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June 7, 2011

<u>Via Email</u> Original via mail

Ms. Alanna Gillis Acting Commission Secretary BC Utilities Commission Sixth Floor, 900 Howe Street, Box 250 Vancouver, BC V6Z 2N3

Dear Ms. Hamilton:

Re: FortisBC Inc. (FortisBC) Residential Inclining Block (RIB) Responses to Intervenor Information Requests

Please find attached FortisBC's responses to Information Requests from the British Columbia Old Age Pensioners' Association et al., British Columbia Sustainable Energy Association, Nelson Hydro, the Okanagan Environmental Industry Alliance, Mr. Norman Gabana, Mr. Andy Shadrack, Mr. Henry Stanski, Mr. Richard Tarnoff, and Mr. Russell Work.

If further information is required, please contact the undersigned at (250) 717-0890.

Sincerely,

Dennis Swanson Director, Regulatory Affairs



FortisBC Energy Inc. ("FBC" or the "Company") Residential Inclining Block Rate Application ("Application")	Submission Date: June 7, 2011
Response to British Columbia Old Age Pensioners' Organization et al. ("BCOAPO") Information Request ("IR") No. 1	Page 1

2	Reference:	i)	Exhibit B-1, page 1, lines 11-12
3		ii)	Exhibit B-1, page 9, lines 9-11
4		iii)	Exhibit B-1, page 10, lines 9-10 and 14-16
5		iv)	Exhibit B-1, page 23, lines 7-9
6			
7	a)	Is the intent/o	objective of the RIB rate to incent consumers to use less electricity
8		(per referenc	e (i)) or is it to encourage consumers to use electricity more
9		efficiently (pe	r reference (ii))?

10 **Response:**

In FortisBC's opinion, the primary intent of a RIB rate is to incent customers to use less
 electricity. Reference (ii) is a paraphrasing of the Bonbright criterion which applies to rate design
 generally.

b) What is FortisBC's definition of "efficient price signals" (per reference (iv)?

15 **Response:**

16 Within the context of the Application, an efficient price signal is one that is sufficient to 17 encourage some portion of customers to reduce consumption.

18c)What is the marginal cost of electricity for FortisBC's residential customers for19each of the years 2011 through 2015 (per reference (iii) – lines 9-10)? In20responding please address separately the marginal cost of electricity supply (i.e.,21the commodity) versus the marginal cost of transmission and distribution. In22each case, please also explain how the marginal cost was determined and23whether it is reflective of long-run incremental costs.

24 **Response:**

Please see the response to BCUC IR1 Q9.3. As discussed in that response, the appropriate marginal cost for use in a RIB rate discussion is based on the avoided power purchase costs



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1 and reduced load attributable to the RIB rate. For this reason, it cannot be broken out as

2 requested. The Company does not have an estimate of marginal costs beyond those presented

3 in BCUC IR1 Q9.3.

d) In FortisBC's view is it appropriate to promote the use of less electricity (per reference (iii) – lines 14-16) through price signals that exceed the marginal cost of electricity?

7 Response:

8 Please see the response to BCUC IR1 Q9.1.

9 FortisBC derived the level of the block 1 and block 2 rates based on the selection of a set of 0 other parameters, (customer impact, threshold, and customer charge). If the selection of these 11 criteria yielded a set of rates that satisfied the tests for reasonableness contained in the 12 Application, but resulted in a block 2 rate that exceeded the marginal cost of supply, the 13 Company would not dismiss the rate on that basis.



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2	Reference:	i)	Exhibit B-1, Appendix B
3		ii)	Exhibit B-1, page 2, lines 22-26
4			
5	a)	Please clarify	FortisBC's proposal regarding the implementation date for the RIB
6		rate – Appen	dix B states January 1, 2011 where as page 2 states 6-12 months
7		after direction	n from the Commission.

8 Response:

- 9 Please see the response to BCUC IR1 Q1.1(a).
- 10b)Please reconcile the response to part (a) with the RIB rate option impact analysis11presented in Table 8-3 which appears to assume implementation in 2011.

12 Response:

The RIB rates presented in Table 7-2 are designed on the assumption that the flat rate in effect on May 1, 2011 is in effect for the entire year beginning January 1, 2011. The revenues used to ensure neutrality of all the options with the flat rates are derived using the billing determinants used to arrive at the 2011 Revenue Requirement filed with the Commission in October of 2010.

As such, the rate options can best be viewed as equivalent to a flat rate in effect at the same time to allow for characteristic comparison under differing scenarios. They do not however represent rates that would actually be in place if implemented on January 1, 2011 or May 1, 2011. Presenting the rates in this fashion removes the difficulties associated with implementing mid-year rate increases such as rebalancing or BC Hydro rate increase flow-through. These types of increases can be annualized or assumed to be in effect for the full year without the variation due to mid-year implementation causing material errors.

- Therefore, the 2011 RIB rates shown in the Application would produce the same revenue as a flat rate also in effect for the entirety of 2011.
- 26 The 2011 revenue requirement would be escalated by the assumed increases to take effect in
- 27 2012. The 2012 RIB rate is then designed to collect that amount of revenue during the year. As
- such, whether the 2011 rate is inclining or flat makes no difference to the 2012 RIB rate shown.
- 29 FortisBC intends to implement the RIB rate as per the response to BCUC IR1 Q1.1a.



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2	Reference:	i)	Exhibit B-1, page 1, lines 25-26 and page 17, lines 17-20
3		ii)	Exhibit B-1, page 25
4			
5	a)	Please confir	m that Table 8-2 does not include any provision (per reference (ii) -
6		lines 5-6) for	r future BC Hydro rate increases? If this is not the case, what
7		assumption w	vas made regarding BC Hydro's annual rate increases?

8 Response:

9 Confirmed. BC Hydro rate increases were excluded from the analysis included in the 10 Application.

11b)If part (a) was answered in the affirmative, please re-do Table 8-2 assuming12increases in BC Hydro's purchases power rates of 8% per annum.

13 **Response:**

The table below has been updated with the assumed BC Hydro rate increase of 8.0 per cent per annum in each year. The Company has calculated the impact of the increase in 2011 to be a 0.9 per cent annualized increase.

In subsequent years, the exact impact of the increase is dependent on FortisBC's revenue
 requirement and the level of power purchase expense in each year. For this reason, the same
 annualized increase is assumed in all years.

20

Table BCOAPO IR1 Q3b

Rate Component	2012 2013 2014		2014	2015
		(%)		
Revenue Requirement Increase	6.4	4.2	3.4	6.5
Rebalancing	2.5	2.3	-	-
BC Hydro flow-through	0.9	0.9	0.9	0.9
Total Increase	9.8	7.4	4.2	7.4



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1 2	c)	Please confirm that the less that 10% annual bill impact for 90%/95%/100% of customers (per reference (i)) excludes the impact of each of following:
3		
4		The impact of rebalancing residential rates
5		 The impact of the annual revenue requirement increases.
6		 The impact of anticipated increases in BC Hydro's rates
7		
8		If not please confirm what is included/excluded.
9	Response:	
10	Confirmed. 1	The customer impact criterion considers only the effect of RIB rate implementation.

11d)As a general rule, what is in the impact of a 1% increase in BC Hydro's rates on12FortisBC's residential customer rates?

13 **Response:**

14 In general, a one per cent increase in BC Hydro's rates for a calendar year will result in an

approximate 0.2 per cent rate increase to FortisBC's residential customer rates for the sameperiod.



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2	Reference:	i) Exhibit B-1, page 2, lines 9-17 and page 27, lines 13-21
3		
4	a)	Would flow-through changes in BC Hydro's purchases power costs be treated
5		the same as changes to FortisBC's general revenue requirement? If not, how
6		would they be treated?
	_	

7 **Response:**

8 The impact of BC Hydro rate increases would be treated in the same manner as FortisBC's

- 9 general revenue requirement increase. Under the Company's proposal, for the period in which
- 10 RIB rates are in effect, the customer charge will only be escalated by the rebalancing
- 11 adjustment.
- 12



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2	Reference:	i)	Exhibit B-1, pages 11-13
3 4 5	a)	Did FortisBC following the I	undertake any public consultation on its RIB rate options/proposal 3CUC's Order G-156-10? If no, why not?

6 **Response:**

7 Please see the response to OEIA IR1 Q7.1.



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2	Reference:	i)	Exhibit B-1, pages 2 and 15
3 4	a)	Please confi	rm whether the "anticipated" current rates set out in Table 1-1 were
5		actually imple	emented May 1, 2011 as shown. If not, please update.

6 **Response:**

- 7 The rates shown in Table 1-1 of the Application reflect the actual rates in effect on May 1, 2011.
- 8



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2	Reference:	i) Exhibit B-1, page 16, lines 1-4
3		
4	a)	Please indicate what "rate year" the \$28.74/month is based on. If not 2011, what
5		adjustments should be made to make it comparable to the customer charge of
6		\$28.22 per two month billing cycle implemented January 1, 2011?

7 Response:

8 The \$28.74 figure is from the 2009 test year used in the 2009 Cost of Service Analysis 9 ("COSA"). It represents an amount, per customer per month, allocated to the residential class 10 for the provision of fixed customer-related costs.

11 The \$28.74 figure cannot be reconciled with \$28.22 amount as the latter is the current (prior to

12 May 1, 2011) customer charge that has never been based on the COSA derived cost.



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2	Reference:	i)	Exhibit B-1, page 17, lines 2-12
3 4 5	a)	Are the mean on actual use	and median consumption values quoted for 2009 and 2010 based or weather normalized usage?

6 **Response:**

- 7 The values are based on actual use.
- b) If based on actual use, please provide the mean and median weather normalized
 values for 2009 and 2010 and the resulting averages.

10 **Response:**

11 FortisBC does not weather normalize each individual bill and therefore has not calculated the

12 mean and median usage on a weather-normalized basis.



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2	Reference:	i) I	Exhibit B-1, page 17, lines 17-25
3		ii) I	BCUC Decision Re: FortisBC's 2009 Rate Design and Cost of
4		\$	Service Analysis, October 2010, page 79
5			
6	a)	Please confirm	that for FortisBC's rate rebalancing the 10% impact criterion
7		included the im	pact of both rate rebalancing and revenue requirement increases
8		and that the im	pact of rate rebalancing alone was limited to 5% (per reference
9		(ii)).	

10 **Response:**

11 The Company can confirm that in October 2010, the Commission issued Order G-156-10 which 12 contained directives as described in the reference to this question.

The directive was changed in Order G-196-10 to limit rebalancing increases to 2.5 per cent perannum.

b) Please explain why a 10% threshold for impacts due to RIB is appropriate when
the BCUC adopted a 5% threshold for rate rebalancing.

17 **Response:**

18 The Company believes that it is important not to view the rate increase thresholds in isolation 19 without considering broader customer impact.

The 5 per cent (now 2.5 per cent as explained in BCOAPO IR1 Q9a) threshold used for rebalancing considers the fact that the increase applies to all customers within a class regardless of consumption level. It is not an increase that is intended to incent consumption, but rather to address a revenue to cost imbalance.

The threshold for RIB means that 95 per cent of customers will see bill impacts of 10 per cent or less. Many will experience bill increases of less than 10 per cent, and a small percentage will experience bill increases greater than 10 per cent. Restricting the threshold to a lower value would negatively impact conservation impacts.



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2	Reference:	i) Exhibit B-1, page 17
3		
4	a)	Based on the 2009/2010 billing data, please indicate the following metrics:
5		The 5th percentile consumption value
6		The 25th percentile consumption value
7		The 75th percentile consumption value, and
8		The 95th percentile consumption value.

9 Response:

- The 5th percentile consumption value is 1,712 kWh per year;
- The 25th percentile consumption value is 5,405 kWh per year;
- 12 The 75th percentile consumption value is 14,749 kWh per year;
- The 95th percentile consumption value is 28,325 kWh per year.
- 14



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2	Reference:	i)	Exhibit B-1, page 18
3			
4	a)	What are the	approved customer counts and kWh sales for 2011 (per lines 6-7)
5		that were used	d in the analysis?

6 **Response:**

The analysis assumed sales of 1,261,232,787 kWh and 592,857 bills during the year. The bills
equate to an average customer count of 98,809.5 customers.

9	b)	Based on the analysis of 2009 and 2010 bills, for each of the three thresholds
10		please indicate:
11		
12		 The % of bills that will have consumption in the second block.
13		• The number of customers who have two bills (out of 6 annual bills) with
14		consumption in the second block.
15		• The number of customers who have three bills (out of 6 annual bills) with
16		usage in the second block.

17 **Response:**

18 Please refer to the following table.

19			Та	able BCOA	PO IR1 Q11	b		
	% of Customers with							
		Bills in	0 bills	1 bill In	2 bills In	3 bills In	>3 bills In	
	Threshold	Block 2	In Block 2	Block 2	Block 2	Block 2	Block 2	Total
	1350	48.0%	21,387	9,278	8,410	8,180	40,240	87,495
		40.078	24.4%	10.6%	9.6%	9.3%	46.0%	100.0%
	1600	41 3%	27,575	10,183	8,400	8,538	32,799	87,495
	1000 4	1.570	31.5%	11.6%	9.6%	9.8%	37.5%	100.0%
	2100 30	30.2%	39,029	10,630	8,232	8,305	21,299	87,495
		50.270	44.6%	12.1%	9.4%	9.5%	24.3%	100.0%



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c) Please repeat Table 6-1 and the response to part (b) assuming consumption (kWh) associated with each bill is 5% less.

Response: 3

4 The following shows the breakout of consumption with usage 5 per cent lower.

5

Table BCOAPO IR1 Q11c - 1					
Threshold	Block 1	Block 2			
1350	58.7%	41.3%			
1600	65.3%	34.7%			
2100	75.4%	24.6%			

6

7 The following table shows the number and percentage of customers for which full data was available based on the number of bills that have usage in block 2. 8

9

	% of						
	Bills in 0 bills in 1 bill in 2 bills in 3 bills in >3 bills in		>3 bills in				
Threshold	Block 2	Block 2	Block 2	Block 2	Block 2	Block 2	Total
1350	46.0%	23,187	9,561	8,391	8,327	38,029	87,495
1550	40.070	26.5%	10.9%	9.6%	9.5%	43.5%	100.0%
1600	30.2%	29,625	10,309	8,516	8,434	30,611	87,495
1000	00.270	33.9%	11.8%	9.7%	9.6%	35.0%	100.0%
2100	0 00.00/	41,311	10,584	8,147	8,146	19,307	87,495
2100	20.2/0	47.2%	12.1%	9.3%	9.3%	22.1%	100.0%

Table BCOAPO IR1 Q11c - 2

10



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1 Question #12

2	Reference:	i)	Exhibit B-1, pages 20 and 22
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a) Please confirm that the 20% bill increase criterion is measured only with respect
to the impact of the RIB rate. If not, what other impacts are included (e.g.,
rebalancing, general rate increase, etc,)?

7 **Response:**

8 Confirmed.

9 b) For each of the options listed on page 22, please indicate the percentage of 10 customers with annual impacts greater than 15%.

11 **Response:**

- 12 Please refer to the below table.
- 13

Table BCOAPO IR1 Q12b

	% of customers with >15%
Option	impact
1	6.4%
2	1.3%
3	0.0%
4	8.0%
5	1.9%
6	0.0%
7	6.4%
8	1.3%
9	0.0%
10	5.2%
11	1.0%
12	0.0%
13	6.4%
14	2.7%
15	0.0%
16	6.4%
17	1.3%
18	0.0%



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1 Question #13

2 Reference: i) Exhibit B-1, pa	ages 21-22
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a) What is the basis for FortisBC's contention that different elasticity values would
apply to consumption above and below the threshold consumption level (per page 21, lines 18-19)?

7 **Response:**

- 8 Please see the response to BCUC IR1 Q18.4.1.
- 9 b) What is the basis for the range of elasticity estimates used in Table 7-2?

10 **Response:**

11 The range of values used for elasticity are thought to be representative of a reasonable range of 12 short term price elasticity. The price elasticity of demand for electricity likely varies depending 13 on the evaluation time frame.

14c)Please redo the conservation estimates for options 1-9 assuming the same15elasticity estimate applies in both cases.

16 **Response:**

- 17 Please refer to the below table.
- 18

Table BCOAPO IR1 Q13c

	Conservation Impact								
		(-lower/upper)							
Option	.05/.05	.10/.10	.20/.20						
1	-1.3%	-2.7%	-5.3%						
2	-0.9%	-1.7%	-3.5%						
3	-0.4%	-0.8%	-1.6%						
4	-1.5%	-3.1%	-6.1%						
5	-0.9%	-1.7%	-3.4%						
6	-0.3%	-0.6%	-1.3%						
7	-1.4%	-2.8%	-5.6%						
8	-0.9%	-1.8%	-3.5%						
9	-0.4%	-0.7%	-1.5%						



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2	Reference:	i) Exhibit B-1, pages 21-22
3		
4	a)	Please re-estimate the Block 1 and Block 2 rates each of the options in Table 7-2
5		using the following three criterion
6		 90% of customers see <5% bill impacts
7		 95% of customers see <5% bill impacts
8		 99% of customers see <5% bill impacts

9 Response:

10 Please refer to the table below.



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Table BCOAPO IR1 Q14a

Option	Criterion	Threshold	Customer Charge	Block 1 Rate	Block 2 Rate	Block Differential	Annual Breakeven kWh	% of custome rs better off	Maximu m Bill Impact	% of Custome rs with Bill Increase s > 15%	% of customers who have consumption in the second block at least once	% of load billed in Block 2	Conso (-I	ervation Ir ower/uppe	npact er)
													.05/.10	.10/.20	.20/.30
1	90% see <5%	1350	28.93	0.07923	0.10617	34.0%	13500	70.7%	15.9%	0.1%	79.2%	43.3%	1.4%	2.8%	4.1%
2	95% see <5%	1350	28.93	0.08332	0.10082	21.0%	13500	70.7%	10.3%	0.0%	79.2%	43.3%	1.9%	3.7%	5.5%
3	99% see <5%	1350	28.93	0.08606	0.09724	13.0%	13500	70.7%	6.6%	0.0%	79.2%	43.3%	0.9%	1.7%	2.5%
4	90% see <5%	2100	28.93	0.08280	0.11344	37.0%	16000	78.7%	23.2%	1.3%	60.7%	26.4%	3.3%	6.6%	9.7%
5	95% see <5%	2100	28.93	0.08633	0.10360	20.0%	16000	78.7%	13.1%	0.0%	60.7%	26.4%	1.8%	3.7%	5.4%
6	99% see <5%	2100	28.93	0.08833	0.09805	11.0%	16000	78.7%	7.4%	0.0%	60.7%	26.4%	0.7%	1.4%	2.1%
7	90% see <5%	1600	28.93	0.08083	0.10831	34.0%	15000	75.7%	18.1%	0.3%	72.8%	36.6%	3.0%	6.0%	8.8%
8	95% see <5%	1600	28.93	0.08469	0.10163	20.0%	15000	75.7%	11.1%	0.0%	72.8%	36.6%	1.9%	3.7%	5.5%
9	99% see <5%	1600	28.93	0.08707	0.09752	12.0%	15000	75.7%	6.9%	0.0%	72.8%	36.6%	0.8%	1.6%	2.3%
10	90% see <5%	1350	21.50	0.08584	0.10559	23.0%	13500	70.7%	15.3%	0.1%	79.2%	43.3%	2.8%	5.6%	8.2%
11	95% see <5%	1350	21.50	0.08973	0.10050	12.0%	13500	70.7%	10.0%	0.0%	79.2%	43.3%	1.8%	3.7%	5.4%
12	99% see <5%	1350	21.50	0.09239	0.09701	5.0%	13000	68.8%	6.4%	0.0%	79.2%	43.3%	0.9%	1.7%	2.6%
13	90% see <5%	2100	21.50	0.08876	0.11006	24.0%	14000	72.5%	19.8%	0.6%	60.7%	26.4%	3.2%	6.4%	9.4%
14	95% see <5%	2100	21.50	0.09172	0.10181	11.0%	14000	72.5%	11.3%	0.0%	60.7%	26.4%	1.8%	3.6%	5.4%
15	99% see <5%	2100	21.50	0.09340	0.09714	4.0%	14000	72.5%	6.5%	0.0%	60.7%	26.4%	0.8%	1.5%	2.3%
16	90% see <5%	1600	21.50	0.08735	0.10657	22.0%	14000	72.5%	16.3%	0.1%	72.8%	36.6%	2.9%	5.8%	8.6%
17	95% see <5%	1600	21.50	0.09074	0.10072	11.0%	13500	70.7%	10.2%	0.0%	72.8%	36.6%	0.9%	1.8%	2.7%
18	99% see <5%	1600	21.50	0.09269	0.09733	5.0%	13500	70.7%	6.7%	0.0%	72.8%	36.6%	0.8%	1.7%	2.5%



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1b)Please re-do Table 7-2 using the rates from part (a). Note: Instead of 20% use215% as the threshold for percentage of customers with high bill impacts.

3 Response:

- 4 Please see the response to BCOAPO IR1 Q14a above.
- 5



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2	Reference:	i) Exhibit B-1, pages 23 and 24
3		
4	a)	Why is the "efficiency" of the price signal (page 23, lines 7-9) gauged based on
5		the differential between the first and second block?

6 Response:

- 7 Please see the responses to BCUC IR1 Q9.7 and Q9.8.
- b) On what basis does FortisBC judge that the initial block differential is too high or
 too low in certain cases?

10 Response:

- 11 Please see the response to BCUC IR1 Q9.8.
- 12 c) On what basis does FortisBC judge that insufficient load is billed in the second13 block?

14 **Response:**

- 15 Please see the response to OEIA IR1 Q13.1.
- 16d)For each of the 18 options please provide a table that indicates the differential17between the Block 2 rate and the "marginal cost of electricity supply" for 2011.18To the extent the marginal cost of electricity supply is based on BC Hydro rates,19please use the 2011 interim rate recently approved by the BCUC.

20 **Response:**

Please see the table below for the requested information. Please also refer to BCUC IR1 Q9.3
 for a discussion of the marginal costs for RIB.



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Table BCOAPO IR1 Q15d

Option	Criterion	Threshold	Block 2 Rate	DSM Marginal Cost (MC)*	Avoided Power Purchase**	Block 2 / MC
1	90% see	1350	0.12208	0.09225	0.03804	132.3%
2	95% see	1350	0.11138	0.09225	0.03804	120.7%
3	100% see	1350	0.10039	0.09225	0.03804	108.8%
4	90% see	2100	0.13641	0.09225	0.03804	147.9%
5	95% see	2100	0.11618	0.09225	0.03804	125.9%
6	100% see	2100	0.10055	0.09225	0.03804	109.0%
7	90% see	1600	0.12584	0.09225	0.03804	136.4%
8	95% see	1600	0.11272	0.09225	0.03804	122.2%
9	100% see	1600	0.10012	0.09225	0.03804	108.5%
10	90% see	1350	0.12121	0.09225	0.03804	131.4%
11	95% see	1350	0.11066	0.09225	0.03804	120.0%
12	100% see	1350	0.10001	0.09225	0.03804	108.4%
13	90% see	2100	0.13341	0.09225	0.03804	144.6%
14	95% see	2100	0.11488	0.09225	0.03804	124.5%
15	100% see	2100	0.10050	0.09225	0.03804	108.9%
16	90% see	1600	0.12421	0.09225	0.03804	134.6%
17	95% see	1600	0.11152	0.09225	0.03804	120.9%
18	100% see	1600	0.10016	0.09225	0.03804	108.6%

2

*The Marginal Cost reflected in the table is the blended long-term avoided cost of power purchases and is based on

the weighted average of BC Hydro avoided energy costs and the Company's long-term marginal energy costs as
 determined by an energy market assessment performed in 2011. This value is consistent with that used to evaluate

5 costs for the 2012/2013 DSM Plan.

** Avoided Power Purchase is the difference in power purchase costs divided by the difference in load with and
 without a RIB rate in place.



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1 Question #16

2	Reference:	i)	Exhibit B-1, pages 25-26
---	------------	----	--------------------------

4 a) Please provide the worksheets/working model that shows the derivation of the 5 rates set out in Table 8-3.

6 Response:

- 7 The worksheet has been attached as Electronic Attachment BCOAPO Q16a. Note that values in 8 the attachment will match those contained in Errata 1.
- 9 b) Please confirm that the block ratios reported in Table 8-3 for each option are the 10 ratio of Block 2/Block 1 and not Block 1/Block 2 as indicated.

11 Response:

- 12 Confirmed. Please refer to Errata 1.
- 13 c) For Options A and C please indicate how Block 1 and Block 2 rates were 14 adjusted to account for the fact the customer charge was not subject to the 15 general rate increase.

16 **Response:**

For both of options A and C, the customer charge is subject only to the rebalancing increase. The block 1 rate is escalated by both the forecast revenue requirement increase and the rebalancing increase. The block 2 rate is determined independent of any set rate increase by dividing the revenue requirement remaining after subtracting the customer charge and block 1 revenues from the total revenue requirement, by the expected block 2 consumption (in kWh).



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1	d)	For Options A and C the rate increase is purportedly applied to both blocks.
2		However, the rates for the two blocks are not increasing by the same percentage
3		(e.g. For 2012 - the Block 1 rate increases by 8.9% while the Block 2 rate
4		increases by a lesser amount). One would have expected that if the Block 1 rate
5		was adjusted only for rebalancing and the general rate increase then the Block 2
6		increase would have to be higher to account for the fact the customer charge is
7		not subject to the general rate increase. Please reconcile.

Response: 8

The expectation expressed in the question is not correct. There is a negative correlation 9 10 between the increase in the customer charge and the block 2 rate - the lower the increase applied to the customer charge, the higher the increase in the block 2 rate will have to be in 11

12 order to collect the full revenue requirement.

13 However, the increase to the block 1 and block 2 rates are not applied on the same basis and in

all cases where the full revenue requirement and rebalancing increase is applied to the block 1 14 15 rate, the increase to the block 2 rate, on a percentage basis is lower.

16 To illustrate this further, consider the case in Table 8-3, Option C. With only the rebalancing increase applied to the customer charge, the rate increases required in order to collect the full 17 18 revenue requirement would be block 1 rate - 8.9 per cent, customer charge - 2.5 per cent, and block 2 rate - 6.5 per cent.

- 19
- 20 If the full rate increase of 8.9 per cent were applied to the customer charge, the increase 21 required in the block 2 rate would fall to 4.4 per cent as the revenue burden shifts.

22 It is important to note that the block 2 rate is decoupled from both the revenue requirement and rebalancing increases and depends only on the revenue requirement to be collected with block 23 24 2 billing and the forecast block 2 consumption.

For Option E, please explain why the ratio of the Block prices is decreasing if the 25 e) customer charge and first block are increased by the general and rebalancing 26 Doesn't this mean that the Second Block price would also be 27 increases. increased by the general and rebalancing increases such that the ratio would be 28 29 constant?

30 **Response:**

31 Please see the response to BCOAPO IR1 Q16d above.



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1 f) If necessary, please provide a revised Table 8-3 based on the foregoing and any 2 other corrections required.

3 **Response:**

Table 8-3 is updated in Errata 1 to the Application, however the changes in Errata 1 are unrelated to this series of information requests.

- 6g)Using the rates in Table 8-3 (revised as necessary), for each year (2012-2015)7please indicate for each option the percentage of residential customers that will8see annual bill impacts greater than:910%1015%
- 11
 •
 20%

 12
 •
 25%
- 13 **Response:**
- 14 Please refer to the below table.



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Table BCOAPO IR1 Q16g

		2012	2013	2014	2015
	Rate Impact		% Cus	tomers	
	> 10%	0.0%	0.0%	0.0%	0.0%
^	> 15%	0.0%	0.0%	0.0%	0.0%
	> 20%	0.0%	0.0%	0.0%	0.0%
	> 25%	0.0%	0.0%	0.0%	0.0%
	> 10%	10.1%	0.1%	0.0%	0.1%
в	> 15%	0.0%	0.0%	0.0%	0.0%
Б	> 20%	0.0%	0.0%	0.0%	0.0%
	> 25%	0.0%	0.0%	0.0%	0.0%
	> 10%	0.0%	0.0%	0.0%	0.0%
C	> 15%	0.0%	0.0%	0.0%	0.0%
C	> 20%	0.0%	0.0%	0.0%	0.0%
	> 25%	0.0%	0.0%	0.0%	0.0%
	> 10%	12.9%	1.3%	0.0%	1.3%
	> 15%	0.6%	0.0%	0.0%	0.0%
D	> 20%	0.0%	0.0%	0.0%	0.0%
	> 25%	0.0%	0.0%	0.0%	0.0%
	> 10%	0.0%	0.0%	0.0%	0.0%
E	> 15%	0.0%	0.0%	0.0%	0.0%
L .	> 20%	0.0%	0.0%	0.0%	0.0%
	> 25%	0.0%	0.0%	0.0%	0.0%
	> 10%	8.0%	0.0%	0.0%	0.0%
_	> 15%	0.0%	0.0%	0.0%	0.0%
'	> 20%	0.0%	0.0%	0.0%	0.0%
	> 25%	0.0%	0.0%	0.0%	0.0%
	> 10%	0.0%	0.0%	0.0%	0.0%
G	> 15%	0.0%	0.0%	0.0%	0.0%
G	> 20%	0.0%	0.0%	0.0%	0.0%
	> 25%	0.0%	0.0%	0.0%	0.0%
	> 10%	10.1%	0.6%	0.0%	0.1%
L	> 15%	0.2%	0.0%	0.0%	0.0%
	> 20%	0.0%	0.0%	0.0%	0.0%
	> 25%	0.0%	0.0%	0.0%	0.0%



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1h)Please provide a schedule that contrasts the Block 2 rates for 2015 as shown in2Table 8-3 with the marginal costs provide in response to Question #1 c) for each3of the options.

4 **Response:**

5 Please see the table provided below. For a discussion of FortisBC's marginal cost assumption,

- 6 please refer to the response to BCUC IR1 Q9.3.
- 7 8

Table 8-3 Scenario

Table BCOAPO IR1 Q16h

Table 8-3	Base Rate	2015 Block 2 Rate	Marginal Cost
Scenario	Option	(\$)	(\$)
A	2	0.13501	0.03804
В	2	0.16232	0.03804
С	8	0.13541	0.03804
D	8	0.17292	0.03804
E	11	0.12700	0.03804
F	11	0.15675	0.03804
G	17	0.12550	0.03804
Н	17	0.16599	0.03804

9

10

11	i)	Table 8-3 assumes that the RIB rate is in effect for 2011. If this were the case,
12		please provide a schedule that for each option would indicate the following for
13		2011 based on the cumulative impact of FortisBC's 2011 general rate increase
14		(January 2011), the residential rate increase due to rebalancing (May 2011),
15		pass through of the BC Hydro interim increase and the RIB rate introduction:

- 16
- 17
- 18

- % of residential customers with increases in excess of 10%
- % of residential customers with increases in excess of 15%
- 19 20

% of residential customers with increases in excess of 20% % of residential customers with increases in excess of 25%

21 Response:

22 Please refer to the below table.

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•



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Table BCOAPO IR1 Q16i

	Option 2	Option 8	Option 11	Option 17
	(A & B)	(C & D)	(E & F)	(G & H)
Rate Impact		% Cu	stomers	
>10%	29.3%	22.7%	27.5%	24.3%
>15%	18.7%	12.9%	14.5%	12.9%
>20%	8.0%	6.4%	6.4%	5.2%
>25%	2.7%	2.7%	1.3%	1.3%



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2	Reference:		i)	Exhibit B-1, pages 25-26
3				
4	a)	Please	re-do	Table 8-3 incorporating the following:
5				
6		•	For 2	011 incorporate the interim rate increase recently approved for BC
7			Hydro).
8		•	For 2	012-2015 incorporate annual BC Hydro flow-through rate increases
9			of 8%	annum along with the increases assumed in the original table for
10			rate re	ebalancing and revenue requirement.

11 Response:

12 The interim BC Hydro rate increase of 8 per cent has an annualized impact of 0.9 per cent to

13 2011 FortisBC rates. If this is incorporated into the 2011 starting rates and escalated under the

14 same assumptions discussed in BCOAPO IR1 Q2b above, the rates would trend as shown in

15 the table below.



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1										
		Base Rate Option	Threshold	Rate Increase Applied	Rate Component	2011	2012	2013	2014	2015
ſ					Customer Charge	28.93	29.65	30.34	30.34	30.34
			4050 114/	1	Block 1 Rate	0.07631	0.08379	0.08999	0.09386	0.10080
	А	2	1350 KWh	Both Blocks'	Block 2 Rate	0.11217	0.12332	0.13106	0.13504	0.14429
					Ratio: Block 2 / Block 1	1.47	1.47	1.46	1.44	1.43
Ī					Customer Charge	28.93	29.65	30.34	30.34	30.34
	Б	2	1250 kW/b	Block 2 Only ²	Block 1 Rate	0.07631	0.07631	0.07631	0.07631	0.07631
	В	2	1330 KWII	BIOCK 2 Only	Block 2 Rate	0.11217	0.13311	0.14897	0.15801	0.17636
					Ratio: Block 2 / Block 1	1.47	1.74	1.95	2.07	2.31
					Customer Charge	28.93	29.65	30.34	30.34	30.34
	C	8	1600 kWb	Both Blocks ¹	Block 1 Rate	0.07934	0.08712	0.09356	0.09759	0.10481
	C		1000 KWII		Block 2 Rate	0.11346	0.12476	0.13236	0.13609	0.14528
					Ratio: Block 2 / Block 1	1.43	1.43	1.41	1.39	1.39
			1600 kWh	Block 2 Only ²	Customer Charge	28.93	29.65	30.34	30.34	30.34
	р	8			Block 1 Rate	0.07934	0.07934	0.07934	0.07934	0.07934
	D	0			Block 2 Rate	0.11346	0.13820	0.15695	0.16764	0.18931
					Ratio: Block 2 / Block 1	1.43	1.74	1.98	2.11	2.39
		11	1350 kWh	All Components ³	Customer Charge	21.50	23.61	25.35	26.44	28.40
	F				Block 1 Rate	0.08279	0.09090	0.09763	0.10183	0.10936
	-				Block 2 Rate	0.11176	0.12063	0.12656	0.12893	0.13525
					Ratio: Block 2 / Block 1	1.35	1.33	1.30	1.27	1.24
					Customer Charge	21.50	23.61	25.35	26.44	28.40
	F	11	1350 kWh	Customer Charge and	Block 1 Rate	0.08279	0.08279	0.08279	0.08279	0.08279
			1000 1001	Block 2 ⁴	Block 2 Rate	0.11176	0.13125	0.14599	0.15385	0.17004
					Ratio: Block 2 / Block 1	1.35	1.59	1.76	1.86	2.05
					Customer Charge	21.50	23.61	25.35	26.44	28.40
	G	17	1600 kWb	All Components ³	Block 1 Rate	0.08533	0.09369	0.10063	0.10495	0.11272
	U		1000 KWII	All Components	Block 2 Rate	0.11263	0.12122	0.12664	0.12846	0.13415
					Ratio: Block 2 / Block 1	1.32	1.29	1.26	1.22	1.19
					Customer Charge	21.50	23.61	25.35	26.44	28.40
	н	17	1600 kWb	Customer Charge and	Block 1 Rate	0.08533	0.08533	0.08533	0.08533	0.08533
			1000 8001	Block 2 ⁴	Block 2 Rate	0.11263	0.13567	0.15309	0.16239	0.18151
2					Ratio: Block 2 / Block 1	1.32	1.59	1.79	1.90	2.13

Table BCOAPO IR1 Q17a

Customer charge is escalated by only the Rate Rebalancing increase. block 1 rate is escalated by the sum of
 Rebalancing, Revenue Requirement and BC Hydro Flowthrough and block 2 rate is escalated by the amount
 required to collect the balance of the revenue requirement.

Customer charge is escalated by only the Rate Rebalancing increase, block 1 rate is frozen and block 2 rate is
 escalated by the amount required to collect the balance of the revenue requirement.

8 3 All rate components are escalated by the sum of Rebalancing, Revenue Requirement and BC Hydro
 9 Flowthrough.

Customer charge is escalated by the sum of Rebalancing, Revenue Requirement and BC Hydro Flowthrough,
 block rate is frozen and block 2 rate is escalated by the amount required to collect the balance of the revenue
 requirement.



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1	b)	Using the rates determined in part (a), For each year (2012-2015) please indicate
2		for each option the percentage of residential customers that will see annual bill
3		impacts greater than:
4		• 10%
5		• 15%
6		• 20%

- 20% .
- 7 25% •

8 Response:

- Please refer to the below table. 9
- 10

Table BCOAPO IR1 Q17b

r r		2012	2013	2014	2015			
	Rate Impact	% Customers						
	> 10%	0.0%	0.0%	0.0%	0.0%			
А	> 15%	0.0%	0.0%	0.0%	0.0%			
~	> 20%	0.0%	0.0%	0.0%	0.0%			
	> 25%	0.0%	0.0%	0.0%	0.0%			
	> 10%	22.7%	2.7%	0.0%	1.9%			
Б	> 15%	4.2%	0.0%	0.0%	0.0%			
Р	> 20%	0.0%	0.0%	0.0%	0.0%			
	> 25%	0.0%	0.0%	0.0%	0.0%			
	> 10%	0.0%	0.0%	0.0%	0.0%			
0	> 15%	0.0%	0.0%	0.0%	0.0%			
C	> 20%	0.0%	0.0%	0.0%	0.0%			
	> 25%	0.0%	0.0%	0.0%	0.0%			
	> 10%	19.9%	5.2%	0.0%	4.2%			
	> 15%	6.4%	0.0%	0.0%	0.0%			
	> 20%	0.2%	0.0%	0.0%	0.0%			
	> 25%	0.0%	0.0%	0.0%	0.0%			
	> 10%	0.0%	0.0%	0.0%	0.0%			
E	> 15%	0.0%	0.0%	0.0%	0.0%			
	> 20%	0.0%	0.0%	0.0%	0.0%			
	> 25%	0.0%	0.0%	0.0%	0.0%			
	> 10%	21.3%	1.0%	0.0%	0.2%			
E	> 15%	1.3%	0.0%	0.0%	0.0%			
Г	> 20%	0.0%	0.0%	0.0%	0.0%			
	> 25%	0.0%	0.0%	0.0%	0.0%			
	> 10%	0.0%	0.0%	0.0%	0.0%			
6	> 15%	0.0%	0.0%	0.0%	0.0%			
G	> 20%	0.0%	0.0%	0.0%	0.0%			
	> 25%	0.0%	0.0%	0.0%	0.0%			
	> 10%	19.9%	2.7%	0.0%	1.9%			
L	> 15%	2.7%	0.0%	0.0%	0.0%			
	> 20%	0.0%	0.0%	0.0%	0.0%			
	> 25%	0.0%	0.0%	0.0%	0.0%			



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2	Reference:	i) Exhibit B-1, pages 25-26
3		
4	a)	Please re-do Table 8-3 incorporating the following:
5		
6		• For 2011 assume the current May 1st approved rates adjusted for BC
7		Hydro's recently approved interim rate increase.
8		• For 2012, assume the RIB is introduced January 1st 2012 along with the
9		general rate increase and rate rebalancing and an 8% increase in BC
10		Hydro rates.
11		• For 2013-2015, incorporate a further 8%/annum increase in BC Hydro
12		rates along with the increases assumed in the original table for
13		rebalancing and general revenue requirement.

14 **Response:**

15 Please refer to the below table.



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Table BCOAPO IR1 Q18a

	Base Rate Option	Threshold	Rate Increase Applied	Rate Component	2011	2012	2013	2014	2015
				Customer Charge	29.34	30.07	30.77	30.77	30.77
٨	2	1250 kWb	Both Blooks ¹	Block 1 Rate	0.09217	0.08359	0.08978	0.09364	0.10057
A	2	1330 KWII	DOITI DIOCKS	Block 2 Rate ⁵		0.12287	0.13059	0.13457	0.14382
				Ratio: Block 2 / Block 1		1.47	1.45	1.44	1.43
				Customer Charge	29.34	30.07	30.77	30.77	30.77
в	2	1350 k\//b	Block 2 Only ²	Block 1 Rate	0.09217	0.08359	0.08359	0.08359	0.08359
D	2	1550 KWII	BIOCK 2 Only	Block 2 Rate ⁵		0.12287	0.13869	0.14772	0.16604
				Ratio: Block 2 / Block 1		1.47	1.66	1.77	1.99
				Customer Charge	29.34	30.07	30.77	30.77	30.77
C	8	1600 kWb	Poth Plocks ¹	Block 1 Rate	0.09217	0.08691	0.09334	0.09736	0.10456
0	0	1000 KWII	BOIT BIOCKS	Block 2 Rate ⁵		0.12427	0.13185	0.13559	0.14478
				Ratio: Block 2 / Block 1		1.43	1.41	1.39	1.38
	8	1600 kWh	Block 2 Only ²	Customer Charge	29.34	30.07	30.77	30.77	30.77
р				Block 1 Rate	0.09217	0.08691	0.08691	0.08691	0.08691
D				Block 2 Rate ⁵		0.12427	0.14297	0.15365	0.17530
				Ratio: Block 2 / Block 1		1.43	1.65	1.77	2.02
	11	1350 kWh	All Components ³	Customer Charge	29.34	21.50	23.09	24.08	25.87
F				Block 1 Rate	0.09217	0.09123	0.09798	0.10219	0.10976
L				Block 2 Rate ⁵		0.12225	0.12832	0.13079	0.13727
				Ratio: Block 2 / Block 1		1.34	1.31	1.28	1.25
			Cueter er	Customer Charge	29.34	21.50	23.09	24.08	25.87
F	11	1350 k\//b	Customer Charge and	Block 1 Rate	0.09217	0.09123	0.09123	0.09123	0.09123
		1330 KWII	Block 2 ⁴	Block 2 Rate ⁵		0.12225	0.13716	0.14514	0.16152
				Ratio: Block 2 / Block 1		1.34	1.50	1.59	1.77
				Customer Charge	29.34	21.50	23.09	24.08	25.87
G	17	1600 kWb	All	Block 1 Rate	0.09217	0.09368	0.10061	0.10494	0.11270
0	17	1000 KWII	Components ³	Block 2 Rate ⁵		0.12366	0.12929	0.13124	0.13717
				Ratio: Block 2 / Block 1		1.32	1.29	1.25	1.22
			Cueter er	Customer Charge	29.34	21.50	23.09	24.08	25.87
н	17	1600 k\\/b	Customer Charge and	Block 1 Rate	0.09217	0.09368	0.09368	0.09368	0.09368
	17	1000 KV/II	Block 2 ⁴	Block 2 Rate ⁵		0.12366	0.14128	0.15071	0.17007
			DIOCKZ	Ratio: Block 2 / Block 1		1.32	1.51	1.61	1.82

1 Customer Charge is escalated by only the Rate Rebalancing increase. Block 1 rate is escalated by the sum of Rebalancing, Revenue Requirement and BC Hydro Flowthrough and Block 2 rate is escalated by the amount required to collect the balance of the revenue requirement.

2 Customer Charge is escalated by only the Rate Rebalancing increase, Block 1 rate is frozen and Block 2 rate is escalated by the amount required to collect the balance of the revenue requirement.

3 All rate components are escalated by the sum of Rebalancing, Revenue Requirement and BC Hydro Flowthrough

4 Customer Charge is escalated by the sum of Rebalancing, Revenue Requirement and BC Hydro Flowthrough, Block 1 rate is frozen and Block 2 rate is escalated by the amount required to collect the balance of the revenue requirement

5 Block 2 Rate = (ARR-Customer Charge revenue-Block 1 revenue)/Block 2 kWh



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1	b) (Using the	rates de	etermin	ied in pa	rt (a	a), for each	year (2012	-2015	5) plea	ase	indicate	e for
2		each	option t	he per	centage	of	residential	customers	that	will s	see	annual	bill
3		impact	t greate	r than:									
4		•	10%										
5		•	15%										

- 20%
- 7 25%

8 Response:

- 9 Please refer to the below table.
- 10

6

	Rate Impact	% Customers					
	> 10%	18.7%	0.0%	0.0%	0.0%		
۸	> 15%	8.0%	0.0%	0.0%	0.0%		
А	> 20%	1.9%	0.0%	0.0%	0.0%		
	> 25%	0.2%	0.0%	0.0%	0.0%		
	> 10%	18.7%	0.4%	0.0%	0.3%		
р	> 15%	8.0%	0.0%	0.0%	0.0%		
D	> 20%	1.9%	0.0%	0.0%	0.0%		
	> 25%	0.2%	0.0%	0.0%	0.0%		
	> 10%	16.4%	0.0%	0.0%	0.0%		
C	> 15%	6.4%	0.0%	0.0%	0.0%		
C	> 20%	2.7%	0.0%	0.0%	0.0%		
	> 25%	0.4%	0.0%	0.0%	0.0%		
	> 10%	16.4%	1.9%	0.0%	1.9%		
П	> 15%	6.4%	0.0%	0.0%	0.0%		
D	> 20%	2.7%	0.0%	0.0%	0.0%		
	> 25%	0.4%	0.0%	0.0%	0.0%		
	> 10%	18.7%	0.0%	0.0%	0.0%		
E	> 15%	8.0%	0.0%	0.0%	0.0%		
E	> 20%	1.9%	0.0%	0.0%	0.0%		
	> 25%	0.2%	0.0%	0.0%	0.0%		
	> 10%	18.7%	0.1%	0.0%	0.0%		
E	> 15%	8.0%	0.0%	0.0%	0.0%		
Г	> 20%	1.9%	0.0%	0.0%	0.0%		
	> 25%	0.2%	0.0%	0.0%	0.0%		
	> 10%	19.9%	0.0%	0.0%	0.0%		
C	> 15%	10.1%	0.0%	0.0%	0.0%		
G	> 20%	2.7%	0.0%	0.0%	0.0%		
	> 25%	1.0%	0.0%	0.0%	0.0%		
	> 10%	19.9%	0.0%	0.0%	0.3%		
ы	> 15%	10.1%	0.0%	0.0%	0.0%		
н	> 20%	2.7%	0.0%	0.0%	0.0%		

1.0%

> 25%

0.0%

0.0%

0.0%

Table BCOAPO IR1 Q18b

2012 2013 2014 2015



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2	Reference:	i) Ext	nibit B-1, page 28, lines 15-21 and page 29, Table 9-1
3			
4	a)	Please confirm that	at the bill increases quoted in these paragraphs are for the RIB
5		rate changes only	and do not include any impacts due to rate rebalancing or
6		revenue requireme	ent increases.
7	<u>Response:</u>		

8 Confirmed.

9	b)	Please provide a schedule similar to Table 9-1, but shows for each type of													
10		customer and case:													
11		 The % of customers with bill impacts >20% 													
12		 The % of customers with bill impacts > 15% 													
13		 The % of customers with bill impacts > 10% 													

14 **Response:**

15 Please see the following table.



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Table BCOAPO IR1 Q19b

	Impact	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Electric Heat	>10%	18%	7%	0%	18%	7%	0%	18%	6%	0%	18%	6%	0%	17%	7%	0%	18%	6%	0%
	>15%	7%	1%	0%	11%	2%	0%	9%	1%	0%	7%	1%	0%	10%	2%	0%	9%	1%	0%
	>20%	2%	0%	0%	5%	0%	0%	3%	0%	0%	2%	0%	0%	5%	0%	0%	3%	0%	0%
Other Heat	>10%	6%	2%	0%	6%	3%	0%	6%	2%	0%	6%	2%	0%	6%	2%	0%	6%	2%	0%
	>15%	2%	0%	0%	3%	0%	0%	3%	0%	0%	2%	0%	0%	3%	0%	0%	2%	0%	0%
	>20%	0%	0%	0%	2%	0%	0%	1%	0%	0%	0%	0%	0%	2%	0%	0%	1%	0%	0%
Income <\$20k	>10%	6%	2%	0%	4%	2%	0%	6%	2%	0%	6%	2%	0%	4%	2%	0%	6%	2%	0%
	>15%	2%	0%	0%	2%	2%	0%	2%	2%	0%	2%	0%	0%	2%	2%	0%	2%	0%	0%
	>20%	2%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%	2%	0%	0%
Income \$20k-\$40k	>10%	6%	1%	0%	6%	1%	0%	6%	1%	0%	6%	1%	0%	6%	1%	0%	6%	1%	0%
	>15%	1%	0%	0%	2%	0%	0%	1%	0%	0%	1%	0%	0%	2%	0%	0%	1%	0%	0%
	>20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Income \$40k-\$60k	>10%	7%	4%	0%	7%	3%	0%	7%	3%	0%	7%	3%	0%	7%	3%	0%	7%	3%	0%
	>15%	4%	1%	0%	5%	2%	0%	4%	1%	0%	4%	1%	0%	4%	2%	0%	4%	1%	0%
	>20%	2%	0%	0%	3%	0%	0%	3%	0%	0%	2%	0%	0%	3%	0%	0%	2%	0%	0%
Income \$60k-\$80k	>10%	12%	5%	0%	13%	5%	0%	12%	4%	0%	12%	4%	0%	12%	5%	0%	12%	4%	0%
	>15%	5%	0%	0%	7%	0%	0%	6%	0%	0%	5%	0%	0%	7%	0%	0%	6%	0%	0%
	>20%	0%	0%	0%	4%	0%	0%	1%	0%	0%	0%	0%	0%	3%	0%	0%	1%	0%	0%
Income \$80k-\$120k	>10%	12%	6%	0%	12%	6%	0%	12%	6%	0%	12%	4%	0%	12%	6%	0%	12%	4%	0%
	>15%	6%	1%	0%	9%	2%	0%	7%	1%	0%	5%	0%	0%	8%	1%	0%	7%	1%	0%
	>20%	2%	0%	0%	3%	0%	0%	2%	0%	0%	1%	0%	0%	3%	0%	0%	2%	0%	0%
Income >\$120k	>10%	25%	7%	0%	25%	9%	0%	25%	7%	0%	25%	7%	0%	25%	9%	0%	25%	7%	0%
	>15%	7%	2%	0%	13%	2%	0%	11%	2%	0%	7%	2%	0%	13%	2%	0%	9%	2%	0%
	>20%	4%	0%	0%	5%	2%	0%	4%	0%	0%	4%	0%	0%	5%	2%	0%	4%	0%	0%


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1 Question #20

2	Reference:	i) Exhibit B-1, pages 19 and 28-29
3		
4	a)	Please provide the following statistics for the 906 customer sample, using the
5		same definitions as discussed on page 17 for the class overall:
6		
7		Mean Consumption
8		Median Consumption
9		The 5th percentile value for consumption
10		The 25th percentile value for consumption
11		The 75th percentile value for consumption
12		The 95th percentile value for consumption

13 **Response:**

- 14 The following applies to the sample data:
- Mean Consumption is 2,612;
- Median Consumption is 1,582;
- The 5th percentile value for consumption is 397;
- The 25th percentile value for consumption is 973;
- 19 The 75th percentile value for consumption is 2,546;
- The 95th percentile value for consumption is 5,930.
- b) What percentage of FortisBC's residential customers have Electric Heat vs.Other Heat?

23 **Response:**

- According to the 2009 Residential End Use Survey ("REUS"), 38 per cent of FortisBC residential
- customers use electricity as the primary space heating source, with an additional 17 per cent
- 26 using electricity as a secondary source. The remainder of customers use "Other Heat".



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1	c)	What percentage of FortisBC's residential customers fall into each of the
2		following income ranges:
3		

- 4 <\$20 k
- 5 \$20 k \$40 k

6 **Response:**

- 7 Based on the 2009 REUS data it is estimated that;
- 8 per cent of residential customers have a pre-tax income of < \$20,000;
- 25 per cent of residential customers have a pre-tax income of \$20,000 \$40,000.

10 d) For each of the income brackets in Table 9-1, please indicate the mean and 11 median consumption per customer.

12 **Response:**

- 13 Please refer to the below table.
- 14

Table BCOAPO IR1 Q20d

	< \$20,000	\$20,000- \$40,000	\$40,000- \$60,000	\$60,000- \$80,000	\$80,000- \$120,000	> \$120,000
Mean kWh	1,470	1,712	1,786	2,101	2,173	2,329
Median kWh	968	1,471	1,496	1,869	1,798	1,601

15

16

e) Is the income metric based on family/household income? If not, what is it based on?

19 **Response:**

20 The metrics are based on household income.



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1f)For each of the income brackets referenced in part (c), what percentage of the2customers have Electric Heat vs. Other Heat?

3 Response:

- 4 49 per cent of customers with annual income less than \$20,000 have electric heat.
- 5 42 per cent of customers with annual income between \$20,000 and \$40,000 have electric heat.

Electronic Attachment BCOAPO IR1 Q16a

REFER TO LIVE SPREADSHEETS

Provided in electronic format only

(accessible by opening the Attachments Tab in Adobe)



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1 **1.0 Reference: Exhibit B-1, FBC RIB Application**

- 2 3 4
- 1.1 What is FBC's rationale for differentiating between revenue requirement rate increases and rebalancing adjustments in its proposed mechanism for future adjustments of the customer charge, Block 1 rate and Block 2 rate?

5 **Response:**

6 FortisBC's rationale for differentiating between general rate adjustments related to the annual 7 revenue requirement and those rebalancing adjustments related to the outcome of the 8 Company's 2009 Cost of Service Analysis and Rate Design Application ("2009 COSA and 9 RDA") as approved by Orders G-156-10 is based on certain directives contained within the 10 Order, including the directive "to develop a plan for introducing residential inclining block rates 11 that also incorporates a lower Basic Charge in the immediate future. . ."

As noted in the Application, the Company's current customer charge (or basic charge) collects 12 only 44 per cent of the costs allocated to be recovered as identified by the cost causation 13 principles employed in the Company's recent COSA. In recognition of this, and in consideration 14 of the Commission's directive to incorporate a lower customer charge, FortisBC elected to effect 15 16 this lowering of the customer charge by exempting it from the general rate increases related to 17 the annual revenue requirement. This proposed application of general rate adjustments will effectively reduce the customer charge as compared to its current level, and in the Company's 18 19 opinion complies with the Commission's directive as identified above.

20 Despite this, FortisBC is still cognizant of the fact that were the customer charge to also be 21 exempted from rebalancing adjustments, the reduction in the percentage of those costs, as 22 identified by cost causation, to be recovered through the customer charge would only be 23 accelerated. In the Company's opinion, the proposed application (and hence differentiation) of 24 general rate increases and rate rebalancing adjustments to the residential billing determinants 25 conservatively balances a reduction in the amount of revenue to be recovered through the 26 customer charge (already less than half of the proper amount), the Commission's directive to 27 lower the customer charge, and the initial level at which block 1 and block 2 rates are to be set for FortisBC's residential customers. 28



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12.0Reference:Exhibit B-1, FBC RIB Application, p.14; section 5.2.1 Customer2Charge

FBC states:

"FortisBC has been directed by the Commission to submit an inclining block rate option that includes a lower customer charger; ... 7 See Commission Order G-156-10, dated October 19, 2010, Directive 5." [p.14]

8 The reasons for decision for Order G-156-10 state:

"In particular, BC Hydro's current basic charge is 13.41 cents per day or \$ 4 per month,
as compared to the \$ 12 per month proposed by FortisBC, and its minimum charge
equals the Basic Charge." [p.53]

- 14 FBC's proposed option includes:
- "A customer charge frozen at the existing amount (with only rebalancing adjustments applied in future years);" [p.27]
- 192.1Please confirm that FBC's proposed "customer charge frozen at the existing20amount" does not comply with the Commission's direction in Order G-156-10 to21submit a RIB rate option that includes "lower customer charge." Alternatively,22please explain.

23 **Response:**

FortisBC addressed this point in Section 5.2.1 of the RIB Application, noting;

By exempting the existing customer charge from future rate increases (except for 25 rebalancing adjustments), the proportion of customer class revenue collected through 26 27 the customer charge will fall over time. At this time, the Company proposes to exempt 28 the customer charge from rate adjustments other than those related to rebalancing 29 through to 2015 and to revisit the issue at the end of that period. FortisBC is of the 30 opinion that this a conservative and viable approach that will not immediately reduce the customer charge further below the amount identified by cost causation principles 31 32 and will maintain consistent and acceptable levels for the rates charged for 33 consumption (block 1 and particularly block 2 rates).

If one interprets the Commission directive as requiring the Company to submit a proposal that features an immediate cut in the amount of customer charge upon implementation of the RIB rate then the Company's proposal would not meet this test. The Company recognizes that the concern expressed by interveners during the 2009 COSA and RDA regulatory process was that



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- 1 the existing customer charge represented too high a proportion of the total bill, which some felt
- 2 was unfair to low consumption customers. However, the Company maintains that the collection
- 3 of fixed costs through fixed charges, as well as the established need for revenue stability needs
- 4 to be considered. Decreasing the customer charge and increasing the energy charges adds
- 5 sales revenue volatility. FortisBC believes that its proposal provides an appropriate balance
- 6 between the needs of the Company and the concerns customers may have with the level of the
- 7 customer charge.



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1 3.0 Reference: Exhibit B-1, FBC RIB Application

2 3.1 Please provide a table comparing and contrasting FBC's proposed RIB rate with BC Hydro's existing RIB rate according to all relevant characteristics, including: 3 4 basic charge, threshold between block 1 and block 2, block 1 rate, block 2 rate, 5 billing period, basis for determination of threshold, basis for determination of 6 block 1 and block 2 rates, estimated conservation savings using BC Hydro's 7 elasticity assumptions, estimated conservation savings using FBC's elasticity assumptions, basis for determining maximum block 2 rate, size of maximum 8 9 block 2 rate, operative bill impact constraint, time from Commission decision to implementation, class average unit energy cost to customer (including basic 10 charge). 11

12 **Response:**

- 13 Please refer to the following table.
- 14

15

Table BCSEA IR1 Q3.1 Comparison of BC Hydro RIB Rate to FortisBC proposed RIB Rate

	FortisBC Proposed RIB Rate		RIB Rate	BC Hydro May 1, 2011 RIB Rate
Basic Charge	\$28.93 bimonthly			\$0.1448/day
Threshold		1,60	0 bimonthly	1,350 bimonthly
Block 1 Rate			\$0.07828	\$0.0667
Block 2 Rate			\$0.11272	\$0.0962
Billing Period		Monthly o	or Bimonthly	Monthly or Bimonthly
Basis for determination of Threshold	Cla	ass Median C	onsumption	90% of Median Consumption
Basis for determination of Block 1 &	95% of Customers see RIB-related		RIB-related	Block 2 Rate – CARC or 10% Principle
		Increa	se of $\leq 10\%$	Block 1 Rate – determined residually
Estimated Conservation (BCH elasticity assumptions)	0.05/0.1			0.05/0.1
Source: Figures 3 & 4, BCH RIB Rate Re-Pricing Application	1.90%			1,430 GWh by F2018
Estimated Conservation (FBC	0.05/0.1	0.1/0.2	0.2/0.3	0.05/0.1
elasticity assumptions)	1.90 %	3.70%	5.50%	1,430 GWh by F2018
Basis for determination of Maximum Block 2 Rate	95% of Cu	istomers see increa	RIB-related se of ≤ 10%	CARC or 10% Principle
Size of Maximum Block 2 Rate	Inial Block 2: 95% of Customers see RIB-related increase of ≤ 10% Future Block 2: No maximum cap		stomers see se of ≤ 10% aximum cap	CARC or 10% Principle
Operative Bill Impact Constraint	95% of Customers see RIB-related increase of ≤ 10%		RIB-related se of ≤ 10%	CARC or 10% Principle
Time from BCUC decision to implementation	6 to 9 months from date of BCUC Decision		ate of BCUC Decision	Decision: September 24, 2008 Implementation: October 1, 2008 and April 1, 2009
Class Average Unit Energy Cost to Customer (including Basic Charge) -Mean Consumption of 2,100 as stated in FortisBC Application	\$0.10026		\$0.10026	\$0.08137



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1 4.0 Reference: Exhibit B-1, FBC RIB Application, REUS

4.1 Please provide a description of a representative residential customer at low, medium and high consumption levels. For each, please specify the amount of annual consumption, the percentile of consumption level. Please include in the description the characteristics identified in the residential end use survey and any other information FBC is aware of that would help the Commission and parties gain an understanding of the real world impact of the proposed rate design change.

9 Response:

10 FortisBC has previously defined low, medium and high annual residential consumption in its

11 2009 COSA and RDA as less than 6,000 kWh, between 6,000 and 18,000 kWh and more than

12 18,000 kWh respectively.

13 These consumption levels result in the following statistics:

14

Table BCSEA IR1 Q4.1								
	Consumption (kWh)	Mean Annual Consumption (kWh)	Percentage of Consumption	Percentage of Customers	Bill Impact			
Low	< 6,000	3,573	9%	29%	-9%			
Medium	6,000 - 18,000	10,811	50%	54%	-5%			
High	> 18,000	29,002	41%	16%	+10%			

15 FortisBC does not have readily available data that would identify common characteristics of

these consumption groups, although it expects that building size and fuel choice are the biggest determinants of consumption. Even fuel choice is not particularly determinative however, as the

average annual consumption for electric heat customer is 13,422 kWh and the average for non-

19 electric heat is 9,708 kWh.



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15.0Reference:Exhibit B-1, FBC RIB Application, p.20, Table 7-1, RIB Rate2Evaluation Criteria

The description of "Maximum Bill Impact" states: "The highest single percentage increase experienced by a customer in any <u>month</u> when the RIB rate option is compared to the flat rate." [Underline added]

5.1 Is the reference to bill impact in any <u>month</u> a mistake? Should it read in any <u>year</u>? If there is no mistake, please reconcile the "Maximum Bill Impact" criterion with the customer impact criterion on p.17 defined in terms of <u>annual</u> rate impact.

10 **Response:**

The maximum bill impact applies to the category of the largest residential users with consumption of over 150,000 kWh per year. While the actual calculation was based on the annual bill for customers in that block, these customers all have the majority of their consumption in block 2 for every billing period and the maximum bill impact would apply equally to a single bill impact and the annual bill impact.

16



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6.0 Reference: Exhibit B-1, FBC RIB Application, 7.2 Elasticity Assumptions and Table 7-2: RIB Rate Option Comparison

- In the last three columns on the right, Table 7-2 provides conservation estimates for three sets of elasticity assumptions, from lower, to mid, to higher.
- 6 6.1 Please confirm that Table 7-2 supports the following conclusions, or, 7 alternatively, explain:
 - (a) RIB rate options with a higher bill impact criterion have higher conservation impact, other things being equal.
- 10(b) RIB rate options with a higher threshold between block 1 and block 2 have11higher conservation impact, other things being equal.

12 **Response:**

- 13 Table 7-2 supports the above conclusions.
- 6.2 Regarding the effect of the two Customer Charge values (28.93 cents and 21.50 cents per billing period) on Conservation Impact, it appears the Conservation Impact varies directionally depending on the customer bill impact criterion.
 Please describe the analytical results concerning the relationship between Customer Charge and Conservation Impact. Please explain the results.

19 Response:

The level of the customer charge has little effect on the conservation impact. A lower customer charge results in a lower block differential (and vice-versa), other things being equal, due to the bill impact criterion constraints. The higher average energy rate created by a lower customer charge is largely offset by a lower block differential. Conversely, the lower average energy rate created by a higher customer charge is largely offset by a higher block differential.



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17.0Reference:Exhibit B-1, FBC RIB Application, 8.1 Initial Screening of RIB Rate2Options37.1What does FBC mean by "Initial block differential too high" or "too low"? What

4 range of initial block differential does FBC consider to be neither too high nor too 5 low?

6 **Response:**

7 Please see the response to BCUC IR1 Q9.8.

8	7.2	Please provide a table and graph showing the relationship between Initial Block
9		Differential and Conservation Impact for the RIB rate scenarios examined.

10 **Response:**

11 Please see the table and graph below.

12

Table BCSEA IR1 Q7.2

Option	Criterion	Block Differential	Conservation Impact (-lower/upper)		
			.05/.010	.10/.20	.20/.30
1	90% see <10%	82.0%	2.8%	5.6%	8.3%
2	95% see <10%	48.0%	1.9%	3.7%	5.5%
3	100% see <10%	20.0%	0.9%	1.7%	2.5%
4	90% see <10%	83.0%	3.3%	6.6%	9.7%
5	95% see <10%	42.0%	1.8%	3.7%	5.4%
6	100% see <10%	15.0%	0.7%	1.4%	2.1%
7	90% see <10%	78.0%	3.0%	6.0%	8.8%
8	95% see <10%	44.0%	1.9%	3.7%	5.5%
9	100% see <10%	17.0%	0.8%	1.6%	2.3%
10	90% see <10%	64.0%	2.8%	5.6%	8.2%
11	95% see <10%	35.0%	1.8%	3.7%	5.4%
12	100% see <10%	11.0%	0.9%	1.7%	2.6%
13	90% see <10%	66.0%	3.2%	6.4%	9.4%
14	95% see <10%	32.0%	1.8%	3.6%	5.4%
15	100% see <10%	9.0%	0.8%	1.5%	2.3%
16	90% see <10%	61.0%	2.9%	5.8%	8.6%
17	95% see <10%	33.0%	1.8%	3.6%	5.4%
18	100% see <10%	10.0%	0.8%	1.7%	2.5%







7.3 Please explain what it is about particular RIB rate options that causes the Initial
Block Differential to be particularly high, or particularly low.

5 **Response:**

6 The block differential is derived from the relative levels of the block 1 and 2 rates. The level of 7 the rates is in turn driven entirely by the combination of customer charge, threshold and 8 customer impact criterion.

9 There are two factors that contribute to the differential in rates. The first is the strictness of the 10 bill impact criterion. Generally, the rate differential decreases as the strictness increases so that 11 customers have less of a bill impact overall.

Second, as the threshold increases, there are less kWh billed in block 2 and the rate must behigher to offset the lost revenue from block 1.

7.4 What does FBC mean by "Insufficient load billed in second block"? What amount
of load billed the second block does FBC consider to be not insufficient?

16 **Response:**

17 Please see the response to OEIA IR1 Q13.1.



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- 1 2
- Please provide a table and graph showing the relationship between Load Billed in Second Block and Conservation Impact for the PIB rate scenarios examined
 - in Second Block and Conservation Impact for the RIB rate scenarios examined.

4 <u>Response:</u>

7.5

- 5 Please the table and graph below.
- 6

Table BCSEA IR1 Q7.5

Option	Criterion	Load billed in Block	Conservation Impact (-lower/upper)		
			.05/.010	.10/.20	.20/.30
1	90% see <10%	43.3%	2.8%	5.6%	8.3%
2	95% see <10%	43.3%	1.9%	3.7%	5.5%
3	100% see <10%	43.3%	0.9%	1.7%	2.5%
4	90% see <10%	26.4%	3.3%	6.6%	9.7%
5	95% see <10%	26.4%	1.8%	3.7%	5.4%
6	100% see <10%	26.4%	0.7%	1.4%	2.1%
7	90% see <10%	36.6%	3.0%	6.0%	8.8%
8	95% see <10%	36.6%	1.9%	3.7%	5.5%
9	100% see <10%	36.6%	0.8%	1.6%	2.3%
10	90% see <10%	43.3%	2.8%	5.6%	8.2%
11	95% see <10%	43.3%	1.8%	3.7%	5.4%
12	100% see <10%	43.3%	0.9%	1.7%	2.6%
13	90% see <10%	26.4%	3.2%	6.4%	9.4%
14	95% see <10%	26.4%	1.8%	3.6%	5.4%
15	100% see <10%	26.4%	0.8%	1.5%	2.3%
16	90% see <10%	36.6%	2.9%	5.8%	8.6%
17	95% see <10%	36.6%	1.8%	3.6%	5.4%
18	100% see <10%	36.6%	0.8%	1.7%	2.5%

7







7.6 Please explain what it is about particular RIB rate options that causes the Load
Billed in Second Block to be insufficient.

5 Response:

- 6 Please see the response to OEIA IR1 Q13.1.
- 7 7.7 Please confirm that each of the four RIB rate options that passed the screening
 8 shown in Table 8.1 (options 2, 8, 11 and 17) have the mid Bill impact criterion
 9 (i.e., 95% see <10%). If confirmed, please discuss why this is the case.

10 Response:

This is confirmed. These are the four options that remained after the others were eliminated for the reasons indicated in Table 8-1. This result was not predetermined, rather the options that had the 95 per cent see < 10 per cent criterion were those that produce the results that on balance best satisfy all of the RIB evaluation criteria.



FortisBC Inc. ("FBC" or the "Company") Submission	n Date:
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1 8.0 Reference: Exhibit B-1, FBC RIB Application, p.25

2 "Options 2 and 8 are designed on the premise that the customer charge is exempt from
3 rate increases (except for rebalancing adjustments), so two different scenarios were
4 explored: ..."

8.1 Is there something in Table 7-2 that reflects Options 2 and 8 having different
 assumptions regarding customer charge than the other scenarios?

8 Response:

No. All of the options presented in Table 7-2 are equivalent in terms of being revenue neutral to
each other and the current flat rate. At that point, all could receive the same treatment.

The treatment of rate increases for each rate is shown in Table 8-3. The Company did assume from the beginning however that option 2 and 8 could not be escalated by the revenue requirement rate increases in order to comply with the Commission directive to introduce a RIB rate with a lower charge.

15 8.2 In what, if any, other ways are the options listed in Table 7-2 differentiated, apart
16 from the ways indicated in Table 7-2 itself?

17 **Response:**

18 The presentation in Table 7-2 is a complete listing of the manner in which the rates were 19 differentiated during design and inclusion in the Application.

20



FortisBC Inc. ("FBC" or the "Company") Residential Inclining Block Rate Application ("Application")	Submission Date: June 7, 2011
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1 9.0 Reference: Exhibit B-1, FBC RIB Application, p.27

- "Upon further review, items B, D, F, and H in Table 8-3 were removed from
 consideration due to the high and increasing ratio between block 1 and block 2. The
 Company believes that a second block that is too high will be unduly punitive to higher
 consumption customers, such as those with electric heat."
- 9.1 Please provide, or point to in the filed evidence, support for the apparent
 assumption that higher consumption customers are those with electric heat; or
 that customers with electric heat are higher consumption customers.

10 **Response:**

11 Please see the responses to BCUC IR1 Q13.4.1 and Q13.4.2.



FortisBC Inc. ("FBC" or the "Company") Residential Inclining Block Rate Application ("Application")	Submission Date: June 7, 2011
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110.0Reference:Exhibit B-1, FBC RIB Application, 9 Demographic Impact of2Alternatives

10.1 Did FBC explore the impact of different RIB rate options according to
demographic criteria in addition to "income level" and "heating fuel choice"? If so,
which ones and what were the results? If not, why not?

6 **Response:**

7 Please see the response to OEIA IR1 Q4.2.



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1 **11.0** Reference: Exhibit B-1, FBC RIB Application

11.1 Does FBC propose to conduct any evaluation of the implementation of the RIB
 rate? If so, please describe it.

4 **Response:**

5 Please see the response to OEIA IR1 Q2.1.



1 **12.0** Reference: Exhibit B-1, FBC RIB Application

2 12.1 What exemptions, if any, does FBC propose regarding the RIB rate?

3 **Response:**

4 FortisBC assumes that this information request is intended to determine if there are any 5 residential customers who would not be required to take service under the RIB rate. Please also 6 refer to BCUC IR1 Q6.4.

7 13.0 Reference: Exhibit B-1, FBC RIB Application

8 13.1 What demand-side management programs or other measures does FBC have in 9 place or propose to initiate that would particularly assist low income customers to 10 improve conservation and efficiency in response to the proposed RIB rate and/or 11 to mitigate any adverse impacts

12 **Response:**

13 Please see the response to BCUC IR1 Q8.2.



1 1) Ref: Exhibit B-1, Executive Summary, Page 2, lines 9 -11

- 2 3
- a) Please explain why the company proposes to exempt the customer charge from future rate increases.

4 <u>Response:</u>

- 5 The Company proposes to exempt the customer charge from future rate increases as a means 6 to comply with the Commission directive from Order G-156-10 to,
- 7 ...develop a plan for introducing residential inclining block rates that also incorporate a lower
- 8 Basic Charge in the immediate future and file an RIB rate application with the Commission no
- 9 later than March 31, 2011.
- 10 As stated in the Application on page 16,
- 11 By exempting the existing customer charge from future rate increases (except for rebalancing 12 adjustments), the proportion of customer class revenue collected through the customer charge 13 will fall over time. At this time, the Company proposes to exempt the customer charge from rate 14 adjustments other than those related to rebalancing through to 2015 and to revisit the issue at 15 the end of that period. FortisBC is of the opinion that this a conservative and viable approach 16 that will not immediately reduce the customer charge further below the amount identified by cost 17 causation principles and will maintain consistent and acceptable levels for the rates charged for 18 consumption (block 1 and particularly block 2 rates).
- 19b)Does it follow that General Rate Increases will be applied solely to the energy20charges for residential customers while their customer charges are kept21constant?

22 Response:

- Yes, the customer charge will be exempted from all rate increases except for rate rebalancingover the term described in the Application.
- c) Will there be any cross subsidy from other rate classes to the residential class as
 a result of the residential customer charge being exempt from future rate
 increases?

28 Response:



FortisBC Inc. ("FBC" or the "Company")	Submission Date:
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- 1 No. The RIB rate will collect the same portion of the overall revenue requirement regardless of
- 2 how it is structured or the manner in which the rate increases are applied. Revenues that would
- 3 have been collected through an increased customer charge will be recovered through the other
- 4 residential rate components.



FortisBC Inc. ("FBC" or the "Company")	Submission Date:
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1 2) Ref: Exhibit B-1, Section 2.1, Conservation

a) Does the company consider that energy consumption reductions made as a
result of RIB rates are to be considered part of the company DSM programs?
Why or why not?

5 Response:

FortisBC does not consider the energy consumption reductions resulting from different rate
structures or rate levels to be part of the FortisBC PowerSense DSM program, although rate
design could be considered an element of an overall DSM effort. The PowerSense DSM
program specifically supports conservation through measures and behaviour changes based
upon incentives and education.

11



FortisBC Inc. ("FBC" or the "Company")	Submission Date:	
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1 3) Ref: Sec 10, Implementation;

We understand the company intends to make an application for Advanced Metering
 Infrastructure which presumably would include the ability to implement Time Of Use
 Rates:

a) Is the company intending to move forward with AMI? If yes then please respond to the following:

8 Response:

9 Yes, the Company is intending to submit an Application in support of the implementation of 10 Advanced Metering Infrastructure.

b) Would rates enabled by AMI (e.g. Time of Use Rates) replace RIB rates?

12 Response:

13 It remains the position of FortisBC that time-based conservation rates offer the best alternatives 14 to flat rates for the Company and its customers. Should a RIB rate be mandated by the 15 Commission, it is currently the Company's intention to introduce some suite of time-based rates 16 would still be offered to complement the RIB rates, likely on a voluntary participation basis.

17 c) Is the company concerned about creating customer confusion with various rates
 18 and terminology (Flat rates, RIB rates, TOU rates, Smart Metering)?

19 Response:

20 Please see the response to BCUC IR1 Q4.3.



1 4) Ref: Exhibit B-1, Table 6-1, Block Consumption;

- 2 Table 6-1 identifies consumption in block1 and block 2 for three different thresholds on3 an annual basis.
- 5 a) Please update the table with the information from the second analysis (page 18 6 line 25) to indicate how customer billing could be expected to fall into the blocks 7 on a seasonal basis.

8 Response:

9 Please refer to the below table.



FortisBC Inc. ("FBC" or the "Company")	Submission Date:
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Block Consumption by Threshold and Month			
Threshold (kWh)	Month	Block 1	Block 2
1,350	Jan	39%	61%
1,350	Feb	39%	61%
1,350	Mar	44%	56%
1,350	Apr	50%	50%
1,350	May	55%	45%
1,350	Jun	61%	39%
1,350	Jul	65%	35%
1,350	Aug	59%	41%
1,350	Sep	62%	38%
1,350	Oct	62%	38%
1,350	Nov	57%	43%
1,350	Dec	45%	55%
1,600	Jan	44%	56%
1,600	Feb	45%	55%
1,600	Mar	49%	51%
1,600	Apr	56%	44%
1,600	May	61%	39%
1,600	Jun	67%	33%
1,600	Jul	71%	29%
1,600	Aug	66%	34%
1,600	Sep	68%	32%
1,600	Oct	69%	31%
1,600	Nov	64%	36%
1,600	Dec	51%	49%
2,100	Jan	54%	46%
2,100	Feb	54%	46%
2,100	Mar	59%	41%
2,100	Apr	66%	34%
2,100	May	71%	29%
2,100	Jun	77%	23%
2,100	Jul	80%	20%
2,100	Aug	75%	25%
2,100	Sep	78%	22%
2,100	Oct	78%	22%
2,100	Nov	74%	26%
2,100	Dec	61%	39%

Table Nelson Hydro IR1 Q4a lock Consumption by Threshold and Mont



1 5) Ref: Exhibit B-1, Page 19, Footnote 10, REUS

2 a) Please file the Residential End Use Survey on the record for this proceeding.

3 Response:

4 The Residential End Use Survey is provided as Appendix Nelson Hydro IR1 Q5a.

5



1 6) Ref: Exhibit B-1, Section 7.1, Lines 5 – 11, Price Elasticity;

a) Please identify the values the company has used for price elasticity and
 reference any studies that may have been conducted to demonstrate the
 elasticity values.

5 Response:

6 Please see the response to BCOAPO IR1 Q13b.

7 7) Ref: Exhibit B-1, Section 7.2, Conservation Impacts;

- Assuming the company is successful in encouraging residential customers to conserve
 energy please clarify how this would impact the company revenue requirements as
 follows;
- a) Would a marginal reduction in residential energy consumption reduce or increase
 the company revenue requirements?

13 Response:

14 It is not expected that the introduction of a RIB rate will have a material impact on the annual 15 revenue requirement of the Company. However, given that the Company's marginal cost of 16 energy in the short-term is below the residential sales price and in the long-term expected to be 17 above the residential sales price, the Company expects that the RIB rate will cause rate 18 increase pressure in the short-term and rate increase mitigation in the long-term.

19b)Would the change in revenue requirements be allocated solely to the residential20customer class or to all rate classes as a general rate change?

21 **Response:**

As stated in the response to Nelson Hydro IR1 Q7a above, the Company does not expect a material increase in its revenue requirement as a result of the implementation of a RIB rate.

However, if the implementation of a RIB rate results in a reduction of residential load and marginal power purchases there may be an increase in the utility's revenue requirement as a result of conservation. This increase plus any increase in administration over that required for a flat rate would be incorporated into the Company's revenue requirement and recovered through the general rate increase for all customers.



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- 1 Customer rates are determined by dividing the revenue requirement by total sales. Therefore,
- 2 the impact of a RIB rate (or other conservation measure) on rates depends on the reduction in
- 3 energy sales compared to the marginal cost of electricity at that time. If the avoided cost of
- 4 power purchases resulting from the programs is not in excess of the residential sales price, the
- 5 reduction in the revenue requirement would be lower than the reduction in total sales, on
- 6 average, rates would increase for all customers in the short term.

7 8) Ref: Exhibit B-1, Table 7-2, RIB Rate Option Comparison;

8 a) Please clarify how the Conservation Impact section of the table should be
9 interpreted.

10 **Response:**

- 11 The conservation impact is the percentage reduction in total residential consumption expected
- 12 for each of the RIB options based on the price elasticity of demand values assumed in each of
- 13 the Conservation Impact columns.



1 9) Ref: Section 1, Executive Summary

a) Does the company have a target for RIB to rates to result in energy consumption
 reductions - e.g. so many kWh of residential consumption by a certain date?

4 **Response:**

5 FortisBC did not have a target for RIB rate energy consumption reductions. The RIB rate

6 options were based on customer bill impacts, which can be more accurately estimated than

7 energy consumption and which are critical for broad customer acceptance of a RIB rate.

Appendix Nelson Hydro IR1 Q5a RESIDENTIAL END USE SURVEY

Appendix Nelson Hydro IR1 Q5a

FORTISBC 2009 Customer End-Use Study

Prepared For: FortisBC Prepared By: Discovery Research Date: August 2009

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	2. Do you pay Maintenance Fees?	9
	3. Which of the following are included in your Rent or Maintenance Fees?	10
	4. What type of dwelling do you live in?	11
	5a. When was your home built?	12
	5b. How many years have you lived in this home?	13
	6. What type of basement does your residence have?	14
	7. Is the basement area of your home finished?	15
	8. What is the total floor area of this home?	16
	9. How many floors of heated living space does your home have?	17
	10. If your home is an apartment or condominium, how many stories does your building have?	17
	11. Additional suite(s) or household(s) on your electrical bill?	18
	B. DOORS, WINDOWS & INSULATION	19
	12a. Which areas of your home have insultation? What is the quality of the you have Insulation?	19
	12b. Please indicate how effective the draft proofing in your home is?	20
	12c. Type of glass in window. Are your windows Argon filled?	21
	12d. Please estimate what percentage of your windows have the following frames	22
	12e. What type of the following types of doors does your home have?	23
	12f. How many programmable thermostats do you have in your home?	24
	C. SPACE HEATING	25
	13. Please indicate the fuels used to heat your home	25
	14. Please indicate the main heating system you use to heat your home	27
	15. How many rooms do you heat in your home altogether?	29
	16a. In the past three years, have you purchased a furnace?	30
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	16c. Have you changed or modified your home heating system in the last 2 years?	31
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	17a. How often does your furnace fan blower operate?	33
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<i>37. Do you have the following Cooking appliances in your home?</i>	
38. Do you have the following Laundry/Dryer appliances in your home?	
39. Do you have the following home electronics in your home?	
G. SPACE COOLING	
40a. Do you have the following Air Conditioning appliances in your nome?	
40b. Are you planning to buy the jollowing types of air conditioners in the next 12 months?	
n. OTHER END USES	
41a. Do you have the following items at your home? (Foois, not tuos, car garage, etc)	
I ELECTRICITY AND THE ENVIRONMENT	
42 Fnerov issues in BC and how they affect you and your family and friends	
43. Please rate your agreement with the following: Energy conservation	
44a What encourages you to use less energy in your household?	62
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44c. Please rate your agreement with the following: New Products. Services and Electricity	
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54. Gender	/4
55. Education	
50. Age of people living in household	/J 75
57. Main Language spoken in nousenoia	75 76
50. Is part of your home used as a full time or part time office?	70
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APPENDIX: QUESTIONNAIRE ERROR! BOOKMARK NOT D	EFINED.

1. Background and objectives

FortisBC is an integrated electric utility in British Columbia. FortisBC electric utility business serves about 157,000 customers in more than 30 communities in south central BC. The customers are in two major categories:

Direct - FortisBC delivers power directly to 110,000 customers.

Research was undertaken to help FortisBC understand how customers use energy in their homes for the purposes of forecasting future electrical demand and also to design Demand Side Management and Marketing and Communications programs. Discovery Research was contracted by FortisBC to complete the study. The specific objective of this study is to collect and track over time, detailed information about the characteristics and features of customers homes, as well as different ways in which electricity is used in them. Areas of interest include, but are not limited to:

- Home characteristics and features such as housing type, age of home, size of home, etc;
- Insulation;
- Windows;
- Doors and door frames;
- Space heating;
- Space cooling;
- Water heating;
- Lighting;
- Kitchen and Laundry appliances;
- Home electronics.

In addition to collecting the end-use information, the study also set out to solicit customer opinions, attitudes and behaviors related to electricity and conservation. This information will be beneficial for segmenting the customer base as well as for further informing program development and communications strategies.

Indirect - FortisBC delivers power indirectly through municipal wholesaler utilities to 48,000 customers .

2. Methodology

Given the amount and detail of the information to be collected, the methodology utilized for this research was a self-administered mail survey coupled with an equivalent online version of the survey.

Mailed Survey:

On July 2, 2009 a total of 5000 surveys were mailed to a random sample of FortisBC customers. The total sample of 5000 consisted of 3500 Direct FortisBC customers and 1500 Indirect customers serviced through city wholesalers. The 3500 Direct customers were randomly selected from the entire FortisBC direct residential customer base. The 1500 Indirect customers were randomly selected from the regions serviced by City wholesalers according to the below distribution:

Municipal Wholesaler	<u>Total</u> Customers	Ratio	<u>Indirect</u> sample
Kelowna	13770	29%	432
Penticton	16613	35%	521
Grand Forks	2105	4%	66
Summerland	5436	11%	171
Nelson Hydro	<u>9885</u>	21%	<u>310</u>
	47,809	100%	1500

Each potential respondent was mailed a survey package which included a survey with cover letter and a postage paid return envelope. Respondents were offered two ways to participate in this study:

- Complete the survey and return it in the postage paid envelope via regular mail -OR-
- Complete the online version of the survey and submit it electronically

As an incentive for completion, respondents were entered into a draw for one of three \$500 gift certificates to a home improvement retailer of their choice. Respondents were offered an additional entry into the prize draw as an added incentive to complete the survey on-line.

Emailed Survey:

On July 27 2009, 4000 Direct FortisBC customers were randomly chosen from the database of customers that FortisBC has email addresses for. These 4000 email addresses were a mixture of residential and commercial customers who have chosen to receive their monthly bills via email. The customers were sent an email inviting them to participate in the survey and the email included a link to the online residential and online commercial surveys.

Prior to emailing the survey invitations, it was not possible to determine how many of the 4000 email addresses were residential customers and how many were commercial customers. Based on response rates of the respective surveys, we will assume that 3840 email addresses were residential email addresses and 160 were commercial email addresses. Responses to the commercial surveys received are presented in another report (2009 Fortis Commercial End Use Report).
Response Rate

Mailed Survey:

Although 5000 surveys were mailed, 104 were returned to FortisBC as undeliverable – in most cases, likely due to closed accounts and other changes since the time the billing information was last updated. Of the 4896 surveys that were effectively delivered, a total of 1066 were returned: 824 via Canada Post and 242 via the Online version; yielding a response rate of **21.8%** for the Mail survey methodology.

Emailed Survey:

Of the 3840 email invitations sent out, 983 online surveys were received back, giving a response rate of **25.6%** for the Email survey methodology.

Total Response Rate:

Of the 8736 Residential Customers that were approached, 2049 surveys were completed, giving a total response rate of **23.5%**.

Direct versus Indirect Residential Customer Response Rate:

Of the 1458 surveys that reached Indirect FortisBC residential customers, 230 returned a completed survey, giving a response rate among Indirect customers of **15.8%**.

Of the 7278 surveys that reached Direct FortisBC residential customers, 1819 returned a completed survey, giving a response rate for Direct customers of **25.0%**.

Margin of error



This bar graph displays the margin of error associated with various sample sizes.

Statistics generated from sample size of 2049 will be accurate within $\pm 2.2\%$, at the 95% confidence interval (19 times out of 20).

Weighting the Data

The sample was weighted by region to ensure the collected sample matched the true composition of FortisBC's total customer base.

	Residential Customer Population				Unweighted Sample		Weighted Sample	
	Direct	Indirect	Total	%	Total	%	Total	%
Central Okanagan (Kelowna) including Big White	42276	12424	54700	39.74%	840	41.46%	805	39.73%
South Okanagan including Similakameen	20365	19783	40148	29.17%	549	27.10%	591	29.17%
West Kootenay/Boundary	32641	10166	42807	<u>31.10%</u>	637	31.44%	630	<u>31.10%</u>
Total	95282	42373	137655	100.00%	2026	100.00%	2026	100.00%

After applying the weights, the regional proportions in weighted sample match the regional proportions in the Population of FortisBC Customers.

Comparison with BC Hydro 2006 Residential End Use Survey (REUS)

In 2006, BC Hydro completed a comprehensive mail survey (REUS) with their residential customers across BC. Throughout this report, comparisons are made with the response collected from 1144 BC Hydro customers in the Southern Interior of BC. These Southern Interior BC Hydro customers will be referred to as "**Hydro '06**" in comparison graphs and tables.

3. Survey Results

A. About Your Home

1. Do you own or rent your home?



Ninety percent of FortisBC customers own their home and 10% rent. Among 2006 Hydro customers in the Southern Interior, 87% owned their homes and 13% rented.

Only 65% of respondents who live in Apartments or Condos own their home.



2. Do you pay Maintenance Fees?

		Type of dwelling				
		Single detached	Duplex, Row, Townhouse	Apartment, Condo	Mobile, Other	
Do you pay	Yes	10%	61%	62%	33%	
maintenance	No	85%	21%	4%	58%	
fees?	Rent	5%	18%	35%	9%	
Total	Base	1326	208	245	150	

		Region			
		Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary	
Do you pay maintenance fees?	Yes	36%	21%	10%	
	No	50%	71%	81%	
	Rent	14%	9%	8%	
Total	Base	766	555	592	

Sixty-six percent of FortisBC customers own their home and do not pay maintenance fees, 24% own and pay maintenance fees and 10% rent.

Sixty-one percent of respondents that live in a Duplex, Row or Townhouse and 62% of Apartment and Condo residents pay maintenance fees.

Residents of the Central Okanagan are the most likely to pay maintenance fees (36%) and residents of the West Kootenay/Boundary are the least likely (10%).

BC Hydro CEUS 2006 Southern Interior Comparison:

Among Hydro customers in the Southern Interior, 31% rent or pay maintenance fees compared to 34% of FortisBC customers.

3. Which of the following are included in your Rent or Maintenance Fees?



Among respondents that rent or pay maintenance fees, hot water is included for 33% and 13% have heat included. The majority, 63% don't have hot water, heat or gas for a fireplace included in there rent or maintenance fees.

Base: Respondents who rent or own and pay maintenance fees.

Column percentages may exceed 100% because multiple responses provided

-		Type of dwelling				
		Single detached	Duplex, Row, Townhouse	Apartment, Condo	Mobile, Other	
Which of the	"None of the above"	76%	88%	28%	86%	
following are	"Hot water"	23%	9%	65%	12%	
included in your rent or maintenance	"Heat"	19%	4%	14%	9%	
fees?	"Natural gas for fireplace"	10%	1%	11%	3%	
Total	Responses	250	163	277	76	
	Base	194	159	234	68	

Base: Respondents who rent or own and pay maintenance fees

Column percentages may exceed 100% because multiple responses provided

Among Apartment or Condo residents, 65% have hot water included in their rent or maintenance fees.



4. What type of dwelling do you live in?

The majority (69%) of FortisBC residential customers live in a single detached house. Thirteen percent live in an apartment or condominium and 8% live in a mobile home. The BC Hydro sample had a higher percentage of residents living in Mobile Homes (15%) compared to 8% of the FortisBC sample.

		Region		
		Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
	"Single detached house"	54%	73%	83%
"What type	"Apartment, condominium"	22%	8%	4%
of dwelling	"Mobile home"	6%	11%	8%
do you live in?"	"Row, townhouse -3+ units attached"	12%	5%	2%
	"Duplex"	5%	3%	2%
Total	Base	776	569	60 ⁻

Among Central Okanagan residents, 54% live in a single detached house and 22% live in an apartment or condo. West Kootenay/Boundary residents were the most likely (83%) to live in a single detached home.



5a. When was your home built?

Twenty-eight percent of homes were built between 1996 and 2009 and 29% were built before 1975. Compared to the BC Hydro sample, the FortisBC sample had a higher percentage of homes that were built in 1996 or newer because the category includes 3 extra years (2006 to 2009).

		Type of dwelling			
		Single detached	Duplex, Row, Townhouse	Apartment, Condo	Mobile, Other
	"Before 1950"	12%	1%	2%	
"When	"1950-1975"	25%	14%	5%	25%
was	"1976-1985"	18%	19%	10%	
home	"1986-1995"	21%	28%	23%	21%
built?"	"1996-2009"	24%	32%	53%	22%
	Don't know	1%	5%	7%	1%
Total	Base	1343	208	244	158

Fifty-three percent of Apartments and Condos were built between 1996 and 2009.

		Region			
		Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary	
	"Before 1950"	2%	7%	17%	
"When	"1950-1975"	14%	21%	31%	
was	"1976-1985"	16%	17%	21%	
home	"1986-1995"	26%	24%	13%	
built?"	"1996-2009"	39%	28%	16%	
	Don't know	2%	3%	2%	
Total	Base	775	565	599	

Forty-eight percent of homes in the West Kootenay/Boundary were built before 1975 compared to only 16% in the Central Okanagan.



5b. How many years have you lived in this home?



6. What type of basement does your residence have?

Almost half of residential customers (48%) have a full basement and 9% have a partial basement.

		Type of dwelling				
		Single detached	Duplex, Row, Townhouse	Apartment, Condo	Mobile, Other	
	"Full basement"	60%	46%	11%	2%	
"What type of	"Partial basement"	12%	8%	2%	1%	
residence have?"	"Crawl space"	20%	27%	3%	26%	
	"No basement"	8%	19%	85%	71%	
Total	Base	1350	211	234	158	

Sixty percent of single detached homes had full basements.

		Region			
		Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary	
	"Full basement"	42%	41%	62%	
"What type of	"Partial basement"	8%	9%	11%	
residence have?"	"Crawl space"	19%	27%	12%	
	"No basement"	31%	24%	15%	
Total	Base	774	567	599	

Sixty-two percent of the West Kootenay/Boundary residents have a full basement compared to 42% of Central Okanagan residents and 41% of South Okanagan residents.



7. Is the basement area of your home finished?

Base: Respondents with basements

Among all respondents with basements, 41% of basements were completely finished and 28% were partially finished.

Among West Kootenay/ Boundary respondents with basements, 35% were completely finished basements and 39% were partially finished.



8. What is the total floor area of this home?

Fifty-eight percent of FortisBC homes were between 1000 and 2500 square feet. The BC Hydro sample had statistically similar home sizes.

Among FortisBC customers, the average square footage of homes is 1960 square feet. This is similar for all regions.



9. How many floors of heated living space does your home have?

Forty-nine percent of FortisBC customers have 2 floors of heated living space and 36% have 1 floor.

10. If your home is an apartment or condominium, how many stories does your building have (not including underground parking)?



Among FortisBC customers who live in Apartments or Condominiums, 78% have 3-4 floors compared to 80% among BC Hydro southern interior customers.





Ninety-seven percent of FortisBC customers have electric bills that cover their household only, and 3% have additional suites.

B. Doors, Windows & Insulation



12a. Which areas of your home do you have Insulation?

What is the quality of the Insulation?



Ninety-five percent of FortisBC customers indicated they had insulation in the walls of their home and 86% said they had insulation in the Attic. Among the customers that have insulation in their walls, 38% have above average insulation in their walls. Of respondents with insulation in the Attic, 58% have above average insulation in the Attic.



12b. Please indicate how effective the draft proofing in your home is?

Sixty-two percent of FortisBC customers indicated their homes are not drafty at all. Sixty-seven percent of residents of the Central Okanagan indicated their homes are not at all drafty compared to 55% of the West Kootenay/ Boundary area.



12c. What percentage of your windows are:

Sixty percent of the windows in respondents homes are double glazed regular glass and 19% are double glazed low- E glass.

Are the windows Argon filled?

		Total
"Double glazed regular (clear) glass"	"Yes"	28%
Total	Base	714
"Double glazed low-E"	"Yes"	58%
Total	Base	508
"Triple glazed regular (clear) glass"	"Yes"	6%
Total	Base	194
"Triple glazed low-E"	"Yes"	13%
Total	Base	201

Base: Respondents who have this type of window

Among respondents who indicated they have double glazed regular glass, 28% said the windows were argon filled.

Among respondents who indicated they have double glazed low-E glass windows, 58% said the windows were argon filled.



12d. Please estimate what percentage of your windows have the following frames.

On average, forty-two percent of the windows in respondents homes have vinyl frames and 29% have wood frames.

West Kootenay/Boundary homes had an average of 36% of their window frames made of wood, significantly higher than the 22% of window frames in the South Okanagan region.



12e. What type of the following types of doors does your home have?

The majority (61%) of homes have one or more insulated steel or fiberglass door. Thirty-eight percent have 1 or more standard wood door.

		Region			
		Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary	
	Insulated steel or fiberglass doors	60%	64%	60%	
Which of	Standard wood doors	33%	36%	47%	
the following	Sliding glass doors with aluminium frames	26%	26%	15%	
types of doors you	French doors (mostly glass)	23%	21%	22%	
have in	Sliding glass doors with vinyl frames	21%	23%	16%	
home?	Standard wood doors with aluminium storm doors	14%	18%	22%	
	Sliding glass doors with wooden frames	12%	10%	14%	
Total	Responses	1434	1138	1187	
TULAI	Base	761	570	605	

Among West Kootenay/Boundary homes, 47% have one or more standard wood door compared to 33% of Central Okanagan customers.

Column percentages may exceed 100% because multiple responses provided



12f. How many programmable thermostats do you have in your home?

Sixty-four percent of FortisBC homes have one or more programmable thermostats. Central Okanagan homes were the most likely (69%) to have programmable thermostats.

C. Space Heating



13. Please indicate the fuels used to heat your home.

Natural gas is the main fuel used to heat 52% of homes, followed by electricity used by 38% of homes. Electricity was also used as a secondary source in 17% of homes. Seven percent of homes used wood as their primary source of heat.

		Type of dwelling				
		Single detached	Duplex, Row, Townhouse	Apartment, Condo	Mobile, Other	
	"Natural gas"	57%	57%	18%	47%	
"Please	"Electricity -including portable heaters"	31%	42%	80%	27%	
indicate the fuels	"Wood"	9%			8%	
used to	"Bottled propane"	0%			11%	
heat your home	Geothermal Water	1%	0%	0%		
(main fuel)"	"Piped propane"	1%	0%	0%	4%	
lucij	"Oil"	0%		1%	3%	
	"Don't know"	0%		0%		
Total		1333	209	241	157	

Among apartments and condos, 80% use electricity as the main fuel to heat their homes.

		Custor	mer type
		Direct	Indirect
	"Natural gas"	51%	59%
	"Electricity -including portable heaters"	38%	33%
"Please	"Wood"	7%	5%
indicate the fuels used	"Bottled propane"	1%	0%
to heat your	Geothermal Water	1%	0%
fuel)"	"Piped propane"	1%	0%
	"Oil"	0%	1%
	"Don't know"	0%	
Total	Base	1613	225

Customers serviced by wholesalers were slightly more likely to have their homes heated by natural gas (59%) compared to 51% of direct Fortis Customers.

			Region	
		Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
	"Natural gas"	60%	47%	46%
"Please	"Electricity -including portable heaters"	34%	42%	38%
indicate the fuels	"Wood"	1%	7%	13%
used to	"Bottled propane"	2%	1%	0%
heat your home	Geothermal Water	1%	1%	0%
(main fuel)"	"Piped propane"	1%	1%	1%
iuei)	"Oil"	0%	1%	1%
	"Don't know"	0%	0%	0%
Total	Base	774	572	601

Among South Okanagan residents, 42% used electricity as their main source of heat. Thirteen percent of West Kootenay/ Boundary homes have wood as the main fuel to heat their home.



Electricity is used as a main fuel source for 38% of FortisBC homes compared to 20% of BC Hydro Southern Interior homes.



14. Please indicate the main heating system you use to heat your home.

			Type of	dwelling			Region	
		Single detached	Duplex, Row, Townhouse	Apartment, Condo	Mobile, Other	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
	"Central forced air furnace"	58.0%	54.7%	16.6%	63.9%	58.4%	50.8%	48.3%
	"Electric baseboard only"	11.3%	30.1%	65.0%	3.9%	23.4%	17.4%	16.3%
	"Heat pump – air source"	9.8%	6.3%	2.9%	8.7%	6.2%	13.1%	7.1%
	"Wood stove"	5.0%			5.9%	.2%	4.4%	7.7%
	"Gas fireplace -used for heating"	3.0%	3.3%	2.9%	1.3%	3.6%	2.5%	2.3%
"Please	"Both central furnace and electric baseboards"	2.5%	1.5%	3.2%	2.6%	1.7%	1.9%	4.1%
indicate the main	"Wood fireplace -used for heating"	2.9%	.5%		2.6%	.7%	2.5%	3.9%
heating system	"Heat pump – ground source"	1.6%	.9%	1.2%	.6%	2.1%	1.1%	.7%
you use	"Electric radiant ceiling or floor"	1.4%	.5%	2.1%		.5%	1.7%	1.8%
to heat your	"Portable electric heaters"	.7%		1.6%	5.1%	.9%	.8%	1.6%
home (main	"Other"	.9%	.5%	.8%	.7%	.6%	.8%	1.1%
system)"	"Hot water baseboards"	.9%		.8%	.7%	.1%	.9%	1.5%
	Hot water infloor	.7%	.5%	.4%		.2%	.8%	1.0%
	"Electric fireplace -used for heating"	.3%	.5%	1.6%	1.2%	.9%	.8%	
	"Hot water radiators"	.6%	.5%	.4%			.4%	1.1%
	"Natural gas wall heater"	.2%	.5%	.4%	2.0%	.2%	.4%	.7%
	"Dual fuel furnace"	.4%			.6%	.1%		.8%
Total	Base	1332	208	242	155	773	568	602

Main Heating System used to heat your home:

Sixty-five percent of apartments or condo's have electric baseboard only for their main heating system. Thirteen percent of South Okanagan residents have an air source heat pump as their main heating system.

				Type of	dwelling			Region	
		Total	Single detached	Duplex, Row, Townhouse	Apartment, Condo	Mobile, Other	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
	0 rooms	8%	5%	8%	28%	8%	11%	6%	8%
	1-3 rooms	18%	11%	27%	42%	27%	21%	17%	16%
Always heated	4-6 rooms	42%	42%	49%	28%	60%	37%	49%	43%
	7-9 rooms	23%	31%	14%	2%	4%	23%	20%	26%
	10+ rooms	8%	11%	2%			9%	8%	7%
Total	Mean	5.4	6.3	4.5	2.4	4.3	5.4	5.3	5.6
Total	Base	1969	1331	206	244	158	776	573	600
	0 rooms	64%	64%	67%	57%	73%	65%	66%	62%
	1-3 rooms	29%	29%	27%	39%	23%	29%	29%	30%
Sometimes heated	4-6 rooms	5%	6%	5%	4%	5%	6%	4%	6%
	7-9 rooms	1%	1%	1%			1%	1%	1%
	10+ rooms	0%	0%				0%	0%	0%
Total	Mean	.9	1.0	.8	.9	.6	.9	.8	1.0
TOTAL	Base	1969	1331	206	244	158	776	573	600
	0 rooms	80%	79%	79%	80%	83%	79%	82%	77%
Rarely or	1-3 rooms	19%	19%	20%	18%	15%	19%	16%	21%
heated	4-6 rooms	2%	2%	1%	2%	2%	2%	2%	2%
	7-9 rooms	0%	0%		0%		0%		
Total	Mean	.4	.4	.4	.3	.3	.4	.3	.4
Total	Base	1969	1331	206	244	158	776	573	600

15. How many rooms do you heat in your home altogether?

Missing values treated as zero. Base sizes include only cases where with at least 1 heated room given. Average percent of heated rooms includes zeros.

Among the total FortisBC sample, on average 5.4 rooms in the house are always heated; 0.9 rooms are sometimes heated and 0.4 rooms are rarely or never heated. This is statically consistent across all regions.



16a. In the past three years, have you purchased a furnace?

Twelve percent had purchased a new furnace in the past 3 years. This was consistent in all regions.

16b. Does your new furnace have a high efficiency blower motor?

				Region	
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
"Does your new furnace have a high efficiency	"Yes"	69%	65%	71%	71%
blower motor (often called a variable speed motor or electronically	"No"	14%	9%	17%	18%
controlled motor (ECM)?"	"Don't know"	17%	26%	12%	11%
Total	Base	240	95	71	71

Among respondents who have purchased a new furnace in the past 3 years, 69% purchased a a furnace with high efficiency blower motor, 14% did not purchase this type and 17% did not know if their new furnace had a high efficiency blower motor.

Base: Respondents who have purchased a furnace in the past 3 years



16c. Have you changed or modified your home heating system in the last 2 years?

Twelve percent had changed or modified their home heating system in the last 2 years.

	Electric baseboard heaters	Natural gas furnace or boiler	Portable electric heater(s)	Electric fireplace	Radiant baseboard heaters	Natural gas, propane fireplace	Other
Added	1.0%	0.8%	0.8%	0.5%	0.1%	0.9%	2.8%
Upgraded	1.2%	2.5%	0.1%	0.0%	0.0%	0.3%	1.0%
Removed	0.5%	0.3%	0.2%	0.0%	0.1%	0.1%	0.4%
	97.3%	96.3%	99.0%	99.5%	99.8%	98.7%	95.7%

What have you changed in the last 2 years?

Among those who indicated they made some changes to their heating system in the past 2 years, 2.5% stated they upgraded their natural gas furnace or boiler; 1% added electric baseboard heaters and 3.8% said they added or upgraded some other type of heating equipment. A listing of these "other" answers appears below.

			"(Other"	
		"Added"	"Upgraded"	"Removed"	No response
	Heat pump	29	9		11
	Wood stove	6	5	1	2
	Electric radiant floor	6			1
	Pellet	5			1
	Wood fireplace	3	2		1
	Propane furnace	1		2	
	Oil furnace			3	
"Other	Geothermal	3			
modifications	Gas fireplace		1		1
to heating system"	Wood airtight	1			
	Propane stove			1	
	Chimney liner	1			
	Inslab water heating				1
	Space heater	1			
	Electric furnace		1		
	Central air unit	1			
	Filter system				1
Total	Base	57	18	7	19

29 respondents indicated they added a heat pump and 9 respondents said they upgraded a heat pump in the past 2 years. A further 11 respondents added (6) or upgraded (5) a woodstove.



17a. How often does your furnace fan blower operate?

Among households with a furnace, 35% of FortisBC customers indicated the furnace fan only blows when the furnace is running and 47% said it only runs when furnace or air conditioning is running.

Base: Households with a furnace

			Region	
		Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
	"Only when furnace is operating"	23%	28%	59%
	"Only when furnace or air conditioning is operating"	55%	58%	26%
"How often does your	"Continuously during heating season to provide ventilation"	2%	1%	2%
blower operate?"	"Continuously heating & cooling season -provide ventilation"	5%	6%	4%
	"Continuously year round to provide ventilation"	6%	5%	4%
	"Don't know"	9%	3%	6%
Total	Base	588	424	421

Fifty-nine percent of West Kootenay/Boundary residents have their furnace fan blower operating only when the furnace is running compared to 23% of Central Okanagan residents. This difference is most likely the result of West Kootenay/Boundary

result of West Kootenay/Boundary residents being less likely to have air conditioning.



17b. Do you also turn the furnace fan on to provide ventilation for part of the year?

the furnace fan on for part of the year to provide ventilation.

Among households with a furnace,

23% of FortisBC households turn

Twenty-six percent of Central Okanagan residents turn their furnace fan on for ventilation.

Base: Households with a furnace

Average Number of weeks the furnace fan is turned on to provide ventilation:



Among FortisBC households that turn on the furnace fan for ventilation, the fan runs, on average for 15 weeks per year.

Base: Households with a furnace who turn fan on to provide ventilation

D. Water Heating



18. What is the main fuel used to heat the (main) hot water tank in your home?

Forty-nine percent of FortisBC customers compared to 38% of BC Hydro customers in the Southern Interior utilize electricity to heat their main hot water tank. Forty-two percent of FortisBC customers heat their hot water tank with natural gas.

			Type of	dwelling	
		Single detached	Duplex, Row, Townhouse	Apartment, Condo	Mobile, Other
	"Electricity"	50.3%	42.7%	28.7%	78.1%
	"Natural gas"	47.2%	54.5%	17.7%	13.1%
"What is the main fuel used to heat	"Home does not have a hot water tank-heated centrally"	.5%	.5%	29.4%	1.3%
the (main)	"Don't know"	.7%	2.3%	22.2%	1.3%
hot water tank in your	"Other"	.8%		1.6%	
home?"	"Bottle propane"	.2%			4.4%
	"Piped propane"	.3%		.4%	1.8%
	"Oil"	.1%			
Total	Base	1335	206	244	158

Fifty percent of single detached homes and 78% of mobile homes utilize electricity to heat their hot water tank.

			Region	
		Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
	"Electricity"	30.8%	56.9%	65.5%
	"Natural gas"	53.3%	37.6%	29.9%
"What is the main fuel	"Home does not have a hot water tank-heated centrally"	6.9%	2.6%	1.8%
the (main)	"Don't know"	7.3%	.7%	1.6%
hot water tank in your	"Other"	.7%	.9%	.5%
home?"	"Bottle propane"	.6%	.6%	.2%
	"Piped propane"	.4%	.4%	.5%
	"Oil"		.2%	
Total	Base	777	575	602

Sixty-six percent of West Kootenay/Boundary homes utilize electricity to heat their main hot water tank compared to only 31% of Central Okanagan Homes.



19a. What size is the largest hot water tank in your home?

		Main fuel used to h	eat the hot water tank?
		"Electricity"	"Natural gas"
	"Tankless hot water heater"	1%	2%
	"10 imperial gallons -46 litres"	3%	1%
"What size is	"33 imperial gallons -150 litres"	18%	31%
the largest	38 imperial gallons -175 litres	2%	
tank in your	"40 imperial gallons -182 litres"	56%	53%
home?"	50 imperial gallons -189 litres	1%	1%
	"60 imperial gallons -273 litres"	18%	10%
	"Other"	2%	2%
Total	Base	783	678

The majority (54%) of households have a hot water tank that holds 40 imperial gallons (182 litres). Twenty-four percent have the second most common size -33 gallons (150 litres).

Eighteen percent of electric hot water heaters were 33 gallon tanks compared to 31% of natural gas hot water tanks.

Eighteen percent of electric hot water heaters were 60 gallon tanks compared to 10% of natural gas hot water tanks.

Base: Respondent with Hot water tank



19b. How old is the largest hot water tank in your home?

The average age of hot water tanks is 6.6 years. The oldest hot water tanks are in Mobile homes with an average age of 7.7 years.

Natural gas hot water tanks are slightly older (6.9 years) than electric hot water tanks (6.4 years).

19c. Do you have water tank insulating blankets?



Base: Households with a hot water tank. Don't know responses not included.

One-in-four homes (25%) have hot water tank insulating blankets. Thirty-six percent of mobile homes have hot water tank insulating blankets.



Do you have insulation around hot water pipes?

Base: Households with a hot water tank. Don't know responses not included.

Thirty- five percent of homes have insulation around their hot water pipes. Only twenty-nine percent of homes in the Central Okanagan had insulation around their hot water pipes. Mobile homes were the most likely to have insulation around their hot water pipes (50%).

20. Have you changed your hot water heating fuel in the last two years?

				Region	
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
	"No"	98.8%	99.3%	99.2%	97.8%
"Have you	"Yes, from natural gas to electricity"	.5%	.3%		1.2%
changed your hot water	"Yes, from electricity to natural gas"	.3%	.3%	.2%	.5%
heating fuel in the last two	"Yes, from propane to electricity"	.2%		.4%	.2%
years?	"Yes, from oil to electricity"	.2%	.1%	.2%	.2%
	"Other"	.1%			.2%
Total	Base	1868	716	546	588

98.8% of FortisBC customers had not changed their hot water heating fuel in the last two years. 1.2% of West Kootenay/Boundary respondents changed their hot water tank from natural gas to electric.

The 2006 BC Hydro results were similar with only 1% changing their hot water heating fuel.

			Type of dwelling				Region		
		Total	Single detached	Duplex, Row, Townhouse	Apartment, Condo	Mobile, Other	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
Total number of showerheads	None	1%	1%		1%	1%		1%	2%
	1	32%	26%	37%	42%	71%	25%	34%	41%
	2	46%	49%	46%		26%	51%	46%	40%
	3+	17%	22%	14%	3%		20%	16%	12%
	Don't know	0%	0%		1%		0%		0%
	No response	4%	1%	2%	3%	3%	4%	4%	5%
Total	Base	2049	1353	211	248	159	805	591	630
Of these, how many are low flow shower heads?	None	27%	27%	30%	27%	33%	26%	26%	30%
	1	24%	22%	27%	28%	32%	23%	22%	27%
	2	26%	29%	23%	26%	15%	28%	29%	21%
	3+	7%	9%	7%	2%		9%	6%	5%
	Don't know	8%	8%	7%	10%	8%	7%	8%	9%
	No response	8%	5%	6%	7%	12%	6%	8%	9%
Total	Base	2049	1353	211	248	159	805	591	630
Number of instant hot water dispensers	None	73%	77%	71%	69%	62%	74%	71%	73%
	1	2%	2%	2%	1%	4%	2%	2%	2%
	2	1%	0%	1%	2%	1%	1%	0%	0%
	3+	3%	3%	4%	4%	6%	2%	4%	3%
	Don't know	4%	3%	4%	6%	7%	5%	3%	3%
	No response	18%	14%	17%	17%	20%	15%	19%	18%
Total	Base	2049	1353	211	248	159	805	591	630

21a. How many of the following do you have in your home? (Showerheads, Low flow shower heads and Instant hot water dispensers)

Ninety-five percent of households have at least one showerhead. Fifty-seven percent of households have one or more low flow showerhead and 6% of household have at least one instant hot water dispenser.



21b. Household uses for hot water:

Average Number of loads, showers or baths per week:



Note: Zero's not included in calculation of average

Ninety-five percent of households take at least one shower per week.

Forty-six percent of households take at least one bath per week.

Ninety-six percent of households do at least one laundry load per week.

Seventy-six percent of households complete at least one dishwasher load per week.

Among households that take at least one shower in a week, the mean number of showers taken was 10.9. FortisBC averages were very similar to BC Hydro averages.
E. Lighting

22-30. Number and type of bulbs in house

Percent of Households with at least one bulb type in household

				Region		
		Fortis '09	Hydro '06	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
Incandescent	1 or more bulbs	89%	97%	90%	89%	87%
Fluorescent	1 or more bulbs	59%	64%	56%	63%	59%
CFL	1 or more bulbs	68%	60%	67%	66%	72%
Halogen	1 or more bulbs	50%	42%	52%	52%	48%
Other types	1 or more bulbs	30%	22%	33%	29%	28%
Total	Base	1972	1124	777	566	612

In the 2006 BC Hydro survey, 97% of respondents in the Southern Interior had at least one incandescent bulb in their home compared to 89% of the 2009 FortisBC Households. Moreover, 68% of FortisBC Households had CFL bulbs compared to 60% of BC Hydro Households.

Missing values treated as zero.

Base sizes include only cases where at least one answer was given for any bulb type

				Region			
		Fortis '09	Hydro '06	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary	
Incandescent Total	Mean	17.7	21.3	18.8	17.4	16.4	
Fluorescent Total	Mean	5.4	6.0	5.1	5.3	6.0	
CFL Total	Mean	11.3	7.5	11.3	10.9	11.7	
Halogen Total	Mean	8.4	5.5	8.1	10.3	6.9	
Other types Total	Mean	7.1	6.4	7.1	7.2	7.1	

Average number of bulbs used by bulb type:

Among Households that had at least one CFL bulb, 2009 FortisBC Households had 11.3 CFL bulbs and 2006 BC Hydro customers had 7.5 CFL bulbs.

Missing values treated as zero.

Each average is based only on cases having at least 1 or more bulbs. ('zero' bulbs removed)

		Incande	ncandescent H		Fluorescent CFL			Halogen		Other	
		Fortis '09	Hydro '06	Fortis '09	Hydro '06	Fortis '09	Hydro '06	Fortis '09	Hydro '06	Fortis '09	Hydro '06
Bedrooms(s)	Mean	3.0	3.6	0.2	0.2	2.3	1.4	0.6	0.5	0.7	0.4
Bathroom(s)	Mean	3.8	4.8	0.2	0.2	1.8	0.8	1.1	0.7	1.0	1.8
Kitchen, eating area, including under and over cabinet lighting	Mean	1.7	2.0	2.1	1.9	1.4	1.0	3.2	1.8	1.0	0.6
Dining Room	Mean	1.8	2.3	0.1	0.1	0.7	0.4	0.3	0.3	2.0	1.0
Living Room	Mean	1.6	1.9	0.1	0.2	1.3	1.0	0.8	0.7	0.6	0.5
Den, Study, Office, Family & Game Room(s)	Mean	1.2	1.2	0.5	0.5	0.8	0.6	0.8	0.7	0.2	0.3
Hallway(s), Laundry & Utility room(s), Garage(s), Workshop(s)	Mean	2.4	2.9	1.8	1.8	1.7	1.2	0.6	0.4	0.4	0.4
Outdoor, Security, Porch & Landscape	Mean	1.6	1.8	0.1	0.0	1.0	0.6	1.0	0.9	1.2	1.6
Unfinished Basement	Mean	0.7	0.4	0.4	0.3	0.4	0.2	0.0	0.0	0.1	0.1
	Base	1751	4117	1160	2575	1352	2362	994	1865	593	877

Average number of bulbs used by bulb type and room :

2009 FortisBC customers have an average of 3.8 Incandescent bulbs in their bathrooms and 3.0 bulbs in their bedrooms. In general, the amount of CFL bulbs in all rooms of the house has increased since the 2006 BC Hydro survey.

Fluorescent lighting is most common in the Kitchen (2.1 bulbs). Halogen lighting is also most comment in the kitchen (3.2 bulbs).

		Incande	scent	Fluoresc	ent	CFL	Ī	Halogen		Other	
		Fortis '09	Hydro '06								
Bedrooms(s)	Mean	1.7	2.1	1.7	2.6	1.9	2.7	1.7	1.8	2.4	3.1
Bathroom(s)	Mean	1.6	1.9	1.7	2.1	1.9	2.2	1.7	1.7	2.3	2.0
Kitchen, eating area, including under and over cabinet lighting	Mean	2.8	3.4	3.4	4.2	3.3	4.2	2.5	3.0	2.8	2.7
Dining Room	Mean	1.8	1.8	1.5	3.5	2.0	2.9	1.6	1.9	1.7	1.8
Living Room	Mean	2.7	3.1	3.1	3.2	3.0	3.8	2.4	2.8	2.2	3.3
Den, Study, Office, Family & Game Room(s)	Mean	2.5	3.0	2.7	2.6	2.9	3.6	2.5	2.8	2.5	2.5
Hallway(s), Laundry & Utility room(s), Garage(s), Workshop(s)	Mean	1.5	1.8	1.6	1.8	2.0	2.4	1.6	1.5	3.1	3.2
Outdoor, Security, Porch & Landscape	Mean	2.1	3.0	2.3	8.9	3.5	5.7	2.0	2.2	4.5	6.7
Unfinished Basement	Mean	1.1	1.2	1.1	1.8	1.4	2.2	0.9	2.8	1.0	11.6

Average Hours per day light used by bulb type and room :

Each average is based only on cases having at least one bulb type in the specific room.

Incandescent lights are on an average of 2.8 hours per day in the Kitchen compared to CFL lights which are on an average of 3.3 hours per day in the Kitchen. In general, in all rooms of the house, CFL lights are kept on longer than Incandescent lights.

31. Number of Light bulbs controlled by dimmers and timers

Percent of Households light switches with a dimmer

			Region					
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary			
Incandescent	1 or more dimmer	39%	43%	37%	34%			
Fluorescent	1 or more dimmer	1%	2%	2%				
CFL	1 or more dimmer	8%	7%	9%	8%			
Halogen	1 or more dimmer	16%	17%	17%	14%			
Other types	1 or more dimmer	14%	15%	18%	11%			

Among households with at least one incandescent light bulb in their house, 39% had at least one dimmer switch controlling an incandescent bulb.

Among households with at least one Halogen light bulb in their house, 16% had at least one dimmer switch.

Missing values treated as zero.

Base sizes include only cases where at least one answer was given for specific bulb type.

Average number of bulbs with a dimmer

			Region					
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary			
Incandescent	Mean	4.0	4.4	3.7	3.8			
Fluorescent	Mean	2.9	3.6	2.4	.1			
CFL	Mean	3.4	3.3	3.9	3.0			
Halogen	Mean	6.5	4.4	9.6	6.5			
Other	Mean	4.3	4.0	4.5	4.4			

Zero's not included in mean calculation.

Each average is based only on cases having 1 or more dimmer switch

Base sizes are small, interpret results with caution

Among Households with dimmer switches on incandescent bulbs, the average number of switches was 4.

			Region					
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary			
Incandescent	1 or more timer	10%	9%	12%	8%			
Fluorescent	1 or more timer	0%	0%	0%	0%			
CFL	1 or more timer	8%	10%	7%	6%			
Halogen	1 or more timer	5%	6%	4%	4%			
Other types	1 or more timer	6%	3%	11%	4%			

Percent of Households light switches with a timer

Among households with at least one incandescent light bulb in their house, 10% had at least one timer. Among households with at least one CFL light bulb in their house, 8% had at least one timer.

Missing values treated as zero.

Base sizes include only cases where at least one answer was given for specific bulb type.

Average number of bulbs with a Timer

			Region				
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary		
Incandescent	Mean	2.6	2.9	2.3	2.8		
Fluorescent	Mean	5.9	9.5	3.0	2.0		
CFL	Mean	2.4	2.7	2.1	2.2		
Halogen	Mean	3.2	4.3	2.2	2.2		
Other types	Mean	7.0	7.4	4.4	13.6		

Zero's not included in mean calculation.

Each average is based only on cases having at least 1 or more timer Base sizes are small, interpret results with caution Among households with timers on incandescent bulbs, the average number of timers was 2.6.

32. Torchieres

Percent of Households with a Torchiere with the following bulb type:

			Region				
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary		
Incandescent	1 or more	17%	18%	18%	15%		
Fluorescent	1 or more	13%	13%	15%	11%		
CFL	1 or more	4%	5%	3%	4%		

Seventeen percent of households had at least one incandescent bulb torchiere. Thirteen percent of households had at least 1 fluorescent bulb torchiere and 4% had 1 or more CFL bulb torchieres.

Among Households with

1.7.

incandescent bulb torchieres, the average number of torchieres was

Missing values treated as zero.

Base sizes include only cases where at least one bulb was given of any type.

Average number of torchieres by bulb type

			Region				
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary		
Incandescent	Mean	1.7	1.8	1.6	1.5		
Halogen	Mean	1.5	1.4	1.4	1.8		
CFL	Mean	2.0	2.3	1.8	1.7		

Zero's not included in mean calculation.

Each average is based only on cases having at least 1 or more torchiere

Base sizes are small, interpret results with caution

Average hours per day torchieres are on by bulb type:

			Region				
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary		
Incandescent	Mean	2.2	2.2	2.3	1.9		
Halogen	Mean	2.0	2.4	1.6	1.7		
CFL	Mean	2.9	2.7	2.3	3.6		

Zero's not included in mean calculation.

Each average is based only on cases having at least 1 or more torchiere

Base sizes are small, interpret results with caution

Incandescent torchieres are on an average of 2.2 hours per day and CFL torchieres are on an average of 2.9 hours per day.

33. Outdoor Lighting fixtures

Percent of Households with outdoor light fixtures equipped with the following:



Forty-one percent of households have outdoor lights equipped with motion sensors and eighteen percent have solar/battery operated outdoor lights.

Do you have outdoor light fixtures equipped with the following?

	Region				
	_	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary	
Equipped with a motion sensor (turns on when movement is detected)	Yes	34%	46%	47%	
Solar, battery operated	Yes	15%	21%	20%	
Operated by a photo electric cell	Yes	12%	14%	12%	
Set on a timer (always set)	Yes	10%	11%	6%	
Combination of motion sensor and photo electric	Yes	5%	8%		

Forty-seven percent of West Kootenay/Boundary households are equipped with a motion sensor compared to 34% of Central Okanagan households.

34. Compact Fluorescent Light bulbs (CFL's)



In the past 12 months, have you purchased a CFL?

Sixty-two percent of FortisBC respondents had purchased a CFL bulb in the past 12 months compared to 55% of BC Hydro respondents.

Average number of CFL bulbs:

		Fortis '09	Hydro '06
"How many in total have you purchased?"		9.2	7.3
"Of these, how many have you installed?"	Mean	6.5	4.5
"How many were rebated by FortisBC?"	Mean	.6	n/a

Base: Respondents who have purchased CFL's in past 12 months.

Not surprisingly, CFL bulbs are more commonly used in 2009 then in 2006.



In the past 12 months, have any CFL bulbs failed?

Twenty-nine percent had a CFL bulb fail in the past 12 months. Among households that had a failed CFL bulb, the average number of failed bulbs was 2.2. Among the failed CFL bulbs, the average number that were replaced with another CFL bulb was 1.7.

35. LED Holiday Lights





Fifty-four percent of FortisBC households have holiday LED's compared to only 34% of BC Hydro 2006 households.

Single detached homes were the most likely to have holiday LED's.

The average number of LED strings per household was 5.5 among FortisBC customers compared to 4.8 amount BC Hydro customers.

F. Appliances



36. Do you have the following Refrigerator/Freezer appliances in your home?

Ninety percent of FortisBC households have a refrigerator with automatic defrost and 52% have a chest freezer. BC Hydro households were more likely to have a chest freezer (66%).

Average age of appliances:



Each average is based only on cases having appliance (main or secondary)

The average age of main automatic defrost refrigerator was 7.3 years and if the refrigerator was secondary, the average age was 10 years.

The average age of the main chest freezer was 12.6 years and the average age of upright freezers was 6.9 years.



37. Do you have the following Cooking appliances in your home?

Eighty-seven percent of FortisBC Households have a microwave oven and 81% have an electric range (cook top & oven).

Average age of appliances:



The average age of Electric cook tops was 9.0 years among all FortisBC Households and 11.2 years among West Kootenay/Boundary households. Cooking appliances were on average slightly older in the West Kootenay/Boundary area.

Each average is based only on cases having appliance



38. Do you have the following Laundry/Dryer appliances in your home?

Ninety-two percent of FortisBC Households have an electric clothes dryer and 82% have an automatic dishwasher.

Front load washing machines are more prevalent in 2009 among FortisBC Households (35%) than the were in 2006 Hydro households (14%).

Average age of appliances:



The average age of the main front loading washing machine is 3.6 years and the average age of top load washing machines is 9.5 years.

Each average is based only on cases having appliance (main or secondary)



39. Do you have the following home electronics in your home?

Seventy-five percent of FortisBC households have a DVD.

Only 52% of household had a VCR in 2009 compared to 73% in 2006.

In 2006, 80% of BC Hydro households had a standard TV with a 32 inch or less screen compared to 61% of FortisBC households.

Forty-seven percent have digital cable or satellite TV and 38% have an LCD flat screen TV. The percentage of households with LCD and Plasma TV's has increased significantly since 2006.



Average number of hours left on per day:

Fax machines are left on an average of 11.9 hours per day and desktop computers are left on 8.4 hours per day.

"Other" electrical items are left on an average of 8.4 hours per day. The specific other items provided by respondents are shown in the below chart:

	Radio	8
	LCD projector	5
	Scanner	5
	Photocopier	5
	Fax\printer (all in 1)	4
	Cordless phone	2
	Home theatre	2
	Battery charger	2
	UPC	2
	Modem\pvr	2
"Other	Water pumps domestic supplies	1
appliance"	Dot matrix	1
	Adding machine	1
	CD recorder	1
	Well pumps	1
	Sewing machine	1
	TV (small)	1
	Protable A\C	1
	Notebook computers	1
	Toaster oven	1
	Router\switch	1
	Hot tub	1
	Server	1
Total		50

G. Space Cooling

40a. Do you have the following Air Conditioning appliances in your home?



The majority of FortisBC homes (50%) have a central air conditioner. Only 33% of BC Hydro homes in the Southern interior have central air conditioners.

Air conditioners by region:

		Region				
		Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary		
	Central air conditioner	63%	57%	23%		
	Portable air conditioner	7%	6%	9%		
	Room window air conditioner	17%	16%	14%		
Do you have the following	Humidifier	11%	8%	5%		
appliances in	Dehumidifier	2%	3%	6%		
your home?	Portable fan	43%	39%	50%		
	Rotating ceiling fans without light fixtures	16%	24%	15%		
	Rotating ceiling fans with light fixtures	46%	55%	55%		
Total	Responses	1551	1141	954		
IUlai	Base	755	548	540		

Sixty-three percent of Central Okanagan households have a central air conditioner compared to 23% of West Kootenay/Boundary households.

Column percentages may exceed 100% because multiple responses provided



Average hours per day the air conditioners are in use: (when used)

Each average is based only on cases having appliance. Zero's included.

When Humidifiers are in use, FortisBC homes will keep their humidifier on for an average of 9.5 hours per day.

When central air conditioners are in use, FortisBC homes will keep their central air conditioner on for an average of 6.9 hours per day.



Number of months air conditioners in use per year:

The majority of households utilize portable air conditioners (83%), room window air conditioners (80%), central air conditioners (77%) and portable fans (75%) for 4 months or less each year. The majority of these households utilize these air conditioners from June or July to September each year.

Dehumidifiers are utilized over 6 months per year by 52% and humidifiers are used over 6 months per year by 67%.

40b. Are you planning to buy the following types of air conditioners in the next 12 months?

			Region		
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
"Portable"	"Yes"	2%	2%	1%	2%
"Room"	"Yes"	2%	2%	1%	2%
"Central"	"Yes"	2%	2%	1%	4%

Only 6% of FortisBC households are planning purchasing an air conditioner in the next 12 months. This is split evenly between portable, room and central air conditioners.

H. Other End Uses

41a. Do you have the following items at your home? (Pools, hot tubs, car garage, etc).



	Indoor swimming pool	Outdoor swimming pool	Indoor hot tub or whirlpool	Outdoor hot tub or whirlpool	Sauna	Water bed(s)	Aquarium (s)	Car garage	Workshop (separate from garage)	Personal greenhouse	Solarium
Electric	10%	6%	57%	92%	93%	56%	63%	18%	36%	32%	15%
Gas	28%	27%	11%	4%	2%	30%	15%	28%	26%	37%	40%
Don't know	26%	7%	9%	3%	4%	0%		1%	1%	0%	0%
Not heated	36%	60%	23%	1%	2%	14%	22%	53%	38%	31%	45%
Base	11	124	56	213	54	30	107	840	357	39	67

How is it heated?

The majority of outdoor swimming pools are not heated (60%). Ninety-two percent of outdoor hot tubs or whirlpools are electric and 93% of Saunas are electric. The majority of car garages (53%) are not heated.



41b. Do you have the following items at your home?

Twenty-eight percent of West Kootenay/Boundary households have an electric block heater for their car compared to 17% of Central Okanagan households.

Plug-in water coolers are more popular in the Southern and Central Okanagan than in West Kootenay/ Boundary.

I. Electricity and the Environment

42. How much have you been thinking about energy issues in BC and how they affect you and your family and friends?



The majority of FortisBC respondents (89%) have been thinking about energy issues in BC frequently (43%) or occasionally (46%). Energy issues are more on peoples minds than they were during the 2006 Hydro survey in which 30% thought of energy issues frequently and 52% occasionally.

Ninety percent feel they I would be willing to conserve energy if it would be willing to 70% 20% helped keep energy costs and rates low conserve energy if it helps keep energy costs and rates low. We could all use a lot less energy than we do 70% 17% and if many people conserved, we could all make a big difference overall By making my home more energy efficient, I am 66% 21% helping to do my part for the environment Regardless of whether it makes a difference, 66% 19% everyone has a moral obligation to do the best they can to conserve energy I would be willing to do my part of reducing my 54% usage of electricity if it allows the province to 26% reduce importing electricity into BC I am an active energy conserver who looks for 39% opportunities to save energy in everything I do I would be willing to do my part of reducing my usage of electricity if it allows the province to 39% 26% delay the construction of new electricity generation projects I really don't care much about energy and see 4% little reason to conserve It is worth it to pay MORE for energy in order to NEVER be asked to conserve There is not very much any individual can do 5% to conserve energy that will have much effect in the long run 0% 20% 40% 60% 80% 100% Strongly agree Somewhat agree

43. Please rate your agreement with the following: Energy conservation

Eighty percent agree (strongly-54%; somewhat-26%) they would be willing to reduce usage of electricity if it allows the province to reduce importing electricity into BC.

	Fortis '09	Hydro '06
To reduce costs\lower bills	73%	81%
Environmental reasons\power conservation	37%	21%
It's my philosophy\habit\common sense	10%	8%
Other family members	4%	1%
Cost\availability of energy efficient appliances\technology To be a good role model	3% 2%	2% 0.5%
Information\tips\education to save energy	1%	0.5%
Incentives\rebates	1%	1%
Advertising\reminders to save energy	1%	1%
Not at home much\don't use much energy	0.9%	0.5%
Other	0.7%	3%
Warm\summer weather	0.5%	1%
Daylight\long days	0.4%	1%
Nothing in particular	0.3%	5%

44a. What encourages you to use less energy in your household?

Not surprisingly, 73% of FortisBC respondents said that reducing costs/lowering bills would encourage them to use less energy. Thirty- seven percent of FortisBC customers and only 21% of Hydro customers would be encouraged to use less energy for environmental reasons or power conservation.

44b. What prevents you from using less energy in your household?

	Fortis '09	Hydro '06
Too costly to upgrade current appliances	9%	7%
Cost of upgrading\renovations\old house	6%	4%
Too costly to upgrade current windows\insulation	3%	5%
Cost of energy efficient lights\fixtures	1%	2%
Cost (general)	10%	9%
Total cost	28%	27%
Nothing in particular	15%	18%
Entertainment\lifestyle\household requirements	11%	14%
Too lazy\busy\l forget	10%	7%
Current usage is already at the minimum level	9%	10%
Comfort	9%	3%
Weather (ie. cold winter\hot summer)	9%	10%
Other family members are not participating\children	8%	9%
Convenience	5%	3%
Other	3%	4%
Problems with energy efficient bulbs	3%	1%
Darkness (ie. long winter nights) - need light	2%	5%
Don't know	2%	1%
Don't know how to save energy\lack of information	1%	1%
Rent\rental restrictions	1%	1%
Have an older furnace	1%	1%
Low cost of electricity\hydro bill	1%	1%
Security concerns	0.3%	0.4%
Have a home office	0.2%	1%

Cost prevents 28% of FortisBC customers from using less energy. Eleven percent of customers are prevented from using less energy because of their entertainment, lifestyle and household requirements. Ten percent are simply too lazy, busy or forget to use less energy.

44c. Please rate your agreement with the following: New Products, Services and Electricity

I am the type of person to have good insurance coverage	59%	2	8%
When buying a new appliance, energy consumption is an important consideration in the decision	58%	2	9%
When buying products and services, I alw ays look for the best price	36%	42%	
When I make decisions, I usually take time to research issues thoroughly	34%	46%	
I am know ledgeable about w ays to save electricity around my home	30%	53%	
I almost alw ays have a home renovation project on the go	14% 23%		
When something needs to be done around the home, I usually hire someone	<mark>10%</mark> 17%		
Eectricity in British Columbia is reasonably priced	<mark>8%</mark> 33%		
I am usually the first one to try new products	<mark>7%</mark> 27%		
I am alw ays on the go w ith little time to research w ays to save energy in the home	<mark>7%</mark> 20%		
C	% 20% 4	40% 60%	80% 100%
	Strongly agre	e ∎Som	ewhat agree

The majority agree (87%) that they are the type of person to have good insurance coverage and when buying a new appliance, energy consumption is an important consideration in the decision.

Eight percent strongly agree and 33% agree that electricity in BC is reasonably priced.



44d. Attitudes towards Environmentally friendly products, causes, and recycling

The majority (96%) recycle newspaper, metals, plastics or glass regularly. Seventy-one percent buy products that are environmentally friendly on a regular basis.

J. Managing Electricity

45. Space Heating Habits and Practices





46. Space Cooling Habits and Practices

Planting Vegetation or Installing shade devices to keep home cool:

Fifty percent have planted trees or other vegetation to keep their home cool. Forty-one percent have installed shading devices (i.e. awnings, pergolas) to keep their home cool.



47. Water Usage / Laundry Habits and Practices

Ninety-six percent always (84%) or usually (12%) clean the lint filter before drying clothes.

Ninety-three percent always (55%) or usually (38%) do laundry with full loads.



48. Lighting Habits and Practices

Ninety-eight percent always (71%) or usually (27%) turn off lights when no one is around.



49. Refrigeration Habits and Practices

Sixty-four percent always (34%) or usually (34%) check the temperature of the refrigerator to make sure it is not too cold.



50. Other Habits and Practices

Ninety-one percent always (61%) or usually (30%) turn off the TV when no one is in the room or actively watching the program.



51. Information Sources

Respondents were asked where they obtain information regarding new products and services. Sixty-six percent always (30%) or usually (36%) get information from the Internet and 63% get information from TV.

K. About your Household

52a. Thinking about major appliance purchase decisions in your household, what is your role in the decision making processes?



	Type of dwelling				
		Single detached	Duplex, Row, Townhouse	Apartment, Condo	Mobile, Other
"Thinking about	"I am the sole decision maker"	21%	41%	47%	44%
major appliance purchase decisions in your household, please indicate your role in the decision making process"	"Someone else in the house makes decision solely"		2%	3%	5%
	"Decisions made jointly- myself & another person"	77%	57%	50%	51%
Total	Base	1322	204	240	155

				Region	
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
	Female	21%	24%	19%	19%
Gender of decision maker	Male	10%	9%	10%	11%
for major appliance purchases	Jointly - Female and someone else in home	33%	32%	34%	32%
	Jointly - Male and someone else in home	37%	35%	37%	38%
Total	Base	1976	781	576	610

When making major appliance purchase decisions, 69% make decisions with another person's input.

Seventy-seven percent of respondents living in Single detached households will make decisions jointly when making major appliance purchases.

Females are the sole decision maker for major appliance purchase in 21% of homes and males are the sole decision maker in 10% of homes. The majority of appliance purchase decisions are made jointly between 2 or more people in the household.



52b. Thinking about making efforts to conserve electricity in your household, please indicate your role in the decision making process:

In 46% of households, all members conserve energy about the same amount.

Adult Females are slightly more likely (32%) to conserve electricity than Male adults (20%).

53. Your age is:

			Region			
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary	
	"18-24 yrs"	2%	3%	1%	1%	
	"25-34 yrs"	7%	11%	3%	7%	
"^~~"	"35-44 yrs"	11%	13%	6%	13%	
Aye	"45-54 yrs"	19%	18%	16%	23%	
	"55-64 yrs"	27%	24%	32%	27%	
	"65+ yrs"	34%	31%	42%	29%	
Total	Base	2015	795	587	620	

54. Gender

			Region		
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
"Gender"	"Female"	53%	56%	53%	51%
Gender	"Male"	47%	44%	47%	49%
Total	Base	2006	796	581	614

The majority of the respondents (61%) were 55 years or older.

The majority of the respondents (53%) were female.

55. Education

			Region		
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
"Education"	"Less than Grade 12"	9%	7%	11%	10%
	"High school diploma"	16%	14%	20%	15%
	"Some college, vocational or technical school"	21%	22%	19%	21%
	"College, vocational or technical school graduate"	22%	22%	19%	25%
	"Some university"	7%	7%	8%	6%
	"University, graduate degree"	24%	28%	20%	23%
	"Don't know, refused"	1%		1%	1%
Total	Base	2009	795	586	617

Forty-six percent of respondents had a college (22%) or university (24%) degree.

			Region				
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary		
	0-5 yrs	7%	9%	4%	8%		
Ages of people	6-12	8%	10%	4%	10%		
living in household	13-24	15%	17%	10%	16%		
on full time basis.	25-64	67%	66%	62%	72%		
	65+ yrs	38%	34%	48%	32%		
Total	Base	1963	776	574	602		

56. Age of people living in household

The majority of households have people aged 25-64 years of age.

Column percentages may exceed 100% because multiple responses provided

57. Main Language spoken in household.

			Region				
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary		
	"English"	98.0%	97.6%	97.8%	99.0%		
	"German"	.7%	.7%	.9%	.3%		
"What is the	"Other"	.6%	.7%	.4%	.6%		
main language spoken in	"French"	.2%	.2%	.4%			
	"Chinese"	.1%	.2%	.2%			
household?"	"Japanese"	.1%	.2%				
	"Dutch"	.1%	.2%				
	"Punjabi"	.1%		.4%			
Total	Base	2013	795	590	617		

English is the main language spoken in 98% of households.

			Region			
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary	
	"Under \$20k"	8%	7%	9%	9%	
"Please indicate	"\$20k to \$40k"	25%	21%	27%	27%	
income before	"\$40k to \$60k"	23%	21%	27%		
taxes for your household in the	"\$60k to \$80k"	18%	18%	16%	20%	
last year"	"\$80k to \$120k"	17%	20%	15%	15%	
	"\$120k or over"	9%	12%	7%	7%	
Total	Base	1739	693	494	546	

58. Total Household income before taxes

Household incomes are higher in the Central Okanagan than the other regions.

59. Is part of your home used as a full time or part time office?

			Region				
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary		
"Do you or anyone in vour household use	"No"	79%	78%	79%	81%		
part of your home as a full-time or part-time	"Yes, full-time business"	5%	5%	4%	4%		
office from which they conduct a business?"	"Yes, part-time business"	16%	16%	16%	15%		
Total	Base	2004	795	581	618		

Twenty-one percent of homes are used as part of a business, 5% full time and 16% part time.



60. How familiar are you with the following trademarks?

Fifty-six percent are very (32%) or somewhat (24%) familiar with the PowerSense trademark. An equivalent percentage (55%) were familiar with the EnergyStar trademark.


61. Which region do you reside in?

Forty percent of the sample lived in the Central Okanagan; 31% in the West Kootenay/Boundary and 29% in the South Okanagan.

			Region		
		Total	Central Okanagan, Kelowna	South Okanagan, Similkameen	West Kootenay, Boundary
"FortisBC provides electricity to customers	No response	1%	0%	1%	1%
directly and indirectly through city wholesalers; Local wholesalers supply electricity to some areas of Kelowna, Penticton, Summerland, Grand Forks and Nelson; Are you a direct or indirect customer?"	"Direct FortisBC customer"	82%	88%	76%	82%
	"Indirect FortisBC customer"	11%	7%	18%	11%
	"Don't know"	5%	5%	5%	7%
Total	Base	2049	805	591	

62. Are you a direct or indirect customer?

The majority of the sample (82%) were direct FortisBC customers. Eleven percent of the sample were indirect customers and 5% did not know.

		Total
"Which wholesaler provides your electric service?"	"City of Penticton"	37%
	"City of Kelowna"	26%
	"Nelson Hydro"	25%
	"District of Summerland"	8%
	"City of Grand Forks"	4%
Total	Base	230

Among the 230 indirect customers, 37% were City of Penticton customers, 26% were City of Kelowna customers; and 25% were Nelson Hydro customers.

Base: Indirect customers only

63. May we have your account number?

		Total
"FortisBC would like to access this information from your account	No response	7%
history and link it to the responses you've given today, may we please	"Yes"	76%
have your permission for FortisBC to do this?"	"No"	17%
Total	Base	2049

Seventy-six percent of respondents said it would be alright for FortisBC to use their account number. Sixty two percent actually provided an account number and 43% percent of the total sample (871 cases) provided a valid account number for which usage rates could be determined.

L. Home Energy Consumption

Energy consumption: Total, Region & Housing type



Energy consumption: By size of Home



The average annual home energy consumption among FortisBC customers in the sample was 11358 kWh compared to Hydro customers at 10338 kWh. One possible explanation for this difference could be that the Hydro services areas in the Southern Interior with milder temperatures than Fortis.

Homes in West Kootenay/Boundary and the South Okanagan used more energy on average per year than homes in the Central Okanagan. This is most likely the result of a higher percentage of apartments and condos in the Central Okanagan. Single detached homes use the most energy at 13057kWh and apartments or condos use the least at 5109kWh.

The average annual home energy consumption among homes larger than 3000 square feet was 16990 kWh compared to 5249 kWh for homes less than 500 square feet. Appendix: Questionnaire



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1 **1.0)** Reference: Exhibit B-1, Section 1, Page 1, Lines 29-30

- FortisBC states: "As explained in section 4.2, the current customer charge collects less
 than half of the amount prescribed by a cost of service analysis."
- 5 1.1 Please confirm the section number in question is actually 5.2.1 (and not 4.2).

6 **Response:**

7 Confirmed. Please refer to Errata 1.



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5 6

FortisBC Inc. ("FBC" or the "Company") Residential Inclining Block Rate Application ("Application")	Submission Date: June 7, 2011
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1 2.0) Reference: Exhibit B-1, Section 2, Page 2, Lines 23-26 and Section 10, Page 30

FortisBC describes some activities before the RIB implementation: "The introduction of a RIB rate is a significant change that, in the opinion of the Company, must be preceded and accompanied by thorough information and a customer education component, the development of which cannot commence until Commission direction is provided.". Further details are described in Section 10 Page 20.

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2.1 It is not clear of any reports that will be developed by FortisBC after the RIB has
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12 **Response:**

13 FortisBC has not proposed any reports related to the implementation of the RIB rate. For a

14 discussion of the FortisBC reporting if required by the Commission, please see the response to

15 BCUC IR1 Q1.1b.



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1 3.0) Reference: Exhibit B-1, Section 2, Page 4, Lines 14-15

- FortisBC states: "The Company is supportive of the Energy Plan goal of having
 conservation offset 50 percent of cumulative load growth by 2020."
- 5 3.1 Please confirm that the Clean Energy Act (Bill 17) has increased the goal to 66%.

6 Response:

- 7 The Clean Energy Act goal of 66 per cent applies only to BC Hydro.
- 8 3.2 The Clean Energy Act is discussed in Section 2.5, Page 7 please attach a copy
 9 of the Act.

10 **Response:**

- 11 A copy of the Clean Energy Act is provided as Appendix OEIA A3.2.
- 3.3 Is FortisBC supportive of the new 66% target in the Clean Energy Act. If not,
 why not?

14 **Response:**

- 15 FortisBC is committed to demand-side measures to conserve energy, but has not committed to
- 16 a specific target beyond 50 per cent. Any specific conservation target for a utility should be set
- after consideration of the type and cost of power supply resources available to a utility.
- 18 3.4 Explain the methods FortisBC has used to support the new increased target.

19 **Response:**

FortisBC expects to achieve the 50 per cent target through its PowerSense DSM program alone. Any further conservation achieved through RIB or other conservation rates and through government implementation of additional conservation-related codes and standards, will be incremental to PowerSense DSM savings.



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1 4.0) Reference: Exhibit B-1, Section 2, Page 5, Lines 5-7

- FortisBC states: "The Company is aware that numerous potential variants of the rate
 exist. Those included in the application however are restricted to those that best
 maintain provincial consistency, ..."
- 6 4.1 Please explain provincial consistency.

7 Response:

8 Please refer to the response to BCUC IR1 Q4.1.

9 4.2 Please list and describe potential variants that were not included in this 10 application because they did not maintain provincial consistency.

11 Response:

Any RIB rate that was not composed of two rate blocks, a customer charge, and a single threshold was not considered to offer provincial consistency. A non-exhaustive list of examples of other rate variants is:

- RIB rates featuring multiple thresholds and rate blocks;
- RIB rates that include a time component such as hourly or seasonal blocks;
- RIB rates that contain a demographic parameter such as income or heating fuel choice;
- RIB rates that feature a geographic parameter;
- RIB rates that feature an individual customer consumption baseline.
- 20 FortisBC did not perform any evaluation of these rate variants.



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1 5.0) Reference: Exhibit B-1, Section 2, Page 6, Lines 21-22

- FortisBC states: ". . . the Commission outlined its disagreement with the Company's
 approach."
- 5 5.1 In being directed by the Commission to implement RIB at this time, please 6 describe any steps that FortisBC may have done in the RIB design in order to 7 make the transition easier to the TOU rates in the future.

8 **Response:**

- 9 The implementation of the RIB rate is a stand-alone program. The eventual move to time-based
- 10 rates does not feature as a consideration in any of the work done to date.



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1 6.0) Reference: Exhibit B-1, Section 2, Page 6, Lines 25-28

- FortisBC states: "The Commission Panel is especially concerned that backing away from
 the RIB rate structure in the FortisBC service area today, in anticipation of TOU rates
 being implemented in five years time, would represent a foregone opportunity for energy
 efficiency and conservation."
 - 6.1 Please estimate the energy efficiency and conservation gains that are expected to be achieved over the next 5 years with the proposed RIB rate structure.

9 Response:

- The quote in the reference for this question should be attributed to the Commission in Order G-156-10, not to FortisBC.
- 12 FortisBC has assumed that it will achieve the 1.9 per cent residential energy savings outlined in
- 13 Table 7-2 incrementally over the next 5 years with the proposed RIB rate structure.

14

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8



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1 7.0) Reference: Exhibit B-1, Section 4, Pages 11-12

- FortisBC lists a range of public consultation processes.
- 7.1 Please list the public consultation processes that were done after BCUC directed
 FortisBC to implement RIB with a lower Basic Charge (after the release of
 Decision G-156-10).

7 **Response:**

8 FortisBC conducted no further public consultation on RIB rates after the Commission issued9 Order G-156-10.

107.2In Appendix C, Page 53, Slide 24 (and Appendix C, Page 67), FortisBC shows11two RIB rates: one with the existing basic charge, and one with a higher basic12charge. Did FortisBC gather any feedback during the public consultation process13for a RIB rate structure with a lower basic charge? If so, please describe the rate14option used, and list the consultation process. If not, why not?

15 **Response:**

16 The Company did not consult on a RIB option that included lowering the existing customer

17 charge. During the consultation process where RIB rates were discussed, the Company was

examining rate structures that adhered to the principles of cost causation and revenue stability.
 Reducing the customer charge even further from the amount determined by the Cost of Service

- 20 Study is not seen as consistent with those principles.
- 21 Please also see the response to BCSEA IR1 Q2.1.
- 22



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1 8.0) Reference: Exhibit B-1, Section 5, Page 14, Lines 2-3

FortisBC states: "The residential inclining block rate is intended to become the
 mandatory default rate for all residential customers except those who elect to take
 service under the existing TOU rate."

8.1 Please describe the situations in which it is advantageous from a customer's
point-of-view to take the TOU rate compared to the RIB rate.

8 Response:

As compared to a flat rate, from the point of view of the customer enrolled in the program, a TOU rate is advantageous if the customer's consumption pattern either currently, or with some behavioural changes results in reduced annual billings. This is typically accomplished by having a significant portion of consumption occur in the off-peak hours. Customers with a greater ability to manage the timing of their electricity usage will see the most benefit. A TOU rate would be advantageous over a RIB rate on the same basis.

15 It is difficult to generalize specific situations where an advantage may occur. For example, one 16 might assume that a customer who heats with Electric Thermal Storage (ETS) and has the bulk 17 of a relatively stable 24 hour consumption (on an average basis) in the off-peak hours would 18 benefit from TOU rates since the customer would likely have consumption in the second block 19 of a RIB rate.

However, without knowing the RIB threshold and each of the TOU and RIB rate components, one cannot draw such a conclusion with certainty.

8.2 Boes FortisBC expect the take-up of the TOU rate to increase with the introduction of the RIB rate?

24 **Response:**

No. The proposed RIB rate leaves over 70 per cent of customers better off as compared to the existing flat rate, and 95 per cent of customers experiencing bill increases of less than 10 per cent. If those customers are not already motivated to adopt a TOU rate, in the opinion of the

28 Company, the implementation of a RIB rate will have no material impact.



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18.3Please list the present number of TOU customers and estimated future TOU2customers.

3 **Response:**

4 Currently 188 customers take service under FortisBC's TOU rates. The Company has no 5 estimate for future take-up of its TOU rates.

6	8.4	As indicated in this RIB application, the original plan of FortisBC was "the use of
7		mandatory TOU rates in 2014", yet now the RIB rate structure will be mandatory.
8		
9		8.4.1 Does this RIB application change the plans of FortisBC to have
10		mandatory TOU rates in 2014? If so, please explain.

11 **Response:**

No, The Application has not changed the Company's intentions regarding the implementation of Advanced Metering Infrastructure ("AMI") and time based rates, however those rates are now expected to be optional rather than mandatory. Please also refer to the response to BCUC IR1 Q 6.4.

16	8.4.2	A plan for the implementation of time-based rates based was presented in
17		the FortisBC 2009 Rate Design Application as shown below.
18		
19		"FortisBC intends to prepare for the implementation of time-based rates in
20		four stages as outlined below:
21		
22		1. Commission a study during 2009 and 2010 that examines the typical
23		effects of time-based rates on energy and demand, as experienced by
24		utilities that have already implemented or piloted them.
25		
26		2. File an application for a Certificate of Public Convenience and
27		Necessity ("CPCN") for AMI in 2010.
28		
29		3. Conduct a study after the implementation of AMI to determine the
30		extent to which education and real-time consumption information can best
31		influence customer conservation behaviour.
32		



FORTIS BC [*]		FortisBC Inc. ("FBC" or the "Company") Residential Inclining Block Rate Application ("Application")	Submission Date: June 7, 2011
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1 2 3 4		Submit Rate Design Application supporting result and study."Please update the above plan.	ts of consultation
5	<u>Response:</u>		
6 7	The only part to be filed in	t of the plan that will change is item 2. The AMI CPCN application 2011.	is now expected
8 9		8.4.2.1 Describe how this plan may have been changed 156-10.	due to order G-
10	<u>Response:</u>		
11 12	Please see the optional TOU	ne response to OEIA IR1 Q8.4.2. At this time, FortisBC intends to I rates to customers.	continue offering
13 14 15		8.4.2.2 Describe how this plan may have been chan implementation of the RIB rate structure presenter application.	ged due to the ed within this RIB

Response: 16

Please see the response to OEIA IR1 Q8.4.2.1. 17

18



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8.4.2.3 Describe how this plan may have been changed due to the Clean Energy Act and other related legislation and policies.

3 **Response:**

- 4 Please see the response to OEIA IR1 Q8.4.2.1.
- 5

8.4.3 Will all future TOU rates support RIB? If not, please explain.

6 **Response:**

7 At this time, FortisBC does not intend to combine RIB rates with TOU rates. FortisBC believes

8 that such rate structures (which would result in customers being subject to at least twice as

9 many different energy rates as a TOU rate), are more complex than necessary to achieve

10 conservation.

11



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1 9.0) Reference: Exhibit B-1, Section 5, Page 14, Lines 5-17

- FortisBC states: ". . . the Company has <u>restricted</u> the options to RIB rates structures
 that vary the following four components:.
- 4 Customer Charge . . .
- 5 Threshold . . .
- 6 Block 1 Rate . . .
- 7 Block 2 Rate . . . "
- 8 (emphasis added)
- 9

(emphasis added)

109.1Please describe the areas that were not included because they were outside the11restrictions defined.

12 **Response:**

- 13 Please see the response to OEIA IR1 Q4.2 above.
- 14



FortisBC Inc. ("FBC" or the "Company")	Submission Date:	
Residential Inclining Block Rate Application ("Application")	June 7, 2011	
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1 **10.0)** Reference: Exhibit B-1, Section 5, Page 17, Lines 19-20

2		
3	FortisE	C states: "The 10 per cent figure is generally accepted to represent the threshold
4	of 'rate	Shock', though it is not an official position of the Commission."
5		
6	10.1	Please explain where the "generally accepted" 10 per cent figure comes from
7		and under what situations it applies.

8 <u>Response:</u>

9 Please refer to FortisBC's response to Tarnoff IR1 Q3.1.

10



12

1 **11.0)** Reference: Exhibit B-1, Section 7, Page 20, Table 7-1 and Page 22, Table 7-2

- FortisBC describes evaluation criteria in Table 7-1 and compares the criteria in Table 72.
 11.1 FortisBC states for evaluation criteria of Conservation Impact: "The conservation impact of a RIB rate option is the estimated reduction in both consumption and demand that is attributable to the implementation of the given RIB rate option."
- 910The Conservation Impact in Table 7-2 on Page 22 lists both consumption and11demand as a single combined value for each option.
- 13 11.1.1 Please separate the combined consumption and demand values into two
 14 separate values.

15 **Response:**

16 Please refer to BCUC IR1 Q17.6.

(emphasis added)

17	11.1.2 FortisBC shows a single value for Consumption Impact which contrasts to
18	the Conservation figures produced by BC Hydro in their RIB Re-Pricing
19	application and responses to Information Requests. The Conservation
20	figures provide the conservation for each year for the next several years.
21	Please provide similar figures along with the corresponding data values
22	for each year up to F2018 for all of the options described.

23 **Response:**

Savings would occur due to a change to a RIB rate starting with the time the rate is implemented. It may take several years for those full savings to occur due to the fact that a portion of savings result from behavioural changes, which would be immediate, and another portion results from a change in electric-consuming devices, which occurs over time. FortisBC does not have an estimate for savings in each year as a result of the RIB rate.



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111.2FortisBC defines "Maximum Bill Impact" and then lists a single value for each
customer. This contrasts with the Bill Impact tables produced by BC Hydro in
their RIB Re-Pricing application and responses to Information Requests. These
Bill Impact tables divide the bill impacts into about 15 ranges and show for each
year for the next several years. Please provide similar tables for each year up to
F2018 for all of the options described.

7 **Response:**

- 8 Please see the responses to BCUC IR1 Q16.11 and BCOAPO IR1 Q16.
- 9



FortisBC Inc. ("FBC" or the "Company") Residential Inclining Block Rate Application ("Application")	Submission Date: June 7, 2011
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1 **12.0)** Reference: Exhibit B-1, Section 7, Page 22, Table 7-2

FortisBC lists eighteen options of rate structures in Table 7-2 on page 22. FortisBC in its
2009 Rate Design Application expressed:
"Related to capacity concerns is the relatively rapid increase in the summer peak where
now both the summer and winter peak play a significant role in system planning."
12.1 Please confirm that there are also corresponding increases in summer
consumption.

9 Response:

July and August summer energy consumption has fluctuated from 2008 to 2010, with decreases in both 2008 and 2010 and increases in 2009. Generally speaking, changes in peak load are more volatile than changes in energy consumption as can be seen in Table 12.1.a for the past three years.

- 14
- 15

Table OEIA IR1 Q12.1.a 2008 - 2010 Gross Summer Energy Usage

	Actual Gross Loads (MWh)					
Year	Jul Aug		Total	Growth Rate (%)	Summer Peak (MW)	Growth Rate (%)
2008	272,764	255,598	528,362	-2.80%	537	-5.00%
2009	279,646	266,852	546,498	3.40%	561	4.50%
2010	273,217	265,281	538,498	-1.50%	554	-1.20%

Increases or decreases in summer energy consumption do not necessary correlate with summer peak. The peak is the result of the largest amount of demand at one point in time over the two month period. For example if most of July has cooler than average weather but there is one day where the temperature is extremely hot, the peak would be on that extremely hot day but the energy consumption for the month as a whole may not be larger than the previous year.

12.2 Has FortisBC considered seasonal rates for its RIB? If so, please discuss. If not,
 why not?

23 Response:

24 Please see the response to OEIA IR1 4.2 above.



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1 12.3 Given the interest of FortisBC in TOU rates in the future (e.g. recommendation of 2 mandatory TOU rates in 2014), while being directed by the Commission in this 3 application to implement RIB rates, has FortisBC given any consideration for 4 maximizing its RIB rate structure for benefiting for one aspect (e.g. season), 5 while focusing TOU on another aspect?

6 **Response:**

7 FortisBC considered seasonal rates in its 2009 COSA and RDA, but rejected them on the basis

8 that they would unfairly discriminate against customers with limited energy choices. This option

9 was presented as a "rejected option" in public consultation, with no dissenting opinions10 expressed.

- 11 FortisBC has not explored any combination or hybrid rate structure as part of the Application.
- 12 12.3.1 In which season can RIB achieve more conservation gains in the winter 13 or the summer? Please explain.

14 **Response:**

A RIB rate is expected to achieve more conservation gains in absolute terms in winter monthssince energy use is higher in that season.

17 12.3.2 In which season will RIB impact the customer billing less – in the winter
 18 or the summer? Please explain.

19 Response:

- 20 Customer billings are lower in the summer than the winter, therefore a RIB rate is expected to 21 have lower customer billing impact in the summer.
- 22 12.3.3 Are there seasonable differences between the way RIB and TOU 23 perform?
- 24 **Response:**



FortisBC Inc. ("FBC" or the "Company") Residential Inclining Block Rate Application ("Application")	Submission Date: June 7, 2011
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1 There may be seasonal differences in the way that RIB and TOU rates perform depending on

2 the specific design of the rate structures. For example, some TOU rates are designed with

3 higher on-peak rates during summer and winter and lower on-peak rates during the shoulder

4 seasons, and some are the same throughout the year. RIB rates inherently present higher costs

- 5 to customers during higher energy use seasons such as summer and winter.
- 12.3.4 Are there any significant other aspects (e.g. demographics) to which RIB
 or TOU are particularly favourable?

8 Response:

9 FortisBC believes that with the right information and tools TOU rates are more favourable to 10 customers since they allow customers to manage their energy bills in two ways: 1) by reducing 11 energy use and 2) by shifting energy use to off-peak periods. RIB rates give customers only the 12 first option.

1312.3.5Please provide the characteristics of option 8 which is only valid during14the winter.Please use the format as used in Table 7-2, with the15additional information as requested throughout this Information Request.

16 <u>Response:</u>

The following table provides the results for OEIA IR1 Q12.3.5 and Q12.3.6. Rates during the respective RIB period were set to have a 44 per cent differential, as with option 8. Winter

months were set as November through March. Summer months were set as March throughOctober.



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Table OEIA IR1 Q12.3.5

Option		Option 8 Winter Only	Option 8 Summer Only
Threshold		1600	1600
Customer Charge		28.93	28.93
Flat Rate		0.09090	0.09090
Block 1 Rate		0.07227	0.08389
Block 2 Rate		0.10406	0.12080
Block Differential		44.0%	44.0%
Annual Breakeven kWh		19000	12500
Percentage of customers better off		85.5%	66.8%
Maximum Bill Impact		4.2%	21.5%
Percentage of Customers with Bill Increases > 20%		0.0%	0.1%
Percentage of load at flat block		40.0%	60.0%
Percentage of load billed in Block 2 during RIB		58.6%	19.0%
period			
Conservation Impact (-lower/upper)	.05/.10	0.4%	0.3%
	.10/.20	0.8%	0.6%
	.20/.30	0.8%	0.6%

2

12.3.6 Please provide the characteristics of option 8 which is only valid during
 the summer. Please use the format as used in Table 7-2, with the
 additional information as requested throughout this Information Request.

6 Response:

- 7 Please see the response to OEIA IR1 Q12.3.5.
- 8



1 13.0) Reference: Exhibit B-1, Section 8, Page 24, Table 8-1

2 3

4

5

FortisBC lists the results of its initial screening in the Table 8-1 on page 24.

13.1 Please describe the characteristics and importance for determining the "Block Differential" and "Percentage of load in second block".

6 **Response:**

7 The Characteristics of these rate attributes are as follows:

8 Block Differential – refers to the level of the block 2 rate relative to the level of the block 1 rate 9 and is determined as (block 2 rate - block 1 rate) / block 1 rate

10 Percentage of load in second block – for any given RIB threshold, there will be a percentage of

each customer's annual consumption that will be above that threshold, beginning at zero per

12 cent. No customer can have 100 per cent of consumption above the threshold. The measure as

used in the Application is derived from all residential bills issued by FortisBC in 2009 and 2010.

Please see the response to BCUC IR1 Q9.8 for a further description on the block differential. The Company has not determined a value for the block differential that is too high, but notes that where the block 2 rate is significantly higher than the block 1 rate some customers, who may not be able to change consumption behaviour will be unduly harmed.

The Company considers that the "Percentage of load in second block" criterion serves as a proxy for the likelihood that a rate option will incent customers as a group towards conservation.

20 Accordingly, a higher number for this criterion will lead to greater conservation relative to an

21 option with a lower number. The criterion is not determinative on its own and is simply one more

- 22 piece of information to use in balancing the rate design objectives.
- 13.2 Please explain how a block differential could be too high. What are the consequences?

25 **Response:**

26 Please see the response to OEIA IR1 Q13.1 above.

Appendix OEIA IR1 Q3.2 CLEAN ENERGY ACT

CLEAN ENERGY ACT

CHAPTER 22 [SBC 2010]

[includes 2010 Bill 17, c. 22 amendments (effective July 5, 2010)]

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39. Transition

SCHEDULE 1 — Heritage Assets SCHEDULE 2 — Prohibited Projects

Definitions

1. (1) In this Act:

"acquire", used in relation to the authority, means to enter into an energy supply contract;

"**authority**" has the same meaning as in section 1 of the *Hydro and Power Authority Act*;

"British Columbia's energy objectives" means the objectives set out in section 2;

"Burrard Thermal" means the gas-fired generation asset owned by the authority and located in Port Moody, British Columbia;

"clean or renewable resource" means biomass, biogas, geothermal heat, hydro, solar, ocean, wind or any other prescribed resource;

"demand-side measure" means a rate, measure, action or program undertaken

- (a) to conserve energy or promote energy efficiency,
- (b) to reduce the energy demand a public utility must serve, or
- (c) to shift the use of energy to periods of lower demand,

but does not include

- (d) a rate, measure, action or program the main purpose of which is to encourage a switch from the use of one kind of energy to another such that the switch would increase greenhouse gas emissions in British Columbia, or
- (e) any rate, measure, action or program prescribed;

"electricity self-sufficiency" means electricity self-sufficiency as described in section 6 (2);

"**expenditure for export**" means the amount of an expenditure for the construction or extension of a plant or system or for an acquisition of electricity that is in addition to the amount the authority would have had to spend

- (a) to achieve electricity self-sufficiency, and
- (b) to undertake anything referred to in section 7 (1), except to the extent the expenditure is accounted for in paragraph (a);

"feed-in tariff program" means a program, that may be established under section 16, under which the authority offers to enter into energy supply contracts with persons generating electricity from clean or renewable resources using prescribed technologies in prescribed regions of British Columbia;

"greenhouse gas" has the same meaning as in section 1 of the *Greenhouse Gas Reduction Targets Act*;

"heritage assets" means

- (a) any equipment or facilities for the transmission or distribution of electricity in respect of which, on the date on which this Act receives First Reading in the Legislative Assembly, a certificate of public convenience and necessity has been granted, or has been deemed to have been granted, to the authority or the transmission corporation under the *Utilities Commission Act*,
- (b) generation and storage assets identified in Schedule 1 of this Act, and
- (c) equipment and facilities that are for the transmission or distribution of electricity and that are identified in Schedule 1 of this Act;

"integrated resource plan" means an integrated resource plan required to be submitted under section 3;

"transmission corporation" means British Columbia Transmission Corporation.

(2) Words and expressions used but not defined in this Act or the regulations, unless the context otherwise requires, have the same meanings as in the *Utilities Commission Act*.

2010-22-1.

PART 1 — British Columbia's Energy Objectives

British Columbia's energy objectives

- **2.** The following comprise British Columbia's energy objectives:
 - (a) to achieve electricity self-sufficiency;
 - (b) to take demand-side measures and to conserve energy, including the objective of the authority reducing its expected increase in demand for electricity by the year 2020 by at least 66%;
 - (c) to generate at least 93% of the electricity in British Columbia from clean or renewable resources and to build the infrastructure necessary to transmit that electricity;
 - (d) to use and foster the development in British Columbia of innovative technologies that support energy conservation and efficiency and the use of clean or renewable resources;
 - (e) to ensure the authority's ratepayers receive the benefits of the heritage assets and to ensure the benefits of the heritage contract under the BC Hydro Public Power Legacy and Heritage Contract Act continue to accrue to the authority's ratepayers;
 - (f) to ensure the authority's rates remain among the most competitive of rates charged by public utilities in North America;
 - (g) to reduce BC greenhouse gas emissions
 - (i) by 2012 and for each subsequent calendar year to at least 6% less than the level of those emissions in 2007,
 - (ii) by 2016 and for each subsequent calendar year to at least 18% less than the level of those emissions in 2007,
 - (iii) by 2020 and for each subsequent calendar year to at least 33% less than the level of those emissions in 2007,
 - (iv) by 2050 and for each subsequent calendar year to at least 80% less than the level of those emissions in 2007, and
 - (v) by such other amounts as determined under the *Greenhouse Gas Reduction Targets Act*;
 - (h) to encourage the switching from one kind of energy source or use to another that decreases greenhouse gas emissions in British Columbia;
 - (i) to encourage communities to reduce greenhouse gas emissions and use energy efficiently;
 - (j) to reduce waste by encouraging the use of waste heat, biogas and biomass;
 - (k) to encourage economic development and the creation and retention of jobs;
 - (1) to foster the development of first nation and rural communities through the use and development of clean or renewable resources;
 - (m) to maximize the value, including the incremental value of the resources being clean or renewable resources, of British Columbia's generation and transmission assets for the benefit of British Columbia;
 - (n) to be a net exporter of electricity from clean or renewable resources with the intention of benefiting all British Columbians and reducing greenhouse gas emissions in regions in which British Columbia trades electricity while protecting the interests of persons who receive or may receive service in

British Columbia;

- (o) to achieve British Columbia's energy objectives without the use of nuclear power;
- (p) to ensure the commission, under the Utilities Commission Act, continues to regulate the authority with respect to domestic rates but not with respect to expenditures for export, except as provided by this Act. 2010-22-2.

Integrated resource plans

- **3.** (1) The authority must submit to the minister, in accordance with subsection (6), an integrated resource plan that is consistent with good utility practice and that includes all of the following:
 - (a) a description of the authority's forecasts, over a defined period, of its energy and capacity requirements to achieve electricity self-sufficiency;
 - (b) a description of what the authority plans to do to achieve electricity self-sufficiency and to respond to British Columbia's other energy objectives, including plans respecting
 - (i) the implementation of demand-side measures,
 - (ii) the construction or extension of facilities,
 - (iii) the acquisition of electricity from other persons, and
 - (iv) the use of rates, including rates to encourage
 - (A) energy conservation or efficiency,
 - (B) the use of energy during periods of lower demand,
 - (C) the reduction of the energy demand the authority must serve, or
 - (D) the development and use of electricity from clean or renewable resources;
 - (c) a description of the consultations carried out by the authority respecting the development of the integrated resource plan;
 - (d) a description of
 - (i) the expected export demand during a defined period,
 - (ii) the potential for British Columbia to meet that demand,
 - (iii) the actions the authority has taken to seek suitable opportunities for the export of electricity from clean or renewable resources, and
 - (iv) the extent to which the authority has arranged for contracts for the export of electricity and the transmission or other services necessary to facilitate those exports;
 - (e) if the authority plans to make an expenditure for export, a specification of the amount of the expenditure and a rationale for making it.
 - (2) In the first integrated resource plan the authority submits to the minister, and in any other integrated resource plan the minister by order specifies, the authority must include a description of the authority's infrastructure and capacity needs for electricity transmission for the period ending 30 years after the date the integrated resource plan is submitted.
 - (3) The description referred to in subsection (2) must include an assessment of the potential for developing, during the period referred to in subsection (2), grouped

by geographic area, electricity generation from clean or renewable resources in British Columbia.

- (4) The authority must carry out any consultations required by a regulation under section 35 (g) and submit a report to the minister, within the time prescribed, respecting those consultations.
- (5) The authority must plan to rely on no energy and no capacity from Burrard Thermal, except in the case of emergency or as authorized by regulation.
- (6) An integrated resource plan must be submitted
 - (a) within 18 months from the date this Part comes into force, and
 - (b) once every 5 years after the submission under paragraph (a), unless a submission date is prescribed for the purposes of this subsection, in which case an integrated resource plan must be submitted by the prescribed submission date.
- (7) The authority may submit an amendment to an integrated resource plan approved under section 4, and section 4 applies to the submission.
- (8) If the Lieutenant Governor in Council approves an amendment submitted under subsection (7), the approved amendment is to be considered a part of the approved integrated resource plan.

2010-22-3.

Approval and procurement

- **4.** (1) After the minister receives an integrated resource plan, the Lieutenant Governor in Council, for the purposes of sections 44.2 (5.1), 46 (3.3) and 71 (2.21) and (2.51) of the *Utilities Commission Act*, may, by order,
 - (a) approve or reject the plan, and
 - (b) if the Lieutenant Governor in Council is satisfied that it is in the interests of British Columbians to pursue opportunities for export, require the authority, its subsidiaries or both to do the following:
 - begin a process or processes by the time specified in the order to acquire the specified amount per year of energy and capacity from clean or renewable resources;
 - (ii) acquire the energy and capacity referred to in subparagraph (i) within the time specified in the order;
 - (iii) secure the necessary transmission capacity;
 - (iv) submit, for the purposes of subsection (2), a report to the minister respecting the expenditures for export resulting from compliance with subparagraphs (i) to (iii).
 - (2) In an order under subsection (1) (b) of this section, the Lieutenant Governor in Council may exempt the authority from sections 45 to 47 of the *Utilities Commission Act* with respect to anything to be done under subsection (1) (b) (iii) of this section.
 - (3) The authority and its subsidiaries and persons and their successors and assigns who enter into an energy supply contract as a result of a process referred to in subsection (1) (b) (i) of this section are exempt from section 71 of the *Utilities Commission Act* with respect to the energy supply contract.
 - (4) The Lieutenant Governor in Council, for the purposes of subsection (5) (a), may approve a report submitted under subsection (1) (b) (iv).
 - (5)

In setting rates for the authority, the commission must ensure that the rates do not allow the authority to recover

- (a) its expenditures for export as set out in a report approved by the Lieutenant Governor in Council under subsection (4), and
- (b) any other expenditures for export.

2010-22-4.

Status report

- **5.** (1) The authority must submit to the minister, by the time the minister requires, a status report respecting the authority's most recently approved integrated resource plan.
 - (2) The minister must make public a status report submitted under subsection (1) in the same manner and at the same time that the minister makes public a service plan under the *Budget Transparency and Accountability Act*. 2010-22-5.

Electricity self-sufficiency

6.(1) In this section:

"electricity supply obligations" means

- (a) electricity supply obligations for which rates are filed with the commission under section 61 of the *Utilities Commission Act*, and
- (b) any other electricity supply obligations that exist at the time this section comes into force,

determined by using the authority's prescribed forecasts of its energy requirements and peak load, taking into account demand-side measures, that are in an integrated resource plan approved under section 4;

"heritage energy capability" means the maximum amount of annual energy that the heritage assets that are hydroelectric facilities can produce under prescribed water conditions.

- (2) The authority must achieve electricity self-sufficiency by holding,
 - (a) by the year 2016 and each year after that, the rights to an amount of electricity that meets the electricity supply obligations, and
 - (b) by the year 2020 and each year after that, the rights to 3 000 gigawatt hours of energy, in addition to the amount of electricity referred to in paragraph (a), and the capacity required to integrate that energy

solely from electricity generating facilities within the Province,

- (c) assuming no more in each year than the heritage energy capability, and
- (d) relying on Burrard Thermal for no energy and no capacity, except as authorized by regulation.
- (3) The authority must remain capable of meeting its electricity supply obligations from the electricity referred to in subsection (2) (a) and (b), except to the extent the authority may be permitted, by regulation, to enter into contracts in the prescribed circumstances and on the prescribed terms and conditions.
- (4) A public utility, in planning in accordance with section 44.1 of the *Utilities Commission Act* for
 - (a) the construction or extension of generation facilities, and

(b) energy purchases,

must consider British Columbia's energy objective to achieve electricity self-sufficiency.

2010-22-6.

Exempt projects, programs, contracts and expenditures

- **7.** (1) The authority is exempt from sections 45 to 47 and 71 of the *Utilities Commission Act* to the extent applicable, and from any other sections of that Act that the minister may specify by regulation, with respect to the following projects, programs, contracts and expenditures of the authority, as they may be further described by regulation:
 - (a) the Northwest Transmission Line, a 287 kilovolt transmission line between the Skeena substation and Bob Quinn Lake, and related facilities and contracts;
 - (b) Mica Units 5 and 6, a project to install two additional turbines and related works and equipment at Mica;
 - (c) Revelstoke Unit 6, a project to install an additional turbine and related works and equipment at Revelstoke;
 - (d) Site C, a project to build a third dam on the Peace River in northeast British Columbia to provide approximately
 - (i) 4 600 gigawatt hours of energy each year, and
 - (ii) 900 megawatts of capacity;
 - (e) a bio-energy phase 2 call to acquire up to 1 000 gigawatt hours per year of electricity;
 - (f) one or more agreements with pulp and paper customers eligible for funding under Canada's Green Transformation Program under which agreement or agreements the authority acquires, in aggregate, up to 1 200 gigawatt hours per year of electricity;
 - (g) the clean power call request for proposals, issued on June 11, 2008, to acquire up to 5 000 gigawatt hours per year of electricity from clean or renewable resources;
 - (h) the standing offer program described in section 15;
 - (i) the feed-in tariff program described in section 16;
 - (j) the actions taken to comply with section 17 (2) and (3);
 - (k) the program described in section 17 (4).
 - (2) The persons and their successors and assigns who enter into an energy supply contract with the authority related to anything referred to in subsection (1) are exempt from section 71 of the *Utilities Commission Act* with respect to the energy supply contract.
 - (3) The commission must not exercise a power under the *Utilities Commission Act* in a way that would directly or indirectly prevent the authority from doing anything referred to in subsection (1).

2010-22-7.

Rates

8. (1)

In setting rates under the *Utilities Commission Act* for the authority, the commission must ensure that the rates allow the authority to collect sufficient revenue in each fiscal year to enable it to recover its costs incurred with respect to

- (a) the achievement of electricity self-sufficiency, and
- (b) a project, program, contract or expenditure referred to in section 7 (1), except
 - (i) to the extent the expenditure is accounted for in paragraph (a), and
 - (ii) for costs, prescribed for the purposes of this section, respecting the feed-in tariff program.
- (2) Subject to subsection (1) of this section, the commission must set under the *Utilities Commission Act* a rate proposed by the authority with respect to the project referred to in section 7 (1) (a) of this Act.
- (3) The commission must not, except on application by the authority, cancel, suspend or amend a rate set in accordance with subsection (2).
- (4) The authority must provide to the minister, in accordance with the regulations, an annual report comparing the electricity rates charged by the authority with electricity rates charged by public utilities in other jurisdictions in North America, including an assessment of the extent to which the authority's electricity rates continue to be competitive with those other rates. 2010-22-8.

Domestic long-term sales contracts

9. The authority must establish, in accordance with the regulations, a program to develop potential offers respecting domestic long-term sales contracts for availability to prescribed classes of customers on prescribed terms, including terms respecting price, for prescribed volumes of energy over prescribed periods. 2010-22-9.

PART 2 — Prohibitions

Two-rivers system development

10. In this Part:

"approval" includes a certificate, licence, permit or other authorization;

"prohibited projects" means

- (a) a project of the authority, referred to in Schedule 2 of this Act, for electricity generation on a stream, and
- (b) a project for electricity generation on a stream with a storage capability in excess of a prescribed storage capability,

but does not include the two-rivers projects;

"stream" has the same meaning as in section 1 of the Water Act;

"two-rivers projects" means

- (a) the authority's facilities, on the Peace River and the Columbia River System, existing on the date this section comes into force and upgrades or extensions to those facilities, and
- (b) the project commonly known as Site C.

2010-22-10.

Project prohibitions

- **11.** (1) Despite any other enactment, a minister, or an employee or agent of the government or of a municipality or regional district, must not issue an approval under an applicable enactment for a person to
 - (a) undertake a prohibited project, or
 - (b) construct all or part of the facilities of a prohibited project.
 - (2) Despite any other enactment, an approval under another enactment is without effect if it is issued contrary to subsection (1). 2010-22-11.

Prohibited acquisitions

12. (1) In this section:

"facility" means a facility for the generation of electricity and any transmission or distribution equipment to deliver that electricity to the point of interconnection with the authority's integrated service area;

"protected area" means

- (a) a park, recreation area, or conservancy, as defined in section (1) of the *Park Act*,
- (b) an area established under the *Environment and Land Use Act* as a park or protected area, or
- (c) an area established or continued as an ecological reserve under the *Ecological Reserve Act* or by the *Protected Areas of British Columbia Act*.
- (2) The authority must not make an offer to acquire electricity from a person whose proposed facility is to be located, in whole or in part, in a protected area, unless the location is permitted under the enactments referred to in the definition of "protected area" in subsection (1).
- (3) A person referred to in subsection (2) must not offer to sell electricity to the authority.

2010-22-12.

Burrard Thermal

- **13.** The authority must not operate Burrard Thermal, except
 - (a) in the case of emergency,
 - (b) to provide transmission support services, or
 - (c) as authorized by regulation.

2010-22-13.

PART 3 — Preserving Heritage Assets

Sale of heritage assets prohibited

14. (1) The authority must not sell or otherwise dispose of the heritage assets.

(2) Nothing in subsection (1) prevents the authority from disposing of heritage assets if the assets disposed of are no longer used or useful for their intended purpose, or they are to be replaced with one or more assets that will perform similar functions.

2010-22-14.

PART 4 — Standing Offer and Feed-in Tariff Programs

Standing offer program

15. (1) In this section:

"eligible facility" means a generation facility that

- (a) either
 - (i) has only one generator and the generator's nameplate capacity is less than or equal to the maximum nameplate capacity or has more than one generator and the total nameplate capacity of all of them is a capacity less than or equal to the maximum nameplate capacity, or
 - (ii) meets the prescribed requirements, and
- (b) either
 - (i) is a high-efficiency cogeneration facility, or
 - (ii) generates energy by means of a prescribed technology or from clean or renewable resources,

but does not include a prescribed generation facility or class of generation facilities; **"maximum nameplate capacity"** means 10 megawatts or, if another capacity is prescribed for the purposes of this section, the prescribed capacity.

- (2) The authority must establish and, except in the prescribed circumstances, maintain a standing offer program to acquire electricity from eligible facilities.
- (3) The authority may establish, in accordance with the prescribed requirements, if any, the criteria, terms and conditions on which offers under the standing offer program under subsection (2) are to be made. 2010-22-15.

Feed-in tariff program

- **16.** (1) To facilitate the achievement of one or more of British Columbia's energy objectives, the Lieutenant Governor in Council, by regulation, may require the authority to establish a feed-in tariff program.
 - (2) If the authority is required to establish a feed-in tariff program, the authority may establish, in accordance with the prescribed requirements, if any, the criteria, terms and conditions under which offers may be made under the feed-in tariff program.
 - (3) The authority may not enter into an energy supply contract as a result of an offer made under the feed-in tariff program if the energy supply contract, by itself or in aggregate with other energy supply contracts entered into under the feed-in tariff program, would result in an expenditure that exceeds the prescribed amount in the prescribed period.
 - (4) Without limiting section 34 (2) (c),
- (a) requirements prescribed by the Lieutenant Governor in Council, and
- (b) criteria, terms and conditions established by the authority

made for the purpose of subsection (2) may be made with respect to different regions, prices and technologies.

2010-22-16.

PART 5 — Energy Efficiency Measures and Greenhouse Gas Reductions

Smart meters

17. (1) In this section:

"private dwelling" means

- (a) a structure that is occupied as a private residence, or
- (b) if only part of a structure is occupied as a private residence, that part of the structure;

"smart grid" means the prescribed equipment;

"**smart meter**" means a meter that meets the prescribed requirements, and includes related components, equipment and metering and communication infrastructure that meet the prescribed requirements.

- (2) Subject to subsection (3), the authority must install and put into operation smart meters and related equipment in accordance with and to the extent required by the regulations.
- (3) The authority must complete all obligations imposed under subsection (2) by the end of the 2012 calendar year.
- (4) The authority must establish a program to install and put into operation a smart grid in accordance with and to the extent required by the regulations.
- (5) The authority may, by itself, or by its engineers, surveyors, agents, contractors, subcontractors or employees, enter on any land, other than a private dwelling, without the consent of the owner, for a purpose relating to the use, maintenance, safeguarding, installation, replacement, repair, inspection, calibration or reading of its meters, including smart meters, or of its smart grid.
- (6) If a public utility, other than the authority, makes an application under the Utilities Commission Act in relation to smart meters, other advanced meters or a smart grid, the commission, in considering the application, must consider the government's goal of having smart meters, other advanced meters and a smart grid in use with respect to customers other than those of the authority. 2010-22-17.

Greenhouse gas reduction

- **18.** (1) In this section, "**prescribed undertaking**" means a project, program, contract or expenditure that is in a class of projects, programs, contracts or expenditures prescribed for the purpose of reducing greenhouse gas emissions in British Columbia.
 - (2) In setting rates under the *Utilities Commission Act* for a public utility carrying out a prescribed undertaking, the commission must set rates that allow the public

utility to collect sufficient revenue in each fiscal year to enable it to recover its costs incurred with respect to the prescribed undertaking.

- (3) The commission must not exercise a power under the *Utilities Commission Act* in a way that would directly or indirectly prevent a public utility referred to in subsection (2) from carrying out a prescribed undertaking.
- (4) A public utility referred to in subsection (2) must submit to the minister, on the minister's request, a report respecting the prescribed undertaking.
- (5) A report to be submitted under subsection (4) must include the information the minister specifies and be submitted in the form and by the time the minister specifies.

2010-22-18.

Clean or renewable resources

- **19.** (1) To facilitate the achievement of British Columbia's energy objective set out in section 2 (c), a person to whom this subsection applies
 - (a) must pursue actions to meet the prescribed targets in relation to clean or renewable resources, and
 - (b) must use the prescribed guidelines in planning for
 - (i) the construction or extension of generation facilities, and
 - (ii) energy purchases.
 - (2) Subsection (1) applies to
 - (a) the authority, and
 - (b) a prescribed public utility, if any, and a public utility in a class of prescribed public utilities, if any.

PART 6 — First Nations Clean Energy Business Fund

First Nations Clean Energy Business Fund

20. (1) In this section:

"first nation" means

- (a) a band, as defined in the *Indian Act* (Canada), and
- (b) an aboriginal governing body, however organized and established by aboriginal people;

"power project" means an electricity generation or transmission project

- (a) that is in a class of projects prescribed for the purposes of this section, other than a project of any organization in the government reporting entity, as defined in the *Budget Transparency and Accountability Act*,
- (b) for which a licence, if applicable, under the *Water Act* for a power purpose, as defined section 1 of that Act, is issued after the date this section comes into force, and
- (c) for which a prescribed authorization, if applicable, under an enactment respecting land is granted after this section comes into force;

"special account" means the special account, as defined in section 1 of the Financial

Administration Act, established under subsection (2) of this section.

- (2) A special account, to be known as the First Nations Clean Energy Business Fund special account, is established.
- (3) The initial balance of the special account is an amount, not to exceed \$5 million, prescribed by Treasury Board.
- (4) The balance of the special account is increased by
 - (a) any other amount received by the government for payment into the account, and
 - (b) a prescribed percentage of the prescribed land and water revenues the government derives from power projects.
- (5) Despite section 21 (3) of the *Financial Administration Act*, the minister, in accordance with a spending plan approved by Treasury Board, may pay an amount of money out of the special account for any of the following purposes:
 - (a) to share the revenues referred to in subsection (4) (b), up to a prescribed percentage of the revenue, under an agreement or agreements with one or more first nations;
 - (b) to facilitate the participation of first nations and aboriginal people in the clean energy sector;
 - (c) to pay the costs of administering the special account.

2010-22-20.

PART 7 — Transmission Corporation

Part 7: Division 1 – Transfer of Property, Shares and Obligations

(ADD) Definitions

Jul 05/10

21. (1) In this Division:

"**excluded contract**" means a contract that was entered into, assumed by or assigned to the transmission corporation and that is governed by the law of a jurisdiction other than British Columbia;

"**excluded permit**" means a permit, approval, registration, authorization, licence, exemption, order or certificate issued, granted or provided to the transmission corporation under the law of a jurisdiction other than British Columbia;

"**included contract**" includes any contract entered into, assumed by or assigned to the transmission corporation, but does not include an excluded contract;

"included permit" includes a permit, approval, registration, authorization, licence, exemption, order or certificate, including a certificate of public convenience and necessity under the *Utilities Commission Act*, but does not include an excluded permit; "right", in relation to a right held by the authority or the transmission corporation, includes a right under a trust, a cause of action and a claim.

2010-22-21.

(ADD)**Transfer of property** Jul

05/10

- **22.** (1) Subject to subsection (2) and despite any enactment or law to the contrary, on the coming into force of this Part, all of the transmission corporation's rights, property, assets, included contracts and included permits are transferred to and vested in the authority.
 - (2) Subsection (1) does not apply to excluded contracts and excluded permits.
 - (3) Despite any enactment or law to the contrary, on the coming into force of this Part, the shares of the transmission corporation are transferred to and vested in the authority.
 - (4) The shares transferred to and vested in the authority under subsection (3) must not be sold or otherwise disposed of, but may be surrendered for cancellation.
 - (5) Despite any enactment or law to the contrary,
 - (a) the transfer and vesting effected by subsections (1) and (3) take effect without
 - (i) the execution or issue of any record, or
 - (ii) any registration or filing of this Act or any other record in or with any registry or other office,
 - (b) the transfer and vesting effected by subsections (1) and (3) take effect despite
 - (i) any prohibition on all or any part of the transfer and vesting, and
 - (ii) the absence of any consent or approval that is or may be required for all or any part of the transfer and vesting,
 - (c) if any right, property, asset, included contract or included permit referred to in subsection (1) is registered or otherwise recorded in the name of the transmission corporation, the registration or record may remain but is deemed, for all purposes of this and all other enactments and law, to reflect that the right, property, asset, included contract or included permit is owned by and vested in or held by the authority, and
 - (d) in any record in or by which the authority deals with a right, property, asset, included contract or included permit referred to in subsection (1), it is sufficient to cite this Act as effecting and confirming the transfer from the transmission corporation to the authority of the included contract or included permit or of the title to the right, property or asset and the vesting of that title in the authority.
 - (6) For the purposes of this section, assets that become assets of the authority under this section include records and parts of records, and, without limiting this, all of the records and parts of records of the transmission corporation are transferred to and become the records of the authority on the coming into force of this Part.
 - (7) Without limiting subsection (5) (c) of this section, or section 383.1 of the Land Title Act, if a right, property or asset referred to in subsection (1) of this section is registered or recorded in the name of the transmission corporation,
 - (a) the authority may, in its own name,
 - (i) effect a transfer, charge, encumbrance or other dealing with the right, property or asset, and
 - (ii) execute any record required to give effect to that transfer, charge, encumbrance or other dealing, and
 - (b) an official
 - who has authority over a registry or office, including, without limitation, the personal property registry and a land title office, in which title to or interests in the right, property or asset is registered or recorded, and
 - (ii)

to whom a record referred to in paragraph (a) (ii) executed by or on behalf of the authority is submitted in support of the transfer, charge, encumbrance or other dealing

must give the record the same effect as if it had been duly executed by the transmission corporation.

2010-22-22.

(ADD)**Transfer of obligations and liabilities**

05/10

23.

On the coming into force of this Part, all obligations and liabilities of the transmission corporation, except for obligations and liabilities under an excluded contract or excluded permit,

- (a) are transferred to and assumed by the authority,
- (b) become the authority's obligations and liabilities,
- (c) cease to be obligations and liabilities of the transmission corporation, and
- (d) may be enforced against the authority as if the authority had incurred them. 2010-22-23.

(ADD)Records of transferred assets and liabilities

- Jul
- 05/10
- **24.** (1) Subject to subsection (2), a reference to the transmission corporation in any document, including, without limitation, any record, security agreement, lease, included permit, included contract, instrument or certificate that relates to anything transferred to the authority under this Part, is deemed to be a reference to the authority.
 - (2) If, under this Part, a part of a right, property, asset, obligation or liability is transferred to the authority, any document, including, without limitation, any record, security agreement, lease, included permit, included contract, instrument or certificate that relates to anything transferred to the authority under this Part, is deemed to be amended to reflect the authority's interests in that right, property, asset, obligation or liability.

2010-22-24.

(ADD)Transfer is not a default

Jul 05/10

25.

Despite any provision to the contrary in any document, including, without limitation, any record, security agreement, lease, included permit, included contract, instrument or certificate, the transfer to the authority of a right, property, asset, included contract, included permit, share, obligation or liability under sections 22 and 23 does not constitute a breach or contravention of, or an event of default under, or confer a right to terminate the document, and, without limiting this, does not entitle any person who has an interest in the right, property, asset, included contract, included permit, share, obligation or liability to claim any damages, compensation or other remedy.

2010-22-25.

(ADD)**Legal proceedings** Jul

05/10

- 26. (1) Any legal proceeding being prosecuted or pending by or against the transmission corporation on the date this Part comes into force may be prosecuted, or its prosecution may be continued, by or against the authority, and may not be prosecuted or continued against the transmission corporation.
 - (2) A conviction against the transmission corporation may be enforced against the authority, and may not be enforced against the transmission corporation.
 - (3) A ruling, order or judgment in favour of or against the transmission corporation may be enforced by or against the authority, and may not be enforced by or against the transmission corporation.
 - (4) A cause of action or claim against the transmission corporation existing on the date this Part comes into force must be prosecuted against the authority.
 - (5) Subject to subsections (1) to (4), a cause of action, claim or liability to prosecution existing on the date this Part comes into force is unaffected by anything done under this Part.

2010-22-26.

Part 7: Division 2 – Employees

(ADD)**Definitions**

Jul

05/10

27. In this Division:

"adjustment plan" means an adjustment plan under section 54 of the *Labour Relations Code*;

"collective agreement" has the same meaning as in section 1 (1) of the *Labour Relations Code*.

2010-22-27.

(ADD)Transfer of employees

Jul

05/10

- **28.** (1) It is deemed that the persons who were, immediately before the coming into force of this Part, employees of the transmission corporation are, on the coming into force of this Part, transferred to and become employees of the authority.
 - (2) A question or difference between the authority and
 - (a) a transferred employee who is a member of a unit of employees for which a trade union has been certified under the *Labour Relations Code*, or
 - (b) a trade union representing transferred employees,

respecting the application of the *Labour Relations Code*, or the interpretation or application of this Division, may be referred to the Labour Relations Board in accordance with the procedure set out in the *Labour Relations Code* and its regulations.

- (3) The Labour Relations Board may decide a question or difference referred to in subsection (2) in any of the ways, and by applying any of the remedies, available under the *Labour Relations Code*.
- (4) On the date this Part comes into force, in respect of employees who are members of units of employees for which a trade union has been certified under the *Labour Relations Code*, the authority is the successor employer of those employees for

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the purposes of section 35 of the Labour Relations Code, without prejudice to the authority's right to apply for consolidation or merger of the bargaining units.

If the authority or any trade union representing transferred employees makes an (5) application to the Labour Relations Board to consolidate or merge the bargaining units representing transferred employees into a single bargaining unit for each trade union, the Labour Relations Board must consider that application having regard to the principles of business efficiency and without reference to the labour relations history at the authority or the transmission corporation relating to the presence of more than one bargaining unit for each trade union. 2010-22-28

(ADD)Continuous employment

Jul

05/10

- 29. (1)The transfer of a transferred employee does not constitute a termination of the transferred employee's employment for the purposes of
 - an applicable collective agreement, (a)
 - (b) any employment contract involving the transferred employee, and
 - (c) the Employment Standards Act.
 - (2)A transferred employee who is not subject to a collective agreement is deemed to have been employed by the authority without interruption in service.
 - The service, with the transmission corporation, of a transferred employee who is (3) not subject to a collective agreement is deemed to be service with the authority for the purpose of determining probationary periods and benefits, and any other employment related entitlements, under
 - (a) the Employment Standards Act,
 - (b) any other enactment, and
 - (c) any employment contract.
 - For the purposes of seniority, a transferred employee who is subject to a (4)collective agreement is deemed to have been employed by the authority without interruption in service, unless the authority and the trade union representing the transferred employee have agreed to other seniority terms in an adjustment plan within 60 days after notice under section 54 of the Labour Relations Code is given, in which case the applicable terms respecting seniority in the adjustment plan apply.
 - (5) The service, with the transmission corporation, of a transferred employee who is subject to a collective agreement is deemed to be service with the authority for the purpose of determining probationary periods and benefits, and any other employment related entitlements, under
 - (a) the Employment Standards Act,
 - any other enactment, and (b)
 - (c) any collective agreement,

unless the authority and the trade union representing the transferred employee have agreed to other probationary periods, benefits and entitlements in an adjustment plan within 60 days after notice under section 54 of the Labour *Relations Code* is given, in which case the applicable terms respecting probationary periods, benefits and entitlements in the adjustment plan apply.

- (6) A transferred employee is deemed not to have been constructively dismissed solely by virtue of the transfer under section 28.
- Nothing in this Part (7)
 - (a)

prevents the employment of a transferred employee from being lawfully terminated after the transfer under section 28,

- (b) prevents any term or condition of the employment of a transferred employee from being lawfully changed after the transfer under section 28, or
- (c) removes any right or remedy of a person who is terminated after the transfer under section 28 or in respect of whom a term or condition of employment has been changed after the transfer under section 28. 2010-22-29.

(ADD)Pensions

Jul

05/10

- **30.** (1) For the purposes of the *Pension Benefits Standards Act*, the transfer of a transferred employee does not constitute a termination of membership in the transmission corporation's registered pension plan, or any other pension arrangement sponsored by the transmission corporation.
 - (2) Despite section 36 (1) of the *Hydro and Power Authority Act*, the authority does not require the approval of the Lieutenant Governor in Council to amend the authority's registered pension plan to implement the provisions of this Part, including the authority's assumption of all liability for the pension benefits payable under the transmission corporation's registered pension plan.
 - (3) Despite any enactment or law to the contrary, on the coming into force of this Part, all of the rights, property and assets that comprise
 - (a) the balance of fund account of the pension fund of the transmission corporation's registered pension plan are transferred to and vested in the balance of fund account of the pension fund of the authority's registered pension plan, and
 - (b) the index reserve account and past service index reserve account of the pension fund of the transmission corporation's registered pension plan are transferred to and vested in the index reserve account of the pension fund of the authority's registered pension plan,

and the resulting pension fund must be held by the trustee of the pension fund of the authority's registered pension plan.

(4) Section 22 (5) applies to the transfer and vesting effected by subsection (3) of this section.

2010-22-30.

Part 7: Division 3 – General

(ADD)Commission subject to direction

Jul 05/10

- **31.** (1) The minister, by regulation, may issue a direction to the commission with respect to the exercise of powers and the performance of duties of the commission regarding any matter relating to a transfer made under this Part or to the service or rates referred to in section 32.
 - (2) The commission must comply with a direction issued under subsection (1) despite(a)

any provision of, or regulation under, the *Utilities Commission Act*, except any direction issued under section 3 of that Act, and

- (b) any previous decision of the commission.
- (3) This section is repealed on July 1, 2011.

2010-22-31.

(ADD) Utilities Commission Act

Jul 05/10

- **32.** (1) No approval, authorization, permit, certificate, exemption, permission, registration or order is required under the *Utilities Commission Act* with respect
 - to
 - (a) the transmission corporation's ceasing to provide the service referred to in subsection (2) (a), or
 - (b) any transfer under this Part.
 - (2) The authority is deemed to have all the approvals, authorizations, permits, certificates, exemptions, permissions, registrations or orders that, under the *Utilities Commission Act*, are or may be required to continue
 - (a) to provide the service the transmission corporation provided immediately before the coming into force of this Part, and
 - (b) to charge, collect and enforce the rates the transmission corporation charged, collected and enforced immediately before the coming into force of this Part.
 - (3) The commission must not, except on application by the authority, cancel, suspend or amend
 - (a) any approval, authorization, permit, exemption, permission, registration, order or certificate, except for the certificate issued by commission Order C-4-08, that, under the *Utilities Commission Act*, the authority requires to provide the service and to charge, collect and enforce the rates referred to in subsection (2), or
 - (b) the service or rates referred to in subsection (2).
 - (4) Subsection (3) is repealed on July 1, 2011.

2010-22-32.

(ADD) Designated agreements

Jul

05/10

33.

On the coming into force of this Part, the agreements designated under section 3 of the *Transmission Corporation Act* have no force or effect. 2010-22-33.

PART 8 — Regulations

Part 8: Division 1 – Regulations by Lieutenant Governor in Council

General

34. (1) The Lieutenant Governor in Council may make regulations referred to in section

41 of the Interpretation Act.

- (2) In making a regulation under this Act, the Lieutenant Governor in Council may do one or more of the following:
 - (a) delegate a matter to a person;
 - (b) confer a discretion on a person;
 - (c) make different regulations for different persons, places, things, decisions, transactions or activities.
 2010-22-34.

Regulations

- **35.** Without limiting section 34 (1), the Lieutenant Governor in Council may make regulations as follows:
 - (a) respecting forecasts for the purposes of the definition of "electricity supply obligations" in section 6 (1);
 - (b) adding a heritage asset to Schedule 1 of this Act;
 - (c) prescribing water conditions for the purposes of the definition of "heritage energy capability" in section 6 (1);
 - (d) modifying or adding to British Columbia's energy objectives, except for the objective specified in section 2 (g);
 - (e) for the purposes of sections 44.1, 44.2, 46 and 71 of the *Utilities Commission Act*, respecting the application of British Columbia's energy objectives to public utilities other than the authority;
 - (f) establishing factors or guidelines the commission must follow in respect of British Columbia's energy objectives, including guidelines regarding the relative priority of the objectives set out in section 2;
 - (g) respecting consultations the authority must carry out in relation to
 - (i) the development of an integrated resource plan and of an amendment to an integrated resource plan,
 - (ii) an integrated resource plan submitted under section 3 (6), and
 - (iii) an amendment to an integrated resource plan submitted under section 3 (7);
 - (h) prescribing submission dates for the purposes of section 3 (6);
 - (i) respecting the authority's obligation under section 6 (3), including, without limitation, regulations permitting the authority to enter into contracts respecting the electricity referred to in section 6 (2) (a) and (b) and prescribing the terms and conditions on which, and the volume of electricity about which, the contracts may be entered into;
 - (j) respecting the program referred to in section 9, including prescribing classes of customers and terms;
 - (k) prescribing storage capability for the purposes of the definition of "prohibited projects" in section 10, including, without limitation, prescribing storage capability in terms of time, impoundment, mechanism or area;
 - (l) respecting the standing offer program to be established under section 15, including, without limitation, regulations that
 - (i) prescribe requirements, technologies, generation facilities and classes of generation facilities for the purposes of the definition of

"eligible facility" in section 15 (1),

- (ii) prescribe a capacity for the purposes of the definition of "maximum nameplate capacity" in section 15 (1),
- (iii) prescribe circumstances for the purposes of section 15 (2), and
- (iv) prescribe requirements for the purposes of section 15 (3);
- (m) respecting the feed-in tariff program that may be established under section 16, including, without limitation, regulations that
 - (i) prescribe regions and technologies for the purposes of the definition of "feed-in tariff program" in section 1 (1),
 - (ii) require the authority to establish the feed-in tariff program,
 - (iii) prescribe requirements for the purposes of section 16 (2),
 - (iv) prescribe costs for the purposes of section 8 (1) (b);
- (n) for the purposes of the definition of "prescribed undertaking" in section 18, prescribing classes of projects, programs, contracts or expenditures that encourage
 - (i) the use of
 - (A) electricity, or
 - (B) energy directly from a clean or renewable resource

instead of the use of other energy sources that produce higher greenhouse gas emissions, or

(ii) the use of natural gas, hydrogen or electricity in vehicles, and the construction and operation of infrastructure for natural gas or hydrogen fueling or electricity charging.
 2010-22-35.

Part 8: Division 2 – Regulations by Minister

General

- **36.** (1) In making a regulation under this Act, the minister may do one or more of the following:
 - (a) delegate a matter to a person;
 - (b) confer a discretion on a person;
 - (c) make different regulations for different persons, places, things, decisions, transactions or activities.
 - (2) The minister may make a regulation defining, for the purposes of this Act, a word or expression used but not defined in this Act. 2010-22-36.

Regulations

- **37.** The minister may make regulations as follows:
 - (a) prescribing resources for the purposes of the definition of "clean or renewable resource" in section 1 (1);

- (b) prescribing exclusions for the purposes of the definition of "demand-side measure" in section 1 (1);
- (c) authorizing the authority for the purposes of sections 3 (5), 6 and 13;
- (d) describing the projects, programs, contracts and expenditures referred to in section 7 (1), including, without limitation, by specifying the property, interests, rights, activities, contracts and rates that comprise the projects, programs, contracts and expenditures;
- (e) specifying sections of the *Utilities Commission Act* for the purposes of section 7 (1);
- (f) respecting reports to be provided to the minister by the authority under section 8 (4), including, without limitation, regulations respecting the jurisdictions with which comparisons are to be made, the rate classes to be considered, the factors to be used in making the comparisons and conducting the assessments, and the meaning to be given to the word "competitive";
- (g) for the purposes of section 17, respecting smart meters and smart-grids and their installation, including, without limitation,
 - (i) prescribing the types of smart meters to be installed, including the features or functions each meter must have or be able to perform,
 - (ii) prescribing types of smart grids to be installed, including, without limitation, equipment to detect unauthorized use or consumption of electricity, equipment to facilitate distributed generation and associated telecommunication and back-up systems, and
 - (iii) prescribing the classes of users for whom smart meters must be installed, and, without limiting section 36 (1) (c), requiring the authority to install different types of smart meters for different classes of users;
- (h) prescribing targets, guidelines, public utilities and classes of public utilities for the purposes of section 19;
- (i) issuing a direction for the purposes of section 31.

2010-22-37.

Part 8: Division 3 – Regulations by Treasury Board

Regulations

- **38.** Treasury Board may make regulations as follows:
 - (a) prescribing classes of projects and authorizations for the purposes of the definition of "power project" in section 20 (1), including, without limitation, prescribing classes of projects by reference to whether, or the extent to which, a project is a project of any organization of the government reporting entity, within the meaning of that definition;
 - (b) prescribing amounts and percentages for the purposes of section 20 (3), (4)(b) and (5) (a).

2010-22-38.

PART 9 — Transition

Transition

- **39.** (1) The Lieutenant Governor in Council may make regulations considered appropriate for the purpose of more effectively bringing this Act into operation, and to remedy any transitional difficulties encountered in doing so, and for that purpose, may make regulations disapplying or varying any provision of this Act.
 - (2) Subject to subsection (3), this section is repealed on the date that is 2 years after the coming into force of this section and, on this section's repeal, any regulations made under it are also repealed.
 - (3) The Lieutenant Governor in Council, by regulation, may substitute for the date referred to in subsection (2) a date that is no later than 3 years after the coming into force of this section.

2010-22-39.

SCHEDULE 1

[2010-22-Sch. 1.]

Heritage Assets

Those generation and storage assets commonly known as the following:

Aberfeldie Alouette Ash River Bridge River Buntzen/Coquitlam **Burrard Thermal** Cheakamus Clowhom Duncan Elko Falls River Fort Nelson G. M. Shrum Hugh Keenleyside Dam (Arrow Reservoir) John Hart Jordan Kootenay Canal La Joie Ladore Mica, including units 1 to 6 Peace Canyon Prince Rupert Puntledge Revelstoke, including units 1 to 6 Ruskin Site C Seton Seven Mile Shuswap Spillimacheen Stave Falls Strathcona Waneta Wahleach Walter Hardman Whatshan

SCHEDULE 2

[2010-22-Sch. 2.]

Prohibited Projects

The projects of the authority, as set out in appendix F-8 of the authority's long-term acquisition plan, exhibit B-1-1, filed with the commission on June 12, 2008, are prohibited projects for the purposes of section 10, in particular, the following projects identified in appendix F-8:

(a) Murphy Creek
(b) Border;
(c) High Site E;
(d) Low Site E;
(e) Elaho;
(f) McGregor Lower Canyon;
(g) Homathko River;
(h) Liard River;
(i) Iskut River;
(j) Cutoff Mountain;
(k) McGregor River Diversion.



1 Reference: Page 4 Lines 8 & 9

2 1 Please show where these savings are displayed in Fortis's generation charts.

3 Response:

FortisBC is unclear as to what "generation charts" are being referenced, however, the kWh savings described in the Application are the cumulative results of savings achieved by the PowerSense program since its inception in 1989. Estimated reductions in energy consumption due to PowerSense programs are incorporated into the load forecasts that are submitted annually as part of the Revenue Requirements Application.

9 Reference: Page 4 Lines 16 & 17

102Please show the magnitude of these savings by month for the previous two years11that this statement is drawn from.

12 **Response:**

13 FortisBC assumes the statement referred to in this question is a portion of the quote from the

14 FortisBC 2009-2010 Capital Expenditure plan, which reads "... DSM has offset approximately

15 25 per cent of FortisBC's annual growth requirements".

16 The monthly demand side management ("DSM") savings for 2006 and 2007, from which this 17 statement is drawn are:



1 2

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Table Gabana IR1 Q2Monthly DSM Energy Savings for 2006 and 2007

	2006		2007
	Energy Savings (MW.h)		Energy Savings (MW.h)
January	825	January	1,629
February	2,048	February	1,254
March	2,916	March	3,273
April	1,462	April	4,810
Мау	879	Мау	2,884
June	4,727	June	3,809
July	2,252	July	2,569
August	1,342	August	1,299
September	2,549	September	1,524
October	1,113	October	1,821
November	1,453	November	2,430
December	1,586	December	549

3

4

5 Reference: Page 4 Line 23

6 3 Do these rates and consumption changes apply only to Fortis customers?

7 Response:

8 Yes. The RIB Rate Application is only applicable to FortisBC direct residential customers.

9 4 Has Fortis discussed with its wholesale customer if they will implement rate 10 changes similar to what is being proposed in this application?

11 Response:

12 FortisBC has had no discussions with its Wholesale customers as to their intentions with 13 respect to implementing RIB rates within their municipal service areas.



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1 2 3 4 5	5	 What percent of Fortis direct customer average: Less than 250 kwh per month Between 250 and 500 kwh per month Between 500 and1,000 kwh per month Over 1,000 kwh per month.
6	Response:	
7	Of FortisBC's	direct customers:

- 10 per cent use less than 250 kWh per month;
- 19 per cent use between 250 and 500 kWh per month;
- 35 per cent use between 500 and 1,000 kWh per month; and
- 11 35 per cent use over 1,000 kWh per month.
- 12 6 Please state the number of customer the above answers are based on.

- 14 The numbers above reflect a total of 87,494 customers for which data was available for 2010.
- 157Please provide a short description of how this proposal is different from the old16demand meter program.

17 <u>Response:</u>

18 FortisBC does not understand the reference to the "old demand meter program".

19

208By month, how many Fortis customer pay only the customer monthly charge but21consume no power in the month? Please separate business and residential22customer.



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2 Customer accounts consuming no energy in 2010, by month is provided in the table below.

3

Table Gabana IR1 Q8			
	Commercial	Irrigation	Residential
Jan	346	336	1262
Feb	309	363	662
Mar	361	304	1235
Apr	262	811	588
Мау	257	130	777
Jun	247	129	519
Jul	275	85	732
Aug	251	82	478
Sep	308	69	797
Oct	224	92	372
Nov	264	540	621
Dec	237	305	535

4

5

6 9 Please state the total revenues for Fortis BC in each of the last 4years.

7 <u>Response:</u>

8 Table Gabana IR1 Q9 below shows FortisBC's actual regulated revenues for the past four9 years.

Table Gabana IR1 Q9 FortisBC Regulated Revenues (2007-2010)

	2007	2008	2009	2010
Revenues				
(\$000s)	208,515	215,155	225,944	253,244

12

10

11

13

1410Please provide the total revenues from each contract or operating agreement15that Fortis has, that does not involve the sale of electrify.



- 2 FortisBC declines to respond to this Information Request as it is beyond the scope of the
- 3 Application currently before the Commission and will not in any way inform the Commission on 4 the implementation of a RIB rate
- 4 the implementation of a RIB rate.
- 5 11 Please show revenue derived from the rental or leasing of Fortis equipment to 6 carry out any obligation or responsibility that flows with any agreement.

7 Response:

8 FortisBC declines to respond to this Information Request as it is beyond the scope of the
9 Application currently before the Commission and will not in any way inform the Commission on
10 the implementation of a RIB rate.

11 12 Please provide the number of employees each of the above function have.

12 Response:

13 FortisBC declines to respond to this Information Request as it is beyond the scope of the

14 Application currently before the Commission and will not in any way inform the Commission on

- 15 the implementation of a RIB rate.
- 16 13 How much will Fortis's revenue increase if this program is implemented?

17 **Response:**

- The RIB Rate is designed to be revenue neutral to FortisBC and will not increase revenues tothe Company.
- 2014Please confirm that the Fortis BC's parent company owns 51% of the holding21company constructing the Waneta Expansion project.



- 2 FortisBC declines to respond to this Information Request as it is beyond the scope of the
- Application currently before the Commission and will not in any way inform the Commission on
 the implementation of a RIB rate.
- 5 15 Please confirm that the Fortis BC's parent company will be selling the capacity 6 provided by the 335 MW Waneta Expansion, to Fortis BC without any 7 competitive tendering process.

8 Response:

9 FortisBC declines to respond to this Information Request as it is beyond the scope of the

10 Application currently before the Commission and will not in any way inform the Commission on

11 the implementation of a RIB rate.

1216Please confirm that the price at which Fortis BC will be purchasing this capacity13is in or around \$15/kW-month, which over 12 months converts to \$180/kW-year.

14 **Response:**

15 FortisBC declines to respond to this Information Request as it is beyond the scope of the 16 Application currently before the Commission and will not in any way inform the Commission on

- 17 the implementation of a RIB rate.
- 1817Based on materials published by BC Hydro, it appears as though the capacity19costs for the proposed Mica and Revelstoke units are in the range of \$30 -20\$50kW-year. Please advise if Fortis BC attempted to purchase additional21capacity from BC Hydro to meet the projected Fortis BC capacity shortfall. Would22such a purchase have addressed the Fortis BC need at a lower cost, while23helping BC Hydro to advance these projects?



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- 2 FortisBC declines to respond to this Information Request as it is beyond the scope of the
- Application currently before the Commission and will not in any way inform the Commission on
 the implementation of a RIB rate.
- 518Please confirm that the 435 MW version of the Waneta Expansion applied for in6the Environmental Approval process was estimated to cost \$400 million. Please7confirm that the now-smaller 335 MW Waneta Expansion has a construction cost8more than twice the estimated cost of prior much larger project 435 MW project.

9 **Response:**

10 FortisBC declines to respond to this Information Request as it is beyond the scope of the

Application currently before the Commission and will not in any way inform the Commission on

12 the implementation of a RIB rate.

1319Please provide a complete, two part variance analysis that uses the original cost14drivers applied to the now-smaller project and then explains the changes in those15cost drivers to arrive at the new estimate.

16 Response:

FortisBC declines to respond to this Information Request as it is beyond the scope of the
Application currently before the Commission and will not in any way inform the Commission on
the implementation of a RIB rate.

2020Please advise if Fortis BC will only be buying the capacity needed to service the21load of Fortis BC's customers, and not the full Waneta Expansion capacity from22its corporate parent.

23 Response:

FortisBC declines to respond to this Information Request as it is beyond the scope of the Application currently before the Commission and will not in any way inform the Commission on the implementation of a RIB rate.



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121Please estimate the annual payments that will be made by Fortis BC to Fortis2BC's parent company each year for the Waneta Expansion capacity.

3 Response:

- 4 FortisBC declines to respond to this Information Request as it is beyond the scope of the
- 5 Application currently before the Commission and will not in any way inform the Commission on
- 6 the implementation of a RIB rate.
- Can you confirm that BC Hydro will be purchasing the energy provided by the
 335 MW Waneta Expansion at a nominal annual price in excess of \$140/MWh
 (before applying monthly price factors).

10 Response:

11 FortisBC declines to respond to this Information Request as it is beyond the scope of the 12 Application currently before the Commission and will not in any way inform the Commission on

- 13 the implementation of a RIB rate.
- 1423How was this price arrived at and what materials were provided to BCUC for their15approval.

16 Response:

FortisBC declines to respond to this Information Request as it is beyond the scope of the
Application currently before the Commission and will not in any way inform the Commission on
the implementation of a RIB rate.

20 24 Please summarize the approval process that will be or has been followed that 21 authorizes Fortis BC to flow through the Waneta Expansion capacity costs 22 through to Fortis BC customers.



- 2 FortisBC declines to respond to this Information Request as it is beyond the scope of the
- 3 Application currently before the Commission and will not in any way inform the Commission on 4 the implementation of a RIB rate
- 4 the implementation of a RIB rate.
- 5 25 Did Fortis BC perform any consulting services for Fortis Int'l on the development 6 of Waneta Expansion?

7 Response:

8 FortisBC declines to respond to this Information Request as it is beyond the scope of the
9 Application currently before the Commission and will not in any way inform the Commission on

- 10 the implementation of a RIB rate.
- 11 26 If so, were any revenues derived and in what amounts?

12 Response:

13 FortisBC declines to respond to this Information Request as it is beyond the scope of the

- 14 Application currently before the Commission and will not in any way inform the Commission on
- 15 the implementation of a RIB rate.



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1 Is the purpose of the Basic Charge to share out the fixed costs of delivering power to each residential customer?

3 Response:

The purpose of the basic customer charge is to collect revenue intended to recover the costs of providing service that do not vary with the level of consumption. Both the current basic charge and the proposed basic charge from the Application do not recover the fixed costs of providing

7 service to customers.

8 2 Is there a different cost of delivering residential service depending on whether a 9 customer is using 100 AMP service, 200 amp service, 300 amp service or 400 10 amp service?

11 **Response:**

FortisBC declines to respond to this Information Request as it is beyond the scope of the Application currently before the Commission and will not in any way inform the Commission on the implementation of a RIB rate.

The composition and current level of the basic charge, rate rebalancing, and intra-class subsidization are topics that were dealt with during the 2009 COSA and RDA and are not the subject of this Application

183Are there any aspects of Basic Charge costs that could vary depending on the19size of service being delivered or the amount of kWh required by a residential20customer in any given billing period?

21 **Response:**

FortisBC declines to respond to this Information Request as it is beyond the scope of the Application currently before the Commission and will not in any way inform the Commission on the implementation of a RIB rate.

The composition and current level of the basic charge, rate rebalancing, and intra-class subsidization are topics that were dealt with during the 2009 COSA and RDA and are not the subject of this Application



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1 4 During the 2009 Rate Design Hearings FortisBC informed the Commission and 2 the intervenors that the cost of providing a residential customer with 1 kWh was 3 8.9 cents. What is the price per residential kWh in this hearing?

4 Response:

5 The cost of providing service to residential customers on a per-kilowatt basis is found in 6 Schedule 2.1 of the EES Cost of Service Study attached as Appendix A to the 2009 COSA and 7 RDA. This value with the original filing of the 2009 COSA and RDA was 8.9 cents. Pursuant to 8 Commission Orders G-156-10 and G-196-10, the COSA was updated which resulted in a final 9 figure of 9.35 cents per kilowatt-hour. This value plays no part in the RIB Application.

5 Based on FortisBC's per unit cost of 8.9 cents, I advised the Commission in the last hearing that the then rate design ensured that any customer purchasing more than 1,900 kWh, in a given billing period, was in fact being subsidized by all of the customers purchasing fewer than 1,900 kWh. What, if any, is the kWh usage point, under the proposed inclining block rate design, at which a residential customer would be subsidized by those customers using less than them?

17 **Response:**

FortisBC declines to respond to this Information Request as it is beyond the scope of the Application currently before the Commission and will not in any way inform the Commission on the implementation of a RIB rate.

The composition and current level of the basic charge, rate rebalancing, and intra-class subsidization are topics that were dealt with during the 2009 COSA and RDA and are not the subject of this Application.

246Please provide an exact breakdown of what fixed cost increases go into causing25the rate re-balancing within a residential customer's Basic Charge.

26 **Response:**

FortisBC declines to respond to this Information Request as it is beyond the scope of the Application currently before the Commission and will not in any way inform the Commission on the implementation of a RIB rate.



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1 The composition and current level of the basic charge, rate rebalancing, and intra-class

2 subsidization are topics that were dealt with during the 2009 COSA and RDA and are not the

3 subject of this Application.

4 7 Are there any circumstances under which any of these fixed costs could be 5 construed as energy charge costs, and under what circumstances could their 6 categorization change?

7 **Response:**

8 FortisBC declines to respond to this Information Request as it is beyond the scope of the 9 Application currently before the Commission and will not in any way inform the Commission on 10 the implementation of a RIB rate.

11 The composition and current level of the basic charge, rate rebalancing, and intra-class 12 subsidization are topics that were dealt with during the 2009 COSA and RDA and are not the 13 subject of this Application.

148When the Environics Research Group conducted their assessment research on15re-balancing and rate design options did they specifically tell residential16customers using less than 1,900 kWh that they were subsidizing those residential17customers using more than 1,900 kWh per billing period?

18 **Response:**

No. FortisBC notes that these conclusions regarding subsidization were not developed nor are
they supported by the Company. They were introduced by an intervenor during the Final
Argument phase of the 2009 COSA and RDA process and were not in circulation at the time
that 2009 COSA and RDA consultation was being conducted nor were they tested as part of the
2009 COSA and RDA oral hearing.

When the Commission issued its order, G-156-10, on October 19, 2010, the Basic Charge was \$25.72 for residential customers, whereas as of the April billing it was \$28.22 and at 5.2.1., line 26, page 15 in their current application FortisBC forecasts it will be \$28.93 after May 1, 2011.

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FortisBC Inc. ("FBC" or the "Company")	Submission Date:
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In their October Decision at pages 55 and 56 the Commission Panel observed:

"Mr. Shadrack demonstrates by way of his own consumption data that a higher basic charge actually favours higher consumption customers to the disadvantage of low consumption customers, rather than providing an incentive or a price signal to conserve. He further submits that "the current Basic Charge rate design is in fact providing a massive subsidy" to the high end consumption customers and that "in effect 70.6% of the residential load is being subsidized by a majority of residential customers" (Shadrack Argument, pp 1-3)

11 9 Can you please explain how a Basic Charge of \$28.93 complies with the 12 Commission Panel direction at page 57 of its Decision to, "...develop a plan for 13 introducing inclining block rates that also incorporate a lower Basic Charge in the 14 immediate future..."?

15 **Response:**

16 The current customer charge of \$28.93 includes all recent Commission approved rate increases 17 up to and including the May 1, 2011 rate rebalancing.

18 Commission Order G-156-10 did not order an immediate customer charge reduction. Rather, it

directed the Company to file a RIB rate application that, as part of its structure, incorporated a

- 20 lowering of the basic customer charge.
- 21 Please also see the response to BCSEA IR1 Q2.1.
- 10 Can you please explain why, with reference to sections 59 and 60 of the Utility Commission Act, FortisBC wants to limit the impact of the RIB rate to 10 percent or less, if the residential customers concerned have in fact previously been subsidized by lower consumption residential customers?

26 **Response:**

The British Columbia Utilities Commission is the sole judge of whether or not a rate is just and reasonable. FortisBC considers that by virtue of the fact that its current rates have been approved by the Commission, they have been declared to be just and reasonable in consideration of the relevant sections of the Utilities Commission Act.



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1 11 In FortisBC's opinion does the application of Bonbright principle 6 only deal with 2 "rate shock", or does it also apply to rate discrimination within a class of 3 customers?

4 Response:

5 FortisBC did not consider intra-class rate discrimination in drafting the RIB Application. The 6 Company considered the Bonbright Principle 6 only as it pertains to the residential customer 7 class as a whole.

8	12	Over the last six years our household has reduced electrical consumption from
9		17 kWh per day to 9.6 kWh, while the cost per unit of electricity has risen from
10		8.7 cents per unit to 13.5 cents. Meanwhile the Basic Charge as a portion of our
11		bill, given the 43.5% reduction in consumption, has increased from 23% of our
12		bill, before taxes, to 34.9%. Does FortisBC believe that the Commission should
13		continue to allow the company to discriminate against low kWh residential
14		customers, contrary to section 59 of the Commission Act?

15

16 **Response:**

17 The Company does not believe that it discriminates against low usage customers, nor does it

agree that its current rates contravene any section of the Utilities Commission Act. See also the response to Question 10.

2013Given the above concerns, as expressed in questions 9, 10, 11 and 12 above,21can you please explain why FortisBC is not proposing options 10, 11 and 12 as22found in Table 7.2 of their current application?

23 **Response:**

Options 10 and 12 were ruled out in the initial screening for the reasons stated in the Application on page 24. Option 11 provides a benefit to fewer customers than the option advanced by the Company in terms of the percentage of customers who are better off under the RIB rate than under the flat rate.



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1	At line	3-4, page 27, FortisBC states in the current application:
2		
3	"that	a second block that is too high will be unduly punitive to higher consumption
4	custom	ners, such as those with electric heat"
5		
6	14	Does FortisBC know what percentage of its low income residential customers
7		use electric heat versus wood and other fuels for heating; and, what percentage
8		of its low income residential customers use air conditioning versus those who do
9		not?

11 For the purposes of the response, FortisBC looked at the bottom two income categories.

Income Level (per year)	Percentage of customers with electric heat
Below \$20,000	59.2%
Between \$20,000 and \$40,000	42.7%
Between \$0 and \$40,000	43.3%
Over \$40,000	36.3%

12

13	15	Can FortisBC please explain why it is not "unduly punitive", in accordance with
14		the specifications of section 59 of the Utilities Commission Act, to maintain a high
15		Basic Charge and a lower Block 2 charge for low income customers who use
16		neither electric heat nor air conditioning?

17 **Response:**

The BC Utilities Commission is the sole judge of whether or not a rate is unjust, unreasonable,unduly discriminatory or unduly preferential.

It is not possible to determine whether a rate that includes a customer charge that is high relative to the level of the block 2 rate would be advantageous to a low income customer without knowing the consumption characteristics. A low income customer with high consumption (regardless of the reason) may well benefit from a low block 2 rate.



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1 16 Can FortisBC please explain why it is not "unduly punitive", in accordance with 2 the specifications of section 59 of the Utilities Commission Act, to maintain a high 3 Basic Charge and a lower Block 2 charge for all income levels of residential 4 customer who use neither electric heat nor air conditioning?

5 **Response:**

6 The BC Utilities Commission is the sole judge of whether or not a rate is unjust, unreasonable,7 unduly discriminatory or unduly preferential.

8 It is not possible to determine whether a rate that includes a customer charge that is high 9 relative to the level of the block 2 rate would be advantageous any customer without knowing 10 the consumption characteristics. A customer with high consumption (regardless of the reason) 11 may well benefit from a low block 2 rate.

- 1217Can FortisBC also please explain why maintaining a high Basic Charge and13lower Block 2 charge for electricity is not "unduly punitive" against its own14residential customers who use FortisBC-supplied natural gas for heating?
- 15

16 **<u>Response:</u>**

17 The Company states on page 27 of the Application, that, *"The Company believes that a second*

18 block that is too high will be unduly punitive to higher consumption customers, such as those 19 with electric heat."

- In many cases, customers who heat with natural gas will have lower electricity use than a similar customer with electric heat. A customer who heats with natural gas and has relatively low electric consumption will benefit from a higher block 2 rate. Whether the reverse situation is "unduly punitive" should be viewed within the context of the application. The option preferred by FortisBC features a block one rate lower than the current flat rate which still affords gas heat customers an opportunity to realize savings.
- 2618Can you please explain why, given the age of FortisBC's generating27infrastructure and the fact that the Canal Plant Agreement is nearly forty years28old, BC Hydro Power and Authority has a basic charge of \$0.13410 per day,29whereas FortisBC's basic charge is \$0.47556 (\$28.93x6/365)?



FortisBC declines to respond to this Information Request as it is beyond the scope of the Application currently before the Commission and will not in any way inform the Commission on

4 the implementation of a RIB rate.

5 The composition and current level of the basic charge, rate rebalancing, and intra-class 6 subsidization are topics that were dealt with during the 2009 COSA and RDA and are not the 7 subject of this Application.

8 19 Does BC Hydro Power and Authority use different criteria for creating its Basic 9 Charge?

10 **Response:**

FortisBC declines to respond to this Information Request as it is beyond the scope of the Application currently before the Commission and will not in any way inform the Commission on the implementation of a RIB rate.

The composition and current level of the basic charge, rate rebalancing, and intra-class subsidization are topics that were dealt with during the 2009 COSA and RDA and are not the subject of this Application.

1720Is it not true that the main reason FortisBC wants to retain the current Basic18Charge, at 3.5 times the Basic Charge of BC Hydro Power and Authority, is that it19guarantees the company a higher bi-monthly fixed income from each residential20customer?

21 **Response:**

In setting the customer charge, the primary considerations are cost causation and the maintenance of revenue certainty. The Company believes it is appropriate to recover fixed costs through the collection of a fixed charge.

25 Please also see the response to BCSEA IR1 Q2.1.



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1 21 If low consumption residential customers are not causing FortisBC to purchase 2 more and more electricity under the BC Hydro 3808 agreement and on the spot 3 market, why should their Basic Charge be subject to a re-balancing increase at 4 all?

5 **Response:**

FortisBC declines to respond to this Information Request as it is beyond the scope of the
 Application currently before the Commission and will not in any way inform the Commission on
 the implementation of a RIB rate.

9 The composition and current level of the basic charge, rate rebalancing, and intra-class

10 subsidization are topics that were dealt with during the 2009 COSA and RDA and are not the

11 subject of this Application

1222Please provide a table that shows cost, before taxes, of electricity (including13Basic Charge) to residential customers at consumption rates of 640 kWh, 1,28014kWh and 1,920 kWh per billing period for the sum total of each of the years 200615through 2010.

16 **Response:**

Table Shadrack IR1 Q22 below details the yearly cost of electricity (excluding taxes) for
residential customers taking service under FortisBC's Rate Schedule 01 (RS01) for the period
2006-2010, based on rates in effect at January 1 of each year.

20

21 22

23 24 25

Table Shadrack IR1 Q22Yearly Cost of Electricity for Residential Customers (2006-2010)

Consumption per billing period (kWh)	2006	2007	2008	2009	2010
640	\$382.81	\$387.38	\$406.92	\$429.02	\$464.78
1,280	\$638.47	\$646.12	\$678.71	\$715.60	\$775.25
1,920	\$894.14	\$904.86	\$950.51	\$1,002.18	\$1,085.71



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FortisBC Inc. ("FBC" or the "Company") Residential Inclining Block Rate Application ("Application")	Submission Date: June 7, 2011
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The FortisBC rate inclined blocking application is purported to be "good" for the citizens of British Columbia because:

1) It provides everyone with a basic amount of electricity priced more affordable than it would be if customers were charged only one rate for all usage.

- 2) The tiered rates promote energy conservation because customers pay a higher price for using more electricity. Conservation helps customers avoid this higher price.
- In the face of these claims, there is concern that 75.7% of customers "better off" by tiered rates (Table 7.2, page 22) will be subsidized by the 24.3% who will see a maximum bill impact of 22.6%. There is considerable speculation as to the ability of which customers can and are able to reduce consumption. In addition, the FortisBC application guarantees a floor on its electric revenue, regardless of how much power it sells for the next 5 years. This is to encourage conservation by removing the incentive for FortisBC to sell more power to create more income.
- 19Q1How will equity issues be addressed? General Service customers have declining20tiered rates and bulk customers have the lowest flat rates. When will corporate,21industrial etc customers have increased inclined blocks? When subsidizing22customers who use less electricity by customers who use more electricity, is this23not a form of rationing by price discrimination?

24 **Response:**

The RIB rate that is the subject of the FortisBC Application applies only to FortisBC direct residential customers and is designed to be applied to all residential accounts in the same manner regardless of any geographic or demographic considerations. As described in the Application, options that did not meet the test of provincial consistency (i.e. a rate not structured in a similar manner to the BC Hydro RIB rate) were not considered.

There are currently no plans to introduce RIB rates to any other customer class, however FortisBC has been directed to *"…initiate consultations with its industrial customers with the goal to introduce a stepped rate for transmission service similar to RS 1823 of BC Hydro."* (BCUC

33 Order G-156-10 Directive 6).



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- 1 While the Company is on record as believing that an improperly designed RIB rate may be
- 2 unduly punitive to higher consumption customers¹, it does not view the billing of block 2
- 3 consumption as either rationing or discriminatory.
- 4 Q2a What is the guaranteed revenue profit for FortisBC? Is this locked in for the 5 5 year period or can FortisBC come back for an adjustment? What is the projected 6 rate of return on FortisBC capital expenditures?

- 8 FortisBC does not currently have a guaranteed level of profit and will not have a guaranteed 9 level of profit should a RIB rate for residential customers be approved by the Commission. The 10 Company does have the opportunity to earn a reasonable return. The return is set relative to a 11 benchmark Return on Equity. The Company currently earns a 9.90% return on a 40% equity 12 component of rate base.
- Q2b If the application is successful and aggregate electrical consumption is
 significantly reduced; does this not imply rising rates at a later date to maintain
 the return on expenditures?

16 **Response:**

17 Please refer to the response to BCUC IR1 Q5.2.

¹ FortisBC RIB Rate Application, Page 27, Line 3



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1	The f	uture most l	ikely wi	l include i	ncreas	ing numb	ers of h	ybrid a	nd electr	ic cars	s. A stu	ıdy
2	by	by Purdue				University				researchers		
3	(<u>http:/</u>	//www.purdu	<u>ie.edu/r</u>	newsroom,	′ <u>resea</u>	rch/2011/	<u>110113</u>	<u>Tyner</u> H	ybrids.ht	<u>tml</u>)	sugge	sts
4	that	California's	tiered	electricity	rate	structure	could	make	plug-in	hybric	d elect	tric
5	vehicles a C10-5 poor economic choice, dealing a blow to the state's ambitious goals for										for	
6	gettin	g such vehi	cles on	the road.								
7												
8	Q3	Will hybri	d and	electric ca	ars be	exempt	from th	ne rate	inclined	block	s? If s	SO,

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13 **Response:**

Please refer to the response to Stanski IR1 Q1 above. FortisBC has not performed the studies necessary in order to determine the expected impact of hybrid or electric cars on its electrical infrastructure and cannot provide a value for this portion of the question.

17Q4The conservation goal for 2020 is defined (page 4), what are the performance18measures for success/failure for the period 2011 to 2015? If the application is19worth doing, performance measures are a necessity. Will the interveners20continue to be updated (quarterly?) as to the performance results? In additional,21will these reports be normalized for such changes as climatic effects, population22changes etc.? In particular, could the performance reports specify which23consumer classifications are producing the greatest percentage reductions?

24 **Response:**

FortisBC does not intend to measure the efficacy of its RIB rates. Such studies, particularly if they are segmented by customer classifications, are expensive to perform since the expected reductions are relatively small and the numbers of variables to control are relatively large.


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From Austin Energy: A seasonal rate structure provides different pricing signals to customers depending on the season to reflect differences in the cost to serve customers caused by increased demand on the system to meet heating and cooling loads in the summer or winter depending on the geographic location of the utility. Typically, the price of power during the on-peak season is higher than the price during the off-peak season. Due to their relative simplicity, combinations of seasonal and inclining block rate structures are prevalent throughout the electric utility industry today.

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Q5 Why did FortisBC not include a seasonal structure to the rate inclined blocks? 9 10 Because of low sun azimuth, mountains and valley cloud during the winter months, solar alternatives are not available when temperature extremes are at a 11 maximum. A reply that bi-monthly billing periods do not match season definitions 12 is insufficient. Alternatives include: pro-rating the consumption as FortisBC 13 already does when rates increases do match billing periods, or by defining Winter 14 to be the billing period end of Oct to beginning of March; and Summer to be the 15 beginning of March to the end of Oct. 16

17 Response:

18 Please refer to the response to OEIA IR1 Q4.2.

In the paper "The Economics of Tiered pricing and Cost Functions: Are Equity, Cost Recovery and Economic Efficiency Compatible Goals?" by Karina Schoengold and David Zilberman, Jan 25, 2011, University of Nebraska, a framework to answer the question "to what extent can tiered pricing be used to improve equity while maintaining economic efficiency and revenue neutrality?" A quantitative verification of thresholds and equity improvement would confirm FortisBC's assumptions.

26Q6Can FortisBC using the framework described in the above paper to demonstrate27how Bonbright's principles (page 9) are satisfied; how the rate structure affects28aggregate consumption, economic efficiency, and conservation goals?

29 **Response:**

25

FortisBC did not consider improving the income equity of its customers when designing the proposed RIB rate. However, the Company did consider the impact of the RIB rate options on low income customers in Section 9 of the Application. FortisBC believes its proposal is beneficial to a majority of low income customers, while reducing energy consumption in aggregate and maintaining revenue neutrality.



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- 1 Electrical consumption by a bare land strata corporation for common assets is a question that 2 requires clarification. The BC Strata Act specifies that strata lots share of common expenses are determined by unit entitlement. Common assets within a bare land strata include such items as 3 road maintenance, street lighting, sewers and storm drains. A clubhouse is considered as an 4 5 extension of the strata lot living room or kitchen; hence the clubhouse is classified as a 6 residential service with respect to electrical rates.
- 7 Will the threshold for the inclining rate blocks be multiplied by the number of Q7 strata lots when calculating the block rate for electricity consumption within/by a 8 common asset? 9

11 The residential accounts attached to the common area are treated as a single account and, in

- keeping with the application of a single customer charge, there would be a single threshold used 12
- 13 in the determination of RIB billing.

14 It would appear that insufficient analysis and thought was extended in the RIB application to homes that have geothermal systems heating/cooling and/or are completely electrical (without 15 natural gas connections). While such systems are nearly 100% efficient, such homeowners are 16 in effect replacing the energy from alternatives sources (natural gas) with electrical energy and 17 18 not being properly credited for their positive decisions (table 2 in KAS2464's first submission). If 19 the LiveSmart encourages energy efficiency, should a homeowner be penalized through low 20 thresholds in the RIB application?

21 Q8 Please explain in detail why homes with geothermal systems and homes entirely 22 dependent upon electricity should not have modified thresholds to reflect their positive choices in energy consumption 23

24 **Response:**

25 BCUC IR1 Q13.4.1 and Q13.4.2 confirm that customers with electric heat have higher average 26 consumption than those without. However, Section 9 of the Application shows that 59 per cent 27 of customers with electric space heating will see an annual bill decrease. Those customers with 28 geothermal heating systems should presumably be more efficient than electric heat customers generally, and could benefit. 29



1 **1.0** Reference: Exhibit B-1, Section 5, Inclining Block Rate Options, p.14

- "Typically the customer charge is used to recover the costs incurred by the utility of
 providing services such as billing and meter reading to customers."
- 5 1.1 Please clarify whether the above quote means that utilities are supposed to 6 recover these costs through the customer charge or that they generally do 7 recover these costs through the customer charge.

8 Response:

- 9 Provided that a customer charge is appropriately set following a cost of service analysis
 10 ("COSA") to recover the costs mentioned above, then the utility will do so.
- 11 It can also be said that most utilities use the customer charge to recover all *or a portion* of the 12 costs incurred by the utility of providing services such as billing and meter reading to customers.
- 13 In FortisBC's case, only a portion of these costs are recovered by the current customer charge.
- 14 1.2 Which ever is the case, please provide references to back up the statement.

15 **Response:**

- 16 FortisBC maintains that the statement reflects common practice within the utility industry. Some
- 17 references to other North American utilities that define the customer charge in a similar manner
- 18 are found below.

Statement	Source
The basic charge partially recovers fixed costs of providing service, whether or not any electricity is used during the billing period.	https://www.bchydro.com/youraccount/content/re sidential_bill.jsp#15
Your monthly customer charge covers part of the cost to provide service to your residence or business. Expenses associated with maintaining customer records, meter reading and billing are typically recovered in part through a customer charge. The charge will appear on the monthly bill even if you use no energy or water during the billing period.	http://www.puc.state.id.us/faq/What%20Is%20Th e%20Customer%20Charge.pdf



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The customer charge is a fixed monthly charge that covers certain fixed costs regardless of the amount of power used by a consumer uses during a billing period. Such costs include meter reading, monthly billing, depreciation on meters, distribution lines from the pole to the consumer's premises, line transformers, and other expenses incurred in the maintenance and operation of items.	http://myflorida.custhelp.com/app/answers/detail/ a_id/137/~/what-is-the-customer-charge-that- appears-on-my-electric-bill%3F
What does the Fixed Monthly Charge cover? The Fixed Monthly Charge covers such costs as billing, meter reading, and administration.	http://www.londonhydro.com/residential/question sanswers/

2 1.3 Please re run your scenarios using a customer charge of \$0.00.

3 **Response:**

4 The following table reflects the results with a customer charge of \$0.00.



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Table Tarnoff IR1 Q1.3

Optio n	Criterion	Threshold	Customer Charge	Block 1 Rate	Block 2 Rate	Block Differential	Annual Breakeven kWh	% of customers better off	Maximum Bill Impact	% of Customers with Bill Increases > 20%	% of customers who have consumption in the second block at least once	% of load billed in Block 2	Conse (-lc	rvation I wer/upp	mpact er)
													.05/ .10	.10/ .20	.20/ .30
1	90% see <10%	1350	0.00	0.09320	0.11930	28.0%	13000	68.8%	29.6%	1.9%	79.2%	43.3%	0.1%	0.3%	0.5%
2	95% see <10%	1350	0.00	0.10058	0.10963	9.0%	13000	68.8%	19.6%	0.0%	79.2%	43.3%	0.5%	1.1%	2.1%
3	100% see <10%	1350	0.00	0.10450	0.10450	0.0%	13000	68.8%	14.2%	0.0%	79.2%	43.3%	0.7%	1.5%	3.0%
4	90% see <10%	2100	0.00	0.09683	0.12588	30.0%	14000	72.5%	36.2%	2.7%	60.7%	26.4%	0.3%	0.7%	1.3%
5	95% see <10%	2100	0.00	0.10234	0.11052	8.0%	13500	70.7%	20.4%	0.1%	60.7%	26.4%	0.6%	1.3%	2.5%
6	100% see <10%	2100	0.00	0.10450	0.10450	0.0%	13000	68.8%	14.2%	0.0%	60.7%	26.4%	0.7%	1.5%	3.0%
7	90% see <10%	1600	0.00	0.09510	0.12078	27.0%	13500	70.7%	31.1%	1.9%	72.8%	36.6%	0.2%	0.5%	0.9%
8	95% see <10%	1600	0.00	0.10153	0.10965	8.0%	13000	68.8%	19.6%	0.0%	72.8%	36.6%	0.6%	1.2%	2.3%
9	100% see <10%	1600	0.00	0.10450	0.10450	0.0%	13000	68.8%	14.2%	0.0%	72.8%	36.6%	0.7%	1.5%	3.0%



1 2.0 Reference: Exhibit B-1, Section 5.2.1, Customer Charge, p.16

- "At the current level of \$28.22 per two month billing period, the customer charge
 presently collects just under 44% of the amount required by strict adherence to cost
 causation principles."
- 6 2.1 Does the "amount required" refer to the billing and meter reading costs referred 7 to in 1.0?

8 Response:

9 Yes, the billing and metering charges referred to in Question 1.0 form part, but not all of the 10 costs, meant to be collected through the customer charge. Also included are other costs such 11 as distribution costs that are allocated to the residential customer class.

12 2.2 If \$28.22 represents 44% of the "amount required", the actual amount required
13 should be about \$64. Please provide a breakdown of how much of this \$64 is
14 required for billing, meter reading, and any other costs that are included.

15 **Response:**

16 The following is a breakdown of the customer-related costs for residential customers resulting

17 from the 2009 COSA and Rate Design Application ("RDA"). Note that the return, taxes,

18 depreciation and O&M all apply to the plant that was assigned as customer-related. This plant

19 includes a share of poles, wires and transformers and 100 per cent of meters and services.

20

Table Tarnoff IR1 Q2.2

Cost Category	\$ per 2 Months	% of Total
Return & taxes	21.30	37%
Depreciation	16.90	28%
Customer service, metering & billing	8.90	16%
O&M expenses	8.20	14%
Administrative & general expenses	2.90	5%
Total Customer-Related	57.50	100%

21 22



1 3.0 Reference: Section 5.2.3, Block Rates, p.17

- "The 10% per cent figure is generally accepted to represent the threshold of "rate shock", though it is not an official position of the Commission."
- 3 4

2

- 5
- 3.1 Please define "rate shock" and give references for this statement.

6 Response:

Rate Shock is a term that does not lend itself easily to a single definition as different constituent
groups view the concept differently. FortisBC finds the definition used by the South Dakota
Supreme Court to be useful.¹

10 *"Rate shock" is a term used to describe "the effect on utility customers when a utility implements a significantly increased rate immediately or in a relatively short time span."*

12 In its decision on BC Hydro's 1992 Rate Design Application, the Commission has stated the 13 following with respect to what constitutes rate shock:

- 14 As indicated by the evidence, whether a particular increase constitutes rate shock depends on
- 15 the overall rate environment and the circumstances of the particular customer (T. 175-178). It is
- 16 the Commission's responsibility to assess these circumstances and determine when rate shock

17 may be properly said to have occurred.²

As such, there is no hard rule as to what constitutes rate shock, however, the 10 per cent figure

- appears frequently in the record of regulatory proceedings as a threshold and appears to have
- 20 some consensus among intervenor groups.
- 213.2Has FortisBC estimated how many of the customers whose rate increases will22exceed 10%, will subsequently reduce their consumption so that their bill23increases will be below 10%?

24 **Response:**

- FortisBC has not estimated the number of customers with one-time bill increases above 10 per
- cent that will subsequently reduce their consumption such that their bill increase is less than 10
- 27 per cent. This will depend in part on the amount and timing of any future rate increases.

¹ U S WEST COMMUNICATIONS, INC. v. AT&T COMMUNICATIONS OF THE MIDWEST, INC., SPRINT COMMUNICATIONS, COMPANY, L.P., MCI TELECOMMUNICATIONS CORPORATION, TELECOMMUNICATIONS ACTION GROUP AND DAKOTA TELECOMMUNICATIONS GROUP [2000 SD 140]

² Reasons for Decision attached to Commission Order G-36-92, Page 17



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- 1 FortisBC does expect energy use to decline overall, which will mitigate the initial bill impact of
- 2 the RIB rate (on average) over time.
- 3 3.3 If so, please provide the figure.

- 10 per cent is the threshold of "rate shock" used by FortisBC in this Application. FortisBC is not
 aware of any official position of the BCUC with respect to "rate shock".
- 7 3.4 If not, please estimate.

8 Response:

9 Please see the response to Tarnoff IR1 Q3.3.

10



1 4.0 Reference: Section 5.2.2, Threshold Level, p.17.

- In all of FortisBC's threshold level options, a number of customers will be below the
 threshold level for all of the year and therefore will have no new incentive to further
 reduce their consumption.
- 6 4.1 Did FortisBC consider a three step rate design that would give low usage 7 customers a new incentive to increase their conservation?

8 Response:

- 9 FortisBC did not consider implementing an RIB rate that had a three-step threshold as provincial
- 10 consistency was sought as discussed in the response to BCUC IR1 Q4.1.
- 11 4.2 If so, please provide the results of the scenarios.

12 **Response:**

- 13 Please see the response to Tarnoff IR1 Q4.1 above.
- 14 4.3 If not, please rerun the scenarios with an additional step at 1000 kwh.

15 **Response:**

16 The following table reflects the results with an additional step at 1,000 kWh.



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Table Tarnoff IR1 Q4.3

Option	Criterion	Threshold	Customer Charge	Block 1 Rate	Block 2 Rate	Block 3 Rate	Block 1/2 Differential	Block 2/3 Differential	Annual Breakeven kWh	% of customers better off	Maximum Bill Impact	% of Customers with Bill Increases > 20%	% of Ioad billed in Block 2	% of load billed in Block 3	Con (Conservation Impact (-lower/upper)	
															.05/.10	.10/.20	.20/.30
1	90% see <10%	1000/1350	28.93	0.05993	0.09545	0.12208	59.3%	27.9%	13500	70.7%	32.5%	2.7%	11.4%	43.3%	2.7%	5.5%	8.0%
2	95% see <10%	1000/1350	28.93	0.07017	0.09545	0.11138	36.0%	16.7%	13500	70.7%	21.3%	0.1%	11.4%	43.3%	1.9%	3.7%	5.5%
3	100% see <10%	1000/1350	28.93	0.08068	0.09545	0.10039	18.3%	5.2%	13000	68.8%	9.9%	0.0%	11.4%	43.3%	0.9%	1.7%	2.5%
4	90% see <10%	1000/2100	28.93	0.06149	0.09545	0.13641	55.2%	42.9%	14000	72.5%	47.1%	5.2%	28.3%	26.4%	3.3%	6.6%	9.7%
5	95% see <10%	1000/2100	28.93	0.07330	0.09545	0.11618	30.2%	21.7%	14000	72.5%	26.2%	0.6%	28.3%	26.4%	1.8%	3.7%	5.4%
6	100% see <10%	1000/2100	28.93	0.08243	0.09545	0.10055	15.8%	5.3%	13500	70.7%	10.0%	0.0%	28.3%	26.4%	0.7%	1.4%	2.1%
7	90% see <10%	1000/1600	28.93	0.06081	0.09545	0.12584	56.9%	31.8%	13500	70.7%	36.3%	2.7%	18.1%	36.6%	3.0%	6.0%	8.8%
8	95% see <10%	1000/1600	28.93	0.07143	0.09545	0.11272	33.6%	18.1%	13500	70.7%	22.7%	0.2%	18.1%	36.6%	1.9%	3.7%	5.5%
9	100% see <10%	1000/1600	28.93	0.08163	0.09545	0.10012	16.9%	4.9%	13500	70.7%	9.6%	0.0%	18.1%	36.6%	0.8%	1.6%	2.3%
10	90% see <10%	1000/1350	21.50	0.06848	0.09545	0.12121	39.4%	27.0%	13500	70.7%	31.6%	2.7%	11.4%	43.3%	2.8%	5.6%	8.2%
11	95% see <10%	1000/1350	21.50	0.07857	0.09545	0.11066	21.5%	15.9%	13500	70.7%	20.6%	0.1%	11.4%	43.3%	1.8%	3.7%	5.4%
12	100% see <10%	1000/1350	21.50	0.08875	0.09545	0.10001	7.5%	4.8%	13000	68.8%	9.5%	0.0%	11.4%	43.3%	0.9%	1.7%	2.6%
13	90% see <10%	1000/2100	21.50	0.07095	0.09545	0.13341	34.5%	39.8%	14000	72.5%	44.0%	5.2%	28.3%	26.4%	3.2%	6.4%	9.4%
14	95% see <10%	1000/2100	21.50	0.08177	0.09545	0.11488	16.7%	20.4%	14000	72.5%	24.8%	0.6%	28.3%	26.4%	1.8%	3.6%	5.4%
15	100% see <10%	1000/2100	21.50	0.09017	0.09545	0.10050	5.8%	5.3%	13500	70.7%	10.0%	0.0%	28.3%	26.4%	0.8%	1.5%	2.3%
16	90% see <10%	1000/1600	21.50	0.06984	0.09545	0.12421	36.7%	30.1%	13500	70.7%	34.7%	2.7%	18.1%	36.6%	2.9%	5.8%	8.6%
17	95% see <10%	1000/1600	21.50	0.08011	0.09545	0.11152	19.1%	16.8%	13500	70.7%	21.5%	0.1%	18.1%	36.6%	1.7%	3.5%	5.2%
18	100% see <10%	1000/1600	21.50	0.08930	0.09545	0.10016	6.9%	4.9%	13500	70.7%	9.7%	0.0%	18.1%	36.6%	0.8%	1.7%	2.5%



1 2	Reference:	Fortis Application 3698628 FortisBC Residential Inclining Block Rate Application (RIB)
3 4 5	Preamble: a plan that ei plan.	As a customer of Fortis BC, I note that the utility is required to implement neourages energy conservation. Hence the current application for the RIB
6 7	I am opposed impact on ene	to this proposal. This plan should be abandoned as it will have a minimal argy conservation. Allow me to explain.
8	Our house wa	as built in 1978, 1200 sq feet up and down. We have an all electric house.
9 10	We have R 4 Argon.	10 in the ceilings, all windows are double glazed, sealed, and filled with
11 12	All CF lights LED Christma	where possible, energy efficient appliances, solar LED outdoor light and as lights,
13 14	In the winter overnight set	we maintain our daytime temperature at 19.5 Celsius and 13 degrees back. We shut the vents off downstairs.
15 16	My question tiered system	s where will I save more money? How can I be more efficient with a two that will give me the incentive to save energy and money?
17	This proposal	is punitive for those with an all electric house.
18 19 20	In 2009 I use the new sch increase!	ed 20,723 KWh. Doing the math I paid \$1775.81 for my energy. Under eme my bill will be \$2287.80, an increase of \$511.99 or a 28.8%
21 22	In 2010, I use have paid \$17	d 15,944 KWh, paid \$1516 for energy. Under the new RIB scheme I would 722, an increase of \$206 or a 13% increase.
23 24 25	For those witl the RIB sche house and se	n wood heat, or natural gas, or other sources, they will be less affected by me. Has Fortis given any thought to identifying those with an all electric tting two thresholds?
26 27 28 29	If the intent o peak hours, t they use the maximizing th	the RIB scheme is to reduce energy demand, shift energy demand to off hen put it in the hands of consumers, who can do something about when r energy, NOT take more out of the pockets of those who are already heir savings.
~~		

30 Why not accelerate the implementation of smart meters?



- 1 Why not promote TOU metering? This seems to be a much more viable alternative if the 2 objective is energy conservation.
- 3 I can put the dishwasher on late at night.
- 4 I can shower in off peak times, or control the energy to the hot water heater to off peak 5 times.
- 6 I can heat the hot tub at off peak periods
- 7 I can do baking at off peak periods or during the weekend.
- 8 I can do the laundry at night or on the weekends.
- 9 I can programme the electric furnace to heat the house during off peak times.
- I am going to be using the above mentioned items as part of living anyway. An RIB plan
 hits me in the pocket book. Yet, given the choice I can work in a synergistic way with
 Fortis BC to manage the energy load and effect real savings for both parties.
- I am of the opinion that the game plan should be to change consumer's habits. The RIB
 plan does little to make significant changes in this direction.
- Explain to me, how there will be a benefit to me, given my argument presented above, with the proposed RIB proposal?
- 17 1.1 My question is where will I save more money? How can I be more efficient 18 with a two tiered system that will give me the incentive to save energy and 19 money?

Generally speaking, a RIB rate is designed on the premise that if consumption above the cumulative kWh threshold is billed at a higher rate, a customer will direct efforts toward reducing consumption during all times of the day in order to avoid that higher rate.

Each customer will need to evaluate where opportunities exist based on his or her consumption habits, although it is recognized that higher consumption customers may be faced with increased costs under a RIB rate.



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1 1.2 Has Fortis given any thought to identifying those with an all electric house and 2 setting two thresholds?

3 **Response:**

- 4 Please refer to the response to OEIA IR1 Q4.2.
- 5 1.3 Why not accelerate the implementation of smart meters?

6 Response:

- 7 The introduction of Advanced Metering Infrastructure ("AMI") in the FortisBC service area will be
- 8 the subject of an application to be filed with the Commission in 2011. If approved, the
- 9 implementation of AMI will follow the schedule determined during the process associated with
- 10 the Regulatory process.
- 11 Please also see the response to OEIA IR1 Q8.4.2.1 through Q8.4.2.3.
- 12 1.4 Why not promote TOU metering? This seems to be a much more viable 13 alternative if the objective is energy conservation.

14 **Response:**

- 15 The implementation of wide-scale TOU is not practicable without the infrastructure associated
- with the AMI program discussed in the response to Work IR1 Q1.3 above.
- 17 It remains the position of FortisBC that time-based conservation rates offer the best alternatives 18 to flat rates for the Company and its customers. Should a RIB rate be mandated by the 19 Commission, it is currently the Company's intention to introduce some suite of time-based rates 20 to complement the RIB rates, likely on a voluntary participation basis.



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- 1.5 Explain to me, how there will be a benefit to me, given my argument presented above, with the proposed RIB proposal?

Please see the response to Work IR1 Q1.1 above. It is not the contention of the Company that each residential customer will "benefit" from the RIB rate, where a benefit is viewed only as a decrease in annual billings. The Company acknowledges that certain customers will be negatively impacted. To the extent that a hypothetical customer has exhausted every conservation measure available and cannot curtail usage in the second block sufficient to take advantage of the decrease in block 1 rates, overall annual billing will increase.