requestor Name: OEIA

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Q7.5.2 In clarifying how FortisBC interprets the BC Hydro Repricing Application decision: does FortisBC believe including an incentive into Net Metering is similar to development of its DSM programs? If not, please explain why they differ.

A7.5.2 Please refer to the response to BCUC IR No. 1 Q 15.3.

Q7.5.3 In clarifying how FortisBC interprets the BC Hydro Repricing Application decision: does FortisBC believe that it can propose an incentive into Net Metering without direction from the Commission?

A7.5.3 FortisBC can propose, for approval by the Commission, an incentive component in the Net Metering Program.

8.0 Promotion

FortisBC notes:

“A successful Net Metering Program will promote distributed renewable generation . . .”²⁷

Q8.1 Please describe all marketing plans that FortisBC has to promote the Net Metering Program. If there are no marketing plans, please explain how the Net Metering program can promote distributed renewable generation, if the Net Metering program itself is not promoted.

A8.1 FortisBC does not actively market any specific Tariff rate and has no marketing plans specific to the proposed Net Metering Tariff. Upon receiving regulatory approval, FortisBC will post Net Metering program information on its web site

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and include information in a billing insert.

9.0 On-site Inspection

FortisBC notes in its discussion of Program Costs:

“A site inspection fee equal to actual costs incurred by FortisBC to conduct the inspection will apply should an on-site inspection be required.”²⁸

FortisBC in discussing feedback from its public consultation provides further details:

“The need for a site inspection prior to interconnection is considered unlikely, either for safety or adherence to the interconnection standards, it may be required.”²⁹

However, the Schedule 80, which details the specifics on which FortisBC charges states:

“If it is necessary for the company to perform a site inspection of a Net Metering System prior to connection with the FortisBC system, the Customer will be billed the lesser of \$500.00 and the actual cost of the inspection.”³⁰

Q9.1 If a site inspection charge is expected, will the customer be informed of the charge before the site inspection by FortisBC?

A9.1 An estimate if the inspection charge will be provided to the customer in

²⁷ Exhibit B-1, Section 3, Page 5

²⁸ Exhibit B-1, Section 8, Page 12

²⁹ Exhibit B-1, Section 10, Page 24

³⁰ Exhibit B-1, Appendix A, Page 3

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advance of the site inspection.

Q9.2 Please indicate why possible reasons for a site inspection are not clearly outlined in the proposed Schedule 80.

A9.2 The Company reserves the right to inspect any point of interconnection in order to ensure the safe and optimal operation of the system. Attempting to identify each individual circumstance that may prompt an inspection needlessly restricts FortisBC's discretion in maintaining responsible oversight.

10.0 Two meters or a single meter

FortisBC notes in its discussion of Metering:

*"At the sole discretion of FortisBC, two meters may be utilized."*³¹

However, in the Schedule 95, FortisBC describes Net Metering as:

*"Net Metering is a metering and billing practice that allows for the flow of electricity both to and from the customer through a single, bi-directional meter."*³² [emphasis added]

Q10.1 Please confirm that two meters may be utilized. If so, please discuss why Schedule 95 does not allow for two meters in the statement provided above.

A10.1 FortisBC expects that in nearly all cases a single meter will be utilized.

Q10.2 Please discuss under what circumstances the two meters may be needed, and at what point the customer will be informed.

³¹ Exhibit B-1, Section 7, Page 11

³² Exhibit B-1, Section 10, Page 24

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Requestor Name: OEIA

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Request Date: May 28, 2009

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A10.2 The test for the allowance of two meters is contained in Point 9 of the Special Conditions to Rate Schedule 95 (Exhibit B-1), which states, “if FortisBC determines that flows of electricity in both directions cannot be reliably determined by a single meter, or that dual metering will be more cost-effective...”

Dual metering may be more cost effective, for example, in a situation where the generation source on the customer’s property is located some distance from the service to the customer’s premises and can be more cost effectively connected to the distribution system at an alternate location.

Q10.3 If two meters are utilized, please clarify if FortisBC will be paying for the two meters? Will the extra meter base be paid by the customer?

A10.3 FortisBC would supply the meters. The customer would be responsible for the cost of the additional meter base.

11.0 Demand charge

FortisBC notes in regards to its Demand Charge:

“To the extent that an individual Customer-Generation may be able to lower peak load with a Net Metering System, Program participants may be able to realize savings in this area.”³³

Q11.1 Please show how the possible reduction in demand charges due to Net Metering is incorporated into the text of the individual Tariff rates (e.g. Rate Schedules 1 to 63³⁴).

³³ Exhibit B-1, Section 5, Page 9

³⁴ Exhibit B-1, Appendix B, Page 2

Net Metering Tariff Application**Requestor Name:** OEIA**Information Request No:** 1**To:** FortisBC Inc.**Request Date:** May 28, 2009**Response Date:** June 10, 2009

- 1 A11.1 The above referenced information is not included in the text of the individual
2 rate schedules. Customer demand is recorded by the revenue meter at the
3 point of supply. If the capacity available in a customer-generators system is
4 able to reduce the amount of demand recorded at the meter, less demand
5 would be billed. There is no reason to change the Tariff rate descriptions.

Net Metering Tariff Application

Requestor Name: Christina Postnikoff

Information Request No: 1

To: FortisBC Inc.

Request Date: May 14, 2009

Response Date: June 10, 2009

1 **Q1.1 Public inspection of the documents, application and supporting materials**
2 **available at FortisTrail and BCUC. Since net metering involves the public**
3 **more with electricity production, could documents possibly also be sent**
4 **to public libraries of affected areas, ex. Nelson and Castlegar libraries. It**
5 **is hard to read a long document on the computer and all people don't**
6 **have access to a computer or are able to go to Trail, residents would**
7 **appreciate having local access to documents.**

8 A1.1 FortisBC has previously distributed its regulatory applications and related filings
9 to public libraries within its service territory, but discontinued the practice at the
10 request of a number of the libraries. Ms. Postnikoff's request for distribution in
11 this manner is the first that the Company has received. If a significant number
12 of persons were to make a similar request, FortisBC would consider contacting
13 the public libraries to request their input on the subject. In addition to being
14 located in the Kelowna and Trail offices of FortisBC, hard copies will be
15 provided to individuals on request by calling FortisBC at 1-866-4FORTIS (1-
16 866-436-7847) or by email at regulatory@fortisbc.com.

17 **Q2.1 Could you please tell me the cost of the standard FortisBC residential**
18 **meter.**

19 A2.1 The cost of a standard residential meter is approximately \$30.00.

Net Metering Tariff Application

Requestor Name: Christina Postnikoff

Information Request No: 1

To: FortisBC Inc.

Request Date: May 14, 2009

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Q2.2 Currently does a residential(non- net-metered) resident pay individually for application fees, installation of meter, or is this also recovered from customer base as a whole. A Customer-Generator is defined as an electric service customer of FortisBC that also utilizes the output of a Net Metered System - is there a different definition for customers who do not use net metering?

A2.2 The costs for the application process and meter installation are recovered from the customer base as a whole. Assuming that the second part of the question refers to a customer with grid-tied generation that chooses not to participate in the Net Metering Program, FortisBC would consider the installation to be a small independent power producer. Please also refer to the response to BCUC IR No. 1 Q16.1.

Q2.3 Could you please tell me if other areas bill individual participants for the set up of the net metering system or if the costs are recovered from the customer base as a whole as, page 13 says "Rather, these costs will be recovered from the customer base as a whole." On page 11 under 7 Metering it says "In each case, the Customer-Generator is responsible for the costs associated with the installation of the meter base(s) if different than what existed prior to the Net Metered System being in place." Does this mean that some residents already have compatible meters.

A2.3 The responsibility for set-up cost varies by jurisdiction. FortisBC is aware that in some programs, the individual customer is required to pay directly for such items as an Application Fee, or total or incremental metering costs. In most cases, the meter base that is currently installed at a premise can be used. The meter itself will have to be changed to a bi-directional unit. (The meter and meter base are separate items.)

Net Metering Tariff Application

Requestor Name: Christina Postnikoff

Information Request No: 1

To: FortisBC Inc.

Request Date: May 14, 2009

Response Date: June 10, 2009

Q3.1 Could you please give an estimate of how much increase in cost to residential customers may occur with this program, even if it is expected to be low. If a person is generating more electricity than consumed and getting credit for this why couldn't this go to pay for the annual reconciliation costs. If a person is generating more electricity than consumed and getting credit for it - is that considered as income.

A3.1 As stated in the response to BCUC IR No. 1 Q3.3, there is no impact to customer rates from the Net Metering program. In theory, the individual Customer-Generator could be responsible for reconciliation costs regardless of whether a Net Excess Generation ("NEG") credit had accrued during the year however FortisBC has chosen to not recover the costs in this manner.

FortisBC assumes that funds derived from the operation of a net-metered system would be considered as a source of income. It is the responsibility of each individual to report sources of income to the appropriate taxing authority.

Q4.1 Could this program cause power surges.

A4.1 A net metering system that is properly designed and installed according to the guidelines provided will not pose a risk of surges to FortisBC customers.

Q5.1 Could capping be further explained. If a lot of people took advantage of net metering would it be capped.

A5.1 Please refer to the responses to BCUC IR No. 1 Q3.4 and OEIA IR No. 1 Q5.1 through Q5.5 for information on program capping.

Q6.1 Some experts state that even 50 kW can be a large project environmentally.

Net Metering Tariff Application

Requestor Name: Christina Postnikoff

Information Request No: 1

To: FortisBC Inc.

Request Date: May 14, 2009

Response Date: June 10, 2009

- 1 A6.1 No response required.

Net Metering Tariff Application

Requestor Name: Resolution Electric Ltd.

Information Request No: 1

To: FortisBC Inc.

Request Date: May 27, 2009

Response Date: June 10, 2009

1 **1.0 Maximum Generation Size**

2 **Reference: Exhibit B-1, page8. Lines 8-10**
3 **Exhibit B-1, page 2 Eligibility**

4 **Q1.1 Please clarify the maximum permissible total installed generation.**

5 **Given Photo Voltaic Generation output is the combined output of all the**
6 **strings in the Solar Array and each solar panel could have a +15%**
7 **tolerance on nameplate rating. Under certain atmospheric conditions for**
8 **example Cloud Enhancement, the Insolation (irradiance) level measured**
9 **at the panel surface could increase by 25% this would give a theoretical**
10 **maximum output for a 50kW Solar Array of 72kW less system losses.**

11 **A1.1 The 50 MW limit under the Net Metering Tariff refers to the nameplate rating**
12 **of an installation.**

13 **2.0 Treatment of Excess Generation**

14 **Reference:Exhibit B-1, page 10. Lines 7-12**
15 **Exhibit B-1, Schedule 95 – Net Metering**

16 **Q2.1 For customers on a Time of Use tariffs will the credit for NEG be credited**
17 **to the subsequent billing period as kWh to offset future consumption**
18 **(kWh) at that particular rate?**

19 **A2.1 Credits are not carried forward as kWh, but do reflect the time period in which**
20 **they occur. Please refer to the response to BCUC IR No. 1 Q8.4 for an**
21 **example of time-of-use calculations.**

Net Metering Tariff Application

Requestor Name: Resolution Electric Ltd.

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Q2.2 Or will the NEG be credited as money off the future bills and be used to pay any rate under that particular TOU tariff?

A2.2 Yes, credits are applied as a monetary amount. Please refer to the response to BCUC IR No. 1 Q8.4 for an example of time-of-use calculations.

3.0 Time of Use Tariffs

Reference: Exhibit B-1, page 21. Lines 21-27

Given that parts of FortisBC service area is now moving from winter peaking to summer peaking and that most of the electricity provided by Photo Voltaic generation is in the summer months.

Q3.1 Have FortisBC considered future enhanced “green energy” TOU tariffs?

A3.1 FortisBC is presently developing a Rate Design Application for filing on or before September 30, 2009. Any new rate schedules or tariffs would be considered in that, or future Rate Design Applications.

Q3.2 If not why?

A3.2 Please refer to the response to Resolution IR No. 1 Q3.1 above.

4.0 Metering

Reference: Exhibit B-1, page 11. Lines 6-12

Exhibit B-1, page 22. Lines 29-34.

Q4.1 Will FortisBC consider a customer request to install two meters to measure customer consumption and customer generation?

A4.1 As stated in the proposed Rate Schedule 95, Special Condition 9 (Exhibit B-1), installation of two meters will be at the discretion of FortisBC. It is expected

Net Metering Tariff Application

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that in nearly all cases a single meter will be used.

Q4.2 If not why?

A4.2 The determination of appropriate metering for all customers is the responsibility of FortisBC.

Q4.3 Please give an example of a situation were FortisBC would require installing two meters.

Having two meters installed under the initial installation will provide all the necessary metering for future possible Advanced Feed in Tariffs, should the BC government opt to extend the Net Metering scheme.

A4.3 Please refer to the response to OEIA IR No. 1 Q10.2.

5.0 Appendix A – Proposed Rate Schedule 80

Reference: Exhibit B-1, Appendix A – Custom Work

Q5.1 Who will be performing the Net Metering Site Inspection when required?

A5.1 The site inspection will be performed by FortisBC personnel, or by a qualified contractor.

Q5.2 Given the complex inverter systems on the market offering fully integrated protection and power conditioning facilities, what training will these employees have to be able to perform these inspections effectively?

A5.2 The inspections will be performed by qualified personnel, such as Protection and Control Technicians or Professional Engineers.

Net Metering Tariff Application

Requestor Name: Resolution Electric Ltd.

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1 **6.0 Appendix D – Application for Net Metering**

2 **Reference: Exhibit B-1, Appendix D**

3 **Q6.1 Have FortisBC considered including the contractors information (if**
4 **applicable) on the Application for Net Metering document?**

5 A6.1 FortisBC agrees that this information should be included on the Application,
6 and provides a revised Application form as Resolution Electric Appendix A6.1.

7 **7.0 Treatment of Excess Generation**

8 **Reference: Exhibit B -1, page 22. Lines 6-25**

9 **Given the preferred economic stimulus for offsetting the capital costs for**
10 **a Renewable Energy system is through electricity tariffs, and**
11 **understanding that implementing a widespread program to harness green**
12 **energy can only be achieved through the coordinated efforts of all**
13 **stakeholders.**

14 **Q7.1 Have FortisBC considered engaging the Power Sense department to work**
15 **with the BC government regarding introducing stimulus for Renewable**
16 **Energy generation?**

17 A7.1 The provincial LiveSmartBC program already offers incentives for solar
18 photovoltaic installations which will be available to FortisBC customers if net
19 metering is approved. FortisBC will continue dialog with the BC government on
20 a range of conservation-related issues, including Renewable Energy
21 generation.

22 **Q7.2 If not why?**

23 A7.2 Please see the response IR Q7.1 above.