

Diane Roy Vice President, Regulatory Affairs

Gas Regulatory Affairs Correspondence Email: gas.regulatory.affairs@fortisbc.com

Electric Regulatory Affairs Correspondence Email: <u>electricity.regulatory.affairs@fortisbc.com</u> FortisBC 16705 Fraser Highway Surrey, B.C. V4N 0E8 Tel: (604)576-7349 Cell: (604) 908-2790 Fax: (604) 576-7074 www.fortisbc.com

March 31, 2022

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

Attention: Mr. Robert Hobbs

Dear Mr. Hobbs:

Re: FortisBC Inc. (FBC)

2021 Long-Term Electric Resource Plan (LTERP) and Long-Term Demand-Side Management Plan (LT DSM Plan) (Application) – Project No. 159924

Response to the Industrial Customers Group (ICG) Information Request (IR) No. 2

On August 4, 2021, FBC filed the Application referenced above. In accordance with the regulatory timetable established in British Columbia Utilities Commission Order G-24-22 for the review of the Application, FBC respectfully submits the attached response to ICG IR No. 2.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary Registered Parties



Response to the Industrial Customers Group (ICG) Information Request (IR) No. 2

1. Reference: Exhibit B-2, BCUC IR 22.3, Anticipated System Reinforcements

2 "The replacement of ASM Transformer T1 project was not included in the 2016 3 LTERP because the ASM transformer loadings were not reaching their limits at the 4 time the 2016 LTERP was prepared. The ASM transformer loadings are now forecast 5 to reach their limits primarily due to two factors. First, since the 2016 LTERP, there has been the addition of a large customer load in the Boundary region of FBC's 6 7 system which has increased the peak loading on the ASM transformers."

8 1.1 Is the customer that added the large load expected to share in the cost of the 9 system upgrades necessary to serve that load? If not, why not?

11 Response:

- 12 The customer in question was responsible for, and fully funded, all of the work required to connect
- 13 to the FBC system. There were no system upgrades required in order to serve the load.

14



1 2. Reference: Exhibit B-4, BCOAPO IR 11.2, Customer account growth

"As noted in that response, FBC has recently observed higher customer additions
 than were previously experienced and, for the purposes of developing a reasonable
 short-term forecast, a shorter historical time frame was used. For the long-term
 forecast, it is more reasonable to assume the longer term historical trend will
 prevail, and that the recent increase in customer additions will not persist. As a
 result, 25 years of historical data was used for the development of the long-term
 forecast."

- 9 2.1 Please explain why it is reasonable to assume the increased rate of customer 10 additions will not persist.
- 11

12 **Response:**

FBC is not able to conclude that customer growth will persist at the 2018 to 2020 levels in the long term without further data to conclude that there is a long-term trend. FBC will have more information and expects to be able to provide further assessment to see if a trend has emerged by the next LTERP application.

- 17
- 18
- 19
- 20 2.2 Please provide a regression analysis of the population growth in FortisBC's major 21 urban service area, Kelowna against the customer count. Is there a trend towards 22 higher density housing and lower occupancy per household resulting in more 23 customer count growth for a given population growth than has been used 24 historically?
- 25
- 26 **Response:**
- 27 FBC confirms there is a gradual trend towards lower occupancy per household in the City of
- 28 Kelowna (COK). The trend towards a lower number of people per dwelling unit is shown in the
- 29 following scatter plot.



FortisBC Inc. (FBC or the Company) 2021 Long-Term Electric Resource Plan (LTERP) and Long-Term Demand-Side Management Plan (LT DSM Plan) (Application)	Submission Date: March 31, 2022
Response to the Industrial Customers Group (ICG) Information Request (IR) No. 2	Page 3

Figure 1: BC Stats COK Population vs. FBC Customers



2

However, the decrease in occupancy per household is very slight. For example, in 2016 the
 population/customer (dwelling unit) was:

5 $Occupancy = \frac{Population}{Customers (dwelling units)} = \frac{133,579}{60,124} = 2.22 \ people \ per \ dwelling unit$

6 In 2020, the occupancy decreased slightly:

7
$$Occupancy = \frac{146,470}{66,926} = 2.19 \text{ people per dwelling unit}$$



1 3. Reference: Exhibit B-4, BCOAPO IR 29.1, BC Hydro PPA

- 2 3
- 3.1 Please provide the actual amount of RS 3808 demand taken by FortisBC from BC Hydro in each month since January 2019, and in each month, the amount of billing demand.
- 4
- 5

6 Response:

7 Please refer to the table below. Please also refer to the response to CEC IR1 38.1 for an

8 explanation of taking 200 MW of capacity in June 2021 and the resulting 11-month billing demand.

Month	Maximum Scheduled (MW)	Billing Demand (MW)
January 2019	125	125
February 2019	100	100
March 2019	110	110
April 2019	100	100
May 2019	25	100
June 2019	60	100
July 2019	100	100
August 2019	100	100
September 2019	115	115
October 2019	100	100
November 2019	110	110
December 2019	120	120
January 2020	130	130
February 2020	100	100
March 2020	100	100
April 2020	100	100
May 2020	100	100
June 2020	100	100
July 2020	100	100
August 2020	100	100
September 2020	100	100
October 2020	100	100
November 2020	100	100
December 2020	100	100
January 2021	100	100
February 2021	100	100
March 2021	100	100
April 2021	65	100
May 2021	100	100



FortisBC Inc. (FBC or the Company) 2021 Long-Term Electric Resource Plan (LTERP) and Long-Term Demand-Side Management Plan (LT DSM Plan) (Application)	Submission Date: March 31, 2022
Response to the Industrial Customers Group (ICG) Information Request (IR) No. 2	Page 5

Month	Maximum Scheduled (MW)	Billing Demand (MW)
June 2021	200	200
July 2021	200	200
August 2021	200	200
September 2021	133	150
October 2021	133	150
November 2021	133	150
December 2021	133	150
January 2022	133	150
February 2022	133	150



3

4

5

1 4. Reference: Exhibit B-4, BCOAPO IR 34.2, Kraft Pulp and Paper DSM measures

4.1 Please provide the amount of "Kraft Pulp and Paper" DSM energy savings actually realized in 2020 and 2021 compared against the incremental savings shown in the table provided in the referenced information request?

6 **Response:**

FBC did not realize any actual DSM energy savings in the kraft pulp and paper sector in 2020 or2021.

9
10
11
12 4.2 How many kraft pulp and paper customers does FortisBC have in its service territory and how many are self-generators?
14

15 **Response:**

- 16 FBC has one kraft pulp and paper customer that primarily self-generates its electricity.
- 17
- 18
- 19204.3Please confirm that FortisBC's DSM incentives for self-generating kraft pulp and
paper customers are reduced from the total calculated energy savings quantity, to
only that pro-rata share of that self-generating customer's total load which is
served by FortisBC? If confirmed, please explain how FortisBC will realize the
DSM savings in the kraft pulp and paper sector shown in the table in the referenced
information request.

2627 **Response:**

FBC confirms customers that are self-generators have their incentives prorated by the share of the customer's total load served by FBC.

While the 2021 FBC Conservation Potential Review evaluated potential savings from Traditional Measures, Non-Traditional Measures, and Kraft Pulp and Paper sectors, the market potential savings used in the DSM Scenarios excluded savings from the Kraft Pulp and Paper sector and Non-Traditional Measures. FBC is not targeting the DSM savings in the Kraft Pulp and Paper sector in its DSM programs, as the majority of DSM savings for Kraft Pulp and Paper customers will not result in reduced load to FBC.



15.Reference:Exhibit B-1, BC Clean Energy Act Objectives, Section 1.4.2, Table 1-23, p. 11 Exhibit B-5, ICG IR 1.1

3 "To reduce BC GHG emissions (i) by 2012 and for each subsequent calendar year 4 to at least 6% less than the level of those emissions in 2007, (ii) by 2016 and for 5 each subsequent calendar year to at least 18% less than the level of those 6 emissions in 2007, (iii) by 2020 and for each subsequent calendar year to at least 7 33% less than the level of those emissions in 2007, (iv) by 2050 and for each 8 subsequent calendar year to at least 80% less than the level of those emissions in 9 2007, and (v) by such other amounts as determined under the Greenhouse Gas **Reduction Targets Act.**" 10

11 "FBC's GHG emissions for 2007 are not available."

- 125.1Given that the BC Clean Energy Act objectives set 2007 as a baseline year for13GHG emissions, please explain how FortisBC plans to conform to the BC Clean14Energy Act objectives if it cannot produce an estimated 2007 baseline of GHG15emissions?
- 16

17 <u>Response:</u>

18 As discussed in Section 1.4.2 of Volume 1 of the Application, the Clean Energy Act (CEA) 19 objective related to reducing BC GHG emissions is a provincial target that is not specific to 20 individual utilities. On page 11 of the Application, FBC notes that its GHG emissions represent 21 only about 0.082 percent of total provincial emissions. FBC's existing supply-side contracts with 22 third parties and the electricity generation from its own assets are hydro-based and therefore 23 generate minimal GHG emissions. With respect to the CEA objective to generate at least 93 24 percent of the electricity in BC from clean or renewable resources, FBC describes on page 10 25 that its preferred resource portfolios are at least 99 percent clean. As a result, FBC's GHG 26 emissions conform with this CEA objective.

Further, FBC's investments in electric vehicle infrastructure directly support the CEA's GHG reduction objective as they enable FBC customers to access lower carbon energy choices for transportation (such as electric vehicles). The transportation sector makes up the biggest share of provincial emissions (39 percent).

31 Please refer to Table 1-3 for the applicable CEA objectives relevant to the LTERP.



Response to the Industrial Customers Group (ICG) Information Request (IR) No. 2

Reference: Exhibit B-5, ICG IR 6.1 1 6.

"The Low DSM Scenario represents a DSM Scenario having incentive levels, 2 3 participation, and energy savings below that of the Base DSM Scenario. Thus, the 4 Low DSM Scenario did not have any incremental savings compared to the Base 5 **DSM Scenario.**"

6 FortisBC responded that the incentive levels for the Low DSM Scenario are below 6.1 7 that of the Base DSM Scenario. Please describe the lower incentive levels 8 associated with the Low DSM Scenario, and the difference in cost between the 9 incentive levels for the Low DSM Scenario as compared to the Base DSM 10 Scenario?

11

12 **Response:**

13 The differences in cost between the incentive levels for the Low DSM scenario and the Base DSM 14 scenario are outlined in the table below.

Scenario	Incentive as a Percentage of	Target Levelized Incentive Rates (2020 dollars/NPV o Energy Savings)		
	Average Incremental Cost	Commercial	Industrial	Residential
Low Scenario	50%	\$0.007	\$0.015	\$0.074
Base Scenario	62%	\$0.011	\$0.025	\$0.124

15

A detailed explanation of how measure incentives were calculated for DSM Scenarios in the LT 16

17 DSM Plan is included in the response to BCOAPO IR1 33.1.



1 7. Reference: Exhibit B-8, RCIA IR 20.1

- 2 3
- 7.1 Please provide "whisker graph" for the maximum temperatures by year as recorded by Environment Canada at the Penticton airport from 1986 to present day?
- 4 5

6 Response:

The following figure shows the "whisker graph" for the annual range of maximum daily
 temperatures recorded at the Penticton airport since 1986.¹



¹ As noted in the response to RCIA IR1 20.1, daily maximum temperature data for 1987 is not available.



1 8. Reference: Exhibit B-1, Introduction, p.3, Wholesale Customer Count

2 3

Exhibit B-1, Appendix H, Navigant Load Scenarios Assessment Report, p.

4 "FBC currently serves approximately 144 thousand direct customers plus
 5 approximately 38 thousand indirect wholesale customers in the communities of
 6 Summerland, Penticton, Grand Forks and Nelson."

"The number of residential consumers that are customers of FortisBC's wholesale
 customers in 2019, escalated at the same rate of growth as the FortisBC's
 residential customers. In 2019, there were approximately 23,000 residential
 consumers served by FortisBC's wholesale customers, or approximately 16% of all
 residential consumers considered in this study, in that year."

8.1 Please reconcile the wholesale customer count difference in the above two
references. Is the difference attributable to non-residential customers being
excluded from the count in the second reference?

16 **Response:**

15

FBC confirms that the difference is due to non-residential customers being excluded from the
count in the second reference. However, upon reviewing the data supporting the "23,000
residential consumers" referred to in Appendix H, FBC has identified an error in the calculation.

FBC's consultant, in developing the load scenarios, was supplied with the total wholesale customer count (38,000) and the <u>load</u> breakdown (not customer breakdown) of 61 percent residential and 39 percent commercial. The consultant then applied this load breakdown (instead of a customer breakdown) to the customer count to arrive at the 23,000 figure (61 percent of 38,000 is approximately 23,000).

To investigate the magnitude of this error, FBC determined that the 2020 and 2021 actual wholesale customer breakdown is 89 percent residential and 11 percent commercial. Using this wholesale customer count profile, the 2019 wholesale customer segment should have included 32,821 residential and 4,179 commercial customers.

29 This change would only impact the Integrated Photovoltaic Solar and Storage (IPSS) load drivers

30 for residential and commercial customers. In order to examine the materiality of this impact, FBC

- assessed the annual energy and peak demand impacts for Scenario 2 (Lower Bound) since this
 scenario includes the largest impacts from the IPSS load driver.
- 33 FBC found that if the 89 percent proportion was applied to the residential wholesale customers,

34 then the IPSS residential annual energy would decrease further by 25 GWh in 2040 and peak

35 demand would decrease further by 3 MW in 2040. If the 11 percent proportion was applied to the

- 36 commercial wholesale customers, then the IPSS commercial annual energy would increase by
- 37 17 GWh in 2040 and peak demand would increase by 2 MW in 2040. The net effect in 2040 would
- 38 be a further 8 GWh decrease in annual energy and a 1 MW decrease in the peak demand.



1 FBC considers these changes to be immaterial in terms of the load scenario impacts.

2 3				
4 5 6 7	8.2	How does FortisBC receive customer count information customers?	from the	e wholesale
8	Response:			
9	The wholesale	customer count information is provided by email once a	year to	FBC by the

10 municipalities.



2

3

8.3 Please describe the differences in residential, commercial, industrial and other customer categories as defined by FortisBC and each of its wholesale customers.

4 <u>Response:</u>

- 5 The table below summarizes the rate definitions for the various customer categories for FBC, the
- 6 City of Penticton, the District of Summerland, the City of Nelson, and the City of Grand Forks.
- 7 The FBC rate definitions are based on the FBC Electrical Tariff while the wholesale customer
- 8 definitions are provided by the individual wholesale utilities.



FortisBC Inc. (FBC or the Company) 2021 Long-Term Electric Resource Plan (LTERP) and Long-Term Demand-Side Management Plan (LT DSM Plan) (Application)	Submission Date: March 31, 2022
Response to the Industrial Customers Group (ICG) Information Request (IR) No. 2	Page 13

Utility	Residential	Commercial	Industrial	Irrigation	Lighting
FBC	Residential use including service to incidental motors of 5 horsepower or less.	Commercial customers whose electrical demand is generally not more than 40 kW and can be supplied through one meter or to commercial customers whose electrical demand is generally greater than 40 kW but less than 500 kW and can be supplied through one meter.	Power service to customers with a contract demand of 500 kVA or more, subject to written agreement or in all areas served by FBC for supply at 60 hertz, three phase with a nominal potential of 60,000 volts or higher as available.	For an irrigation and drainage season commencing April and terminating October 31 each year.	Lighting applications where the customer will contract for service for a term of one year.
City of Penticton	Includes detached dwelling unit, one unit of a semi- detached duplex, triplex or quadruplex with residential zoning; and dwelling units within a strata building, town house complex or apartment building and The City Business License database will be used as a source of information for the determination of the applicable Rate Code.	For all non-residential use, the Electrical Service will be 60 hertz, single or three- phase at secondary or primary voltage. The Penticton Electric Utility shall determine the voltage, phase(s) and Rate Code of the General Service Connection.	N/A	N/A	Street lighting and other un- metered loads including lighting of public highways, streets and lanes, square and parks, illuminated street signs and traffic lights.
District of Summerland	Applicable to all residential use, including Regular Farm Service where service is single phase and motor loads do not exceed 5 horsepower (total connected).	Applicable to commercial and industrial power and all other non-residential customers whose maximum load demand does not exceed 500 kVA.	N/A	Applies to all single-phase electrical irrigation pump services which are served from the Municipal Electrical System.	For outdoor lighting service to illuminate private property from dusk to dawn and available only where service can be readily supplied from existing overhead secondary facilities or for lighting on private property where the fixture is customer owned, photocell controlled, or design and specification approved by the Corporation and installed and maintained by the Corporation at the customer's expense.



FortisBC Inc. (FBC or the Company) 2021 Long-Term Electric Resource Plan (LTERP) and Long-Term Demand-Side Management Plan (LT DSM Plan) (Application)	Submission Date: March 31, 2022
Response to the Industrial Customers Group (ICG) Information Request (IR) No. 2	Page 14

Utility	Residential	Commercial	Industrial	Irrigation	Lighting
City of Nelson	Applicable to Urban Customers with residential or domestic use and water systems with connected load of 5 horsepower or less.	Applicable to Urban Customers with usage of energy estimated to be less than 400 kWh per billing period and applicable to small non-residential customers of loads up to 25 kVA where no Demand Meter is installed.	N/A	N/A	Applicable to Urban Customers where the City owns, installs and maintains the lamps.
City of Grand Forks	Available for residential usage in general, including lighting, water heating, space heating and cooking.	Available to all ordinary business, commercial, industrial and institutional customers, where electricity is consumed for lighting, cooking, space heating and single- and three-phase motors.	N/A	Available to irrigation and drainage pumping and other repetitive seasonal loads taking service specifically agreed to by the City.	N/A
1					



8.4 Please explain whether FortisBC utilizes the actual customer count of its wholesale customers in calculating the SAIDI and SAIFI reliability statistics, and if not, why not?

3 4

1

2

5 **Response:**

6 FBC only calculates SAIDI and SAIFI reliability data for its direct customers (i.e., customers who 7 receive a bill from FBC). It does not collect any wholesale residential customer outage data or 8 total residential customer counts to calculate any SAIDI or SAIFI reliability statistics for wholesale 9 customers. It is left to each wholesale customer to do this for their own customers. This 10 methodology is consistent with the practices followed by other utilities who report reliability 11 statistics to Electricity Canada (previously known as the Canadian Electricity Association).