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May 8, 2018

Industrial Customers Group
c/o #301 – 2298 McBain Avenue
Vancouver, BC V6L 3B1

Attention: Mr. Robert Hobbs

Dear Mr. Hobbs:

Re: FortisBC Inc. (FBC)
Project No. 1598939
2017 Cost of Service Analysis and Rate Design Application (the Application)
Response to Industrial Customers Group (ICG) Information Request (IR) No. 1

On December 22, 2017, FBC filed the Application referenced above. In accordance with British Columbia Utilities Commission Exhibit A-6 amending the Regulatory Timetable for the review of the Application, FBC respectfully submits the attached response to ICG IR No. 1.

If further information is required, please contact Corey Sinclair at (250) 469-8038.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachment

cc (email only): Commission Secretary
Registered Parties

FortisBC Inc. (FBC or the Company) 2017 Cost of Service Analysis and Rate Design Application (the Application)	Submission Date: May 8, 2018
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1 **1.0 Reference: Exhibit B-1, Section 2.2, page 12**

2 **“5. In consideration of COSA fixed costs (customer-related and demand-related)**
3 **and to improve consistency among rate classes, approval of the following**
4 **revenue neutral change for Large Commercial – Transmission (RS31):**

- 5 • **An increase in the monthly Customer Charge from \$3,116.03 to \$3,195.00.**
- 6 • **A decrease in the energy rates from \$0.05516 per kWh to \$0.05367 per kWh.**
- 7 • **An increase in the per-kVA Power Supply Demand Charge from \$2.77**
8 **to\$3.45.”**

9 1.1 Please explain how increasing the monthly customer charge, decreasing the
10 energy rate and increasing the Power Supply Demand Charge will improve
11 consistency among rate classes.

12
13 **Response:**

14 Consistency among rate classes is furthered by applying a similar standard for fixed cost
15 recovery across the rate classes. The referenced text should not be considered in isolation as
16 though these changes are only being considered for RS 31. All rate classes have undergone a
17 similar review and have similar proposals to better align recovery across the customer base.

18

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1 **2.0 Reference: Exhibit B-1, Section 3.2.3, 2016 BC Climate Leadership Plan, page 19**

2 2.1 FBC provides examples of its commitment to the Climate Leadership Plan (CLP).
3 Does FBC consider its proposal to offer “customized” (reduced incentives) DSM
4 programs to its self-generating customers to be in alignment with the CLP’s
5 stated objectives of increasing efficiency through expansion of DSM programs?
6

7 **Response:**

8 FBC notes that this question falls into the category of, “...interrogatories or requests for
9 information of this nature that are not directly related to either the COSA or FBC’s Rate Design
10 Application”, that the Commission indicated should be avoided in the Decision attached to Order
11 G-62-18 in this process.

12 In addition, pursuant to Commission Order G-72-18, the customer program is being discussed
13 in a separate Commission process at this time.

14

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1 **3.0 Reference: Exhibit B-1, Section 5.1.1.3, Rate Base, page 44**

2 **“The 2017 rate base of \$1.28 billion compares to the 2009 rate base of \$0.908**
3 **billion. By comparison, the mid-year (2008-2009) rate base reflected Gross Plant**
4 **of \$1.2 billion, also offset by accumulated depreciation and customer**
5 **contributions.”**

6 3.1 Please explain further why, from 2009, rate base has increased by 41% while
7 Gross Plant has increased by 62%. What are the rate effects of these disparate
8 increases?

9
10 **Response:**

11 The Company consulted with EES to provide the following response.

12 Gross plant increases each year with capital additions; however, accumulated depreciation and
13 CIAC offset that growth. In this case the dollar increase in gross plant was more than offset on
14 a proportionate basis by the dollar increase in accumulated depreciation. One factor impacting
15 the percent difference is that the net plant has a lower value so a comparable dollar change to
16 both gross plant and net plant will have a different percent impact. In terms of rates, a gross
17 plant increase of 10 percent would have a lower impact than a 10 percent increase in the rate
18 base.

19

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1 **4.0 Reference: Exhibit B-1, Section 5.1.2.1.2, Treatment of RS37 Revenue, page 48**

2 **“RS 37 Revenue (a credit of \$1.4 million) – all customers on the system pay for the**
3 **facilities used to provide this service. For the 2017 COSA FBC treats these**
4 **revenues as an offset to the cost of service since the revenues provide a partial**
5 **recovery to the fixed costs of the system. These revenues are allocated to the**
6 **classes in proportion to the allocated rate base.”**

7 4.1 Please explain further whether the application of RS37 revenues to all customers
8 inappropriately allocates transmission revenues to the distribution system, which
9 is not being used by the Large Commercial Service – Transmission customer
10 taking RS37 service?
11

12 **Response:**

13 The Company consulted with EES to provide the following response.

14 The revenues associated with RS 37 are related to service from generation and transmission
15 facilities. The revenues are intended to compensate all customers for use of the fixed system,
16 and are allocated to all customers that contribute to the fixed costs of the utility. If the COSA
17 was changed to allocate the revenues only on the basis of the generation and transmission rate
18 base, the RC ratio for the RS 31 class would change from 107.0 percent to 107.2 percent. This
19 difference would not have resulted in a change to the proposed rates for RS 31. The proposed
20 rebalancing would move the RC ratio from 104.7 percent to 104.9 percent and the proposed RC
21 ratios would still be within the 95 to 105 range of reasonableness.

22

23

24

25 4.2 Please explain how the distribution system contributes to the provision of RS37
26 service to the Large Commercial Service – Transmission customer.

27

28 **Response:**

29 Please refer to the response to ICG IR 1.4.1.

30

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1 5.3 Please explain why the cost associated with the Brilliant facility in this Application
2 is approximately 37% higher than the cost in the 2009 Application (\$42.7 million
3 compared to \$31.1 million).
4

5 **Response:**

6 The Company consulted with EES to provide the following response.

7 The cost in 2017 includes \$3.3 million for the Brilliant Expansion, which was not in place in
8 2009. The remaining increase is related to the cumulative impacts of escalation as allowed in
9 the Brilliant Power Purchase Agreement.

10

11

12

13 5.4 Why is there no average energy associated with the Waneta Expansion? Is the
14 \$38.3 million cost the annual capacity cost for 87 MW?
15

15

16 **Response:**

17 EES provides the following response:

18 The Waneta Expansion contract is for capacity only and therefore has no energy available to
19 FBC. The \$38.3 million cost is the net amount included in the FBC revenue requirements and
20 reflects offsetting revenue for surplus sales of Waneta capacity. The 87 MW listed in Schedule
21 7 is based on the peak capacity less the peak resale amount, which occurred in different
22 months. A capacity of 218 MW is a better representation of the capacity available to FBC in the
23 peak month.

24

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1 **7.0 Reference: Exhibit B-1, Section 6.2.3.1, RS 30 Transformation Discount, page 80**

2 **“The only RS 30 customer currently receiving this discount is FEI, for service to**
3 **its Hedley compressor station.**

4 **The same calculations are performed for RS 30 as described for RS 21. For RS30,**
5 **the 2017 COSA indicates that a transformation discount of \$5.26 per kVA of Billing**
6 **Demand shall be applied to the Demand Charge portion of the rate. The current**
7 **transformation discount is \$2.676 per kVA of Billing Demand. The increase in the**
8 **discount results from growth in costs and higher kVA per customer in the 2017**
9 **COSA, which results in a near doubling of distribution and higher kVA per**
10 **customer in the 2017 COSA, which results in a near doubling of distribution”**

11 7.1 Please identify the growth in costs and higher kVA per customer that is driving
12 the justification for the increase in the transformation discount if FEI is the only
13 customer on that rate. How many customers were on this rate for the analysis in
14 the 2009 Rate Design Application?

15
16 **Response:**

17 The Company consulted with EES to provide the following response.

18 The growth in costs and higher kVA per customer are related to the class as a whole, as the
19 discount was calculated for the class as a whole assuming they would all change from primary
20 service to transmission service. The discount was not calculated for each customer individually.
21 The costs and loads for the class were based on the approved 2017 Revenue Requirement,
22 and any growth in distribution costs over time was not specific to the RS 30 rate class.

23 There was only one RS 30 customer receiving the discount in 2009.

24
25

26

27 7.2 Will the R/C Ratio change for RS30 rate class after the increase in the
28 transformation discount, and if so, how?

29

30 **Response:**

31 The Company consulted with EES to provide the following response.

32 No. The R/C ratios are calculated on the basis of revenues before the discount and costs
33 assuming all customers are served at primary voltage. Since the amount of the discount is
34 based on the costs related to the different voltage level, the same amount would be subtracted



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- 1 from both the revenues and the costs. Further, the dollar amount of the discount is relatively
- 2 minor. For these reasons, we would not expect to see a change in the R/C ratios.
- 3

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1 **10.0 Reference: Exhibit B-1, Section 7.1, Current Transmission Service Rates, page**
2 **90**

3 **“The Special Provisions for each rate contain language allowing discounts to be**
4 **provided under certain conditions. Generally, discounting of the posted**
5 **maximum rates may occur when all of the following conditions apply:**

- 6 • **the increased usage will not add to system costs over the term requested;**
- 7 • **the customer can demonstrate that an alternative transmission path with**
8 **another Transmission Provider is available at a lower cost; and**
- 9 • **the lack of a discount would result in curtailment of transmission use for**
10 **economic reasons.”**

11 10.1 Please discuss whether there are any constraints on FBC to decide to provide
12 discounts to one wheeling customer and not another. Does this provide an
13 opportunity for discrimination and the application of arbitrary criteria in the
14 application of discounts?
15

16 **Response:**

17 There are specific requirements contained in Section 3 of Tariff Supplement No. 7 regarding
18 discounting by which FBC must abide.

19 The three principal requirements that apply to discounts for Ancillary Services provided by the
20 Transmission Provider in conjunction with its provision of transmission service are as follows:

- 21 (i) any offer of a discount made by the Transmission Provider must be announced to all
22 Eligible Customers solely by posting on the OASIS;
- 23 (ii) any customer-initiated requests for discounts (including requests for use by one’s
24 wholesale merchant or an affiliate’s use) must occur solely by posting on the OASIS,
25 and
- 26 (iii) once a discount is negotiated, details must be immediately posted on the OASIS. A
27 discount agreed upon for an Ancillary Service must be offered for the same period to
28 all Eligible Customers on the Transmission Provider’s system.

29
30 Note that the requirement to maintain an OASIS system at FBC was removed by the
31 Commission by Letter L-99-09; however, the requirements related to discounting remain. As
32 such, it is not possible for FBC to provide discounts to one wheeling customer and not another if
33 both customers are on the same path and within the discounted time frame.

34
35

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1

2 10.2 Does the uncertainty around the criteria for the application of wheeling tariff
3 discounts create the opportunity for potential wheeling customers that do not
4 have alternative transmission paths to be “held hostage” to the full tariffs, even
5 when their use of the transmission system does not add to system costs?
6

7 **Response:**

8 FBC is not clear what uncertainty the question refers to. As stated in the preamble, the three
9 listed points must be present in order for FBC to consider a discount. FBC believes that if these
10 conditions are not present, any offer of a discount would almost certainly result in a reduction
11 from the appropriately recovered revenue to the detriment of all customers.

12 A specialized wheeling rate (including a potential discount) is not determined for each individual
13 transmission access customer; rather all transmission access customers pay the same rate
14 within their rate class. This ensures that FBC recovers the appropriate revenue (to the benefit of
15 all customers) for the provision of wheeling services.

16

17

18

19 10.3 Why is it necessary for all the stated conditions to be present, rather than just the
20 condition of not adding to system costs over the term requested? Why does the
21 principle of cost recovery following cost causation not apply in this situation?
22

23 **Response:**

24 Please refer to the response to ICG IR 1.10.2.

25

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1 **11.0 Reference: Exhibit B-1, Section 7.2.2, Rationale for the clarification to the**
 2 **Existing Point- to-Point (PTP) Rate, pp. 94-95**

3 **“This language can be misinterpreted to enable Eligible Customers located within**
 4 **the FBC purchasing the power to serve its network load, without FBC receiving**
 5 **any wheeling revenue in consideration of the use of the FBC system that is**
 6 **required in order to facilitate the delivery.”**

7 **“The change that FBC is seeking would maintain the original intent of the anti-**
 8 **pancaking provisions but would allow for the collection of appropriate revenue**
 9 **from IPPs and self-generating customers selling power to BC Hydro, which would**
 10 **provide rate mitigation for all other FBC customers.”**

11 11.1 Please confirm that the proposed changes to RS 101 and RS 102 do not follow
 12 cost causation principles. If not confirmed, please provide references in the
 13 COSA study that support the proposed changes to RS 101 and RS 102.

14
 15 **Response:**

16 This is not confirmed. As stated on page 96 and 97 of the Application, the updated prices are
 17 derived from the 2017 COSA utilizing the Transmission Revenue requirement.

COSA Unit Cost for Transmission	\$4.67	COSA Schedule 2.1
Percent of Transmission after the exclusion of Generation-Integration Facilities	89.8%	
Resulting Rate for PTP Service	\$4.20	Row 1 times Row 2

18
 19 The value of \$4.20 in the above table corresponds to the same value in Table 7-5 of the
 20 Application.

21
 22
 23

24 11.2 Please confirm that FBC billing practices since the date of Order G-12-99 have
 25 been inconsistent with the proposed changes to RS101 and RS 102?

26
 27 **Response:**

28 The billing practices used for the wheeling of power through the FBC system have been
 29 inconsistent with the intent of Order G-12-99, the intent of the existing language of RS 101 and
 30 RS 102, and the language that FBC wishes to add to the rate schedules for clarification.

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1 FBC is seeking Commission approval to change the existing language of the rate schedules so
2 that they reflect the fact that they are currently being used for a purpose that was not
3 contemplated when they were originally approved: that is, for the delivery of customer-
4 generated power from within the FBC service area to BC Hydro as the purchaser.

5
6

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8 11.3 Please comment on whether FBC has been aware that self-generation
9 customers and IPPs in the FBC service have delivered power to BC Hydro,
10 where BC Hydro is purchasing the power to serve its network load, and not been
11 billed for such service? Please estimate the frequency and total numbers of such
12 deliveries from the time of Order G-12-99?

13

14 **Response:**

15 Please refer to the responses to BCUC IRs 1.63.4, 1.64.2 and 1.64.3.

16

17

18

19 11.4 Please comment on whether FBC has in the past interpreted Order G-12-99 to
20 permit a self-generation customer in the FBC service area to deliver power to BC
21 Hydro, where BC Hydro is purchasing the power to serve its network load,
22 without FBC receiving any wheeling revenue in consideration of the use of the
23 FBC system that is required in order to facilitated the delivery?

24

25 **Response:**

26 Please refer to the response to ICG IR 1.11.5.

27

28

29

30 11.5 Please comment on whether past and current billing practices of FBC followed
31 the original intent of Order G-12-99? If not, how did FBC decide not to follow the
32 original intent of Order G-12-99?

33

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1 **Response:**

2 FBC views the past billing practices as not following the original intent of G-12-99. The precise
3 point and time where billing began to be conducted in the current manner is unknown. The
4 characterization of the nature of the past and current practice as an intentional non-compliance
5 with a Commission Order is unfounded and the Company rejects the notion entirely.

6 When the current group responsible for Transmission services became aware of the issue,
7 steps were taken to review the regulatory history, discuss the issue with BC Hydro, and prepare
8 a submission in order to correct the practice.

9 The current language of the rate schedules was approved by the Commission for the use
10 prescribed in Order G-12-99 at a time when the export of self generation was not contemplated.
11 The language can now be considered inadequate to properly deal with the additional use to
12 which it is being put.

13

14

15

16 11.6 Please confirm that there has been no change in circumstances that justify the
17 proposed changes to RS 101 and RS 102?

18

19 **Response:**

20 This is not confirmed. The primary driver for the proposed changes to RS 101 and RS 102 is
21 the fact that the circumstances that were envisioned at the time that the Harmonization
22 language was added to the rate schedules of FBC and BC Hydro (imports by a customer from a
23 third party to serve load), never transpired and the rates are now being used to deliver power
24 from customer-owned generation to BC Hydro.

25

26

27

28 11.7 Please confirm that a change in the use of Point to Point transmission service to
29 export self-generation and IPP output does not justify the proposed changes to
30 RS 101 and RS 102?

31

32 **Response:**

33 Not confirmed. Please refer to the response to ICG IR 1.11.6.

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4 11.8 Please confirm that self-generation customers and IPPs located in the FBC
5 service area currently pay the same transmission charges as self-generation
6 customers and IPPs located in the BC Hydro service area, assuming both self-
7 generation customers sell power to BC Hydro? Does this include RS 109?

8

9 **Response:**

10 A self-generating customer or IPP located in the FBC service area, delivering power to BC
11 Hydro will pay the appropriate ancillary charges and RS 109 (losses), but at the current time
12 pays no charges for the use of the FBC transmission system under either RS 101 or RS 102.

13 The Electricity Purchase Agreements (EPA) between BC Hydro and its customers or IPPs are
14 typically filed in confidence and FBC cannot state what charges may or may not be included.

15

16

17

18 11.9 Please comment on the proposed changes to RS 101 and RS 102 and whether it
19 is reasonable to expect self-generation customers and IPPs selling to BC Hydro
20 from the FBC service area will be at a competitive disadvantage as compared to
21 self-generation customers in the BC Hydro service area?

22

23 **Response:**

24 The proposed changes to RS 101 and RS 102, which will better reflect the original intent of the
25 harmonization language, and the correct billing practice that reflects that language, will place
26 generating entities located within the FBC service area selling to BC Hydro in the exact same
27 situation as a generating entity located in the BC Hydro service area that may sell to FBC. BC
28 Hydro does not offer free wheeling to generators delivering power to the border of its service
29 area to FBC unless the power is being wheeled through FBC's transmission system.

30 FBC notes as a conceptual matter that under the statutory regime and past Commission case
31 law, the concept of "competitive disadvantage" as between service territories, with reference to
32 their respective rates and rate structures, would not be pertinent in any event. The same
33 caution applies to comparisons such as sought in ICG IR 1.11.14. However, regardless, the
34 facts do not give rise to the divergence about which ICG 1.11.9 inquires.

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11.10 Please confirm with the proposed changes to RS 101 and RS 102 that self-generators within BC Hydro’s service territory selling power to BC Hydro will not pay a transmission charge and that a self-generator in the FBC service territory will pay a transmission charge (including RS 109)?

Response:

Billing in accordance with the proposed changes to RS 101 and RS 102 will ensure that customers in both service areas receive the same treatment for a similar service.

A customer within the FBC service area selling to BC Hydro is not in the same situation as a customer located in the BC Hydro service area selling to BC Hydro.

In the reverse situation, where a self-generator located in the BC Hydro service area is selling power to FBC, BC Hydro would charge its full wheeling rate, including losses.

11.11 Please confirm that FBC (formerly known as West Kootenay Power) filed amended electric tariffs, Appendix I-1, Appendix B, and such amended electric tariffs reflected the original intent of Order G-12-99 and were approved by the Commission?

Response:

Confirmed. The documents noted and as filed by FBC (WKP at the time) reflected the original intent of Order G-12-99. Order G-12-99 did not, however, approve them for the use for which they are currently being applied, which is the export of power from the FBC system.

11.12 Please confirm that BC Hydro was a wholesale transmission customer as defined by the OATT at the time of Order G-12-99?

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1 **Response:**

2 Confirmed.

3

4

5

6 11.13 Please provide a comparison of the costs for wheeling 10 MW for a year, a
7 month and a week on both a firm basis, and if applicable, non-firm basis, if all
8 applicable services were purchased from FBC by a wheeling customer utilizing: i)
9 the current wheeling tariffs with the current interpretation of the anti-pancaking
10 provision, ii) the current wheeling tariffs as FBC claims they should be interpreted
11 (elimination of the anti-pancaking provision), and iii) and the wheeling tariffs and
12 interpretation proposed in this Application. Please provide the summary
13 separated into the costs associated with each of the Rate Schedules, as well as
14 the total costs.

15

16 **Response:**

17 With regard to the description of item i) in the question, FBC notes that in its view and as
18 supported by the content of the Application, there is no “current interpretation” of the anti-
19 pancaking provisions if this term is intended to suggest agreement by FBC with what certain
20 customers would prefer the interpretation to be. The anti-pancaking provisions are clear as to
21 their original purpose. With regard to the description of item ii), FBC is not proposing to
22 eliminate the anti-pancaking provision but to properly apply it.

23 The following three tables show the cost to an IPP within the FBC service area selling to BC
24 Hydro for wheeling 10 MW for a year, a month and a week, based on i) the current wheeling
25 tariff as it is currently being applied to a customer exporting power to BC Hydro, ii) the current
26 wheeling tariff with the anti-pancaking provision properly applied, and iii) the wheeling tariffs
27 proposed in the Application (also with the anti-pancaking provision properly applied). Please
28 note that these are not the only applicable wheeling scenarios. Under the proposed rates, if the
29 customer were selling to either a customer within the BC Hydro service area or outside of BC,
30 the RS 101 charges would not apply. Alternatively, under both the existing tariff as currently
31 applied and the proposed rates, if the customer was importing power utilizing FBC transmission,
32 the RS101 charges would be included in both. There is no difference in charges under non-firm
33 RS 102 rates.

34 In all scenarios, FBC has assumed that rate schedule 109 losses are settled financially at a cost
35 of \$50 CAD/MWh, all reservations are monthly where applicable, and the customer has a 100
36 percent power factor.

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Table 1 – Annual Cost

Annual Cost	i) Existing Rates as Currently Applied to a Customer Exporting to BC Hydro	ii) Existing Rates including RS 101 Charges	iii) Proposed Rates including RS 101 Charges
RS101 - Customer	\$ -	\$ 38,220	\$ 38,220
RS101 - Monthly Rate	\$ -	\$ 870,000	\$ 504,000
RS103	\$ 110,376	\$ 110,376	\$ 20,028
RS104	\$ 123,516	\$ 123,516	\$ 72,270
RS105	\$ 23,862	\$ 23,862	\$ 16,311
RS107	\$ 35,793	\$ 35,793	\$ 24,467
RS108	\$ 35,793	\$ 35,793	\$ 24,467
RS109	\$ 266,304	\$ 266,304	\$ 125,268
Total Annual Cost	\$ 595,645	\$ 1,503,865	\$ 825,030

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Table 2 – Monthly Cost

Monthly Cost	i) Existing Rates as Currently Applied to a Customer Exporting to BC Hydro	ii) Existing Rates including RS 101 Charges	iii) Proposed Rates including RS 101 Charges
RS101 - Customer	\$ -	\$ 3,185	\$ 3,185
RS101 - Monthly Rate	\$ -	\$ 72,500	\$ 42,000
RS103	\$ 9,374	\$ 9,374	\$ 1,669
RS104	\$ 10,490	\$ 10,490	\$ 6,138
RS105	\$ 2,027	\$ 2,027	\$ 1,385
RS107	\$ 3,040	\$ 3,040	\$ 2,078
RS108	\$ 3,040	\$ 3,040	\$ 2,078
RS109	\$ 22,618	\$ 22,618	\$ 10,639
Total Monthly Cost	\$ 50,589	\$ 126,274	\$ 69,173

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Table 3 – Weekly Cost

Weekly Cost	i) Existing Rates as Currently Applied to a Customer Exporting to BC Hydro	ii) Existing Rates including RS 101 Charges	iii) Proposed Rates including RS 101 Charges
RS101 - Customer	\$ -	\$ 3,185	\$ 3,185
RS101 - Weekly Rate	\$ -	\$ 18,700	\$ 9,692
RS103	\$ 2,117	\$ 2,117	\$ 385
RS104	\$ 2,369	\$ 2,369	\$ 1,386

Weekly Cost	i) Existing Rates as Currently Applied to a Customer Exporting to BC Hydro	ii) Existing Rates including RS 101 Charges	iii) Proposed Rates including RS 101 Charges
RS105	\$ 458	\$ 458	\$ 313
RS107	\$ 686	\$ 686	\$ 469
RS108	\$ 686	\$ 686	\$ 469
RS109	\$ 5,107	\$ 5,107	\$ 2,402
Total Weekly Cost	\$ 11,423	\$ 33,308	\$ 18,302

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11.14 Please provide a table which compares FBC's current and proposed transmission wheeling tariffs with those of BC Hydro.

Response:

The BC Hydro rates have been added to Application Tables 7-8 and 7-9 below.

	Large Commercial Service Transmission	Wholesale - Primary	Wholesale - Transmission	Transmission	Primary	BC Hydro
	Current Rates			Proposed Rates		
Long-Term Service						Rate Schedule 01
Customer Charge (\$ Per POD/month)	3,185.00	2,537.00	467.00	n/c	n/c	n/a
Reserved Capacity Charge (\$ per kVA)	5.41	9.89	5.10	n/c	n/c	Maximum Annual amount is \$70,213/MW
Short-Term Service						
Customer Charge (\$ Per POD/month)	3,185.00	2,537.00	467.00	n/c	n/c	n/a
						\$ Per MW Reserved Capacity
Reserved Capacity Charge (\$ per kVA)						
Monthly Rate	7.25	13.30	6.85	4.20	8.07	5851.07
Weekly Rate	1.87	3.53	1.78	0.9692	1.8623	1350.25
Daily Rate	0.323	0.555	0.311	0.1381	0.2653	192.36
Hourly Rate	0.016	0.0291	0.015	0.0058	0.0111	8.02

9

			Large Commercial Service Transmission	Wholesale - Primary	Wholesale - Transmission	Primary/Transmission			
			Current Rates			Proposed Rates		BC Hydro	
Scheduling, System Control and Dispatch Service	103	Per kWh	\$0.00126	\$0.00132	\$0.00126	Monthly: \$0.1669/kW		Rate Schedule 03	\$0.099 per MW of Reserved Capacity per hour
						Weekly: \$0.0385/kW			
						Daily: \$0.0055/kW			
						Monthly: \$0.00023/kW			
Reactive Supply and Voltage Control from Generation Sources Services	104	Per kWh	\$0.00141	\$0.00132	\$0.00132	\$0.825 per MW of Reserved Capacity per hour.		Rate Schedule 04	\$0.099 per MW of Reserved Capacity per hour
Regulation and Frequency Response Service	105	Per MW per hour of generating capacity; minimum of 2% of the Customer's load	\$13.62			\$9.31		Rate Schedule 05	\$6.37 per MW of generation Capacity
Energy Imbalance Service	106		\$0.05043	\$0.0480	\$0.04798	See Tariff Pages		https://www.bchydro.com/content/dam/BCHydro/customer-portal/documents/corporate/tariff-filings/open-access-transmission-tariff/37-schedule-06-oatt.pdf	
Operating Reserve (OR) - Spinning Reserve Service	107	Minimum level of service required per Tariff	\$13.62			\$9.31		Rate Schedule 07	\$6.20 per MW per hour of generating Capacity requested for OR - Spinning.
Operating Reserve (OR) - Supplemental Reserve Service	108	Minimum level of service required per Tariff	\$13.62			\$9.31		Rate Schedule 08	\$6.20 per MW per hour of generating Capacity requested for OR - Spinning.
Transmission Losses	109		6.08%	11.53%	6.08%	4.26%	2.86%	Rate Schedule 09	Loss Compensation Service will be priced at "BC Hydro's hourly sell price" as defined in the tariff

1

2

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1 **12.0 Reference: Exhibit B-1, Section 7.2.2, Rationale for the clarification to the**
2 **Existing Point- to-Point (PTP) Rate Language, page 95**

3 **“As a result of the misinterpretation of the anti-pancaking language, FBC currently**
4 **has two self-generation customers that are exporting power to BC Hydro and**
5 **paying no transmission related charges except those for select ancillary**
6 **services.”**

7 12.1 For each of the self-generating customers in the reference, please discuss the
8 additional system costs created by the wheeling of the exported power to BC
9 Hydro.

10
11 **Response:**

12 With this Application, FBC has proposed new rate levels based either on recovering the cost of
13 providing the service, or to better align rates with those of neighbouring jurisdictions where
14 appropriate.

15 Rates that have been set to recover the costs of providing the service are:

- 16 • Rate Schedule 103 – Scheduling, System Control and Dispatch Service
17 • Rate Schedule 104 – Reactive Supply and Voltage Control
18 • Rate Schedule 105 – Regulation and Frequency Response Service
19

20 Rate Schedule 107 – Operating Reserve – Spinning and Rate Schedule 108 – Operating
21 Reserve – Supplemental are both requirements of the NorthWest Power Pool Reserve Sharing
22 group and are also set using current costs.

23 Rate Schedule 106 – Energy Imbalance Service is based on Mid-Columbia Market prices and
24 reflect actual costs incurred to provide the service.

25 Loss Compensation, RS 109, reflects actual losses that occur for energy moved on the FBC
26 system and is priced as described in Section 7.4.7 of the Application.

27 In each case above, rates are set based on costs, caused by the wheeling activities of the
28 customer, which must be recovered to avoid having other customers bear the costs. Since the
29 costs are variable, the total dollar amount varies with the level of activity.

30 For the Point to Point Transmission services, RS 101 and RS 102, the rates are based on the
31 2017 COSA and will generally result in lower costs to transmission customers than the existing
32 rates when properly applied. At the present time, when power is delivered to BC Hydro as the
33 final destination, FBC is providing this service at no cost to customers.

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1

2

3

4 12.2 How would FBC apply discounts to RS 101 and RS 102 if the self-generating
5 customers did not create additional system costs through their wheeling of power
6 exports?

7

8 **Response:**

9 The discounting of transmission services is available in a consistent manner to all customers
10 only in a situation where all of the following conditions exist:

- 11 • The customer can demonstrate that an alternative transmission path with another
12 Transmission Provider is available at a lower cost;
- 13 • The lack of a discount would result in curtailment of transmission use for economic
14 reasons; and
- 15 • The increased usage will not add to system costs over the term requested.

16

17 If all of these conditions are met then the discount would be negotiated with the intent of
18 maximizing the revenue generated. Considered in the calculation would be factors such as the
19 likely price on the alternate path, and the load carrying capability of both paths over time.

20

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1 **13.0 Reference: Exhibit B-1, Section 7.3, Transmission Rate Request 2 – Updates to**
2 **the Pricing of Transmission and Ancillary Services, pp. 96-97**

3 **“The second revision is the removal of RS 102 from FBC Electric Tariff. Since the**
4 **rates are the same as with RS 101, and given the fact that FBC lacks any**
5 **significant use of its transmission system that would normally underlie the**
6 **provision of a non-firm wheeling service and none is anticipated, FBC has**
7 **concluded that RS 102 is not needed.”**

8 13.1 Is it common for transmission service providers to have both firm and non- firm
9 transmission wheeling tariffs?

10

11 **Response:**

12 The Company consulted with EES to provide the following response.

13 It is common under OATT tariffs to list non-firm as an option in the tariff. However, the price is
14 generally not provided in the tariff, other than to state it will be no greater than the firm rate.
15 Typically, non-firm transmission is offered on a real time basis and prices are posted on-line.

16

17

18

19 13.2 Does BC Hydro have a non-firm transmission wheeling tariff?

20

21 **Response:**

22 BC Hydro has a single rate schedule (Schedule 01 – Point-To-Point Transmission Service) that
23 covers both firm and non-firm service.

24

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1 **15.0 Reference: Exhibit B-1, Section 7.4.2, Rate Schedule 104 – Reactive Supply and**
2 **Voltage Control, page 100**

3 **“A description of the methodology for discounting the services provided under**
4 **RS 104 is contained in Section 3 of Electric Tariff Supplement No. 7 and remains**
5 **unchanged.”**

6 15.1 Please provide a comprehensive description of the methodology for discounting
7 the services provided under RS 104 as Section 3 of Electric Tariff Supplement
8 No. 7 does not appear to address such methodology.

9
10 **Response:**

11 Please refer to the response to ICG IR 1.14.1.

12
13

14

15 15.2 Please discuss why a self-generating customer is not able to self-supply this
16 ancillary service of the customer can demonstrate the ability of the generation
17 system to provide and control reactive power to the required specification in real
18 time.

19
20 **Response:**

21 Self-generating customers are already required to maintain their voltage and power factor of
22 electricity within the limits agreeable to the Company, as discussed in section 10.1 of the FBC
23 Electric Tariff. However, in addition to this, the overall impact of any transmission transaction on
24 the transmission system itself must be managed on a system basis. Therefore, this service must
25 be purchased.

26

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1 **16.0 Reference: Exhibit B-1, Section 7.4.4, Rate Schedule 106 – Energy Imbalance**
2 **Service, page 102**

3 **“The hourly Powerdex Mid-Columbia (Mid-C) index price for the hour in which the**
4 **positive Energy Imbalance Service is taken by the Customer. In hours in which the**
5 **Mid-C price is negative, the negative value will be used resulting in a charge to the**
6 **transmission customer for those hours.”**

7 16.1 Please explain why FBC proposes to charge customers for a positive imbalance
8 when the Mid-C price is negative, especially since the positive imbalance
9 reduces FBC’s need for 3808 energy and FBC has storage accounts to such
10 positive imbalance.

11
12 **Response:**

13 The imbalance service provided under RS 106 is not meant to be a mechanism for customers to
14 access the market. Service under RS 106 is solely for inadvertent differences between
15 scheduled and actual transmission deliveries, which need to be appropriately managed by the
16 transmission customer. FBC needs to ensure that it can provide this service with no harm to its
17 existing customers, and the proposed rates accomplish that. It is reasonable to charge
18 customers for a positive imbalance for two main reasons.

19 First, and contrary to the point raised in the question, FBC does not expect to receive any
20 energy under RS 106, and may not be able to absorb additional energy into its storage account
21 if and when a positive imbalance was to occur, as FBC has no control over the timing of the
22 inadvertent deliveries. FBC submits an Annual Electric Contracting Plan to the BCUC each year
23 detailing its load and resource balance, and monitors it continuously throughout the year.
24 Unexpected inadvertent deliveries under RS 106 could change FBC’s plan, resulting in lost
25 market opportunities, or overfilling of the storage accounts, both of which would pass on
26 increased costs to other customers.

27 Second, FBC may be subject to penalties under its Imbalance Agreement with BC Hydro if it is
28 delivering too much energy into its system during periods of negative market prices. If FBC does
29 not charge customers for positive imbalances during periods of negative market prices, it may
30 provide a benefit to the transmission customer at the expense of other customers.

31
32

33

34 16.2 Similarly, please explain why FBC is proposes not to pass along a credit to
35 customers for negative imbalance when the Mid-C price is negative.

36

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1 **Response:**

2 Similar to the response to ICG IR 1.16.1, the service provided under RS 106 is not intended to
3 be market access for the transmission customer. Service under RS 106 is solely for inadvertent
4 differences between scheduled and actual transmission deliveries, which need to be
5 appropriately managed by the transmission customer. FBC needs to ensure that any service
6 provided under RS 106 does not harm its other customers.

7 It is not reasonable to pass along a credit to the customer for negative imbalance when the Mid-
8 C price is negative, primarily because FBC is not in the market in all hours, and may not be
9 getting the benefit of the negative pricing, since FBC has no control over when RS 106 negative
10 imbalances will occur. If FBC is not in the market when a negative system imbalance occurs
11 during a negative priced hour, in absence of setting the payment to zero, FBC would be
12 required to pay the transmission customer for the negative imbalance when FBC itself was not
13 benefiting from the negative market price. This would provide a benefit to the transmission
14 customer at the expense of other customers. Furthermore, setting the rate to \$0 during times of
15 negative pricing helps to ensure that transmission customers are not incented to curtail
16 generation to take advantage of market prices through RS 106, to the detriment of other FBC
17 customers.

18

19

20

21 16.3 The non-reciprocal arrangement for energy imbalances when the Mid-C price is
22 negative is to the customer's disadvantage for both positive and negative
23 imbalances. Please discuss how FBC considered the fairness in this proposed
24 arrangement.

25

26 **Response:**

27 As discussed in the responses to both ICG IRs 1.16.1 and 1.16.2, the service provided under
28 RS 106 is not intended to be a mechanism for a transmission customer to access market prices.
29 Service under RS 106 is for inadvertent imbalances between the schedule and load or
30 generation. Transmission customers must make all reasonable efforts to ensure their schedules
31 match their generation and/or load. The proposed rates for RS 106 are set to cover FBC's
32 expected costs to provide the service, and therefore will mitigate the potential for harm to its
33 existing customers. Furthermore, the proposed rates for RS 106 will reduce any incentive that a
34 transmission customer may have to use RS 106 to take advantage of favourable market
35 conditions.

36

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1 **18.0 Reference: Exhibit B-1, Section 8, Optional Time of Use Rates, pp. 108-116**

2 18.1 Please discuss any restrictions on self-generating or other customers to access
3 the Time of Use rates.

4
5 **Response:**

6 The criteria for participation on TOU rates are as generally described in the tariff sheets. For
7 example, for industrial customers to which RS 33 would be the applicable TOU rate:

8 In all areas served by the Company for supply at 60 hertz, three phase with a
9 nominal potential of 60,000 volts or higher as available. Applicable to industrial
10 Customers with loads of 5,000 kVA or more, subject to written agreement. This
11 rate is applicable to Customers with satisfactory, as determined by the Company,
12 load factors. Service under this Schedule is available for a minimum of 12
13 consecutive months and will continue, at the election of the Customer, to be
14 available for a minimum of 36 consecutive months after commencement of
15 service.

16 However, for a partial requirements customer, maintaining a satisfactory load factor may pose a
17 challenge. In 2010, Zelstoff-Celgar was found by the Commission to be ineligible for the rate
18 due to its poor load factor. In the G-156-10 Decision at page 18, the Panel noted,

19 So far as RS 33 is concerned it is clear to the Commission Panel that Celgar's
20 load factor cannot be described as satisfactory as required by FortisBC's tariff.
21 Accordingly the Commission Panel determines that Celgar is ineligible to take
22 service under RS 33...

23

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1 **19.0 Reference: Exhibit B-2, COSA Spreadsheet, Worksheet “Load”**

2 19.1 Please provide the 2017 actual values for rows 46 through 56 in the “Load”
3 worksheet.

4
5 **Response:**

6 FBC is unable to update rows 46 to 56 of the COSA Worksheet with the 2017 actual values
7 since the breakdown used in the COSA is not the same as normally compiled by the load
8 forecasting department. 2017 actual load numbers are still in the process of being verified, and
9 then there is a considerable amount of work required to segment the data as was done for the
10 historic information used in the COSA.

11

12

13

14 19.2 Please discuss the methodology associated with applying loss factors to non-
15 coincident peaks and totalized energy consumption. With respect to the loss
16 factors calculated by FBC engineering, were these derived on a peak or average
17 basis?

18

19 **Response:**

20 The Company consulted with EES to provide the following response.

21 For purposes of the COSA, EES worked with both energy sales at the meter and total system
22 energy for each month. The difference between these two numbers was set as the overall loss
23 factor. EES then split the total losses between transmission, primary and secondary based on
24 standard differentials. This same loss factor was applied to peak demands as well as energy.
25 The goal in the COSA was to be able to allocate costs by customer class based on their
26 contribution to the system energy and demand components. If EES had simply used sales data
27 for allocating costs, the classes served at transmission voltage would have been over-allocated
28 costs relative to those served at secondary voltage. Please refer to the response to BCUC IR
29 1.73.1 for a discussion of the determination of the loss percentages.

30

1 **20.0 Reference: Exhibit B-2, COSA Spreadsheet, Worksheet “Transmission”**

2 20.1 Please discuss the allocation of Generation Assets to Transmission as shown in
3 cells H6 through L6, and identify those specific generation assets assigned to
4 transmission, and the costs of each.

5
6 **Response:**

7 The Company consulted with EES to provide the following response.

8 FERC accounts² typically categorize facilities by the type of asset rather than their function,
9 resulting in some facilities being identified in the FERC accounts as transmission though in
10 reality those facilities are used exclusively for integrating generating plants to the transmission
11 grid. Those facilities typically have power flowing only in one direction with no directly
12 connected customer loads, and they are not useful for customers taking wholesale transmission
13 service. In cells H6 through L6 those facilities considered as serving the generation function are
14 separated out from their transmission-related FERC accounts.

15 The following lists the Substation equipment identified as generation-integration.

Loc'n Grp	Asset description	Book val. \$
0	Corra Linn Switching Station	38,942.65
0	UBO Upper Bonnington Switching Station	1,725,368.53
9122	Generation - High Side (BCUC 353)	10,882,457.39
9176	WHS-Waneta Generating Station	1,466,167.56
9999	BSS - Brilliant Switching Station Interconnection	215,671.80
9999	KCL - Kootenay Canel Interconnection	6,083,520.95
30000	P2U5 Station Transformers	1,138,255.58
30001	P2U6 Station Transformers	834,537.92
30002	P2U3 Station Transformers	381,807.33

16

17 The following lists the Overhead Conductors and Devices identified as generation-integration.

Loc'n Group	Asset Description	Net Plant \$
9250	22L 63 KV USS-SLC	281,852.00
9251	21L 63 KV LBO-SLC	375,792.20
9252	23L 63KV COR-SLC	327,254.82

² FERC accounts are equivalent to the BCUC Uniform System of Accounts.

Loc'n Group	Asset Description	Net Plant \$
9254	24L 63KV COR-SLC	353,619.61
9281	77L 230 KV BSS-WTS	14.17
9282	8L 63KV BTS-BSS	599,932.80
9285	12L 63 KV SLC-KCL	193,364.04
9286	25L 63 KV SLC-BSS	4,618.25
9290.1	33L 63 KV UBO-USS	884.65
9290.2	79L 230 KV BTS-KCL	3,323,107.17

1

2 For the Poles, Towers & Fixtures category, the average percent of generation-integration for the
 3 Overhead Conductors (6.8 percent) was applied to the total plant in that category. For the
 4 Other category, the average percent of generation-integration for the other three categories
 5 (10.2 percent) was applied to the total Other plant. These estimates were used because it was
 6 not feasible to identify the specific assets.

7