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August 6, 2021

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC
V6Z 2N3

Attention: Mr. Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

Re: FortisBC Inc. (FBC)

Multi-Year Rate Plan for 2020 through 2024 approved by British Columbia Utilities Commission (BCUC) Order G-166-20 (MRP Plan)

Annual Review for 2022 Rates

In accordance with the MRP Plan and BCUC Order G-226-21 setting out the Regulatory Timetable for FBC's Annual Review, FBC hereby attaches its Annual Review for 2022 Rates Application materials.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments

cc (email only): Registered Interveners to the FBC Annual Review for 2020 and 2021 Rates proceeding

FORTISBC INC.

Multi-Year Rate Plan
for 2020 through 2024

Annual Review for 2022 Rates

August 6, 2021

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1. APPROVALS SOUGHT, OVERVIEW OF THE APPLICATION AND PROPOSED PROCESS

1.1 *INTRODUCTION*

FortisBC Inc. (FBC or the Company) files this Application in compliance with British Columbia Utilities Commission (BCUC) Order G-166-20, which approved a Multi-Year Rate Plan (MRP or the Plan) for FBC for the years 2020 to 2024. In accordance with the MRP, an annual review process is required to set rates for each year of the MRP.

The MRP provides stable levels of O&M funding and includes service quality indicators (SQIs) to monitor the maintenance of service quality. The approved Earnings Sharing Mechanism (ESM), set out in Section 10, aligns the incentive properties of the Plan between customers and the Company.

As explained in Section 10 of the Application, FBC proposes to distribute $1.195 million pre-tax ($0.872 million after-tax) in earnings sharing to customers in 2022. For 2020, FBC achieved formula O&M savings in addition to meeting the embedded productivity improvement factor in the O&M formula. Total formula O&M savings before earnings sharing were approximately $1.5 million. Approximately $0.9 million of the total O&M savings were primarily due to labour savings, reflecting the impact of variances in customer contact needs as well as vacancies due to employee movement. Approximately $0.7 million of the savings were due to the timing of expenditures, such as unfilled vacancies and consulting expenditures, and lower general and miscellaneous expenditures. Additionally, approximately $0.1 million in formula O&M savings were realized due to the net incremental impact of the COVID-19 pandemic. Please refer to Section 12.2.2 for further details. Partially offsetting the O&M savings were $0.2 million of higher spending compared to the formula amount for incremental expenditures related to System Operations, Integrity and Security. Please refer to Section 6.2.1 for further details.

FBC will continue to pursue productivity improvements to achieve savings beyond the embedded productivity improvement factor as it seeks to manage its business needs and cost pressures resulting from its evolving and challenging operating environment. In 2021, FBC and FortisBC Energy Inc. (together FortisBC) initiated a working group consisting of senior managers and directors from different parts of the organization that is responsible for reviewing and identifying areas for productivity initiatives. An area of focus for potential productivity opportunities is initiatives that offer financial and customer service benefits and leverage technology and innovation as enablers. Additionally, the group is focused on fostering a sustained awareness amongst managers and employees of the importance of productivity during the MRP to help address cost pressure challenges. In next year's annual review, FBC will be in a position to report back to the BCUC on the success of some of its initiatives.

The proposed rates for 2022 flowing from the approved formulas and forecasts set out in the Application, including returning the actual 2020 earnings sharing to customers, result in a 3.46 percent rate increase from 2021 rates. The increase is primarily due to a decrease in load,

rate base growth, and the elimination of the accumulated revenue surplus of $5.420 million, which was fully utilized in 2021, as described in Section 1.4 below.

In the subsections below, FBC sets out the approvals it is seeking and provides an overview of the requirements for the annual review process. This is followed by a summary of FBC's proposed revenue requirements and rate changes for 2022 and an overview of the SQI results. These matters are addressed in more detail in subsequent sections of the Application.

1.2 *APPROVALS SOUGHT*

With this Application, FBC requests BCUC approval for the following pursuant to sections 59 to 61 of the *Utilities Commission Act* (UCA):

1. Approval to recover the 2022 revenue requirement and resultant rate changes on a permanent basis, effective January 1, 2022, as filed in the Application and subject to any adjustments identified by FBC during the regulatory process and from any directives or determinations made by the BCUC in its decision on the Application.
2. The following deferral account approvals, as described in Sections 7.6 and 12.4:
    - Creation of a rate base deferral account for the 2021 Generic Cost of Capital Proceeding, with the amortization period to be determined in a future proceeding;
    - Amortization periods for the following previously approved deferral accounts:
        - A one-year amortization period for the 2020 Cost of Service Analysis (COSA) deferral account commencing January 1, 2022;
        - A three-year amortization period for the Mandatory Reliability Standards (MRS) 2021 Audit deferral account commencing January 1, 2022;
        - A three-year amortization period for the 2021 Long-Term Electric Resource Plan (LTERP) deferral account commencing January 1, 2022; and
        - A three-year amortization period for the Rate Design and Rates for Electric Vehicle (EV) Direct Current Fast Charging (DCFC) Service Application deferral account commencing January 1, 2022.
3. Approval to change the frequency of reporting on the COVID-19 Customer Recovery Fund Deferral Account from monthly to quarterly, as described in Section 7.6.2.1.
4. Z-factor treatment for the incremental O&M and capital expenditures related to MRS Assessment Report. No. 13, as described in Section 12.2.1 of the Application.

A draft order is included in Appendix C.

1.3 REQUIREMENTS FOR THE ANNUAL REVIEW

On page 167 of the MRP Decision, the BCUC set out its expectations for the Annual Review component of the MRP. For reference, the table below sets out each requirement and FBC's response or where it is addressed in the Application.

Table 1-1: Annual Review Requirements

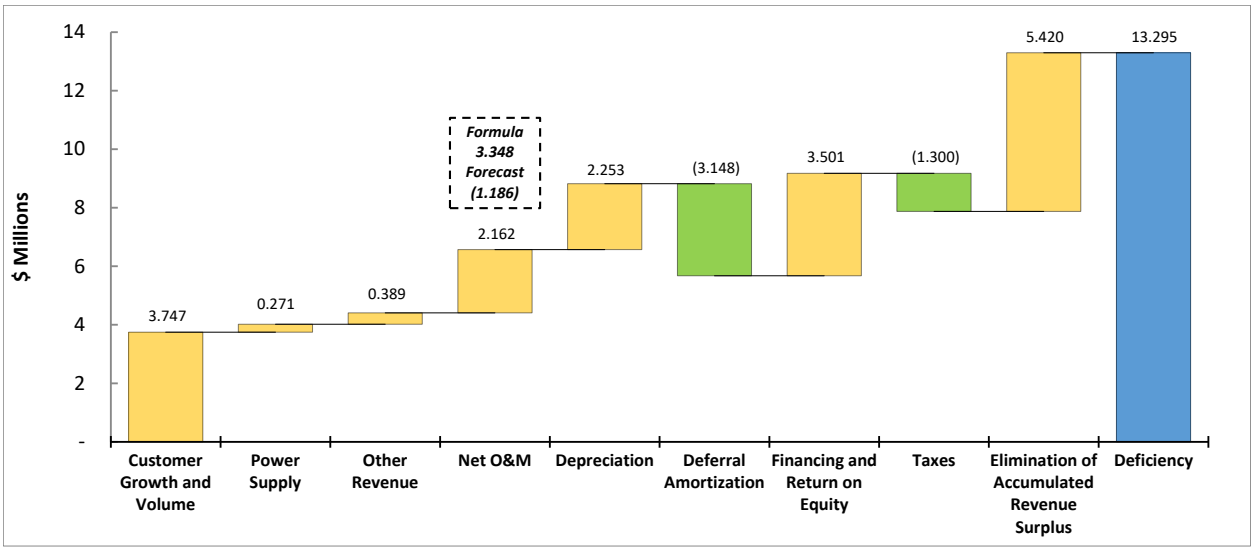
Item	Description	Response or Reference
1	Review of the current year projections and the upcoming year's forecast. For further clarity, these items are listed below:	See items 1(a) to 1(f) below
1(a)	Customer growth, volumes and revenues;	Section 3
1(b)	Year-end and average customers, and other cost driver information including inflation;	Section 2
1(c)	Expenses, determined by the indexing formula plus items forecast annually;	Section 6
1(d)	Capital expenditures (as provided for by the capital forecast), plus other items forecast annually;	Section 7
1(e)	Plant balances, deferral account balances and other rate base information and depreciation and amortization to be included in rates; and	Sections 7 and 12
1(f)	Projected earnings sharing for the current year and true-up to actual earnings sharing for the prior year.	Section 10
2	Identification of any efficiency initiatives that the Utilities have undertaken, or intend to undertake, that require a payback period extending beyond the MRP period with recommendations to the BCUC with respect to the treatment of such initiatives.	FBC has not identified any efficiency initiatives with a payback beyond the end of the MRP period
3	Review of any exogenous events that the Company or stakeholders have identified that should be put forward to the BCUC for review.	Section 12.2
4	Review of the Utilities' performance with respect to SQIs. Bring forward recommendations to the BCUC where there have been a "sustained serious degradation" of service.	Section 13
5	Assess and make recommendations with respect to any SQIs that should be reviewed in future Annual Reviews.	FBC does not have any recommendations at this time
6	Reporting on the Innovation Fund status.	Not Applicable for FBC
7	Assess and make recommendations to the BCUC on potential issues or topics for future Annual Reviews.	FBC does not have any recommendations at this time

1.4 REVENUE REQUIREMENT AND RATE CHANGES FOR 2022

The rates for 2022 flowing from the revenue requirement components set out in the Application result in a 3.46 percent increase from 2021 rates. The rate increase results from a revenue deficiency of $13.295 million.

The following chart summarizes the items that contribute to the 2022 revenue deficiency. The chart shows each item that increases the deficiency in yellow and each item that decreases the deficiency in green. The 2022 deficiency of $13.295 million is then the sum of all of the previous bars and is shown at the end of the chart in blue.

Figure 1-1: 2022 Revenue Deficiency ($ millions)



Each of the categories is discussed briefly below.

1.4.1 Customer Growth and Volume Forecast (Section 3)

For 2022, FBC has forecast a sales load decrease of 68 GWh compared to 2021 Approved, primarily due to decreased loads in the industrial, wholesale and commercial classes, partially offset by an increase in residential load.

FBC's 2022 Forecast revenue at 2021 approved rates is $383.895 million.

1.4.2 Power Supply (Section 4)

FBC has forecast Power Supply to increase by $0.271 million in 2022 compared to 2021 Approved. This increase is primarily due to forecast increases in wheeling expense and water fees of $1.469 million, which are partially offset by savings in power purchases of $1.198 million.

1.4.3 Other Revenue (Section 5)

Other Revenue is forecast to decrease by $0.389 million in 2022. The main driver of this decrease is lower forecast Contract Revenue resulting from the timing of work expected to be performed on an asset refurbishment project for a third party, partially offset by higher Transmission Access Revenue.

1.4.4 Operations and Maintenance (O&M) Expense (Section 6)

FBC establishes the majority of its O&M expense by formula during the MRP term. For 2022, the O&M formula incorporates a net inflation factor of 4.089 percent, which is inclusive of a productivity improvement factor (X-Factor) of 0.5 percent, and uses a forecast of the change in average customers[1], for a total increase in formula O&M net of capitalized overhead of $3.348 million[2], compared to 2021 formula O&M. Net O&M forecast outside of the formula is decreasing by $1.186 million[3] over 2021 Approved, primarily due to a decrease in pension and OPEB expense. The 2022 increase in total O&M expense net of capitalized overhead is $2.162 million (3.9 percent).

1.4.5 Depreciation (Section 7)

FBC's 2022 depreciation expense is forecast to increase by $2.482 million, which is partially offset by an increase in CIAC amortization of $0.229 million from net additions compared to 2021 Approved, resulting in a net increase of $2.253 million. The increase in depreciation expense is primarily a result of CPCN additions to plant for the Corra Linn Dam Spillway Gate Replacement Project, the Grand Forks Terminal (GFT) Station Reliability Project, and the Upper Bonnington (UBO) Old Units Refurbishment Project, as well as the addition of the 2021 approved amounts for regular distribution plant related to growth and sustainment capital, as discussed in Section 7.

1.4.6 Amortization of Deferral Accounts (Section 7 and Section 12)

Amortization of deferral accounts in 2022 decreased by $3.148 million, primarily due to the credit amortization related to the 2020-2024 Flow-through non-rate base deferral account. As discussed in Section 12.4.1.2, the credit amortization of $3.288 million in this account is primarily due to favourable revenue variances, savings in power purchase expenses, and lower property taxes and interest expense. These savings are partially offset by unfavourable variances in wheeling expenses, income taxes, flow-through O&M expenses, and a one-time adjustment to the flow-through deferral account related to the unrecovered revenue from the 2021 net salvage forecast.

1.4.7 Financing and Return on Equity (Section 8)

Financing and Return on Equity (ROE) increased FBC's 2022 deficiency by $3.501 million through changes in financing rates, the ratio of long-term debt versus short-term debt, and changes in rate base.

For 2022, FBC is forecasting a short-term debt rate of 1.51 percent, which is a decrease from the 2.22 percent short-term debt rate embedded in the 2021 Approved revenue requirement. Overall, FBC's deficiency is reduced by $1.858 million from financing rate changes and further

[1] Modified by 75 percent.
[2] Increase in gross formula O&M of $3.886 million (6.2 percent) compared to 2021 Approved.
[3] Decrease in gross forecast O&M of $1.396 million (45.9 percent) compared to 2021 Approved.

decreased by $1.127 million from the ratio change between long-term and short-term debt. The savings in financing rate changes and financing ratio changes are offset by the increase in 2022 rate base, which contributed $6.486 million to FBC's deficiency when compared to 2021 Approved. The increase in rate base is primarily due to a combination of CPCN additions and regular capital additions entering rate base, as discussed in Section 7.

FBC has utilized the currently approved capital structure and ROE of 40 percent and 9.15 percent, respectively.

1.4.8 Taxes (Section 9)

FBC's 2022 property taxes are forecast to decrease by 1.9 percent or $0.355 million from 2021 Approved. As part of the 2021 Approved amount, FBC had included rate increases for distribution and transmission lines; however, these rate increases are now not expected to be implemented until 2023.

There has been no change in the income tax rate of 27 percent from 2021. Taxes are forecast to decrease in 2022 by $0.945 million due to lower taxable temporary differences associated with pension and OPEB and amortization of deferred charges.

1.4.9 Elimination of Prior Years' Accumulated Revenue Surplus

The largest driver of FBC's 2022 revenue deficiency is the elimination of the prior years' accumulated revenue surplus of $5.420 million before tax, which equates to approximately 40.8 percent of the total forecast rate increase of 3.46 percent. Pursuant to Order G-42-21, FBC was approved to draw down the 2018-2019 Revenue Surplus deferral account to help mitigate the 2021 rate increase. The draw-down of the revenue surplus approved for 2021 brought the deferral account balance to zero at the end of December 31, 2021, thus resulting in the 2022 deficiency increasing by $5.420 million compared to 2021 rates. FBC notes this is a one-time impact isolated to 2022.

1.5 *SERVICE QUALITY INDICATORS (SECTION 13)*

FBC's 2020 and June 2021 year-to-date SQI results indicate that the Company's overall performance is representative of a high level of service quality. In 2020, for the eight SQIs with benchmarks, six met or were better than the benchmark, with two better than the threshold. For the four SQIs that are informational only, performance generally remains at a level consistent with prior years. In 2021 to date, performance for the metrics with benchmarks is trending towards meeting the benchmark or the threshold.

2. FORMULA DRIVERS

2.1 INTRODUCTION AND OVERVIEW

This section provides the calculation of the Inflation Factor (or I-Factor) and Growth Factor used for calculating the 2022 O&M amounts according to the MRP formula.

In the MRP Decision and Order G-166-20, the BCUC approved an I-Factor using the actual CPI-BC and BC-AWE indices from the previous year and a labour weighting based on the most recent completed year of actuals.[4]

The MRP Decision approved the use of a forecast of growth[5] to determine Formula O&M and determined that a growth factor multiplier of 75 percent for Formula O&M was appropriate.

The Inflation Factor and Growth Factor calculations utilize the above-described inputs and determinations. For 2022, FBC has used July 2019 through June 2021 inflation data for the 2022 revenue requirement calculations, using the Statistics Canada tables included in Appendix A1 of the Application.

2.2 INFLATION FACTOR CALCULATION SUMMARY

In the MRP Decision, the BCUC approved an Inflation Factor (I-Factor) using the actual CPI-BC and BC-AWE indices from the previous year and the actual labour weighting based on the most recent completed year of actuals. FBC uses inflation data from July through June and Statistics Canada Table 18-10-0004-01 for CPI-BC and Table 14-10-0223-01 to determine AWE-BC. The supporting Statistics Canada tables are provided in Appendix A1. The latest available month of May 2021 has been used as a placeholder for June 2021 for AWE-BC, as results for this period have not been released by Statistics Canada. Once results for this period are available, this placeholder will be replaced with actuals and included in an Evidentiary Update or Compliance Filing.

As shown in Table 2-1 below, the I-Factor has been calculated utilizing actual CPI-BC and AWE-BC data. Applying the actual 2020 labour weighting of 63 percent, the calculation of the 2022 I-Factor is (1.281 percent x 37 percent) + (6.532 percent x 63 percent) = 4.589 percent.

[4] FBC's most recent year of completed actuals is 2020 so that ratio has been used for the 2022 I-Factor calculation. The 2023 I-Factor calculation will be based on the 2021 actual non-labour / labour split.

[5] Forecast of average customers for Formula O&M, including a true-up to actual customers in the following years.

Table 2-1: I-Factor Calculation

Line No.	Date	*Table: 18-10-0004-01* BC CPI index	*Table: 14-10-0223-01* BC AWE $	12 Mth Average CPI index	12 Mth Average AWE $	CPI %	AWE %	Last Completed Year Non labour %	Last Completed Year Labour %	I-Factor %	MRP Year
1	Jul-2019	132.4	995.70								
2	Aug-2019	132.2	1,003.20								
3	Sep-2019	132.0	1,007.69								
4	Oct-2019	132.2	1,015.61								
5	Nov-2019	131.8	1,012.26								
6	Dec-2019	131.7	1,014.87								
7	Jan-2020	132.1	1,025.98								
8	Feb-2020	132.9	1,024.80								
9	Mar-2020	132.3	1,029.14								
10	Apr-2020	131.2	1,105.84								
11	May-2020	131.5	1,127.73								
12	Jun-2020	132.6	1,097.00	132.1	1,038.32						
13	Jul-2020	132.6	1,095.17								
14	Aug-2020	132.4	1,089.30								
15	Sep-2020	132.5	1,092.97								
16	Oct-2020	132.9	1,093.25								
17	Nov-2020	133.3	1,098.85								
18	Dec-2020	132.8	1,109.54								
19	Jan-2021	133.6	1,115.13								
20	Feb-2021	134.1	1,114.34								
21	Mar-2021	134.9	1,104.90								
22	Apr-2021	135.2	1,111.16								
23	May-2021	135.1	1,124.55								
24	Jun-2021	135.8	1,124.55	133.8	1,106.14	1.281%	6.532%	37%	63%	4.589%	2022

2.3 GROWTH FACTOR CALCULATION SUMMARY

As noted above, the BCUC approved the use of a forecast of average customers with a 75 percent modifier to determine Formula O&M.

The calculation of average customers used to determine 2022 Formula O&M is summarized in the table below. The growth factor is applied to the unit cost O&M (UCOM) which was calculated based on 2019 average customers of 139,916 (shown on Line 28 in Table 2-2 below). Starting with this 2019 average customers, the calculation adds 75 percent of cumulative average customer growth during the MRP term (shown on Line 26 in Table 2-2 below) to determine the average customers for rate setting (shown on Line 29 of Table 2-2 below).

Table 2-2: Calculation of 2022 Average Customer (AC) Growth Factor

Line No.	Date	Actual 2020	Projected 2021	Forecast 2022	Total for 2022 Rate Setting	Reference
1	Prior Year Ending Customer Count	141,027	143,714	145,695		Appendix A2 - Section 3.1 Customers
2						
3	Additions:					
4	January	292	257	231		
5	February	174	89	238		
6	March	8	123	229		
7	April	110	113	231		
8	May	173	319	222		
9	June	172	86	227		
10	July	522	165	230		
11	August	129	166	232		
12	September	83	167	293		
13	October	545	164	169		
14	November	234	165	231		
15	December	245	167	232		
16	Total Additions	2,687	1,981	2,766		Appendix A2 - Section 3.2 Customer Additions
17	12-month Weighted Average Additions	1,294	1,079	1,504		
18						
19	Current Year Ending Customer Count	143,714	145,695	148,461		Line 1 + Line 16; Appendix A2 - Section 3.1 Customers
20						
21	Actual/Projected Prior Year Average Customers	139,916	142,321	144,793		2020: G-42-21; Sch 3, Line 13; 2021 and 2022: Prior Year Ending, Line 22
22	Average Customers for the Year	142,321	144,793	147,199		Line 1 + Line 17
23	Change in Average Customers	2,405	2,471	2,406	**7,283**	Sum of Annual Change in Average Customers on Line 23
24						
25	Growth Factor Multiplier				**75%**	G-166-20
26	Change in Average Customers for Rate Setting Purposes				**5,462**	Line 25 x Line 23
27						
28	Average Customers Used to Determine the Starting UCOM				**139,916**	Line 21, Yr 2020
29	**Average Customer Forecast for Rate Setting**				**145,378**	Line 28 + Line 26
30						
31	2020 Approved Average Customers for Rate Setting	141,594				2020: G-42-21; Sch 3, Line 22
32	2020 Actual Average Customers for Rate Setting	141,720				Line 21 + (Line 23 x 0.75)
33	**2020 True Up**	**126**				Line 32 - Line 31

2.4 *INFLATION AND GROWTH CALCULATION SUMMARY*

A summary of the factors used to determine Formula O&M for 2022 is provided in Table 2-3, including the I-Factor calculated in Section 2.2, the approved X-Factor of 0.5 percent, and the forecast of customers incorporating the growth factor multiplier determined in Section 2.3.

Table 2-3: Summary of Formula Drivers

Line No.	Description	2022	Reference
1	CPI	1.281%	Table 2-1, Line 24
2	AWE	6.532%	Table 2-1, Line 24
3			
4	Non Labour	37%	Table 2-1, Line 24
5	Labour	63%	Table 2-1, Line 24
6			
7	CPI/AWE Inflation	4.589%	(Line 1 x Line 4) + (Line 2 x Line 5)
8			
9	Productivity Factor	-0.500%	Order G-166-20
10			
11	Net Inflation Factor	4.089%	Line 7 + Line 9
12			
13	Average Customer Forecast for Formula O&M purposes	145,378	Table 2-2, Line 29

In summary, the Net Inflation Factor for 2022 is 4.089 percent and Formula O&M for 2022 is determined using average customers of 145,378.

3. LOAD FORECAST AND REVENUE AT EXISTING RATES

3.1 *INTRODUCTION AND OVERVIEW*

This section describes FBC's forecast of gross system load. The gross system load is a combination of residential, commercial, wholesale, industrial, street lighting and irrigation loads, system losses and company use. The forecast of gross system load includes the impacts of forecast load savings which include Demand Side Management (DSM) savings. These savings are further explained in Section 3.3 – Demand Side Management Savings.

FBC is forecasting a decrease in consumption in the 2022 Forecast (2022F) compared to the 2021 Approved. The 2022F gross load is forecast to be approximately 3,591 GWh, which is a 73 GWh decrease compared to the 2021 Approved gross load. The decrease in 2022F is due to decreased loads in the industrial, wholesale and commercial classes, partially offset by an increase in residential load. Based on the 2021 Approved rates for each customer class, FBC's 2022 revenue forecast is $383.895 million.

FBC has provided further information supporting its load forecast in Appendix A of the Application.

3.2 *OVERVIEW OF FORECAST METHODS*

Consistent with the forecasting method followed by FBC in previous years, the load forecast relies on the following components:

- the residential and commercial customer count forecast;
- the residential use per customer (UPC) forecast;
- the commercial, lighting and irrigation load forecast; and
- the industrial and wholesale survey forecast.

The load forecast for residential customers is based on forecasts for the number of customers and UPC rates. Specifically, the average UPC is estimated and is then multiplied by the corresponding forecast of the number of customers to derive the residential load forecast. The commercial load forecast is based on a regression against the Conference Board of Canada (CBOC) Gross Domestic Product (GDP) forecast, while the lighting and irrigation forecasts use the prior year's actual loads. Wholesale and industrial forecasts are primarily based on customer-specific survey results.

More detail on FBC's forecasting methods can be found in Appendix A of this filing.

The following sections set out the results of the load forecast. In the figures provided in the load forecast sections, the following three time periods are shown:

- Actual Years: Actual years are those for which actual data exists for the full calendar year. For this Annual Review the latest calendar year for which full actual data exists is the 2020 calendar year.
- Seed Year: The Seed Year is the year prior to the first forecast year. The Seed Year is forecast based on the latest years of actual data available,[6] and will be different than the original forecast for that year in the previous filing. For example, for this Application the Seed Year is 2021 (2021S) and the Seed Year forecast is based on the latest actual years, including 2020. As such, the 2021 Seed Year forecast in this Application will differ from the 2021 Forecast presented in the Annual Review for 2020 and 2021 Rates, for which 2020 actual data was not available.
- Forecast Year: This is the year or years for which the forecast is being developed. This can be one year (in the case of the Annual Review) or a range of two or more years depending on the filing. In this Application, the forecast year is 2022 (2022F).
- Also included in the figures in this section is the prior year's forecast (shown as the green Approved lines in the figures below), as presented in the Annual Review for 2020 and 2021 Rates.

FBC acquired the utility assets and customers of the City of Kelowna's electric utility effective March 31, 2013, resulting in an increase in direct customers and changes in the composition of customers and sales load by class, which are reflected in the data and figures in this section.

3.3 *DEMAND SIDE MANAGEMENT SAVINGS*

FBC forecasts the DSM savings that are incremental to the DSM savings that are already embedded in historical loads up to and including 2020.

The DSM savings forecast is deducted from the before-savings forecast for all customer classes. All forecast values in the sections below are shown after being reduced by DSM savings unless explicitly stated otherwise.

The forecast incremental DSM savings for 2022 are summarized in Table 3-1 below, and are the forecast savings incremental to the savings embedded in the historical loads. Historical DSM savings can be found in Appendix A2.

[6] FBC's load forecast is developed using only complete years of historical data. FBC requires the complete year of load data in order to validate it, including the review of and potential adjustments to unbilled energy. For this reason, partial year data is not used in forecasting.

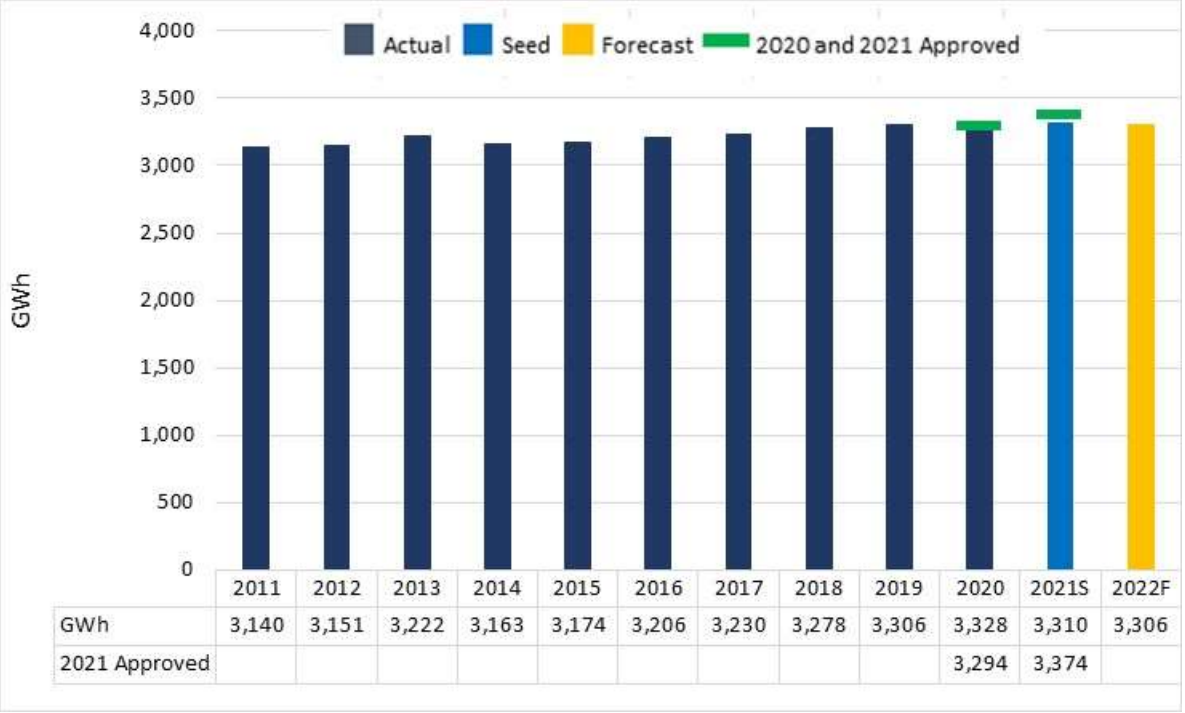
Table 3-1: Forecast Incremental 2022 DSM Savings (GWh)

Line No.	Description	DSM 2022
1	Residential	(8)
2	Commercial	(22)
3	Wholesale	(8)
4	Industrial	(17)
5	Lighting	(1)
6	Irrigation	(0)
7	Net	(56)
8	Losses	(5)
9	Gross Load	(61)

3.4 *LOAD FORECAST*

FBC's total load consists of the weather normalized residential, commercial and wholesale load and the industrial, lighting and irrigation load. In aggregate, the absolute load forecast variance in 2020 was 1.0 percent. As shown in Figure 3-1 below, the total load, net of losses, is forecast to be 3,306 GWh in 2022F, which is 4 GWh less than 2021S and a decrease of 68 GWh from 2021 Approved.

Figure 3-1: Total Net Load (GWh)



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
GWh	3,140	3,151	3,222	3,163	3,174	3,206	3,230	3,278	3,306	3,328	3,310	3,306
2021 Approved										3,294	3,374	

Table 3-2 below shows the normalized after-savings gross load by customer class as well as the system peak. For 2022F, the residential customer class is forecast to account for 36 percent of the normalized after-savings gross load.

Table 3-2: Normalized After-Savings Gross Load and System Peak

Line No.	Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
	Energy (GWh)												
1	Residential	1,249	1,229	1,353	1,296	1,298	1,296	1,320	1,313	1,266	1,347	1,295	1,283
2	Commercial	657	681	788	863	853	905	915	926	932	922	933	946
3	Wholesale	910	899	675	567	580	574	574	585	566	569	561	560
4	Industrial	271	291	352	381	380	373	363	403	495	441	473	470
5	Lighting	13	13	13	16	16	16	16	13	11	11	11	10
6	Irrigation	40	38	40	40	46	42	42	39	36	37	37	37
7	Net Load	3,140	3,151	3,222	3,163	3,174	3,206	3,230	3,278	3,306	3,328	3,310	3,306
8	Losses & Company Use	307	271	278	270	272	274	282	285	287	288	285	285
9	Gross Load	3,447	3,422	3,500	3,433	3,446	3,480	3,512	3,564	3,592	3,616	3,595	3,591
10													
11	System Peak (MW)												
12	Winter Peak	702	723	698	693	685	755	714	682	732	731	715	717
13	Summer Peak	537	589	600	620	611	593	605	631	639	666	606	609

The residential, commercial, wholesale, industrial, lighting and irrigation load forecasts are provided separately in the following subsections.

3.4.1 Residential

3.4.1.1 Residential Customers

Forecast residential customer counts are determined by a regression of the year-end customer accounts against population in the FBC direct service area. The population forecast for the FBC service area is provided by a BC Statistics report produced for FBC.

Figure 3-2 shows the year-end residential customer count for FBC.

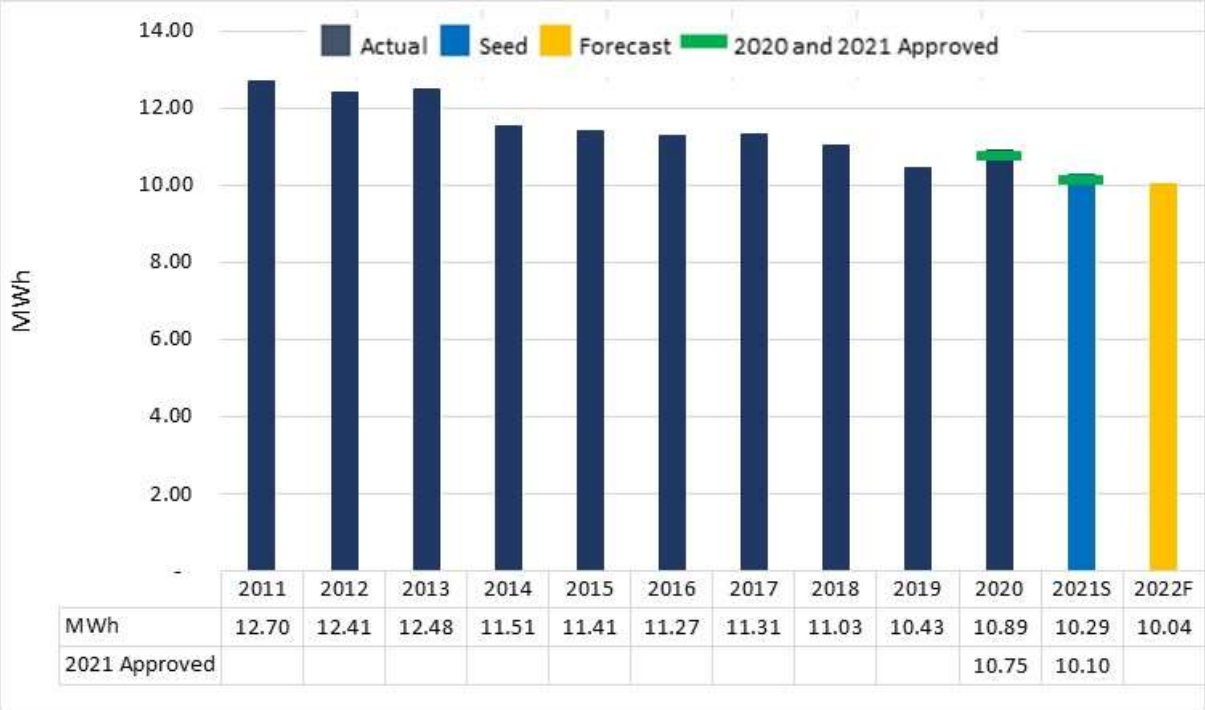
Figure 3-2: Year-End Direct Residential Customer Count

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
Customers	98,795	99,228	111,862	113,431	114,166	115,772	117,748	120,291	122,465	124,966	126,746	128,941
2021 Approved										124,076	124,603	

3.4.1.2 Residential UPC

Normalized historical UPCs are obtained by dividing the weather-normalized residential load by the average customer count in each year. The before-savings UPC is forecast by applying a ten-year trend to the normalized historical UPCs. The before-savings UPC forecast is then multiplied by the forecast average customer count to derive the before-savings load forecast. DSM savings, which are incremental to the savings embedded in the historical data to 2020, are then deducted from the before-savings load forecast to determine the after-savings load forecast. The after-savings UPC forecast is then calculated by dividing the after-savings load forecast by the average customer count. As shown in Figure 3-3 below, the residential after-savings UPC is forecast to decrease by 0.25 MWh in 2022F from 2021S and decrease by 0.06 MWh from 2021 Approved.

Figure 3-3: Normalized After-Savings Residential UPC (MWh)

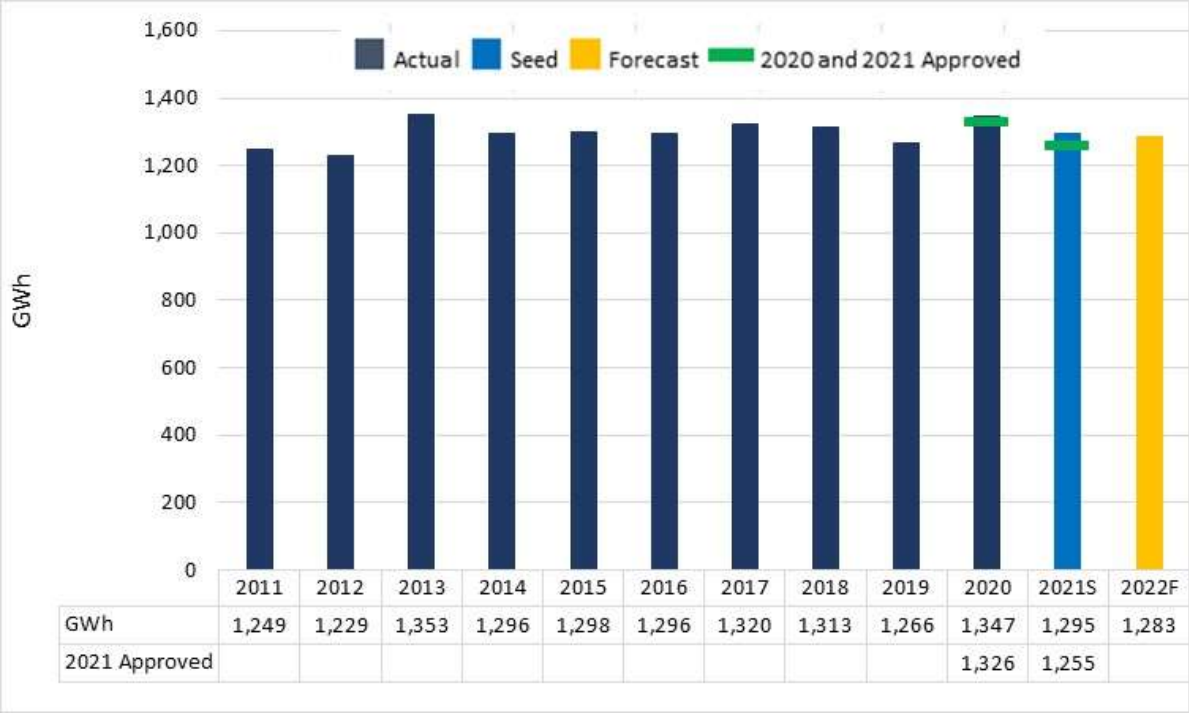


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
MWh	12.70	12.41	12.48	11.51	11.41	11.27	11.31	11.03	10.43	10.89	10.29	10.04
2021 Approved										10.75	10.10	

3.4.1.3 Residential Load

Consistent with past practice, the total before-savings load for the residential class is the product of the average annual residential customer count multiplied by the residential UPC. The after-savings load is produced by taking the before-savings load and then subtracting DSM savings. As shown in Figure 3-4 below, residential after-DSM savings load is forecast to decrease by 12 GWh in 2022F from 2021S and increase by 28 GWh from 2021 Approved levels.

Figure 3-4: Normalized After-Savings Residential Load (GWh)



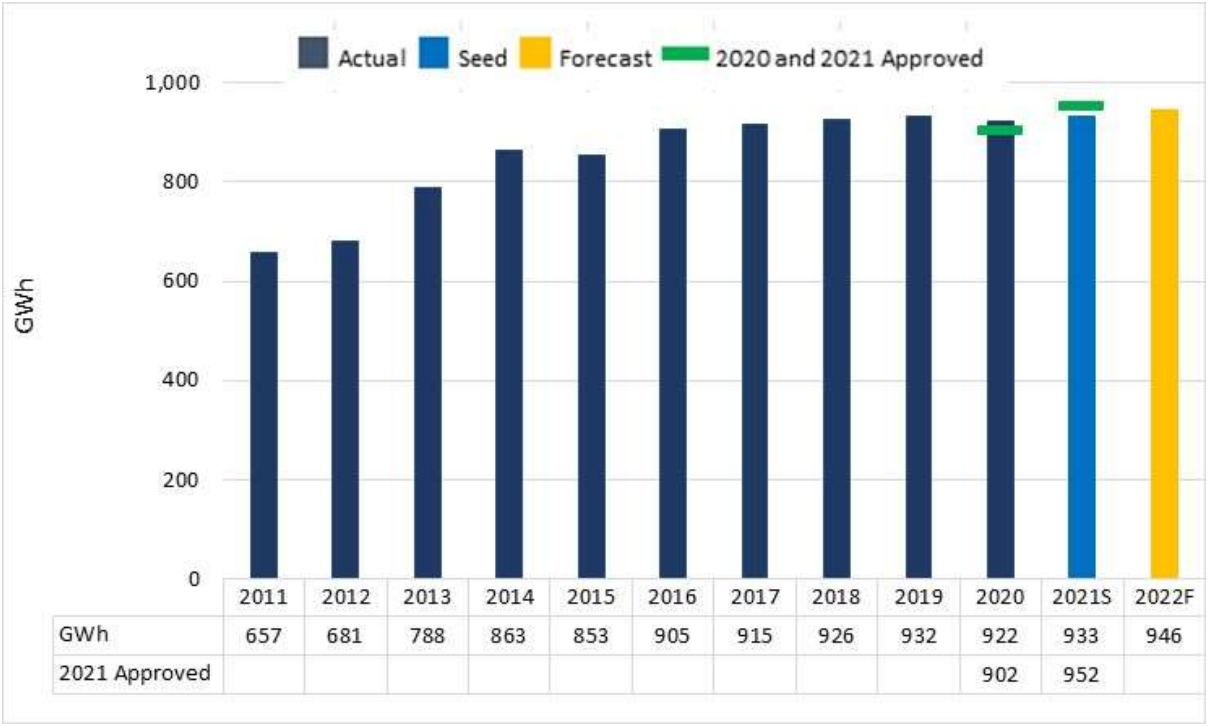
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
GWh	1,249	1,229	1,353	1,296	1,298	1,296	1,320	1,313	1,266	1,347	1,295	1,283
2021 Approved										1,326	1,255	

3.4.2 Commercial

3.4.2.1 Commercial Load

The commercial class is forecast based on a regression of load on the provincial GDP forecast obtained from the CBOC. As shown in Figure 3-5 below, Commercial after-savings load is forecast to increase by 13 GWh in 2022F from 2021S and decrease by 6 GWh in 2022F from 2021 Approved.

Figure 3-5: After-Savings Commercial Load (GWh)



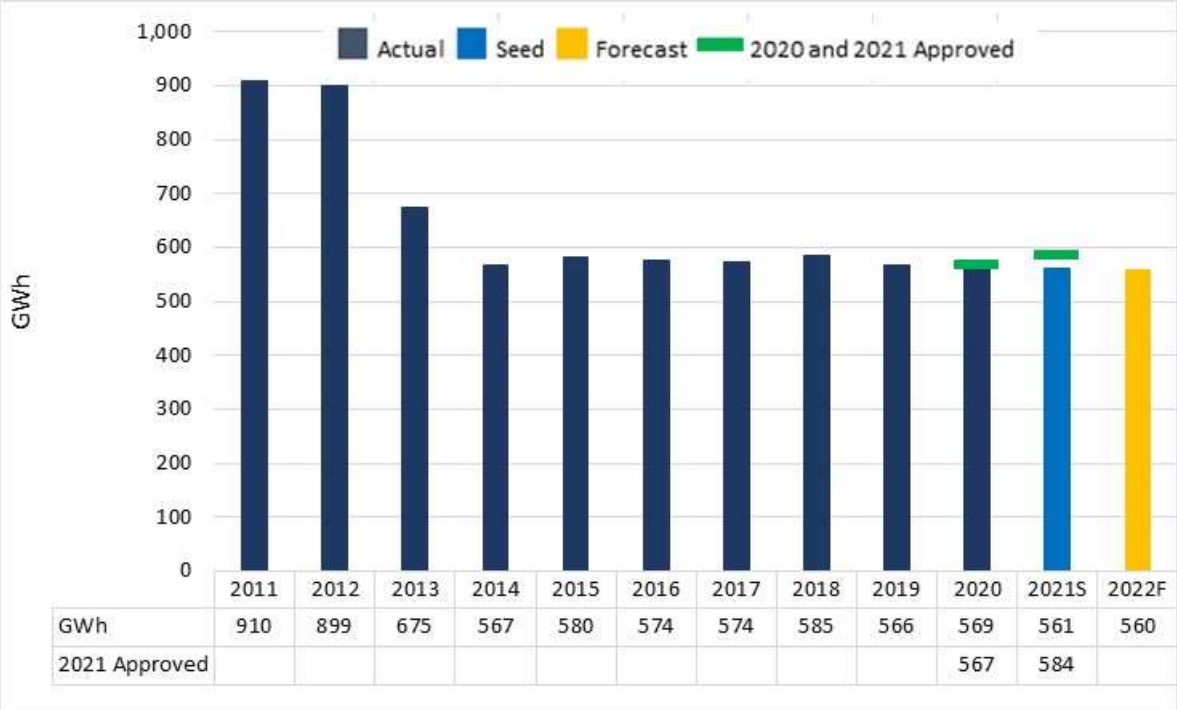
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
GWh	657	681	788	863	853	905	915	926	932	922	933	946
2021 Approved										902	952	

3.4.3 Wholesale

FBC sells wholesale power to municipalities for service to certain customers within its service territory that own and operate their own electrical distribution systems, and to BC Hydro. The wholesale customers' load composition is a combination of residential, commercial, industrial and street lighting.

Consistent with past practice, the wholesale class is forecast using survey information from each of the individual wholesale customers, as the individual wholesale customers are best able to forecast their future load growth. For 2022, all of the wholesale customers responded with their load forecast projections. As shown in Figure 3-6 below, after-savings wholesale load is forecast to decrease by 1 GWh in 2022F from 2021S and decrease by 24 GWh in 2022F from 2021 Approved.

Figure 3-6: Normalized After-Savings Wholesale Load (GWh)



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
GWh	910	899	675	567	580	574	574	585	566	569	561	560
2021 Approved										567	584	

3.4.4 Industrial

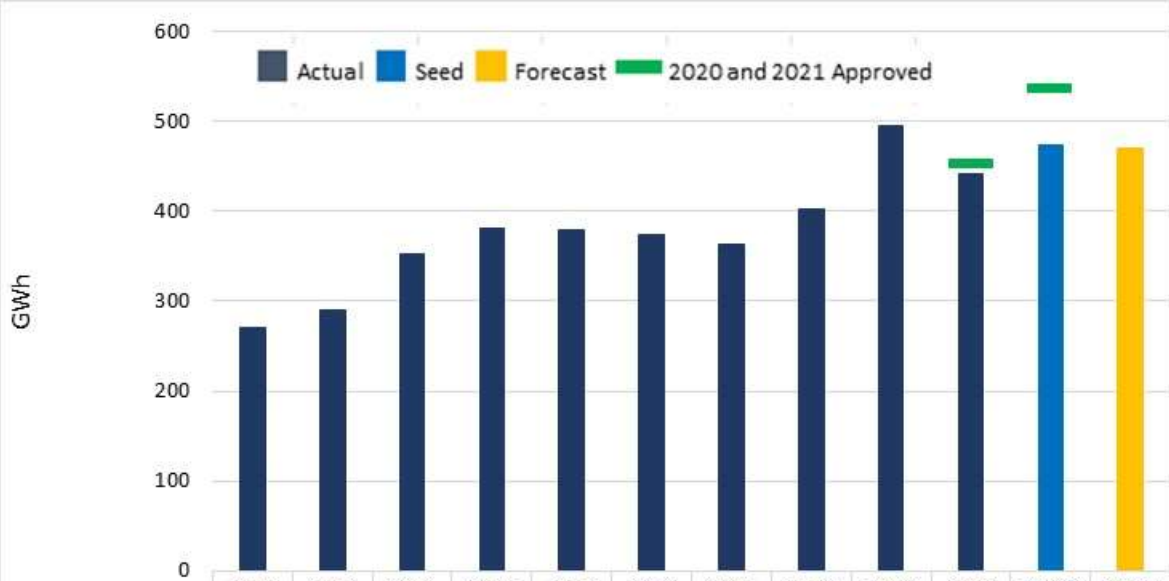
Consistent with past practice, the industrial forecast is determined through a combination of customer load surveys and, when not available, escalation of the most recent annual loads by the corresponding provincial GDP growth rates for individual industries.

FBC sends all existing industrial customers a load survey that requests the customer's anticipated use for the next five years. A survey is used because individual industrial customers have the best understanding of what their future load will be. This year FBC received a response from 81 percent (35 of 43) of the surveys sent out. The responding customers represent approximately 91 percent of the total industrial load.

FBC's forecasts of industrial loads from new customers in 2022F are based on information from key account managers.

As shown in Figure 3-7 below, after-savings industrial load is forecast to decrease by 3 GWh in 2022F when compared to 2021S and by 67 GWh in 2022F compared to 2021 Approved. The lower forecast in 2021S and 2022F compared to 2021 Approved is primarily due to cannabis loads not materializing in 2021 as planned. FBC's 2021 Approved included 68 GWh of additional cannabis load; however, at this time, none of those customers have taken service in the industrial class. As a result, those loads have been removed from the current forecast.

Figure 3-7: After-Savings Industrial Load (GWh)

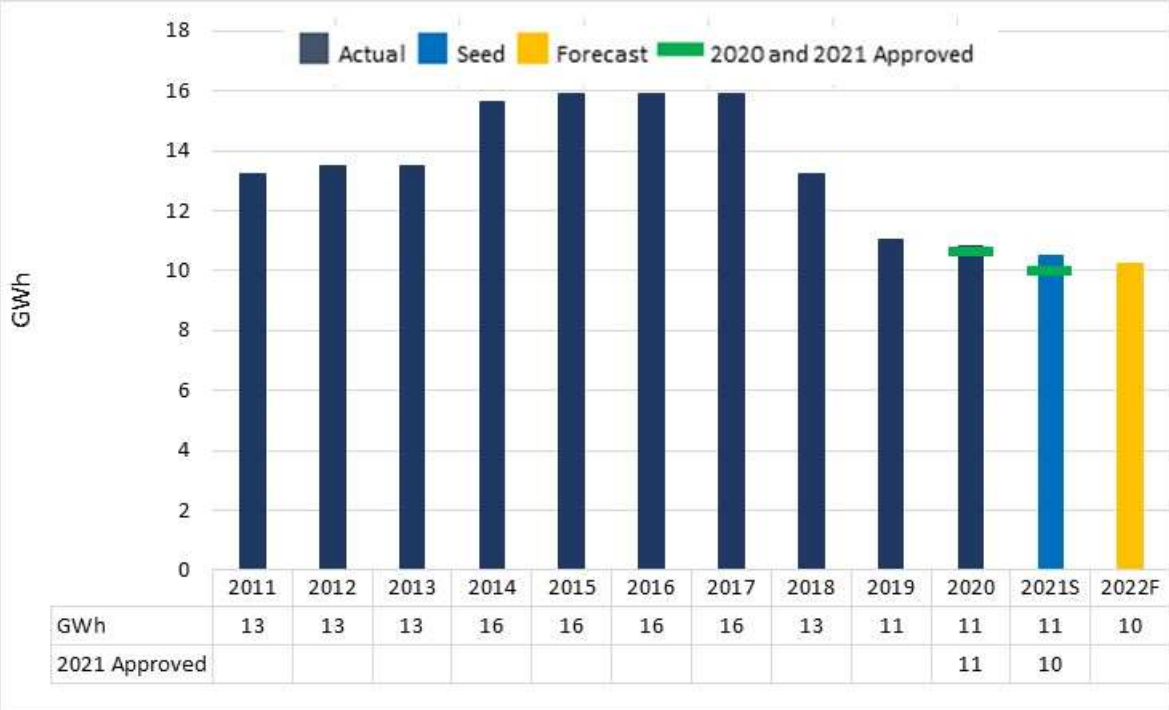


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
GWh	271	291	352	381	380	373	363	403	495	441	473	470
2021 Approved										453	537	

3.4.5 Lighting

Due to the implementation of LED street lights, the lighting load has seen declines for the past three years. FBC used the 2020 Actuals as the forecast for this load and then reduced it by DSM savings. As shown in Figure 3-8 below, after-savings lighting load is forecast to decrease by 1 GWh in 2022F from 2021S and remain stable at 10 GWh in 2022F when compared to 2021 Approved.

Figure 3-8: After-Savings Lighting Load (GWh)

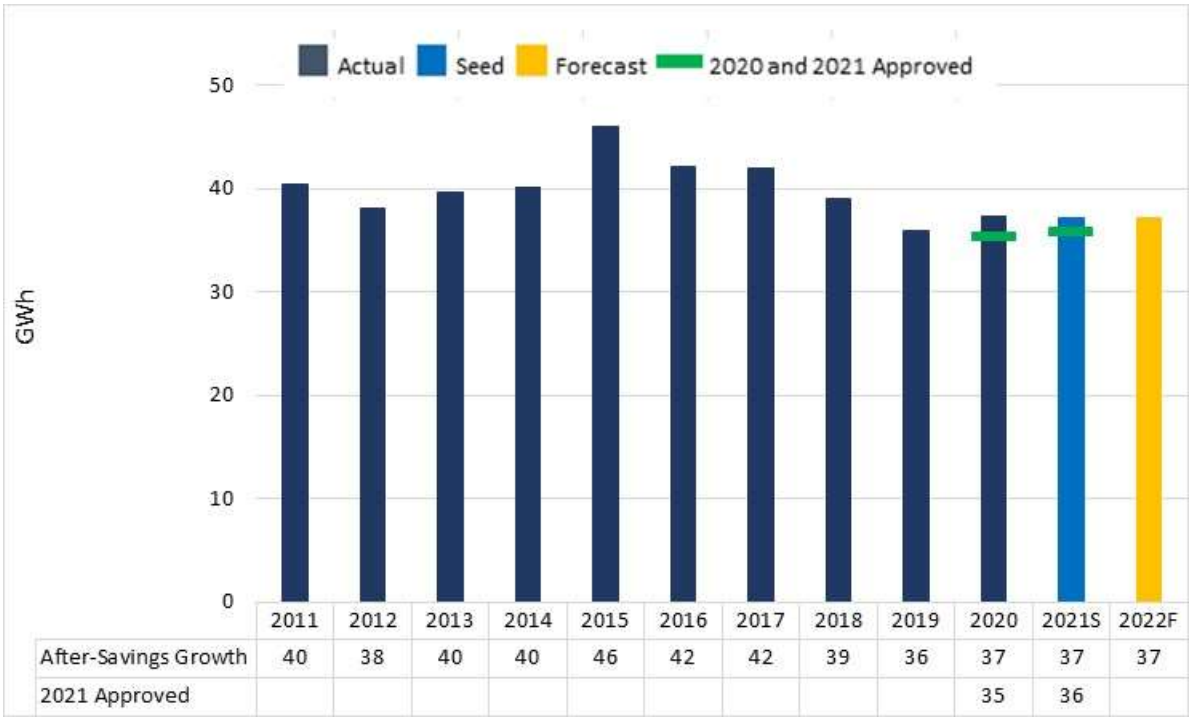


	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
GWh	13	13	13	16	16	16	16	13	11	11	11	10
2021 Approved										11	10	

3.4.6 Irrigation

Due to the variability in the load in the recent historical data, FBC has used the 2020 Actuals as the forecast for the irrigation load. As shown in Figure 3-9 below, after-savings irrigation load is forecast to remain stable at 37 GWh from 2021S to 2022F and increase by 1 GWh in 2022F when compared to 2021 Approved.

Figure 3-9: After-Savings Irrigation Load (GWh)



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
After-Savings Growth	40	38	40	40	46	42	42	39	36	37	37	37
2021 Approved										35	36	

3.4.7 Losses and Company Use

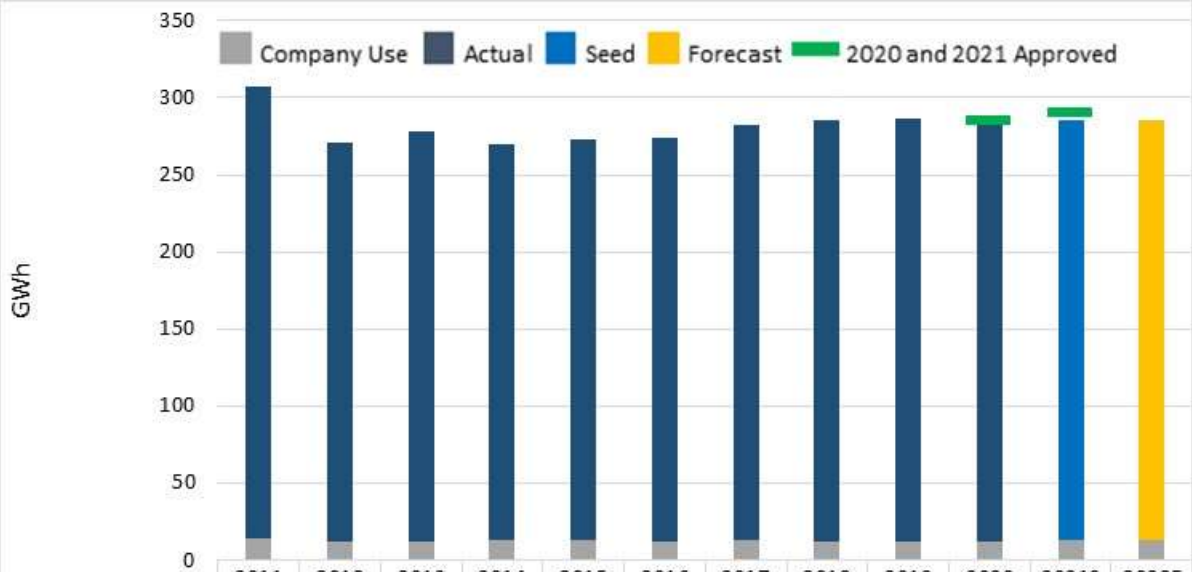
FBC conducted a Losses Study in 2019[7] and, consistent with that study, has assumed a loss rate of 7.6 percent of gross load (excluding company use). System losses consist of:

- Losses in the transmission and distribution system;
- Losses due to wheeling through the BC Hydro system; and
- Unaccounted-for load (meter inaccuracies and theft).

As shown in Figure 3-10 below, after-savings load losses are forecast to remain constant in 2022F because the gross load is forecast to be relatively stable in 2021S and 2022F. FBC has separated company use in the graph below, which is forecast at 13 GWh per year in 2022F, consistent with 2021S.

[7] MRP Application, Exhibit B-1-1, Appendix B3.

Figure 3-10: Normalized After-Savings Load Losses (GWh)



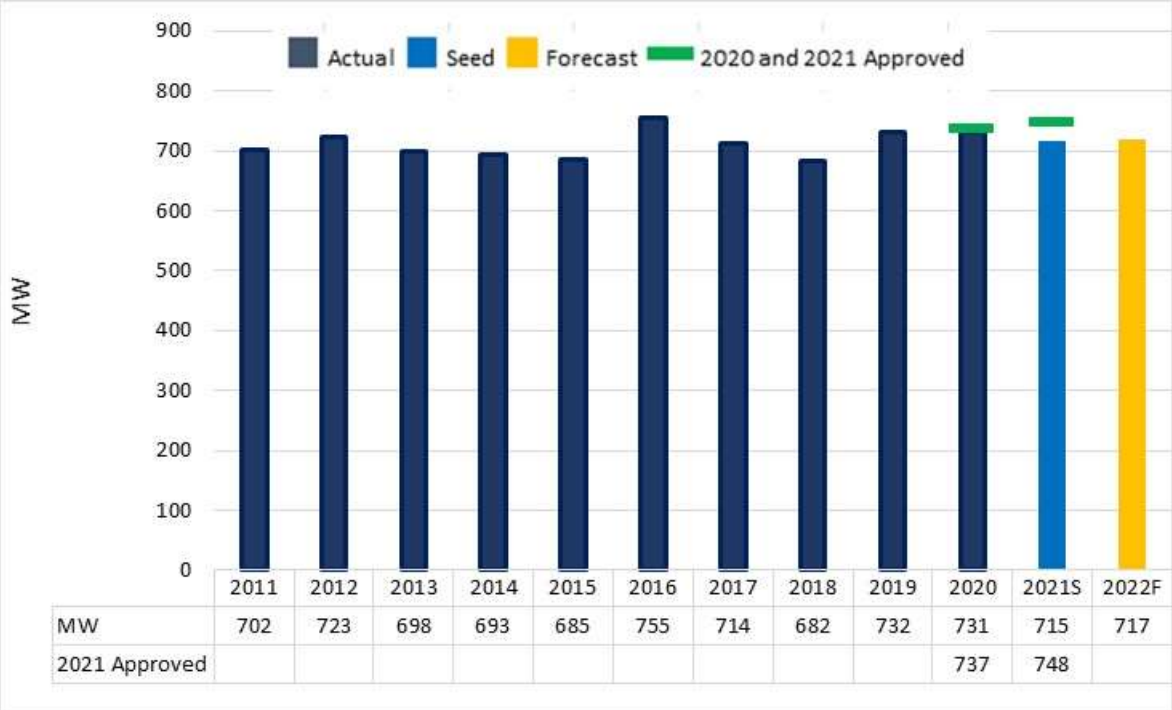
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
Losses	294	260	266	256	260	262	269	274	274	276	272	272
Company Use	14	11	12	13	13	12	13	11	12	12	13	13
Prior Forecast										285	290	

3.4.8 Peak Demand

The peak demand forecast is produced using the ten-year average of historical peaks. The historical peak data is escalated by the gross load growth rate before it is averaged to account for the growth of demand on the FBC system.

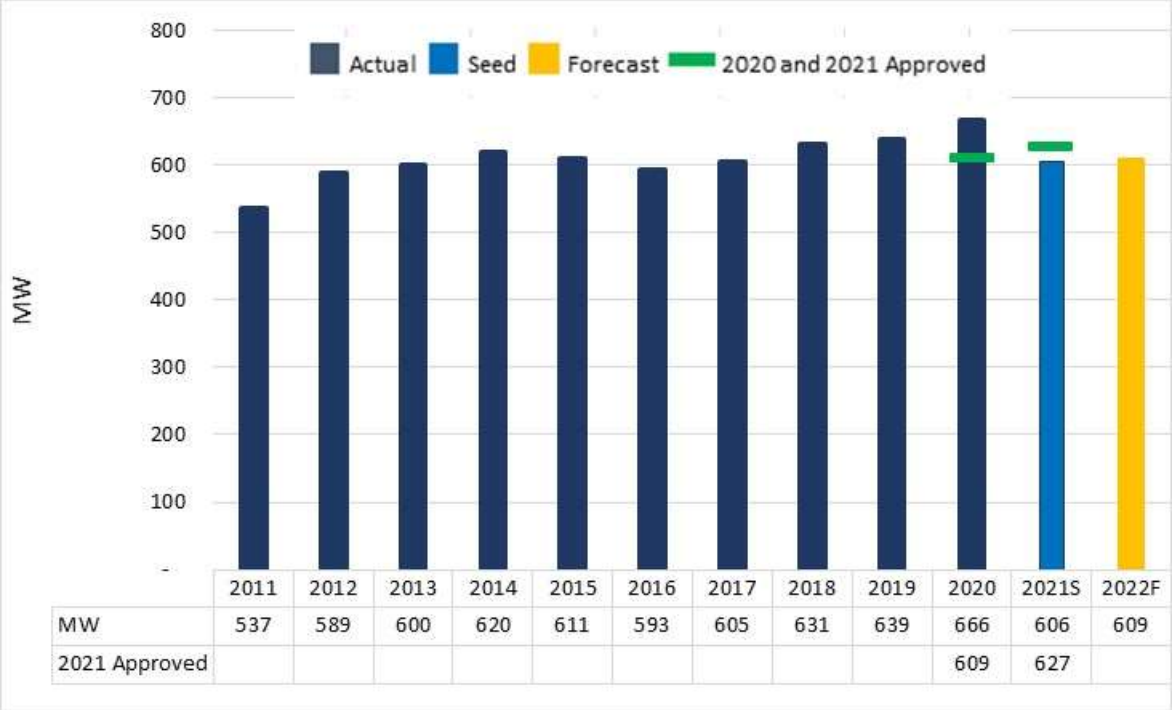
Normalized after-savings historical winter and summer peaks are shown below along with 2021S and 2022F. The peaks shown below are seasonal, where the winter peak can fall in either November or December of the current year or January and February of the following year, while the summer peak falls in June, July or August of the current year.

Figure 3-11: After-Savings Winter Peaks (MW)



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
MW	702	723	698	693	685	755	714	682	732	731	715	717
2021 Approved										737	748	

Figure 3-12: After-Savings Summer Peaks (MW)



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
MW	537	589	600	620	611	593	605	631	639	666	606	609
2021 Approved										609	627	

3.5 CUSTOMER FORECAST

Table 3-3 shows the actual and forecast year-end customer count by rate class. The residential, commercial, and lighting customer counts are forecast using the methods described in Sections 3.4.1, 3.4.2 and 3.4.5, respectively. Industrial customers are forecast based on information on expected new loads provided by key account managers. Wholesale and irrigation customer counts are assumed to remain at 2020 levels.

Overall, for 2022F FBC is forecasting customer growth of 1.9 percent compared to 2021S and growth of 3.3 percent compared to 2021 Approved.

Table 3-3: Year-End Direct Customer Count

Line No.	Description	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
1	Residential	98,795	99,228	111,862	113,431	114,166	115,772	117,748	120,291	122,465	124,966	126,746	128,941
2	Commercial	11,525	11,811	13,662	14,363	14,976	15,073	15,398	15,678	15,956	16,165	16,384	16,975
3	Wholesale	7	7	6	6	6	6	6	6	6	6	6	6
4	Industrial	36	39	47	49	50	50	50	52	51	43	43	43
5	Lighting	1,803	1,739	1,644	1,620	1,590	1,559	1,511	1,482	1,467	1,443	1,425	1,406
6	Irrigation	1,092	1,091	1,097	1,103	1,095	1,090	1,080	1,078	1,082	1,091	1,091	1,091
7	**Total**	112,249	113,915	128,318	130,572	131,883	133,550	135,793	138,587	141,027	143,714	145,695	148,461

3.6 REVENUE FORECAST

The forecast of revenues has been developed by applying approved 2021 rates to the forecast billing determinants for each customer class.

Table 3-4 below summarizes the 2021 Approved, 2021 Projected and 2022 Forecast sales revenue.

Table 3-4: Forecast Sales Revenue at Approved Rates ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022
1	Residential	$ 184.235	$ 192.364	$ 188.510
2	Commercial	101.451	100.971	100.815
3	Wholesale	51.623	50.552	49.534
4	Industrial	44.776	39.780	39.434
5	Lighting	2.261	2.281	2.330
6	Irrigation	3.298	3.152	3.272
7	Total	$ 387.642	$ 389.100	$ 383.895

When comparing the 2021 Approved forecast to 2021 Projected there is an increase in revenue of $1.458 million, the majority of which is due to increased residential load, partially offset by decreased industrial, commercial and wholesale loads.

The 2022 Forecast revenue is $3.747 million lower than 2021 Approved due to decreased industrial, commercial and wholesale loads.

Variances between the revenue forecast in this section and the actual revenues realized are captured in the Flow-through deferral account.

3.7 *SUMMARY*

The normalized after-savings gross load forecast for 2022 is 3,591 GWh. Based on net load of 3,306 GWh at the approved 2021 rates, FBC's 2022 revenue forecast is $383.895 million. When comparing 2022F to 2021 Approved, there is a decrease in net load of 68 GWh. The decrease in 2022F is due to decreased loads in the industrial, wholesale and commercial classes, which is partially offset by increases in the residential class.

4. POWER SUPPLY

4.1 INTRODUCTION AND OVERVIEW

This section includes a review of the 2021 Projected and 2022 Forecast power purchase expense (PPE), wheeling expense and water fees. Collectively, the PPE, wheeling expense and water fees are referred to as the Power Supply cost.

As shown in Table 4-1 below, the 2022 Forecast Power Supply cost of $161.830 million represents an increase of 0.2 percent or $0.271 million compared to the 2021 Approved cost of $161.559 million. The increase in the 2022 Forecast Power Supply cost is due to increases in wheeling expense and water fees. The 2022 Forecast wheeling expense and water fees have both increased as a result of rates and usage.

Any variances between forecast and actual Power Supply costs are recorded in the Flow-through deferral account and returned to or recovered from customers in the subsequent year.

Table 4-1: Power Supply Cost ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022	Reference
1	Power Purchase Expense	$ 144.977	$ 141.747	$ 143.779	Schedule 19, Line 12, Column 3
2	Wheeling Expense	5.714	5.836	6.093	Schedule 19, Line 23, Column 3
3	Water Fees	10.868	10.878	11.958	Schedule 19, Line 28, Column 3
4	Total Power Supply Cost	$ 161.559	$ 158.462	$ 161.830	Schedule 19, Line 30, Column 3
5					
6	Gross Load (GWh)	3,664	3,640	3,591	Schedule 19, Line 2, Column 3

4.2 SUMMARY OF POWER SUPPLY RESOURCES

FBC uses a combination of Company-owned generation entitlements, firm contracted supply and market purchases to meet its load requirements. The Company's firm resources consist of:

1. Canal Plant Agreement (CPA) Entitlements associated with the generation facilities owned by FBC. The costs associated with FBC-owned generation are not included in the power purchase estimates, except for the Balancing Pool adjustments, which account for year-to-year timing differences in the entitlement energy storage under the CPA;

2. The Brilliant Power Purchase Agreement (BPPA), a 125 MW contract (Order E-7-96), and an amendment to the BPPA which reflects the purchase of 20 MW of Brilliant Upgrade power (Letter L-57-00), and the 5 MW Brilliant Tailrace Capacity agreement (Order E-17-01);

3. A power purchase agreement (PPA) with BC Hydro (a 200 MW contract) under BC Hydro Rate Schedule 3808 (Order G-60-14);

4. The Waneta Expansion Capacity Purchase Agreement (WAX CAPA), which is a 40-year purchase agreement with the Waneta Expansion Limited Partnership for capacity entitlements under the CPA (Orders E-29-10 and E-15-12);

5. A number of small Independent Power Producer (IPP) contracts; and

6. A number of market purchase arrangements.

4.3 PORTFOLIO OPTIMIZATION

The primary objectives of FBC's power supply portfolio planning are to ensure that the Company has sufficient firm resources to meet expected load requirements, to ensure the availability of cost-effective reliable power for FBC's customers, to prudently manage exposure to the cost and availability of market power supplies, and to optimize the value of any surplus resources that are not needed to meet load requirements.

The Company currently has long-term, firm resources from which it can supply all of its 2022 forecast annual energy and capacity requirements. The nature of FBC's contracted resources, in particular the BC Hydro PPA, provides the Company some flexibility to participate in the market when conditions are favourable to mitigate the cost of holding those firm resources. Furthermore, although FBC's load requirements are forecast to grow over time, the amount of capacity provided under the WAX CAPA is currently greater than FBC's capacity requirements in most months, and FBC sells the surplus capacity to mitigate power purchase expense. FBC has contracted to release a 50 MW block of capacity purchased under the WAX CAPA to BC Hydro under the Residual Capacity Agreement (RCA), which was approved by the BCUC in Order G-161-14. The remaining surplus WAX CAPA will be sold to Powerex Corp. (Powerex) on a day-ahead basis, if and when it is not required to meet FBC load requirements. These sales are made under the Capacity and Energy Purchase and Sale Agreement (CEPSA) with Powerex dated February 17, 2015, and accepted by the BCUC in Order E-10-15.

4.4 FBC 2021/22 ANNUAL ELECTRIC CONTRACTING PLAN

On March 31, 2021, FBC filed its 2021/22 Annual Electric Contracting Plan (AECP) with the BCUC. The purpose of the AECP is to outline FBC's plan to meet its peak demand requirements and annual energy requirements for the operating year commencing October 1, 2021 and ending September 30, 2022, and to facilitate FBC's annual energy nomination under the PPA. FBC is required to take or pay for 75 percent of the PPA Nomination, regardless of whether it schedules the energy. The difference between the PPA Nomination and the 75 percent minimum take provides flexibility to manage annual loads that are below forecast or to displace PPA purchases with lower cost market purchases. Therefore, real-time opportunities to displace PPA purchases are restricted to a maximum of 25 percent of the PPA nominated

energy, but could be more or less, depending on system conditions.[8] The AECP also outlines FBC's load and resource balance over the following four years, and FBC's plan for optimizing its portfolio over that period. FBC's forecasts of PPE for the remainder of 2021 and for 2022 are based on the plan detailed in the 2021/22 AECP, which was accepted by the BCUC on April 29, 2021, by way of Letter L-10-21.[9]

The AECP identified FBC's intention to make its annual energy nomination under the PPA for the 2021/22 contract year equal to 673 GWh, less any firm market contracts that FBC could enter into, as described in section 5 of the 2021/22 AECP.

Before June 30, 2021, FBC entered into one energy supply contract (ESC) with Powerex under the terms of the CEPSA, which provides FBC with an additional 8 GWh of incremental market energy during March 2022 at a lower cost than if supplied under the PPA. The ESC is less than 62 days in duration and will therefore be reported to the BCUC in FBC's Q1 2022 Report on Energy Supply Contracts pursuant to Section 71 of the UCA. The ESC and associated savings are included in the 2022 Forecast PPE. As a result of this contract, and changes to the forecast gross load, the Company submitted a PPA nomination for the 2021/22 contract year of 645 GWh, as confirmed in a letter to the BCUC on July 26, 2021.

4.5 *2021 PROJECTED POWER PURCHASE EXPENSE*

As shown in Table 4-2 below, FBC's 2021 Projected gross load (after taking into account demand side management and other customer savings) is expected to be 24 GWh below the 2021 Approved value, and PPE is projected to be below the 2021 Approved value by $3.230 million. The decrease in 2021 Projected PPE is primarily due to additional market purchases used to displace BC Hydro PPA energy and capacity purchases at a lower total cost, as well as the reduction in gross load.

[8] For example, if loads were 50 GWh lower in a year than forecast, that must be adjusted for as part of the 25 percent PPA flexibility such that the amount of PPA energy that can be displaced by market purchases is also reduced by 50 GWh.

[9] The AECP was filed confidentially. The non-confidential Executive Summary is attached to Letter L-10-21.

Table 4-2: 2021 Power Purchase Expense ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Difference
1	Brilliant	$ 41.009	$ 41.015	$ 0.006
2	BC Hydro PPA	47.440	35.989	(11.451)
3	Waneta Expansion	41.640	41.570	(0.071)
4	Market and Contracted Purchases	14.751	19.646	4.895
5	Independent Power Producers	0.076	0.064	(0.013)
6	Self-Generators	0.061	-	(0.061)
7	CPA Balancing Pool	(0.000)	3.834	3.834
8	Transmission Service Loss Recoveries	-	-	-
9	Special and Accounting Adjustments	-	(0.371)	(0.371)
10	Total	$ 144.977	$ 141.747	$ (3.230)
11				
12	Gross Load (GWh)	3,664	3,640	(24)

4.6 *2022 FORECAST POWER PURCHASE EXPENSE*

As shown in Table 4-3 below, the 2022 Forecast PPE is $2.032 million greater than the 2021 Projected. The forecast increase from $141.747 million in 2021 to $143.779 million in 2022 is a result of a reduction in market and contracted purchases and correspondingly, a greater reliance on relatively higher cost energy supplied by BC Hydro. Also contributing to the increase are reduced surplus sales along with escalations to the Waneta Expansion and Brilliant contract rates.

Table 4-3 below shows a comparison of the 2021 Projected and 2022 Forecast PPE. Reasons for significant variances from the 2021 Projected PPE are discussed below.

Table 4-3: 2022 Forecast Power Purchase Expense ($ millions)

Line No.	Description	Projected 2021	Forecast 2022	Difference
		-		
1	Brilliant	$ 41.015	$ 41.841	$ 0.825
2	BC Hydro PPA	35.989	44.062	8.072
3	Waneta Expansion	41.570	42.701	1.131
4	Market and Contracted Purchases	19.646	15.102	(4.544)
5	Independent Power Producers	0.064	0.073	0.009
6	Self-Generators	-	-	-
7	CPA Balancing Pool	3.834	0.000	(3.834)
8	Transmission Service Loss Recoveries	-	-	-
9	Special and Accounting Adjustments	(0.371)	-	0.371
10	Total	$ 141.747	$ 143.779	$ 2.032
11				
12	Gross Load (GWh)	3,640	3,591	(49)

Brilliant

Brilliant expense is forecast to increase in 2022 by $0.825 million compared to 2021 Projected due to increased rates, which are based on a forecast of the operating and maintenance cost of the plant, as well as a true-up to the prior year's actual costs compared to forecast.

BC Hydro PPA

BC Hydro PPA expense is forecast to increase in 2022 by $8.072 million compared to the 2021 Projected expense. The drivers of the increase are a higher purchased volume (132 GWh), which increases the expense by $8.505 million, and an increase in BC Hydro rates, which accounts for an increase of $0.068[10] million, for a total of $8.573 million. FBC has reduced its 2022 Forecast of PPA expense by $4.000 million in savings to account for potential real-time opportunities to displace PPA purchases with lower cost market purchases. The 2021 Projected BC Hydro expense has also been reduced by $3.500 million to account for potential real-time opportunities during the remainder of 2021. This results in a variance between 2021 Projected and 2022 Forecast of $8.072 million, as shown in Table 4-3. Actual market savings for the remainder of 2021 and 2022 may be higher or lower and will depend on system and market conditions at the time. Any variance, including these savings, is recorded in the Flow-through deferral account and returned to or recovered from customers in a subsequent year.

Waneta Expansion

The $1.131 million increase in Waneta Expansion expense is due to the 2.1 percent annual fixed escalation of WAX CAPA rates, as well as a $0.035 million decrease in forecast surplus sales revenue under the RCA and CEPSA. Revenue under the CEPSA is linked to the amount of capacity FBC releases to Powerex and the day-ahead market prices at the Mid-Columbia River (Mid-C) trading hub. The Mid-C is the largest electricity trading hub in the Pacific Northwest and is located on the US portion of the Columbia River. FBC's forecast of Mid-C forward market prices is based on contracts that have been traded and/or bids and offers from forward contracts on the Intercontinental Exchange Inc. (ICE), which is a global exchange, clearing, financial data, and technology company. The method used to forecast market prices and surplus sales is the same as in the Annual Review for 2020 and 2021 Rates. Overall, the forecast of market prices has a relatively small effect on the PPE. The forecast of surplus capacity sales revenue in 2022, which is included in line 3 of Table 4-3, is approximately $9.209 million.

Market and Contracted Purchases

The $4.544 million decrease in Market and Contracted Purchases forecast for 2022 is due to a lesser volume purchased at reduced rates when compared to 2021 Projected. Market and Contracted Purchases for 2021 Projected include both fixed price contracted purchases and real-time market purchases made using the 25 percent flexibility of the PPA. All of the market purchases included in the 2022 Forecast are based on fixed price contracts executed by the

[10] Although BC Hydro rates are forecast to decrease on April 1, 2022 per BC Hydro's Evidentiary Update in the Fiscal 2020-2021 Revenue Requirements Application dated August 22, 2019 (Exhibit B-11, Figure 1, Section 1), the calendar year weighted average price paid by FBC works out to be slightly higher in 2022 than 2021.

Company. As discussed above in the BC Hydro PPA variance explanation, there may be opportunities for additional real-time market purchases using the flexibility of the PPA purchases.

CPA Balancing Pool

The CPA Balancing Pool represents timing differences in entitlement energy storage under the CPA, and is used to manage fluctuations in load and resource availability, or to take advantage of market opportunities. In the 2021 Projected PPE, FBC has stored a net total of 76 GWh of entitlement energy, valued at $3.834 million. For the 2022 Forecast, and consistent with past practice, FBC does not forecast any net use or storage of entitlement energy.

4.7 TRANSMISSION SERVICE LOSS RECOVERIES

Transmission service customers taking service under FBC's Rate Schedules 100 and 101 currently physically deliver energy to FBC to compensate for the losses that are incurred on FBC's system as a result of wheeled energy. FBC includes transmission wheeling losses in its load forecast (included in Tables 4-2 and 4-3, Line 8), and also includes loss recovery as a firm resource. Because the recoveries are delivered physically, there is no associated cost or revenue. Table 4-4 shows the 2021 and 2022 loss recoveries.

Table 4-4: Transmission Service Loss Recoveries (GWh)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022
1	Loss Recoveries	14	12	12

4.8 WHEELING EXPENSE

Wheeling expense includes wheeling service provided by BC Hydro under the Amended and Restated Wheeling Agreement (ARWA) and Open Access Transmission Tariff (OATT) as needed to supply the Company's loads in the Okanagan, Creston and Princeton. Also included are charges paid to Teck Metals Ltd. (Teck) for the use of its 71 Line. Rates under the ARWA are specified in BC Hydro's Rate Schedule 21.

Wheeling expense is forecast using the same method as in the Annual Review for 2020 and 2021 Rates. Table 4-5 below shows FBC's Wheeling Expense for 2021 and 2022.

Table 4-5: Wheeling Expense ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022
1	Wheeling Nomination (MW Months)			
2	Okanagan Point of Interconnection	2,400	2,400	2,475
3	Creston	420	420	420
4				
5	Wheeling Expense			
6	Okanagan Point of Interconnection	$ 4.694	$ 4.654	$ 4.903
7	Creston	0.535	0.531	0.542
8	Other	0.485	0.651	0.648
9	Total Wheeling Expense	$ 5.714	$ 5.836	$ 6.093

Total 2021 Projected wheeling expense is $0.122 million greater than 2021 Approved. The 2021 Projected ARWA costs are $5.185 million, a $0.044 million decrease when compared to 2021 Approved, which is a result of lower than expected BC-CPI and therefore ARWA rates. 2021 Projected Teck and OATT wheeling costs are $0.651 million, which is $0.166 greater than 2021 Approved. This is mainly due to increased use of OATT wheeling.

2022 wheeling expense is forecast to increase by $0.257 million over 2021 Projected. This is a result of both increased use and rates. FBC increased the Okanagan wheeling nomination to 2,475 MW months in 2022 from 2,400 MW months in 2021. ARWA rates are forecast to increase on October 1 of both 2021 and 2022, based on forecast BC-CPI, as is the Teck wheeling rate as a result of a letter agreement made between Teck and FBC.

4.9 *WATER FEES*

Water fees are based on FBC's entitlement usage in the previous year and the rate increases are indexed to BC-CPI.

As shown in Table 4-6 below, the 2022 Forecast water fees are increasing by $1.080 million over 2021 Projected due to increased entitlement use and rates. Water fees are forecast using the same method as in the Annual Review for 2020 and 2021 Rates.

Table 4-6: Water Fees ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022
1	Plant Entitlement in Previous Year (GWh)	1,559	1,558	1,679
2				
3	Water Fees	$ 10.868	$ 10.878	$ 11.958

4.10 *SUMMARY*

FBC's forecast of power purchase expense is based on FBC's firm resources in place at the time of filing and is consistent with the 2021/22 AECP. Any variances in the Power Supply cost, including any decreases in power purchase expense due to further portfolio optimization, are recorded in the Flow-through deferral account and returned to or recovered from customers in a subsequent year.

5. OTHER REVENUE

5.1 *INTRODUCTION AND OVERVIEW*

This section discusses FBC's forecasts of Other Revenue. In the MRP Decision (page 74), FBC was approved for variances between forecast and actual Other Revenue to be subject to earnings sharing.

FBC is forecasting Other Revenue for 2022 to be $0.389 million lower than 2021 Approved, primarily due to lower Contract Revenue resulting from the timing of work expected to be performed on an asset refurbishment project for a third party, partially offset by higher Transmission Access Revenue.

2021 Projected Other Revenue is $0.327 million higher than 2021 Approved. The main drivers of this increase are higher Transmission Access Revenue due to a wheeling customer exceeding their nomination at the beginning of 2021, as well as higher Late Payment Charges and Connection Charges based on amounts charged to date. The resumption of Late Payment Charges occurred as of March 1, 2021 after being waived for most of 2020 as a result of customer relief measures implemented by FBC during the COVID-19 pandemic.

Table 5-1: Other Revenue ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022
1	Apparatus and Facilities Rental	$ 5.930	$ 5.930	$ 6.018
2	Contract Revenue	3.088	3.088	2.277
3	Transmission Access Revenue	1.501	1.639	1.771
4	Interest Income	0.020	0.025	0.020
5	Late Payment Charges	0.829	0.927	0.875
6	Connection Charges	0.476	0.562	0.505
7	Other Recoveries	0.377	0.377	0.366
8	Total Other Revenue	$ 12.221	$ 12.548	$ 11.832

In the following sections, FBC summarizes its projections and forecasts for each of the line items included in the table above.

5.2 *APPARATUS AND FACILITIES RENTAL*

Apparatus and Facilities Rental is comprised primarily of pole contact revenue from other utilities and businesses that attach their facilities to FBC infrastructure in order to deliver services to their customers, such as telephone and cable television providers. Rent is charged at a unit rate per pole contact multiplied by the number of poles that are contacted. There are no variances projected in 2021 compared to 2021 Approved, as final amounts have yet to be calculated since the majority of invoices are issued during the third quarter of the year. The

2022 Forecast is higher than 2021 Approved due to expected escalations in unit rental rates for continuing contracts.

5.3 CONTRACT REVENUE

FBC performs work under contract to third parties at the Waneta and Brilliant hydroelectric generating facilities. This third party work, and the associated management fees earned, fluctuates from year to year based on customer requirements, which include routine and non-routine work planned at the start of the customer's fiscal year.

The Company also operates and maintains a number of other facilities for third party entities through its non-regulated affiliate FortisBC Pacific Holdings Inc. (FPHI). Transactions between FBC and FPHI are conducted in accordance with FBC's Code of Conduct and Transfer Pricing Policy[11] and earn a transfer price profit revenue. Revenues may fluctuate from year to year depending on customer requirements.

There are no variances projected in 2021 compared to 2021 Approved based on progress billings to date. The 2022 Forecast is lower than 2021 Approved due to the expiry of revenues received from a three-year asset refurbishment project for a third party that began in 2020, based on customer requirements.

5.4 TRANSMISSION ACCESS REVENUE

Transmission Access Revenue represents charges to customers for transmitting power over the FBC system. The 2021 Projected revenue is higher than 2021 Approved due to a transmission customer exceeding their nomination at the beginning of 2021. The 2022 Forecast is higher than 2021 Approved due to the phased increase in rates over three years beginning January 1, 2020, as approved by Order G-40-19.

5.5 INTEREST INCOME

Interest Income is primarily comprised of DSM loan interest income, as well as other banking interest income. The Company is not forecasting significant changes in the amount of DSM loans outstanding. As a result, no significant changes in interest income are expected in 2021 Projected or the 2022 Forecast.

5.6 LATE PAYMENT CHARGES

FBC implemented a number of customer relief measures in 2020 due to the COVID-19 pandemic, including the suspension of Late Payment Charges. As of March 1, 2021, FBC resumed Late Payment Charges.

[11] As approved by Order G-5-10A.

The 2021 Projected Late Payment Charges are higher than 2021 Approved due to a higher than forecast balance of accounts attracting late fees, based on amounts charged so far in 2021. The 2022 Forecast is based on the 2017 to 2019 average of Late Payment Charges earned, as it is expected that the amount of late fees will return to a more normal level after the COVID-19 pandemic.

5.7 *CONNECTION CHARGES*

Connection Charges are calculated based on the fees specified in FBC's rate schedules applicable to new customer connections or current customer reconnections. The 2021 Projected is higher than 2021 Approved based on amounts charged so far in 2021. The 2022 Forecast is expected to be higher than 2021 Approved but lower than 2021 Projected based on customer growth and forecast customer reconnections.

5.8 *OTHER RECOVERIES*

Other Recoveries are primarily comprised of fees earned on the recovery of costs for miscellaneous services, such as street light maintenance charged to municipalities and, beginning in 2020, AMI radio-off meter read fees.[12] There are no variances expected in 2021 Projected compared to 2021 Approved based on amounts recognized to date. The 2022 Forecast is expected to be slightly lower than 2021 Approved due to an expected reduction in AMI radio-off meter read fees from a lower volume of customers choosing the radio-off option.

5.9 *SUMMARY*

FBC has forecast the Other Revenue components for 2022 reflecting all applicable contracts and fixed revenues, and based on the Company's best knowledge of the factors that drive the variable components. Variances in Other Revenue are shared with customers through the earnings sharing mechanism.

[12] As approved by Order G-40-19.

6. O&M EXPENSE

6.1 *INTRODUCTION AND OVERVIEW*

Under the MRP, FBC's O&M expense is primarily determined by formula, with the addition of a number of items that are forecast outside the formula on an annual basis.

In 2022, the Formula O&M is $66.147 million, representing a 6.2 percent increase from the 2021 Formula O&M, primarily due to the formula drivers. O&M expenses forecast outside the formula for 2022 are $1.645 million, representing a 45.9 percent decrease from the amount approved for 2021. Overall, the increase in Gross O&M Expense from 2021 Approved to 2022 Forecast is 3.9 percent.

The components of 2022 O&M expense are shown in Table 6-1 below.

Table 6-1: 2022 O&M Expense ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022	Reference
1	Formula O&M	$ 62.261	$ 62.261	$ 66.147	Section 11, Schedule 20, Line 8
2	Forecast O&M	3.041	3.247	1.645	Section 11, Schedule 20, Line 19
3	2020 O&M True-up			0.053	Table 6-2, line 16
4	Total Gross O&M	65.302	65.508	67.845	Line 1 through 3
5	Capitalized Overhead (15%)	(9.795)	(9.795)	(10.177)	Section 11, Schedule 20, Line 22
6	Net O&M	$ 55.506	$ 55.713	$ 57.668	Line 4 + Line 5

In the sections below, FBC provides further details on its formula and forecast O&M expenses for 2022. Additionally, in compliance with the BCUC's directive in the MRP Decision,[13] FBC provides information related to its System Operations, Integrity and Security expenditures in Subsection 6.2.1.

6.2 *FORMULA O&M EXPENSE*

The formula-driven portion of O&M starts from the prior year's Approved Base O&M per Customer (UCOM), escalated by the prior year's inflation less a productivity improvement factor of 0.5 percent, and then multiplied by 75 percent of the forecast growth in average customers, resulting in the current year inflation-indexed O&M before true-up. A true-up of formula O&M based on actual average customers from two years prior is then added to the current year inflation-indexed O&M.

As calculated in Section 2, the 2022 inflation based on prior year's BC-CPI and BC-AWE, less the productivity improvement factor, is 4.089 percent.

For 2022, the annual operating and maintenance expense under the formula is calculated as:

> 2021 Approved formula UCOM x [1 + (I Factor – X Factor)] x [Prior Year Average Customers + (0.75 x growth in average customers)] + 2020 Formula O&M True-up

[13] MRP Decision, p. 118.

Table 6-2 below shows the calculation of the 2022 Formula O&M, including the calculation of the 2020 Formula O&M true-up. FBC notes the true-up of formula O&M is a two-year lag based on actual average customer counts from 2020.

Table 6-2: Calculation of 2022 Formula O&M ($ millions)

Line No.	Description		Forecast 2022	Reference
1	Prior Year Base Unit Cost O&M ($/ customer)	$	437	G-166-20 FBC MRP Decision
2	I-Factor		4.089%	Section 2, Table 2-3, Line 11
3	Current Year Unit Cost O&M ($/customer)	$	455	
4	Average Customer Forecast		145,378	Section 2, Table 2-3, Line 13
5	2022 Inflation-Indexed O&M before 2020 True-up	$	66.147	Line 3 x Line 4 / 1,000,000
6	2020 True-up O&M		0.053	Line 16
7	Inflation-Indexed O&M	$	66.200	Line 5 + Line 6
8				
9	2020 O&M True-up			
10	2020 Actual 12 month Average Customers		142,321	FBC 2020 Annual Report
11	2020 Forecast 12 month Average Customers		142,153	G-42-21 FBC 2020 Rates Decision
12	Difference		169	Line 10 + Line 11
13	Growth Factor		75%	G-166-20 FBC MRP Decision
14	Change in Customers - True-up		126	Line 12 x Line 13
15	2020 Unit Costs	$	422.0	G-42-21 FBC 2020 Rates Decision
16	O&M True-up for 2022	$	0.053	Line 14 x Line 15 / 1,000,000

6.2.1 New/Incremental System Operations, Integrity and Security Funding

In the MRP Decision (page 118), the BCUC directed FBC to provide in each Annual Review a breakdown and explanation of both annual and cumulative variances between forecast/actual and formula O&M related to the approved new/incremental System Operations, Integrity and Security funding, and quantify the variances attributable to the following areas: tree management; generation dam safety; network operations apprentice program; cyber security; data analytics; and any other significant factors or miscellaneous items.

The table below shows the requested information, including the new/incremental funding in each category in 2019 dollars (the Approved Base O&M), escalated by the annual formula factors to arrive at the formula O&M amounts (the 2020 Formula O&M). The table also shows the 2020 Actual O&M and the resulting variances to the 2020 Forecast (or Formula) O&M.

Table 6-3: System Operations, Integrity and Security New/Incremental Spending ($ millions)

Line No.	Description	Approved Base O&M	2020 Formula O&M[1]	Actual 2020 O&M	2020 Forecast/Actual Variance	Cumulative Forecast/Actual Variance[2]
1	Tree Management	$ 0.075	$ 0.077	$ 0.049	$ (0.028)	$ (0.028)
2	Generation Dam Safety	0.232	0.237	0.162	(0.076)	(0.076)
3	Network Operations Apprentice Program	0.197	0.202	-	(0.202)	(0.202)
4	Cyber Security	0.080	0.082	0.332	0.250	0.250
5	Data Analytics	0.099	0.101	-	(0.101)	(0.101)
6	Other	-	-	0.309	0.309	0.309
7	Total	$ 0.683	$ 0.699	$ 0.851	$ 0.153	$ 0.153

Notes to table:

(1) 2020 Formula O&M is the incremental funding with Net Inflation factor applied (2.309%).

(2) Cumulative Forecast/Actual variance is the same as the 2020 (first year of MRP) Forecast/Actual variance.

Overall, total actual spending in 2020 was approximately $0.851 million, which is approximately $0.153 million higher than the 2020 Formula O&M amount. Areas with notable variances include Cybersecurity, Network Operations Apprentice Program, Data Analytics, and Other.

With regard to Cybersecurity, the additional $0.250 million in spending was for activities to enhance FBC's cybersecurity and business continuity programs. The funding was used to build out the governance and controls for operational technology in response to increasing cyber threats on operational systems, and to update the Company's business continuity plans for each business area in response to opportunities for improvement identified during the COVID-19 pandemic, as well as to improve overall resiliency.

Offsetting the increase in Cybersecurity were lower expenditures of approximately $0.303 million for the Network Operations Apprentice Program and Data Analytics, primarily due to labour savings from the timing of new hires.

Incremental activities and costs of approximately $0.309 million in the "Other" Operations Integrity and Security category were incurred for tree management and dam rock trap clearing activities. In 2020, increased vegetation management activities were taken to better define the right of ways and protect the system from danger trees and other vegetation issues. Vegetation management directly impacts compliance with the System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) and the safety of workers responding to incidents and maintaining the system. Rock traps are located on the intake side of the dam and can become blocked with rocks and other debris. Regular cleaning of the traps contributes to the overall safe and reliable operation of the dam.

As discussed in the FBC Annual Review for 2020 and 2021 Rates (pages 40 and 41), the funding for the different categories of new/incremental O&M approved for System Operations, Integrity and Security was developed based on the anticipated requirements over the term of the MRP, recognizing that priorities may change and that the expenditures may vary from year to year depending upon factors such as the availability of resources (i.e., labour vacancies) and the timing of activities. The 2020 Actual spending related to the approved new/incremental

System Operations, Integrity and Security funding is indicative of the prioritization of spending that occurs from year to year, not only in this grouping of formula O&M costs, but also more broadly in how FBC manages its overall formula O&M spending.

Over the term of the MRP, FBC anticipates that the total new/incremental spending in the combined categories of System Operations, Integrity and Security required will be relatively close to the cumulative approved formula amounts, and there will continue to be variations from year to year.

6.3 *O&M EXPENSE FORECAST OUTSIDE THE FORMULA*

In addition to FBC's Formula O&M, FBC forecasts a number of O&M items outside of the formula annually, including pension and OPEB expense, insurance premiums, BCUC levies, and the cost of service associated with Clean Growth Initiatives, such as Electric Vehicle (EV) charging stations, as well as the O&M impacts of any exogenous factor items. For 2022, FBC has included incremental operating expenses for mandatory reliability standards (MRS) as an exogenous factor. The 2022 amounts are shown in Table 6-4 below along with a comparison to 2021.

Table 6-4: 2022 Forecast O&M ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022
1	Pension/OPEB (O&M Portion)	$ 0.775	$ 0.775	$ (1.716)
2	Insurance Premiums	1.916	2.022	2.223
3	BCUC Levies	0.350	0.350	0.373
4	Clean Growth Initiative - EV Charging Stations	-	-	-
5	Exogenous Factor - MRS	-	0.100	0.765
6	Forecast O&M	$ 3.041	$ 3.247	$ 1.645

Each of the items that is forecast outside of the formula is discussed below. Variances in pension and OPEB expenses are captured in the Pension and OPEB Variance deferral account and variances in BCUC levies are captured in the BCUC Levies Variance deferral account. Variances in insurance premiums, the cost of service associated with EV charging stations, and exogenous factors are captured in the Flow-through deferral account.

6.3.1 Pension and OPEB Expense

Pension and OPEB expense for 2022 is based upon actuarial estimates using a range of assumptions as of December 31, 2020 with an update of discount rate estimates as of May 31, 2021 provided by the Company's external third party actuary, Willis Towers Watson. The discount rate determined as of May 31, 2021 reflects the market yields of high quality Canadian corporate bonds which have increased since 2020. Pension and OPEB expense is segregated into O&M and capital categories, as shown in Table 6-5.

Table 6-5: Pension and OPEB Expense ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022
1	O&M	$ 0.775	$ 0.775	$ (1.716)
2	Capital (Approved)	3.575	3.575	3.807
3	Capital (to Pension & OPEB Variance Deferral)[1]	1.454	1.454	(0.400)
4	Total	$ 5.804	$ 5.804	$ 1.691

Notes to table:

[1] This line item represents the pension and OPEB expense difference between the estimates embedded in the Capital forecasts on Line 2 in this table, which were based on the pension and OPEB actuarial estimates provided in 2019 as part of the 2020 to 2024 MRP Application, and the actuarial estimates updated for 2022 rate setting purposes.

The variance between the 2021 Approved and actual pension and OPEB expense, including the known capital variance on Line 3 of Table 6-5 above, and any variance between the 2022 Forecast and actual amounts, is flowed through to the Pension and OPEB Variance deferral account and amortized into rates over a three-year period, as approved by Order G-139-14.

The 2022 Forecast pension and OPEB expense has decreased by $4.113 million compared to the 2021 Approved expense primarily due to the following factors:

- An approximate $5.8 million decrease in amortization of actuarial losses and increases in current service costs due to an increase in the discount rate. The discount rate, which is determined with reference to the market rate of interest on high quality debt instruments at a point in time, increased from 2.5 percent, which was used to determine the 2021 Approved expense, to 3.5 percent, which is used to determine the 2022 Forecast expense; and

- An approximate $0.8 million decrease due to an increase in investment returns as a result of a higher balance of pension plan assets;

offset in part by:

- An approximate $2.5 million increase in interest costs due to an increase in the discount rate.

6.3.2 Insurance Premiums

The component of insurance expense tracked outside of Formula O&M relates to the insurance premium expense allocated to FBC by Fortis Inc. as set out in Table 6-6 below.

Table 6-6: Insurance Premiums ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022	Reference
1	Insurance Premiums	$ 1.916	$ 2.022	$ 2.223	Section 11, Schedule 20, Line 16
2	Total	$ 1.916	$ 2.022	$ 2.223	

The 2021 Projected insurance premium expense of $2.022 million is $0.106 million higher than 2021 Approved, as it incorporates FBC's actual July 2021 to June 2022 insurance renewals of $2.033 million. The higher premiums experienced in 2021 are expected to continue into 2022. The forecast for 2022 insurance is $2.223 million, an increase of $0.201 million from 2021 Projected. The 2022 Forecast is calculated as the amount of the first six months of actual annual insurance premiums for January 2022 to June 2022 of $1.017 million, applying a 5 percent increase for the remaining six months, plus the fire fighting premium of $138.5 thousand.[14]

FBC has experienced significant increases in insurance expense in the last two renewals as a result of the following factors:

- Insurers reducing their insurance capacity, which means reducing the limit that an insurance company agrees to assume from underwriting a risk. This results in the need for other insurers of the existing policies to increase their capacity or the need to seek new insurers who are willing to participate in the existing insurance program, which can lead to changes in pricing philosophies and higher premiums being charged;
- Insurers limiting their risks by adding new exclusions to exclude or restrict coverages for a particular event; and
- Increases in policy deductibles or self-insured retentions, which raises the threshold of an insured event for indemnification under a policy.

6.3.3 BCUC Levies

FBC's 2022 Forecast for BCUC levies is based on two components: (i) the BCUC levy; and (ii) FBC's portion of funding for the BCUC hearing room facilities.[15]

The 2022 Forecast BCUC levies for FBC is $0.373 million and includes the following:

- The forecast BCUC levy of $0.324 million based on Order G-180-21 for the BCUC's Fiscal 2021/22 year, which represents the best information available at this time. The BCUC levy calculation for Fiscal 2022/23 will not be available until early in 2022; and
- An estimate of $0.049 million for FBC's portion of the funding for the BCUC hearing room facilities.

[14] $2.033 million/2 = $1.017 million. $1.017 million x 1.05 = $1.068 million. $1.068 million + $1.017 million + $0.138 million annual firefighting premium = $2.223 million.
[15] Located at 12th floor, 1125 Howe Street, Vancouver, BC and managed/operated by Allwest Reporting Ltd.

BCUC levies receive flow-through treatment, with annual variances between actual and forecast amounts in O&M expense being recorded in the BCUC Levies Forecast Variance deferral account and amortized over one year.

6.3.4 Clean Growth Initiative – Electric Vehicle (EV) Charging Stations

The cost of service associated with EV charging stations is subject to flow-through treatment, contingent upon approval by the BCUC for inclusion of EV charging stations in rate base.[16] FBC's application for rates for EV charging stations was adjourned in 2018; however, on July 10, 2020 the BCUC issued Order G-183-20 re-starting the review process and on July 14, 2021, the BCUC issued Order G-215-21 finding that FBC's EV direct current fast charging (DCFC) stations are prescribed undertakings under section 5 of the GGRR and approving FBC to include the assets in FBC's rate base. However, the BCUC did not provide determinations on certain related approvals sought by FBC, including approval of a straight-line 10 percent depreciation rate for FBC's EV DCFC stations and approval to include related revenues and expenses associated with the EV DCFC stations in FBC's regulated accounts; as such, the revenue requirement impacts of the decision are not clear at this time. FBC will provide an Evidentiary Update if required once FBC has clarity on these matters.

6.3.5 MRS Incremental Operating Expenses

FBC forecasts that it will incur $0.100 million in 2021 and $0.765 million in 2022 in incremental O&M costs related to MRS Assessment Report No. 13 (AR13). As explained in Section 12.2.1, the incremental costs in 2021 and 2022 for MRS compliance qualify for exogenous factor treatment.

BC Hydro issued AR13 on May 1, 2020 recommending adoption of 8 of the 9 standards and the NERC Glossary that were assessed. The BCUC issued Order R-19-20 on September 8, 2020 which adopted and determined the effective dates for the recommended 8 of 9 standards. Of the 9 standards and respective NERC Glossary terms assessed by FBC, 5 standards have associated costs, of which one was held in abeyance. The effective date for the 4 adopted standards (which include 1 new and 3 revised Critical Infrastructure and Protection Standards) is April 1, 2023. The adoption of these standards will require ongoing effort and cost resulting from additional staffing requirements. FBC notes that it was unable to provide information on the 2021 Projected incremental costs for AR13 in the Annual Review for 2020 and 2021 Rates as Order R-19-20 was issued subsequent to the annual review application being filed.

As stated above, FBC expects to incur one-time incremental O&M costs to achieve compliance associated with AR13 in 2021 and 2022 of $0.100 million and $0.765 million, respectively, with ongoing incremental O&M costs expected to be incurred to sustain compliance in 2023 and beyond. The expenditures are primarily required for both assessing and determining the strategy and detailed scope required to comply with the new and revised standards as well as

[16] Costs related to EV charging stations are held outside of rate base pending BCUC approval, pursuant to Order G-9-18.

implementing the strategy and scope. During Q4 of 2021 and in 2022, FBC will be evaluating, scoping and implementing additions/changes to procedures, processes and installation of hardware and software to achieve compliance with those standards that come into effect in April 1, 2023. FBC is required to monitor and disconnect vendor remote access, evaluate and report attempts to compromise, ensure software downloads and installations are unaltered and secure, and assess risk for any product or service procured for Bulk Electrical System assets under the Critical Infrastructure and Protection (CIP) standards. FBC will need to address changes/additions under CIP-005-6 (Electronic Security Perimeter(s)), CIP-008-6 (Incident Reporting and Response Planning), CIP-010-3 (Configuration Change Management and Vulnerability Assessments) and the new CIP-013-1 (Supply Chain Risk Management).

FBC will continue to evaluate and determine how to best achieve compliance with AR13. Future expenditures associated with AR13 in 2023 and beyond are preliminarily forecast to be approximately $0.650 million of incremental O&M annually. This effort and estimate will be revisited over 2021/22 and will be addressed in future annual reviews. Any variances from the 2021 Projected and 2022 Forecast amounts for AR13 will be trued up by way of the Flow-through deferral account and returned to, or recovered from, customers in future years.

6.4 *NET O&M EXPENSE*

Net O&M expense is Gross O&M less capitalized overhead. As approved by the BCUC in Order G-166-20, the capitalized overhead rate is set at 15 percent for FBC, unchanged from 2021. After capitalized overhead, the net O&M expense is $57.668 million in 2022.

6.5 *SUMMARY*

Overall, the increase in Gross O&M Expense from 2021 Approved to 2022 Forecast is 3.9 percent. Formula-driven O&M is increasing at a rate of 6.2 percent, and O&M forecast outside the formula is 45.9 percent lower than 2021 Approved.

The capitalized overhead rate for 2022 remains unchanged from 2021.

7. RATE BASE

7.1 INTRODUCTION AND OVERVIEW

Rate Base for FBC is forecast to be $1.579 billion for 2022. Rate Base is comprised of mid-year net plant in service, work in progress not attracting AFUDC, unamortized deferred charges, working capital, and the generation plant acquisition adjustment.[17]

FBC's 2022 Rate Base includes the full-year impacts of the 2021 closing projected plant balances as well as the impact of the following amounts:

- Mid-year impact of plant additions, net of CIAC additions, resulting from regular capital expenditures of $81.819 million;
- Mid-year impact of plant depreciation, net of CIAC amortization, of $49.445 million; and
- Full-year impact of $32.362 million for the portions of the Corra Linn Dam Spillway Gate Replacement Project, the UBO Old Units Refurbishment Project, and the Grand Forks Terminal Station Reliability Project added to plant in 2022, as discussed in Section 7.3 below.

In addition, various changes in deferred charges, working capital and other items increase rate base by a net amount of $12.820 million in 2022.

Details of the 2022 Forecast plant balances can be found in Section 11, Schedules 5 through 9.

7.2 REGULAR CAPITAL EXPENDITURES

As part of the MRP Decision and Order G-166-20, FBC received the following approvals for capital expenditures:

- Approval of FBC's forecasts submitted for regular capital expenditures for the years 2020 through 2022; and
- Approval of a number of items to be forecast on an annual basis.

The components of 2022 regular capital expenditures are shown in Table 7-1 below.

[17] The utility plant acquisition adjustment relates to the 1982 purchase of Plants 2, 3, and 4 and is being amortized over a period of 64 years.

Table 7-1: Regular Capital Expenditures ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022	Reference
1	Approved Capex	$ 87.573	$ 87.573	$ 82.205	Table 7-2, Line 4
2	Flow-Through Capex	-	-	0.935	Table 7-3, Line 3
3	Total Gross Regular Capex	$ 87.573	$ 87.573	$ 83.140	Sum of Lines 1 & 2
4	Less CIAC	(11.465)	(11.465)	(11.712)	Section 11, Schedule 9, Line 2
5	Net Regular Capex	$ 76.108	$ 76.108	$ 71.428	Sum of Lines 3 & 4

In the subsections below, FBC provides further details on its regular capital expenditures for 2022.

7.2.1 Approved Capital Expenditures

The level of forecast capital expenditures approved for 2022 by the MRP Decision is shown in Table 7-2 below.

Table 7-2: Approved Capital Expenditures ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022	Reference
1	Growth Capital	$ 23.042	$ 23.042	$ 24.339	Section 11, Schedule 4, Line 2
2	Sustainment Capital	49.818	49.818	43.110	Section 11, Schedule 4, Line 3
3	Other Capital	14.712	14.712	14.756	Section 11, Schedule 4, Line 4
4	Total	$ 87.573	$ 87.573	$ 82.205	Section 11, Schedule 4, Line 5

7.2.2 Flow-Through Capital Expenditures

FBC is afforded flow-through treatment for certain capital items due to a variety of factors, including their uncontrollable nature, because they drive incremental revenues, because they are related to clean growth initiatives, or because of the uncertainty in scope, costs and timing. The amounts for 2022 are shown in Table 7-3 below along with a comparison to 2021.

Table 7-3: Flow-Through Regular Capital Expenditures ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022	Reference
1	Clean Growth Initiative - EV Charging Stations	$ -	$ -	$ -	
2	Exogenous Factor - MRS	-	-	0.935	
3	Forecast Capital Expenditures	-	-	$ 0.935	Section 11, Schedule 4, Line 9

EV Charging Stations

As discussed in Section 6.3.4, on July 14, 2021, the BCUC issued Order G-215-21 finding that FBC's EV DCFC stations are prescribed undertakings under section 5 of the GGRR and approving the inclusion of EV DCFC station prescribed undertaking assets in FBC's rate base. However, the BCUC did not provide determinations on certain related approvals sought by FBC, including approval of a straight-line 10 percent depreciation rate for FBC's EV DCFC stations and approval to include related revenues and expenses associated with the EV DCFC stations

in FBC's regulated accounts; as such, the revenue requirement impacts of the decision are not clear at this time. FBC will provide an Evidentiary Update if required once FBC has clarity on this matter.

Mandatory Reliability Standards Incremental Capital

FBC forecasts that it will incur $0.935 million in incremental capital related to the adoption of new revised MRS standards for Assessment Report No. 13 (AR13), as explained in Section 6.3.5. The treatment of this amount as an exogenous factor is discussed in Section 12.2.1. During Q4 of 2021 and in 2022, FBC will be evaluating, scoping and implementing changes/additions, including the development and implementation of methods to monitor network traffic and software tools to support the changes/additions to the standards. It will require the purchase and installation of hardware and software to assess and evaluate network traffic and the development of software tools to track risk assessments of any product or service procured for Bulk Electrical System assets.

7.3 MAJOR PROJECTS CAPITAL EXPENDITURES

Major Projects are capital expenditures that do not form part of regular capital spending as they are approved through a separate CPCN or other method. As part of the MRP Decision,[18] the BCUC approved the continuation of the current process of reviewing Major Projects outside of the proposed MRP and approved the continuation of the existing financial threshold for CPCNs of $20 million for FBC for the MRP term.

For 2022, FBC is forecasting capital expenditures related to the following approved projects: Corra Linn Dam Spillway Gate Replacement Project, the Grand Forks Terminal (GFT) Station Reliability Project, the UBO Refurbishment Project, the Kelowna Bulk Transformer Addition (KBTA) Project, and the Playmor Substation Upgrade Project.

Each of these approved projects is described further below.

- The Corra Linn Dam Spillway Gate Replacement Project was approved by Order C-1-17 and involves the replacement of 14 spillway gates and upgrades to the associated infrastructure. The project is expected to be substantially complete in 2022 at a cost of $77.656 million, inclusive of AFUDC and cost of removal. FBC forecasts capital expenditures of $13.147 million and $6.019 million (excluding AFUDC) in 2021 and 2022, respectively. Expenditures are added to plant in service as the gate replacements are completed. The forecast additions to rate base in 2022 are $23.197 million.
- The UBO Project was approved by Order G-8-17 and involves the refurbishment of the more than 100-year-old generating Units 1 – 4 (the Old Units). The refurbishments will be completed in 2021 at an estimated total project cost of $34.180 million, inclusive of AFUDC and cost of removal. FBC forecasts capital expenditures of $1.814 million

[18] MRP Decision, pp. 132-133.

(including AFUDC) in 2021 which will be additions to rate base in 2022.[19] As directed by the BCUC in the Annual Review for 2017 Rates, the UBO Project Status Report is included as Appendix B2.

- The GFT Station Reliability Project was approved by Order C-2-19. It involves the installation of a second transformer at GFT and the removal of 44.6 km of transmission line between Christina Lake and Rossland. The project is expected to be completed in 2021 at an estimated cost of $9.253 million,[20] inclusive of AFUDC and cost of removal. FBC projects capital expenditures of $2.171 million (excluding AFUDC) in 2021, and the forecast plant additions in 2022 to be $7.351 million.
- The KBTA Project was approved by Order C-4-20 and involves the installation of a third terminal transformer at the F.A. Lee Terminal Station, including the reconfiguration of the 138 kV bus into an industry standard ring bus configuration. The new transformer is scheduled to be in service by the end of 2022 or early 2023, with project completion and close-out during 2023, at an estimated cost of $23.288 million, inclusive of AFUDC and cost of removal. FBC forecasts capital expenditures of $9.759 million and $12.085 million (excluding AFUDC) in 2021 and 2022, respectively, and forecasts that the expenditures will be added to rate base January 1, 2023.
- The Playmor Substation Upgrade Project was approved by Order G-42-21 and involves rebuilding the Playmor substation in South Slocan, BC on an expanded station footprint in order to increase station capacity. The project is expected to be completed in 2022 at an estimated cost of $10.922 million, inclusive of AFUDC and cost of removal. FBC forecasts capital expenditures of $8.730 million and $1.297 million (excluding AFUDC) in 2021 and 2022, respectively, and forecasts that the expenditures will be added to rate base January 1, 2023.

7.4 2022 PLANT ADDITIONS

The 2022 Plant Additions are comprised of: (i) FBC's 2022 regular capital expenditures from Section 7.2; (ii) the Major Projects from Section 7.3 to the extent that portions of those projects are placed into service; (iii) the change in work in progress which adjusts for capital expenditures for projects that are in progress at year-end; (iv) AFUDC; and (v) overhead capitalized for the year. A reconciliation of capital expenditures to plant additions is shown below and is also provided in Section 11, Schedule 5.

[19] Actual spending up to June 30, 2021 is $32.252 million (excluding AFUDC). Forecast construction and removal costs to complete at the end of 2021 is $0.710 million and $0.035 million, respectively, as discussed in Appendix B2, Table B2-3. Total AFUDC forecast for the project is $1.183 million, for a total project cost estimate of $34.180 million.

[20] The installation of the second transformer at GFT was completed in February 2021 at an actual cost of $5.066 million. FBC forecasts the total costs for the portion of the transmission line removal between Christina Lake and Rossland to be $4.187 million, resulting in a forecast total project cost at completion of $9.253 million.

Table 7-4: Reconciliation of 2022 Capital Expenditures to Plant Additions ($ millions)

Line No.	Description	Forecast 2022	Reference
1	Forecast Capital Expenditures	$ 82.205	Section 11, Schedule 5, Line 2
2	Flow-Through Capital Expenditures	0.935	Section 11, Schedule 5, Line 3
3	Total Gross Regular Capital Expenditures	83.140	Sum of Lines 1 and 2
4			
5	Capitalized Overhead	10.177	Section 11, Schedule 5, Line 18
6	AFUDC	0.214	Section 11, Schedule 5, Line 19
7	Change in Work in Progress	-	Section 11, Schedule 5, Line 21
8	Total Regular Additions to Plant	**93.531**	Sum of Lines 3 through 7
9			
10	Special Projects and CPCN Capital Expenditures		
11	Corra Linn Spillway Gate Replacement	6.019	Section 11, Schedule 5, Line 7
12	Playmor Substation Rebuild Project	1.297	Section 11, Schedule 5, Line 8
13	Kelowna Bulk Transformer Capacity Addition	12.085	Section 11, Schedule 5, Line 9
14	AFUDC	2.158	Section 11, Schedule 5, Line 25
15	Change in Work in Progress	10.803	Section 11, Schedule 5, Line 27
16	Total Special Projects and CPCN Additions to Plant	**32.362**	Sum of Lines 11 through 15
17			
18	Total Plant Additions	**$ 125.893**	Line 8 + Line 16

7.5 ACCUMULATED DEPRECIATION

The rate base of FBC includes both the accumulated depreciation on plant in service and accumulated amortization of CIAC. Both are increased through depreciation expense, and decreased through retirements.

The depreciation rates used for 2022, which were approved by Order G-166-20 and are based on FBC's most recent depreciation study, include the recovery of the estimated future costs of removal over the average service life of the assets (net salvage) in accumulated depreciation. Depreciation is calculated beginning January 1 of the year after the assets are placed in service, which is the treatment approved in Order G-139-14.

Based on calculating depreciation expense at these approved depreciation rates on the opening plant-in-service balance, the 2022 depreciation expense is calculated as $61.627 million.[21]

7.6 RATE BASE DEFERRED CHARGES

On May 3, 2017, the BCUC issued its Regulatory Account Filing Checklist.[22] The stated purpose of the checklist is to assist regulated entities when filing regulatory account requests and to facilitate an efficient review by the BCUC.

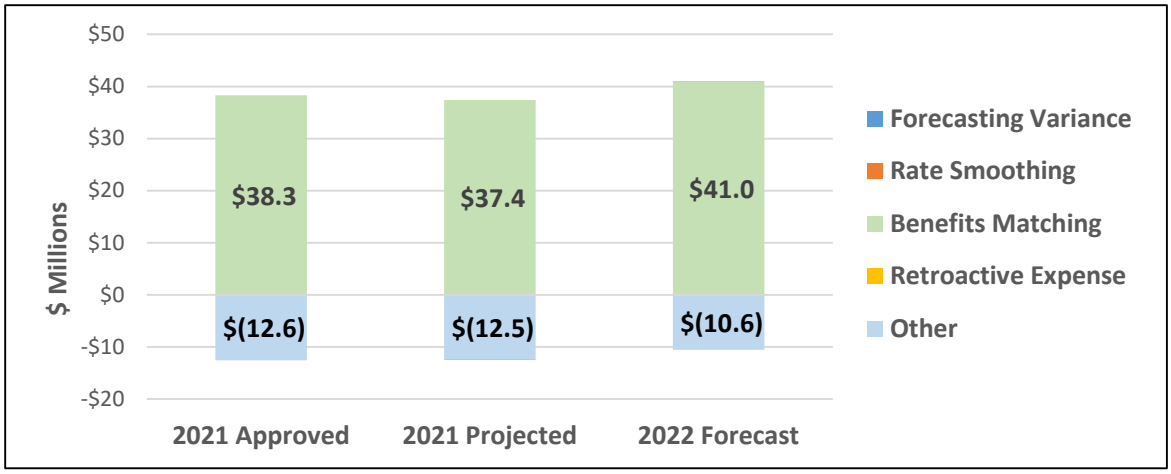
[21] $66.273 million depreciation expense as shown in Section 11, Schedule 21, Line 2 less $4.646 million amortization of CIAC as shown in Section 11, Schedule 21, Line 8.
[22] BCUC Letter, Log No. 53608, Appendix B.

The checklist classifies deferral accounts as one of: (a) forecast variance account; (b) rate smoothing account; (c) benefit matching (capital-like) account; (d) retroactive expense account; or (e) other. In Section 11, Schedule 11, FBC has classified its rate base deferral accounts in accordance with this classification.

The forecast mid-year balance of unamortized deferred charges in rate base for FBC is a debit of $30.388 million in 2022. The 2022 debit balance is driven largely by the balances in the Demand Side Management (DSM) and Deferred Debt Issue Costs deferral accounts, partially offset by the Pension and OPEB Liability deferral account.

Figure 7-1 provides the mid-year deferral account balances summarized by deferral account category.

Figure 7-1: FBC Forecast Mid-Year Balances of Rate Base Deferral Accounts by Category



Based on amortizing the opening deferral account balances using the approved and proposed amortization periods, the 2022 amortization expense is calculated as $1.962 million.[23] The subsections below include a discussion on new rate base deferral accounts and changes or updates to existing rate base deferral accounts. For a discussion on non-rate base deferral accounts, please refer to Section 12.

7.6.1 New Deferral Accounts

FBC is seeking approval to create the following new deferral account discussed below.

7.6.1.1 2021 Generic Cost of Capital Proceeding

On January 18, 2021, the BCUC issued a Notice of Initiating a Generic Cost of Capital (GCOC) proceeding to all regulated entities. In subsequent orders, the BCUC has determined the GCOC will proceed in two stages, and will determine, at a later date, the effective date to implement a new cost of capital, whether interim rates will be necessary or not, or whether a

[23] Total of Section 11, Schedule 11, Line 26, Column 6 and Schedule 12.2, Line 23, Column 6.

transition period will be required. The scope for Stages 1 and 2 has been determined, including the BCUC addressing deferral account financing costs after the completion of both Stages 1 and 2. Additionally, the BCUC advised parties that it has engaged an independent expert consultant for the GCOC proceeding, as well as an initial report on the pros and cons of using a Benchmark Utility in the determination of cost of capital, alternatives to using a Benchmark Utility, the practices in other jurisdictions, and the applicability of practices in other jurisdictions to BC. Participants have filed submissions on the initial report as well as submissions on questions regarding the use of a Benchmark Utility.

FBC is seeking a deferral account to capture costs associated with its participation in the GCOC proceeding. These costs include BCUC costs, intervener and participant funding costs, external legal fees, expert/consulting costs, and miscellaneous facilities, stationery and supplies costs. While the regulatory timetable for the GCOC proceeding is not yet established, which will inform the level of participation FBC will have in each stage of the proceeding, FBC has included an estimate of $150 thousand in 2022. This estimate is based on an allocation of costs for joint submissions with FortisBC Energy Inc. (i.e., FBC's share of costs for Stage 1) and includes FBC's forecast for costs incurred for Stage 2, which FBC has assumed will commence later in 2022. Actual costs will vary depending on how the proceeding progresses and will be confirmed after the regulatory process is completed.

FBC will apply for disposition of the account in a future application, following completion of the regulatory process for the GCOC proceeding.

Table 7-5 below addresses the considerations identified in the Regulatory Account Filing Checklist as they pertain to the above-described deferral account request.

Table 7-5: Deferral Account Filing Considerations

Item	Consideration	Determination
I.	Indicate if the request is: (a) for a modification or a change in scope to an existing Commission approved regulatory account; or (b) to establish a new regulatory account.	The 2021 Generic Cost of Capital Proceeding deferral account is a new deferral account, consistent with previously approved regulatory proceeding deferral accounts.
a)	If the request is for a modification or change in scope to an existing regulatory account, explain why the existing regulatory account is an appropriate account to use (specifically addressing the existing account's intended and approved purpose, mechanism for recovery, timeline for recovery and carrying costs).	N/A
b)	If the request is for approval of a new regulatory account, state the purpose of the regulatory account and explain its intended use.	The requested account is a regulatory proceeding cost account, which is routinely sought by utilities to capture external costs related to the preparation, filing, and regulatory review of applications.

Item	Consideration	Determination
II.	Propose a term (i.e. length of time) that the regulatory account should be approved for and explain why that term is appropriate.	The term of the account encompasses the preparation and filing of the relevant regulatory application and its review by the BCUC.
III.	Identify any alternate treatments that were considered, including an overview of what the accounting treatment would be in the absence of approval of the request to establish a regulatory account, and explain why these alternate treatments may not be appropriate.	In the absence of deferral accounts for regulatory proceedings, the costs of regulatory proceedings would have to be forecast as an O&M expense (outside of the MRP formula O&M since regulatory proceeding costs are not included in Base O&M Expense) and trued up annually by way of the Flow-through deferral account. FBC considers this to be a more cumbersome and less efficient means of accounting for regulatory proceeding costs. It is accepted regulatory practice to defer the costs of regulatory applications for review and recovery following the regulatory review of the application itself. Review and recovery after the completion of the regulatory process allows for more transparency as the history of the costs is simpler to track and report on.
IV a)	Address: whether, or to what extent, the item is outside of management's control;	Regulatory proceeding cost accounts are necessary because the number and type of regulatory proceedings can vary significantly by year. Further, once a regulatory proceeding is identified, the costs of that proceeding cannot be accurately forecast by the utility given that they can vary substantially, are not known at the time of making the regulatory account request, are unique to the circumstances for each application, may change as the regulatory review process unfolds, and are dependent on factors not within the utility's control. Factors not within the control of the utility include the regulatory process determined by the BCUC and the degree of involvement of interveners.
b)	the degree of forecast uncertainty associated with the item;	Refer to IV. a). FBC forecasts additions to the deferral accounts based on the expected type of review process and degree of intervener involvement. Actual costs are recorded in the account so that actual, not forecast, costs are recovered in rates.
c)	the materiality of the costs	The number and size of regulatory proceedings vary from year to year, and represent costs not included in Base O&M for the purpose of determining formula O&M expense under the MRP. See section 7.6.1.1.
d)	any impact on intergenerational equity	Generally, FBC recovers the costs of regulatory proceedings over the period of time related to the application, which serves to match the costs and benefits. See section 7.6.1.1. There are no intergenerational inequities inherent in this practice.

Item	Consideration	Determination
V.	Classify the regulatory account as either: (a) forecast variance account; (b) rate smoothing account; (c) benefit matching account; (d) retroactive expense account; or (e) other.	FBC generally classifies regulatory proceeding accounts as benefit matching accounts since the costs are recovered over the period of time related to the applications, which serves to match the costs and benefits of the application.
VI.	Identify if the regulatory account is a cash or non-cash account.	Regulatory proceeding cost accounts are cash accounts.
VII.	Specify what additions to the regulatory account are being requested (i.e. type and amount of additions), including whether the account is intended to capture additions for a specific period of time or on an ongoing basis.	Eligible costs include the BCUC's direct costs, notice publication costs, fees for consultants or experts, external legal counsel fees, courier and miscellaneous administrative costs, and participant assistance cost awards incurred in the preparation, filing and regulatory review of the applications. Regular labour and staff expenses related to regulatory applications are included in formula O&M Expense.
VIII.	Propose a mechanism for recovery (e.g. how the balance in the regulatory account will be recovered or refunded to ratepayers) and explain why it is appropriate.	Costs are recovered in revenue requirements by way of amortization expense.
IX.	Propose a timeline for recovery (e.g. the period over which the regulatory account balance is either collected or refunded; also referred to as the amortization period) and explain why it is appropriate.	Generally, FBC amortizes the costs of regulatory proceedings over the period of time related to the application, which serves to match the timing of costs and benefits. See section 7.6.1.1.
X.	Propose a carrying cost for the balance in the regulatory account and explain why it is appropriate.	Rate base deferral accounts are included in rate base and are therefore implicitly financed using the weighted average cost of capital (WACC).
XI.	Outline a recommended regulatory process for the Commission's review of the application.	The proposed deferral account can be reviewed as part of the present proceeding. Deferral account approvals and disposition are generally determined in revenue requirements proceedings.

7.6.2 Existing Deferral Accounts

In the discussion below, FBC provides information on five existing deferral accounts and requests an amortization period for three of them.

7.6.2.1 COVID-19 Customer Recovery Fund Deferral Account

7.6.2.1.1 DESCRIPTION AND FINANCIAL ESTIMATES

In June 2020, FBC received approval through Order G-133-20 to establish the COVID-19 Customer Recovery Fund Deferral Account in rate base to record three items:

(a) any bill payment deferrals provided to customers due the COVID-19 pandemic and subsequent payments of those deferred amounts;

(b) any bill credits provided to customers due to the COVID-19 pandemic; and

(c) any unrecovered revenue resulting from customers being unable to pay their bills due to the COVID-19 pandemic, which will be tracked separately by rate schedule.

The following section provides 2021 and 2022 financial estimates and descriptions for each of the three items for inclusion in the COVID-19 Customer Recovery Fund Deferral Account.

(a) Bill payment deferrals provided to residential and small commercial customers

The bill payment deferral program was offered to residential and small commercial customers affected by COVID-19. Overall, the bill payment deferral program has been successful, providing easy to access bill payment support to those customers that need it most during the pandemic with minimal administrative burden. FBC has experienced high collection rates in regards to this program and is therefore expecting to recover approximately 87 percent of the outstanding balances through the regular monthly instalments. FBC will no longer be accepting new applications effective June 1, 2021.

Table 7-6: Bill Payment Deferral Forecast Amounts ($ millions)

	2020 Actual	2021 Projected	2022 Forecast
Opening Balance	-	0.563	0.108
Additions	0.803	-	-
Repayments	(0.240)	(0.455)	-
Transfers	-	-	(0.108)
Ending Balance	0.563	0.108	-

Although the program has been successful, FBC does not expect to recover the full amount of the deferred balances, as a small percentage of customers have not made their required instalment payments. Any of the customer balances that are ultimately deemed unrecoverable will be designated as unrecoverable revenue and as such, added to the Customer Recovery Fund Deferral Account. These additions to the deferral account are forecast in section (c), Table 7-8 *Unrecoverable Revenue Amounts*.

Based on the results of a small pilot customer contact approach (which is described further below) and current repayment trends, FBC expects approximately 87 percent of the required repayments under the deferral arrangement to be collected, resulting in approximately 13 percent of the amounts being considered unrecoverable. This results in $0.108 million of customer accounts being deemed unrecoverable and therefore reclassed within the COVID-19 Customer Recovery Fund Deferral Account to unrecoverable revenue additions in section (c).

(b) Bill credits provided to small commercial customers

The bill credit program offered to small commercial customers has been calculated using the existing balance of $0.132 million as of May 2021. The credits provided through this program were well received by small commercial customers and supported them in the initial phase of the COVID-19 pandemic.

Table 7-7: Bill Credit Amounts ($ millions)

	2020 Actual	2021 Projected	2022 Forecast
Opening Balance	-	0.130	0.132
Additions	0.178	0.003	-
Tax	(0.048)	(0.001)	-
Ending Balance	0.130	0.132	0.132

Given the duration and period these credits were available for, as well as the June 1, 2021 closure of the program for new applications, FBC does not expect additional credits to be offered to customers throughout the remainder of 2021 or in 2022.

(c) Unrecovered revenue resulting from customers being unable to pay their bills due to the COVID-19 pandemic.

This portion of the deferral account forecast represents the amount of customer balances owing (i.e., account receivables) that are recognized as unrecoverable due to COVID-19. As such, these amounts are in excess of the normal course forecast bad debt expense that is recognized in indexed-based O&M.

Table 7-8: Unrecoverable Revenue Amounts ($ millions)

	2020 Actual	2021 Projected	2022 Forecast
Opening Balance	-	0.011	0.193
Transfers	-	-	0.108
Additions[24]	0.015	0.250	0.442
Tax	(0.004)	(0.068)	(0.149)
Ending Balance	0.011	0.193	0.594

The unrecovered revenue recorded in the deferral account includes:

- any remaining balances associated with the bill payment deferral program, described in section (a), that resulted from customers' inability to pay; and
- any unrecovered revenue from all customer classes due to COVID-19, including industrial and large commercial customers and those residential and small commercial customers that did not participate in the bill payment deferral or bill credit relief offerings.

[24] The 2020 unrecoverable revenue additions of $0.015 million consist of $0.014 million of small commercial customer balances and $0.001 million of residential customer balances.

To date, there has been a minimal amount of unrecoverable revenue related to COVID-19 added to the Customer Recovery Fund Deferral Account. This is primarily due to FBC's temporary suspension of the debt collections program and related collections activities throughout 2020 and early 2021[25] as well as the timing of the Customer Recovery Fund repayment schedule.

To support the development of a consistent and appropriate approach for identifying amounts deemed unrecoverable due to COVID-19, FBC has created an internal set of guidelines to be used by members of the customer service team with an objective to identify and support customers that have been financially impacted by COVID-19. The underlying goal and intent of this approach is for customers to be able to maintain their electric services while maximizing recoveries associated with any balances due. These internal guidelines include questions that help identify the extent to which the customer has been impacted by COVID-19 as well as payment arrangement guidelines that include partial or full recognition of receivable balances as unrecoverable due to COVID-19.

FBC has recently conducted a pilot where a select amount of customers were contacted with the intent of measuring the success of the outreach plan and internal guidelines. The results from this pilot stage have been used to develop the unrecoverable revenue forecast additions to the Customer Recovery Fund Deferral Account provided in Table 7-8 above. During the pilot, 150 customers with past due balances were contacted to determine impacts of the pandemic. 15 percent of the customers with an average balance of $800 confirmed that they were financially impacted by COVID-19 and will require support to bring their accounts in good standing. This result was applied to the estimated 690 customers with outstanding balances as at June 1, 2021 to derive the forecast COVID-19 related unrecoverable revenue deferral account additions.

While the forecasts of the unrecovered revenue additions rely on estimates and broader macroeconomic factors, the actual amounts that accumulate in the deferral account are expected to be representative of balances that are attributable to specific customers that cannot make payment due to COVID-19. Further, due to the time between identifying these accounts as unrecoverable due to COVID-19 and the review process, which may include a payment commitment from the customer on a partial outstanding balance, FBC expects that additions to the account will extend to at least 2022.

7.6.2.1.2 DISPOSITION OF DEFERRAL ACCOUNT

As discussed above, additions to the COVID-19 Customer Recovery Fund Deferral Account for unrecovered revenues resulting from customers being unable to pay their bills due to the COVID-19 pandemic are expected to continue into 2022. As a result, the deferral account will be required to capture unrecovered revenues until at least the end of 2022.

[25] In response to the pandemic, FBC ceased late payment charges, disconnections for non-payment and collection agency referrals for the majority of 2020 and restarted these activities in March 2021.

After 2022, the need for the continuation of the COVID-19 Customer Recovery Fund Deferral Account is dependent on the continued impact of the COVID-19 pandemic on FBC's customers' ability to make payment on their utility bills. While the current outlook regarding the COVID-19 pandemic in BC is positive, with resumption of normal operating conditions expected later this year, coinciding with the Province achieving Step 4 of the Province of BC Four Step Restart Plan, the financial effects of the COVID-19 pandemic on customers' ability to make payments may remain for some time afterwards. During the pandemic, individuals and businesses alike have suffered, with some struggling to meet their financial obligations. Federal and provincial government support programs such as the Canada Recovery Benefit (CRB) for individuals, the Canada Emergency Wage Subsidy (CEWS) for businesses and other various financial assistance programs have helped individuals and businesses in BC. However, with the elimination of these financial assistance programs eventually expected, even though the pandemic may be declared over from a medical perspective, financially some consumers and businesses may not have recovered and may be unable to make bill payments.

Similarly, the general state of the economy may not have fully recovered from the impact of the pandemic by 2022. As FBC's unrecovered revenue additions are influenced by broader macroeconomic factors, and given the state of the economy at this time and the uncertainty as to the timing of recovery, FBC is not able to forecast by the end of 2022 that its unrecovered revenues will have normalized to that prior to the COVID-19 pandemic.

With the uncertainties described and recognizing the uncertainty around the duration and significance of the pandemic on customers' ability to pay their bills, with the potential for unrecoverable revenue to shift between periods or vary from the forecast, FBC will be in a better position to provide an update regarding the continued financial effects from the COVID-19 pandemic on its customers (homes and businesses) at the time of the Annual Review for 2023 Rates and will be able to provide a recommendation on whether the deferral account will be required past 2022. By this time next year, based on the current outlook, the general state of the economy post pandemic and the status of the collectability of FBC's billed revenues will likely be clearer.

In consideration of the ongoing uncertainties and continued need for the COVID-19 Customer Recovery Fund Deferral Account discussed above, FBC is not proposing to commence recovery of the deferral account as part of this Application. Instead, FBC will request approval of an amortization period for this deferral account in the Annual Review for 2023 Rates application.

7.6.2.1.3 REQUEST TO CHANGE REPORTING FREQUENCY

FBC seeks approval to change the reporting requirements for the COVID-19 Customer Recovery Fund Deferral Account from filing monthly reports with the BCUC to filing quarterly reports.

As part of the approval in Order G-133-20 for the establishment of the deferral account, FBC was directed to file monthly reports with the BCUC detailing the status of the relief program as follows:

a) An assessment on the need for an extension or any other formal change to the customer relief measures beyond the July 1, 2020 date.

b) A report on the COVID-19 Customer Recovery Fund Deferral Account and customer relief measures. This report must include the number of customers that have been approved for each program, as well as the number of customers that have applied but have been rejected from participating in the program, in addition to reporting on the current balance in the deferral account.

FBC has filed monthly reports with the BCUC since May 15, 2020 and effective June 1, 2021, FBC closed the deferral and credit program components to new applicants.

With more than one full year of monthly reporting complete, the closure of the deferral and credit program to new applicants and the administrative efforts associated with monthly reporting, a change to the frequency of filing these reports with the BCUC from monthly to quarterly is appropriate at this time. In addition, quarterly data may better highlight material changes in the deferral account balance as repayments continue and unrecovered revenue amounts materialize. FBC will continue to provide the same level of deferral account detail in the quarterly reports as currently provided in the monthly reports and proposes to file the quarterly reports with the BCUC as follows each year as applicable: October 15, January 15, April 15 and July 15.

7.6.2.2 Indigenous Relations Agreement (Huth Substation)

As part of the Annual Review for 2020 and 2021 Rates Decision and Order G-42-21, FBC received approval to establish the Indigenous Relations Agreement (Huth Substation) deferral account to capture costs to address the Penticton Indian Band's (PIB) concerns regarding the Huth Substation in Penticton and the impacts the substation has had on Syilx[26] history and culture, such as the discovery of ancestral remains found at the Huth substation while performing construction works.

The Huth substation is a vital component of the South Okanagan area power system, providing direct service to both FBC customers and the municipal utility of the City of Penticton. This hub is connected to five major transmission lines (42L, 49L, 47L, 52L and 53L) and to two City of Penticton distribution substations. Given the importance of the substation to the supply of power in the South Okanagan and the historical value of the land to the PIB and the Syilx people, FBC has engaged in reconciliation efforts with the PIB, consistent with the recent legislation passed by the Provincial government.

In the Annual Review for 2020 and 2021 Rates application, FBC stated that it would update its progress with respect to this matter in the Annual Review for 2022 Rates filing and would request approval for recovery of costs captured in this deferral account in a future revenue

[26] The PIB is a community of the Syilx people.

requirements proceeding once an agreement with the PIB had been reached and the impacts could be communicated.

FBC was unable to continue preliminary discussions with the PIB on reconciliation efforts on the Huth substation. Due to impacts on the community from the COVID-19 pandemic, followed by the unique circumstances that arose in 2021 with the Kamloops Residential School findings, out of respect to the community, FBC chose not to pursue the efforts until both parties agreed to proceed. FBC will continue to provide updates on this matter and on the deferral account in future annual review filings.

7.6.2.3 2020 Cost of Service Analysis (COSA)

As part of the Annual Review for 2020 and 2021 Rates, FBC received approval through Order G-42-21 to establish the 2020 Cost of Service Analysis deferral account to capture the costs related to filing the 2020 COSA and the related regulatory proceeding. While no regulatory process was established to review the 2020 COSA, FBC incurred costs of $0.043 million ($0.032 million after tax) to date for consultant fees related to updating the COSA model and providing input to the information filed with the BCUC.

In this Application, FBC is seeking approval to amortize these costs over one year commencing January 1, 2022.

7.6.2.4 Mandatory Reliability Standards (MRS) 2021 Audit

As part of the Annual Review for 2020 and 2021 Rates Decision and Order G-42-21, FBC received approval to establish a rate base deferral account to capture the costs of the 2021 triennial MRS audit, with the amortization period to be determined in a future proceeding.

FBC's triennial MRS audit will conclude in August 2021. Notification of the audit was received on April 19, 2021 and the scope of the audit includes both Critical Infrastructure Protection (CIP) and Operations and Planning (O&P) standards. The formal audit with the Western Electricity Coordinating Council (WECC) auditors is over a three-week period from July 19 to August 6. The audit will be conducted remotely and consists of off-site data reviews and interviews clarifying outstanding questions. Preparation and submission of evidence was required several months in advance of the three-week formal audit period. A total of 19 standards will be assessed and evidence submitted to WECC. FBC anticipates receiving a draft report of the audit assessment and findings in September 2021.

The Company continues to work towards maintaining MRS compliance. The projected additions to the deferral account in 2021 are $0.350 million. FBC requests approval to amortize the actual costs over three years beginning January 1, 2022. This amortization period is appropriate as it reflects the period until the next MRS triennial audit.

7.6.2.5 2021 Long-Term Electric Resource Plan (LTERP)

As part of the Annual Review for 2020 and 2021 Rates, FBC received approval through Order G-42-21 to establish the 2021 Long-Term Electric Resource Plan deferral account to capture the costs related to external resources required for the 2021 LTERP that are incremental to the costs in FBC's Base O&M, including expert and consulting fees, external legal fees, public consultation, BCUC costs and intervener funding. FBC filed the 2021 LTERP on August 4, 2021 and estimates that the total costs of the LTERP application proceeding, which will conclude in 2022, will be $0.660 million ($0.482 million after tax).

In this Application, FBC seeks approval of a three-year amortization period for the 2021 Long-Term Electric Resource Plan deferral account, commencing January 1, 2022. A three-year amortization period is appropriate because it is consistent with previous amortization periods for LTERP deferral accounts and results in the costs being fully amortized prior to the next LTERP filing.

7.7 WORKING CAPITAL

The working capital component of rate base is comprised of cash working capital and other working capital.

Cash working capital is defined as the average amount of capital provided by investors in the Company to bridge the gap between the time expenditures are required to provide service (expense lag) and the time collections are received for that service (revenue lag). The cash working capital requirements that have been included reflect the most recent Lead Lag Study results, as approved through Order G-166-20.

Other working capital includes customer (DSM) loans, employee loans and withholdings, and inventory of materials and supplies. 2022 amounts are projected based on 2020 and 2021 levels.

7.8 SUMMARY

FBC's rate base includes the impact of Regular and Major Projects capital expenditures, adjusted for work-in-progress, AFUDC and overheads capitalized. FBC has provided forecasts for all of its rate base deferral accounts in the financial schedules included in Section 11. In Section 7.6.1, FBC requested approval of one new deferral account and in Section 7.6.2, FBC discussed five existing accounts, including requesting amortization of three of these existing accounts. Finally, the rate base includes cash and other working capital.

8. FINANCING AND RETURN ON EQUITY

8.1 *INTRODUCTION AND OVERVIEW*

FBC has prepared this Application using a capital structure of 60 percent debt and 40 percent equity and a Return on Equity (ROE) of 9.15 percent as approved by Orders G-129-16 and G-47-14. FBC's ROE is set at a premium of 40 basis points over the benchmark ROE, which is the ROE approved for FortisBC Energy Inc. (FEI). The 2022 Forecast for financing costs, including the interest expense on issued long- and short-term debt and on new issuances that are forecast, has been updated as described in Section 8.3 below. Based on the updated financing costs, FBC's AFUDC rate for 2022 (which is equal to its after-tax weighted average cost of capital) is 5.63 percent. Any variances from interest rates used to set rates, and any variances in interest resulting from items subject to flow-through in the Flow-through deferral account, will be flowed through to customers. All other differences in interest expense will affect the achieved ROE and be subject to earnings sharing.

8.2 *CAPITAL STRUCTURE AND RETURN ON EQUITY*

The Company finances its investment in rate base assets with a mix of debt and equity, as approved by the BCUC from time to time. Order G-47-14 approved a capital structure for FBC of 60.0 percent debt and 40.0 percent equity with an equity risk premium of 40 basis points over the benchmark ROE, which was set at 8.75 percent by Order G-129-16; these approved capital structure and ROE values have been used to calculate rates in the Application. FBC notes that the BCUC has initiated a Generic Cost of Capital (GCOC) proceeding and, in Order G-156-21 and accompanying Reasons for Decision, the BCUC found that the effective date to implement a new cost of capital will depend on the timing and progress of the GCOC proceeding. If the BCUC determines later in 2021 that the effective date to implement a new cost of capital is January 1, 2022, FBC will file for interim rates and will update the 2022 revenue requirement once the GCOC decision is issued.

8.3 *FINANCING COSTS*

Debt financing costs include the borrowing costs on issued debt as well as on new issuances that are forecast. Debt consists of both long- and short-term (unfunded) debt.

8.3.1 Long-term Debt

FBC is both a private and public issuer of long-term debt. FBC plans to issue additional long-term debt of approximately $75 million in 2021, the proceeds of which will be used to repay existing indebtedness and finance the Company's capital expenditure program. The 2021 debt issuance is reflected in the financial schedules in November 2021 at a rate of 3.60 percent.[27]

[27] Section 11, Schedule 27, Line 9.

The exact timing, amount and rate of the 2021 issuance will depend on future market conditions and capital expenditure requirements. Variances in interest expense related to the timing and amount of the issuances of the debt or the rates at which they are issued will be captured in the Flow-through deferral account.

8.3.2 Short-term Debt

FBC obtains short-term funding primarily through the issuance of commercial paper to Canadian institutional investors. FBC backstops the commercial paper issuances by maintaining a $150 million committed credit facility that matures in April 2026.[28] The credit facility, along with a $10 million overdraft facility, provides FBC with short-term liquidity to fund FBC's capital program and working capital requirements. The Company also issues letters of credit as part of this facility. The short-term debt rate reflects FBC's commercial paper and letter of credit issuances.

8.3.3 Forecast of Interest Rates

FBC uses interest rate forecasts to estimate future interest expense. Forecasts of Treasury Bills and benchmark Government of Canada Bond interest rates are used in determining the overall interest rates for short-term debt and for rates on new issues of long-term debt, respectively. The forecasts are based on available projections made by Canadian Chartered banks.

Credit spreads on new long-term debt are based on current indicative rates, on the assumption that the current credit ratings of FBC are maintained.

FBC's short-term borrowing rate is based on the rate at which it issues commercial paper and letters of credit. Since commercial paper issuance rates are not forecast by economists, a forecast needs to be derived by FBC. The forecast is based on the historical differential between the Canadian Deposit Overnight Rate (CDOR) and the rate obtained by FBC under its commercial paper program. CDOR is used because FBC's short-term borrowings under its credit facility are priced based on CDOR and therefore CDOR is tracked relative to FBC's commercial paper borrowings. As CDOR is not forecast by economists, FBC must first obtain the 3-Month T-Bill rate forecast and then convert it to a CDOR forecast. FBC does this by taking the 3-year historical spread between CDOR and the 3-month T-Bill rate. Then, to derive the short-term borrowing rate forecast, FBC adjusts the CDOR forecast with the historical spread between CDOR and rates of issuances under its commercial paper program.

The 3-Month T-Bill forecast for 2022 is 0.47 percent, which is a slight increase from the 0.45 percent approved in 2021. FBC's 2022 Forecast for other financing fees is similar to 2021, which includes the fees that it incurs for its letters of credit under the $150 million credit facility, as well as interest paid on customer deposits. The short-term borrowing rate forecast is shown in Table 8-1 below.

[28] On July 14, 2021, the credit facility was extended to April 27, 2026.

Table 8-1: Short Term Interest Rate Forecast

FBC Short Term Interest Rate	Approved 2021	Projected 2021	Forecasted 2022
3-Month T-Bill Rate [1]	0.45%	0.13%	0.47%
Spread to CDOR	0.44%	0.39%	0.39%
CDOR Rate	0.89%	0.52%	0.86%
Spread to CP	-0.22%	-0.32%	-0.32%
CP Dealer Commission	0.10%	0.10%	0.10%
ST Interest Rate on Credit Facilities	**0.77%**	**0.30%**	**0.64%**
Fixed Financing Fees [2]			
Standby fee on Undrawn Credit [3]	0.77%	0.37%	0.44%
Renewal Fee on Undrawn Credit	0.29%	0.14%	0.17%
Other Financing Fees	0.40%	0.22%	0.26%
ST Interest Rate on Fixed Financing Fee	**1.45%**	**0.73%**	**0.87%**
FBC Short Term Rate	**2.22%**	**1.03%**	**1.51%**

Notes to table:

[1] 3-Month T-Bill Rate for 2022 is a weighted average rate based on forecasts provided by Canadian Chartered banks in June 2021.

[2] Fixed financing fees represent the costs of maintaining the $150 million credit facility and letter of credit facility, which are fixed fees regardless if FBC draws from the credit facility. The fees have been converted into a short-term rate for forecast purposes.

[3] A standby fee of 20 bps is charged on undrawn credit facility amounts, which would change if credit facility amounts are drawn through banker acceptances or prime loans. However, the forecast assumes FBC will borrow through commercial paper and will not change the undrawn credit facility fee percentage.

8.3.4 Interest Expense Forecast

The interest expense forecast reflects FBC's existing and forecast borrowing costs on long- and short-term debt.

Short-term interest expense is determined by applying the forecast short-term debt rate to the estimated short-term debt balance. Long-term debt interest expense is determined using the straight-line method by multiplying the average balance of the specific debenture by the debt coupon rate, or forecast coupon rate, if it is a new issue. The 2022 long-term debt schedule for FBC can be found in Section 11, Schedule 27.

8.3.5 Allowance for Funds Used During Construction (AFUDC)

FBC applies AFUDC to projects that are greater than 3 months in duration and greater than $100 thousand. Based on the above information, FBC's AFUDC rate for 2022 (which is equal to its after-tax weighted average cost of capital) is 5.63 percent. The calculation of the rate is shown in the following table.

Table 8-2: Calculation of AFUDC Rate for 2022

	Weight	Pre Tax Rate	After Tax Rate	Earned Return
Short Term Debt	5.55%	1.51%	1.10%	1.51%
Long Term Debt	54.45%	4.79%	3.50%	4.79%
Common Equity	40.00%	12.53%	9.15%	9.15%
Weighted Average	100.00%	7.71%	5.63%	6.35%

8.4 *SUMMARY*

FBC's equity financing and ROE have been forecast for 2022 at the same percentages as approved for 2021. FBC's debt financing costs on rate base are primarily determined by embedded rates on long-term debt, and to a lesser degree by short-term debt rates; the embedded rate on long-term debt is forecast to decrease in 2022 as compared to 2021 Approved.

9. TAXES

9.1 *INTRODUCTION AND OVERVIEW*

This section discusses FBC's forecasts of property taxes and income tax which have been forecast on a basis consistent with prior years. In 2022, property taxes are forecast to decrease by 1.9 percent from 2021 Approved, while income tax is forecast to decrease by 11.1 percent compared to 2021 Approved.

9.2 *PROPERTY TAXES*

Property taxes for 2022 of $17.887 million incorporate Company forecasts of assessed values of taxable assets, mill rates and taxes from revenues earned from electricity consumed within municipalities. A breakdown of property taxes by asset type is provided in Table 9-1 below.

Table 9-1: Property Taxes ($ millions)

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022
1	Generating Plant	$ 3.087	$ 3.131	$ 3.210
2	Transmission and Distribution	8.075	6.991	7.426
3	Substation Equipment	3.843	3.834	3.948
4	Land and Buildings	1.112	1.131	1.165
5	In-Lieu	2.125	2.138	2.138
6	Total Property Taxes	$ 18.242	$ 17.225	$ 17.887
7				
8	Forecast Change from 2021 Approved			-1.9%
9	Forecast Change from 2021 Projected			3.8%

As shown in the above table, in 2022 property taxes are forecast to decrease by 1.9 percent from 2021 Approved and increase by 3.8 percent compared to 2021 Projected. In general, the 2022 increase from 2021 Projected is due to construction activities, market value changes, and changes in tax policies of local taxing authorities. The most significant forecast drivers of the changes are as follows:

1. **Changes in Tax Rates.** Tax Rates are expected to change for 2022 as follows:
   a) Municipal rates are expected to increase by 0.50 percent;
   b) School rates are expected to decrease by 1.0 percent;
   c) Rural rates are expected to decrease by 2.0 percent;
   d) Tax rates on First Nations are expected to increase by 0.25 percent; and

e) Other rates are expected to stay the same.

2. **Changes in Revenues to Calculate Grants In Lieu of Taxes.** Revenues reported to municipalities are expected to decrease by 0.2 percent. Grants in-lieu of taxes are based on a fixed percentage of revenues; the overall decrease in revenues reported to municipalities decreases the grants in-lieu of taxes due.

3. **Changes in Assessed Values.** Forecast changes in the assessed values of FBC's property are based on expected inflationary increases. These include:

   a) A 5.0 percent increase in assessed values of distribution and transmission lines;

   b) A 2.5 percent increase in assessed values for generating facilities calculated using legislated cost manuals for valuing generating facilities;

   c) A 3.0 percent increase in assessed values for substations calculated using legislated cost manuals for valuing substations; and

   d) Land values are expected to increase on average 3.0 percent for right of ways and 2.0 to 4.0 percent for properties owned in fee simple.

Any variances from the forecast of property taxes included in rates are recorded in the Flow-through deferral account and returned to or collected from customers in the following year.

9.3 *INCOME TAX*

FBC is subject to corporate income taxes imposed by the Federal and BC governments. Current income taxes have been calculated using the flow-through (taxes payable) method, consistent with BCUC-approved past practice, at the corporate tax rate of 27 percent for 2022, which is unchanged from 2021. The corporate tax rates used in this Application are based on the Canada Income Tax Act and the BC Income Tax Act enacted legislation and are updated each year as part of the annual rate setting process.

Income tax for 2022 is forecast to decrease by $0.945 million or 11.1 percent compared to 2021 Approved. The 2022 decrease is primarily due to lower taxable temporary differences associated with pension and OPEB and amortization of deferred charges, partially offset by lower deductible temporary differences associated with property, plant and equipment and higher rate base.

Any tax rate variances and variances in income taxes on items that are flowed through in rates are subject to flow-through treatment.

All other differences in income tax expense are subject to earnings sharing.

9.4 *SUMMARY*

FBC has forecast its property and income taxes on a basis consistent with prior years, utilizing enacted legislation for income taxes and forecast changes for property tax rates and assessments.

10. EARNINGS SHARING

In the MRP Decision (at page 82), the BCUC approved an earnings sharing mechanism from 2020 to 2024 whereby 50 percent of the achieved ROE above or below the allowed ROE will be shared with customers. Since FBC is unable to determine final earnings sharing until all items required for the ROE calculation are known, including the final rate base, there is a lag in when FBC distributes earnings sharing amounts. This is consistent with the calculations of formula O&M, where the true-up of the formula inputs happens only once actuals are known. Thus, for 2022 rates, it is the 2020 formula O&M and 2020 earnings sharing amounts that are calculated and impact rates in 2022.

For 2022, FBC proposes to distribute a $1.195 million pre-tax credit ($0.872 million after-tax) to customers, comprised of:

- The $0.872 million credit difference between the projected ending 2020 deferral account balance of zero[29] embedded in 2021 rates, and the actual ending 2020 deferral account credit balance of $0.872 million as provided in FBC's 2020 Annual Report to the BCUC.

After truing-up the 2020 earnings sharing balance to actual as described above, FBC proposes to distribute $1.195 million to customers in 2022 as a reduction in 2022 revenue requirements through amortization of the projected 2022 opening after-tax balance of $0.872 million in the MRP Earnings Sharing deferral account.

As part of future rate filings, the earnings sharing for 2021 will be subject to similar true-ups as described above, which will account for the actual 2021 ROE variance from approved.

[29] Annual Review for 2020 and 2021 Rates Evidentiary Update dated October 28, 2020, 2021 financial schedules, Schedule 12.2, Line 12, Column 2.

11. FINANCIAL SCHEDULES

SUMMARY OF RATE CHANGE
FOR THE YEAR ENDING DECEMBER 31, 2022
($millions)

Line No.	Particulars	2022 Forecast		Cross Reference
	(1)	(2)	(3)	(4)
1	**VOLUME/REVENUE RELATED**			
2	Customer Growth and Volume	$ 3.747		
3	Change in Other Revenue	0.389	4.136	
4				
5	**POWER SUPPLY**			
6	Power Purchases	(1.198)		
7	Wheeling	0.379		
8	Water Fees	1.090	0.271	
9				
10	**O&M CHANGES**			
11	Gross O&M Change	2.544		
12	Capitalized Overhead Change	(0.382)	2.162	
13				
14	**DEPRECIATION EXPENSE**			
15	Depreciation from Net Additions		2.482	
16				
17	**AMORTIZATION EXPENSE**			
18	CIAC from Net Additions	(0.229)		
19	Deferrals	(3.148)	(3.377)	
20				
21	**FINANCING AND RETURN ON EQUITY**			
22	Financing Rate Changes	(1.858)		
23	Financing Ratio Changes	(1.127)		
24	Rate Base Growth	6.486	3.501	
25				
26	**TAX EXPENSE**			
27	Property and Other Taxes	(0.355)		
28	Other Income Taxes Changes	(0.945)	(1.300)	
29				
30	**2021 Revenue Deficiency**		5.420	
31				
32	**REVENUE DEFICIENCY (SURPLUS)**		**$ 13.295**	Schedule 16, Line 6, Column 4
33				
34	Revenue at Existing Rates		383.895	Schedule 18, Line 7, Column 3
35	Rate Change		3.46%	

UTILITY RATE BASE
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2021 Approved	2022 at Revised Rates	Change	Cross Reference
	(1)	(2)	(3)	(4)	(5)
1	Plant in Service, Beginning	$ 2,162,849	$ 2,277,737	$ 114,888	Schedule 6.1, Line 31, Column 3
2	Opening Balance Adjustment	-	-	-	Schedule 6.1, Line 31, Column 4
3	Net Additions	126,826	105,009	(21,817)	Schedule 6.1, Line 31, Column 5+6+7
4	Plant in Service, Ending	2,289,676	2,382,746	93,070	
5					
6	Accumulated Depreciation Beginning	$ (641,268)	$ (659,517)	$ (18,249)	Schedule 7.1, Line 31, Column 5
7	Opening Balance Adjustment	-	-	-	Schedule 7.1, Line 31, Column 6
8	Net Additions	(58,765)	(33,207)	25,558	Schedule 7.1, Line 31, Column 7+8+9
9	Accumulated Depreciation Ending	(700,033)	(692,724)	7,309	
10					
11	CIAC, Beginning	$ (220,826)	$ (232,291)	$ (11,465)	Schedule 9, Line 3, Column 2
12	Opening Balance Adjustment	-	-	-	
13	Net Additions	(11,465)	(11,712)	(247)	Schedule 9, Line 3, Column 5+6
14	CIAC, Ending	(232,291)	(244,003)	(11,712)	
15					
16	Accumulated Amortization Beginning - CIAC	$ 79,867	$ 84,284	$ 4,417	Schedule 9, Line 7, Column 2
17	Opening Balance Adjustment	-	-	-	
18	Net Additions	4,417	4,646	229	Schedule 9, Line 7, Column 5+6
19	Accumulated Amortization Ending - CIAC	84,283	88,930	4,647	
20					
21	Net Plant in Service, Mid-Year	$ 1,411,129	$ 1,502,581	$ 91,452	
22					
23	Adjustment for timing of Capital additions	$ 20,204	$ 16,181	$ (4,023)	
24	Capital Work in Progress, No AFUDC	11,228	19,332	8,104	
25	Unamortized Deferred Charges	25,696	30,388	4,692	Schedule 11, Line 26, Column 8
26	Working Capital	6,044	6,254	210	Schedule 13, Line 9, Column 3
27	Utility Plant Acquisition Adjustment	4,935	4,749	(186)	
28					
29	Mid-Year Utility Rate Base	$ 1,479,236	$ 1,579,485	$ 100,249	

FORMULA INFLATION FACTORS
FOR THE YEARS ENDING DECEMBER 31, 2020 to 2022
($000s)

Line No.	Particulars	Reference	2020	2021	2022	Total for 2022 Rate Setting	Cross Ref
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	**Formula Cost Drivers**						
2	CPI		2.692%	1.596%	1.281%		
3	AWE		2.881%	5.745%	6.532%		
4	Labour Split						
5	Non Labour		38.000%	38.000%	37.000%		
6	Labour		62.000%	62.000%	63.000%		
7	CPI/AWE	(Line 2 x Line 5) + (Line 3 x Line 6)	2.809%	4.168%	4.589%		
8	Productivity Factor	G-166-20	-0.500%	-0.500%	-0.500%		
9	Net Inflation Factor	Line 7 + Line 8	2.309%	3.668%	4.089%		
10							
11							
12	**Growth in Average Customer Calculation**						
13	Actual/Projected Prior Year Average Customers		139,916	142,321	144,793		
14	Average Customers for the Year	Schedule 18, Line 7, Column 6	142,321	144,793	147,199		
15	Change in Average Customers	Line 14 - Line 13	2,405	2,471	2,406	7,283	
16							
17	Customer Growth Factor Multiplier	G-166-20				75%	
18	Change in Average Customers for Rate Setting Purposes	Line 15 x Line 17				5,462	
19							
20	Average Customers Used to Determine Starting UCOM	Line 13 Year 2020				139,916	
21							
22	Average Customer Forecast - 2022 Rate Setting Purposes	Line 18 + Line 20				145,378	

CAPITAL EXPENDITURES
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	Total CapEx	Cross Reference
	(1)	(2)	(3)
1	**Forecast Capital Expenditures**		
2	Growth Capital	$ 24,339	
3	Sustainment Capital	43,110	
4	Other Capital	14,756	
5	Total Forecast Capital	$ 82,205	
6			
7	**Flow-Through Capital Expenditures**		
8	MRS Capital	$ 935	
9	Total Flow-Through Capital	$ 935	
10			
11	**Total Regular Capital Expenditures**	$ 83,140	

Schedule 5

CAPITAL EXPENDITURES TO PLANT RECONCILIATION
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars		2022 Formula	Cross Reference
	(1)		(2)	(3)
1	**CAPEX**			
2	Forecast Capital Expenditures	$	82,205	
3	Flow-Through Capital		935	
4	Total Regular Capital Expenditures	$	83,140	Schedule 4, Column 2, Line 11
5				
6	**Special Projects and CPCN's**			
7	Corra Linn Spillway Gate Replacement	$	6,019	
8	Playmor Substation Rebuild Project		1,297	
9	Kelowna Bulk Transformer Capacity Addition		12,085	
10	Total Special Projects and CPCN's	$	19,401	
11				
12	**Total Capital Expenditures**	$	102,541	
13				
14				
15	**RECONCILIATION OF CAPITAL EXPENDITURES TO PLANT**			
16				
17	Regular Capital Expenditures	$	83,140	Line 4
18	Add - Capitalized Overheads		10,177	Schedule 20, Column 4, Line 22
19	Add - AFUDC		214	
20	Gross Capital Expenditures		93,531	
21	Change in Work in Progress		-	
22	**Total Regular Additions to Plant**	$	93,531	
23				
24	Special Projects and CPCN's Capital Expenditures	$	19,401	Line 10
25	Add - AFUDC		2,158	
26	Gross Capital Expenditures		21,559	
27	Change in Work in Progress		10,803	
28	**Total Special Projects and CPCN Additions to Plant**	$	32,362	
29				
30	**Grand Total Additions to Plant**	$	125,893	Schedule 6.1, Columns 5 + 6, Line 31

PLANT IN SERVICE CONTINUITY SCHEDULE
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Account	Particulars	12/31/2021	Opening Bal Adjustment	CPCN's	Additions	Retirements	12/31/2022	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1		**Hydraulic Production Plant**							
2	330	Land Rights	$ 962	$ -	$ -	$ -	$ -	$ 962	
3	331	Structures and Improvements	20,611	-	-	715	(51)	21,275	
4	332	Reservoirs, Dams & Waterways	77,240	-	23,197	3,693	(373)	103,757	
5	333	Water Wheels, Turbines and Gen.	121,931	-	1,451	1,173	(238)	124,317	
6	334	Accessory Equipment	52,946	-	363	1,582	(471)	54,420	
7	335	Other Power Plant Equipment	47,667	-	-	1,149	(221)	48,595	
8	336	Roads, Railroads and Bridges	1,287	-	-	-	-	1,287	
9			$ 322,644	$ -	$ 25,011	$ 8,312	$ (1,354)	$ 354,613	
10									
11		**Transmission Plant**							
12	350	Land Rights-R/W	$ 10,224	$ -	$ -	$ 549	$ -	$ 10,773	
13	350.1	Land Rights-Clearing	9,449	-	-	549	-	9,998	
14	353	Station Equipment	245,539	-	7,351	2,510	(222)	255,178	
15	355	Poles Towers & Fixtures	122,819	-	-	2,723	(123)	125,419	
16	356	Conductors and Devices	119,909	-	-	2,722	(132)	122,499	
17	359	Roads and Trails	1,121	-	-	-	-	1,121	
18			$ 509,061	$ -	$ 7,351	$ 9,053	$ (477)	$ 524,988	

PLANT IN SERVICE CONTINUITY SCHEDULE
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Account	Particulars	12/31/2021	Opening Bal Adjustment	CPCN's	Additions	Retirements	12/31/2022	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1		**Distribution Plant**							
2	360	Land Rights-R/W	$ 7,185	$ -	$ -	$ -	$ -	$ 7,185	
3	360.1	Land Rights-Clearing	11,630	-	-	-	-	11,630	
4	362	Station Equipment	288,129	-	-	17,616	(1,193)	304,552	
5	364	Poles Towers & Fixtures	248,070	-	-	10,454	(444)	258,080	
6	365	Conductors and Devices	414,631	-	-	23,371	(828)	437,174	
7	368	Line Transformers	187,028	-	-	6,912	(886)	193,054	
8	369	Services	9,521	-	-	-	-	9,521	
9	370.1	AMI Meters	41,331	-	-	129	-	41,460	
10	371	Installation on Customers' Premises	938	-	-	-	-	938	
11	373	Street Lighting and Signal System	14,123	-	-	74	(19)	14,178	
12			$ 1,222,586	$ -	$ -	$ 58,556	$ (3,370)	$ 1,277,772	
13									
14		**General Plant**							
15	389	Land	$ 11,184	$ -	$ -	$ -	$ -	$ 11,184	
16	390.1	Structures - Masonry	47,722	-	-	1,063	(122)	48,663	
17	390.2	Operation Building	18,419	-	-	1,063	(39)	19,443	
18	390.1	Leasehold Improvements	2,872	-	-	-	-	2,872	
19	391	Office Furniture & Equipment	5,355	-	-	295	(248)	5,402	
20	391.1	Computer Hardware	13,205	-	-	3,242	(3,059)	13,388	
21	391.2	Computer Software	41,359	-	-	4,565	(4,578)	41,346	
22	391.2	AMI Software	12,270	-	-	1,182	-	13,452	
23	392.1	Light Duty Vehicles	5,879	-	-	825	(728)	5,976	
24	392.1	Heavy Duty Vehciles	27,217	-	-	1,925	(443)	28,699	
25	394	Tools and Work Equipment	8,871	-	-	578	(936)	8,513	
26	397	Communication Structures & Equipment	13,808	-	-	2,872	(944)	15,736	
27	397.1	Fibre	10,315	-	-	-	(4,586)	5,729	
28	397.2	AMI Communications Structure & Equipment	4,970	-	-	-	-	4,970	
29			$ 223,446	$ -	$ -	$ 17,610	$ (15,683)	$ 225,373	
30									
31		**Total Plant in Service**	$ 2,277,737	$ -	$ 32,362	$ 93,531	$ (20,884)	$ 2,382,746	
32									
33		Cross Reference			Schedule 5, Line 28, Column 2	Schedule 5, Line 22, Column 2			

ACCUMULATED DEPRECIATION CONTINUITY SCHEDULE Schedule 7
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Account	Particulars	Gross Plant for Depreciation	Depreciation Rate	12/31/2021	Opening Bal Adjustment	Depreciation Expense	Retirements	Cost of Removal	Adjustments	12/31/2022	Cross Ref
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1		**Hydraulic Production Plant**										
2	330	Land Rights	$ 962	1.07%	$ (392)	$ -	$ 10	$ -	$ -	$ -	$ (382)	
3	331	Structures and Improvements	20,611	1.68%	5,417	-	346	(51)	(8)	-	5,704	
4	332	Reservoirs, Dams & Waterways	100,437	1.90%	5,708	-	1,908	(373)	(259)	-	6,984	
5	333	Water Wheels, Turbines and Gen.	123,382	1.79%	20,505	-	2,209	(238)	(1,574)	-	20,902	
6	334	Accessory Equipment	53,309	3.13%	14,428	-	1,669	(471)	(409)	-	15,217	
7	335	Other Power Plant Equipment	47,667	2.12%	19,381	-	1,011	(221)	-	-	20,171	
8	336	Roads, Railroads and Bridges	1,287	1.44%	457	-	19	-	-	-	476	
9			$ 347,655		$ 65,504	$ -	$ 7,172	$ (1,354)	$ (2,250)	$ -	$ 69,072	
10												
11		**Transmission Plant**										
12	350	Land Rights-R/W	$ 10,224	0.00%	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
13	350.1	Land Rights-Clearing	9,449	1.27%	2,365	-	120	-	-	-	2,485	
14	353	Station Equipment	252,890	2.33%	97,022	-	5,892	(222)	(493)	-	102,199	
15	355	Poles Towers & Fixtures	122,819	2.52%	36,524	-	3,095	(123)	(421)	-	39,075	
16	356	Conductors and Devices	119,909	2.52%	25,713	-	3,022	(132)	(4,789)	-	23,814	
17	359	Roads and Trails	1,121	1.96%	413	-	22	-	-	-	435	
18			$ 516,412		$ 162,037	$ -	$ 12,151	$ (477)	$ (5,703)	$ -	$ 168,008	

ACCUMULATED DEPRECIATION CONTINUITY SCHEDULE Schedule 7.1
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Account	Particulars	Gross Plant for Depreciation	Depreciation Rate	12/31/2021	Opening Bal Adjustment	Depreciation Expense	Retirements	Cost of Removal	Adjustments	12/31/2022	Cross Ref
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1		**Distribution Plant**										
2	360	Land Rights-R/W	$ 7,185	0.00%	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
3	360.1	Land Rights-Clearing	11,630	1.25%	2,790	-	145	-	-	-	2,935	
4	362	Station Equipment	288,129	2.61%	87,463	-	7,520	(1,193)	(469)	-	93,321	
5	364	Poles Towers & Fixtures	248,070	2.73%	74,579	-	6,772	(444)	(841)	-	80,066	
6	365	Conductors and Devices	414,631	2.38%	121,944	-	9,868	(828)	(1,357)	-	129,627	
7	368	Line Transformers	187,028	3.13%	42,327	-	5,854	(886)	(1,350)	-	45,945	
8	369	Services	9,521	0.51%	6,758	-	49	-	-	-	6,807	
9	370.1	AMI Meters	41,331	6.25%	10,314	-	2,583	-	-	-	12,897	
10	371	Installation on Customers' Premises	938	0.00%	937	-	-	-	-	-	937	
11	373	Street Lighting and Signal System	14,123	4.95%	5,579	-	699	(19)	-	-	6,259	
12			$ 1,222,586		$ 352,691	$ -	$ 33,490	$ (3,370)	$ (4,017)	$ -	$ 378,794	
13												
14		**General Plant**										
15	389	Land	$ 11,184	0.00%	$ 34	$ -	$ -	$ -	$ -	$ -	$ 34	
16	390.1	Structures - Masonry	47,722	2.53%	11,921	-	1,207	(122)	-	-	13,006	
17	390.2	Operation Building	18,419	1.63%	6,820	-	300	(39)	-	-	7,081	
18	390.1	Leasehold Improvements	2,872	1.63%	2,653	-	47	-	-	-	2,700	
19	391	Office Furniture & Equipment	5,355	4.42%	1,512	-	237	(248)	-	-	1,501	
20	391.1	Computer Hardware	13,205	21.60%	4,703	-	2,852	(3,059)	-	-	4,496	
21	391.2	Computer Software	41,359	8.96%	17,240	-	3,706	(4,578)	-	-	16,368	
22	391.2	AMI Software	12,270	10.00%	6,400	-	1,227	-	-	-	7,627	
23	392.1	Light Duty Vehicles	5,879	3.81%	3,077	-	224	(728)	(45)	-	2,528	
24	392.1	Heavy Duty Vehciles	27,217	6.50%	6,845	-	1,769	(443)	(105)	-	8,066	
25	394	Tools and Work Equipment	8,871	4.11%	4,071	-	365	(936)	-	-	3,500	
26	397	Communication Structures & Equipment	13,808	3.44%	5,597	-	475	(944)	(62)	-	5,066	
27	397.1	Fibre	10,315	6.97%	6,353	-	719	(4,586)	-	-	2,486	
28	397.2	AMI Communications Structure & Equipment	4,970	6.67%	2,059	-	332	-	-	-	2,391	
29			$ 223,446		$ 79,285	$ -	$ 13,460	$ (15,683)	$ (212)	$ -	$ 76,850	
30												
31		**Total**	$ 2,310,099		$ 659,517	$ -	$ 66,273	$ (20,884)	$ (12,182)	$ -	$ 692,724	
32												
33		Cross Reference	Schedule 6.1, Line 31, Column 3+4+5									

SCHEDULE NOT APPLICABLE

Schedule 9

CONTRIBUTIONS IN AID OF CONSTRUCTION CONTINUITY SCHEDULE
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	12/31/2021	CPCN / Open Bal Adjt	Adjustment	Additions	Retirements	12/31/2022	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	**CIAC**							
2	CIAC	$ 232,291	$ -	$ -	$ 11,712	$ -	$ 244,003	
3	**Total**	$ 232,291	$ -	$ -	$ 11,712	$ -	$ 244,003	
4								
5	**Amortization**							
6	Amortization	$ (84,284)	$ -	$ -	$ (4,646)	$ -	$ (88,930)	
7	**Total**	$ (84,284)	$ -	$ -	$ (4,646)	$ -	$ (88,930)	
8								
9	**Net CIAC**	$ 148,007	$ -	$ -	$ 7,066	$ -	$ 155,073	

SCHEDULE NOT APPLICABLE

Schedule 11

UNAMORTIZED DEFERRED CHARGES AND AMORTIZATION - RATE BASE
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	12/31/2021	Opening Bal./ Transfer/Adj.	Gross Additions	Less Taxes	Amortization Expense	12/31/2022	Mid-Year Average	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	**1. Forecasting Variance Accounts**								
2	BCUC Levies Variance Account	$ 5	$ -	$ -	$ -	$ (5)	$ -	$ 3	
3									
4	**2. Rate Smoothing Accounts**								
5									
6	**3. Benefits Matching Accounts**								
7	Preliminary and Investigative Charges	$ 1,382	$ -	$ 22	$ -	$ -	$ 1,404	$ 1,393	Note 1
8	Demand Side Management	33,345	-	11,400	(3,078)	(5,408)	36,259	34,802	
9	Deferred Debt Issue Costs	4,150	-	-	(70)	(185)	3,895	4,023	
10	2021 Generic Cost of Capital Proceeding	-	-	150	(41)	-	109	55	
11	Annual Reviews for 2021-2024 Rates	151	-	180	(49)	(151)	131	141	
12	2021 Long Term Electric Resource Plan	248	-	320	(86)	(83)	399	324	
13	2020 Cost of Service Analysis	32	-	-	-	(32)	-	16	
14	BCUC-Initiated Inquiries	(30)	-	25	(7)	30	18	(6)	
15	Mandatory Reliability Standards 2021 Audit	255	-	-	-	(85)	170	213	
16		$ 39,533	$ -	$ 12,097	$ (3,331)	$ (5,914)	$ 42,385	$ 40,961	
17									
18	**4. Retroactive Expense Accounts**								
19									
20	**5.Other Accounts**								
21	Pension and OPEB Liability	$ (13,021)	$ -	$ 3,730	$ -	$ -	$ (9,291)	$ (11,156)	
22	COVID-19 Customer Recovery Fund	433	-	442	(149)	-	726	580	
23	Indigenous Relations Agreement (Huth Substation)	-	-	-	-	-	-	-	
24		$ (12,588)	$ -	$ 4,172	$ (149)	$ -	$ (8,565)	$ (10,576)	
25									
26	**Total Rate Base Deferral Accounts**	$ 26,950	$ -	$ 16,269	$ (3,480)	$ (5,919)	$ 33,820	$ 30,388	
27									

28 Note 1: Gross Additions for Preliminary and Investigative Charges are after transfers to Construction Work in Progress. Additions of $0.645 million - transfer of $0.623 million = $0.022 million.

UNAMORTIZED DEFERRED CHARGES AND AMORTIZATION - NON-RATE BASE Schedule 12
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	12/31/2021	Opening Bal./ Transfer/Adj.	Gross Additions	Less Taxes	Amortization Expense	12/31/2022	Mid-Year Average	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	**Deferral Accounts Financed at Short Term Interest Rate**								
2									
3	**1. Forecasting Variance Accounts**								
4	Pension & Other Post Retirement Benefits (OPEB) Variance	$ 410	$ -	$ (400)	$ -	$ 158	$ 169	$ 289	
5									
6	**2. Rate Smoothing Accounts**								
7									
8	**3. Benefits Matching Accounts**								
9									
10	**4. Retroactive Expense Accounts**								
11									
12	**5.Other Accounts**								
13									
14	**Total Deferral Accounts at Short Term Interest**	$ 410	$ -	$ (400)	$ -	$ 158	$ 169	$ 289	
15									
16	Financing Costs at STI	$ (1)	$ -	$ 4	$ -	$ 1	$ 4	$ 2	

Schedule 12.1

UNAMORTIZED DEFERRED CHARGES AND AMORTIZATION - NON-RATE BASE cont'd
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	12/31/2021	Opening Bal./ Transfer/Adj.	Gross Additions	Less Taxes	Amortization Expense	12/31/2022	Mid-Year Average	Cross Ref
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	**Deferral Accounts Financed at Weighted Average Cost of Debt**								
2									
3	**1. Forecasting Variance Accounts**								
4									
5	**2. Rate Smoothing Accounts**								
6									
7	**3. Benefits Matching Accounts**								
8	CPCN Projects Preliminary Engineering [1]	$ 2	$ -	$ (2)	$ -	$ -	$ -	$ 1	
9	2016 Long Term Electric Resource Plan	104	-	-	-	(104)	-	52	
10	2017 Rate Design Application	354	-	-	-	(118)	236	295	
11	2020 - 2024 Multi-Year Rate Plan Application	435	-	-	-	(145)	290	363	
12	2019 - 2022 Multi-Year DSM Expenditure Schedule	36	-	-	-	(36)	-	18	
13	2018 Joint Pole Use Audit	27	-	-	-	(27)	-	13	
14	Rate Design and Rates for Electric Vehicle Direct Current Fast Charging Service Application	148	-	-	-	(50)	99	123	
15		$ 1,106	$ -	$ (2)	$ -	$ (480)	$ 625	$ 865	
16									
17	**4. Retroactive Expense Accounts**								
18									
19	**5.Other Accounts**								
20	US GAAP Pension and OPEB Transition Obligation	$ 695	$ -	$ (347)	$ -	$ -	$ 348	$ 522	
21	Advanced Metering Infrastructure Radio-Off Shortfall	49	-	-	-	(24)	25	37	
22		$ 744	$ -	$ (347)	$ -	$ (24)	$ 373	$ 559	
23									
24	**Total Deferral Accounts at Weighted Average Cost of Debt**	$ 1,850	$ -	$ (349)	$ -	$ (504)	$ 998	$ 1,424	
25									
26	Financing Costs at WACD	$ 27	$ -	$ 48	$ -	$ (26)	$ 49	$ 38	

27 Note 1: Gross additions for CPCN Projects Preliminary Engineering after transfers to Construction Work in Progress.

Schedule 12.2

UNAMORTIZED DEFERRED CHARGES AND AMORTIZATION - NON-RATE BASE cont'd
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	12/31/2021	Opening Bal./ Transfer/Adj.	Gross Additions	Less Taxes	Amortization Expense	12/31/2022	Mid-Year Average	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	**Deferral Accounts Financed at Weighted Average Cost of Capital**								
2									
3	**1. Forecasting Variance Accounts**								
4	2020 - 2024 Flow-Through Deferral Account	$ (3,288)	$ -	$ -	$ -	$ 3,288	$ -	$ (1,644)	
5									
6	**2. Rate Smoothing Accounts**								
7									
8	**3. Benefits Matching Accounts**								
9	On Bill Financing (OBF) Participant Loans	$ 1	$ -	$ (1)	$ -	$ -	$ -	$ 1	
10									
11	**4. Retroactive Expense Accounts**								
12									
13	**5.Other Accounts**								
14	MRP Earnings Sharing Account	$ (872)	$ -	$ -	$ -	$ 872	$ -	$ (436)	
15									
16	**Total Deferral Accounts at Weighted Average Cost of Capital**	$ (4,159)	$ -	$ (1)	$ -	$ 4,160	$ -	$ (2,080)	
17									
18	Financing Costs at AFUDC	$ (167)	$ -	$ (122)	$ -	$ 168	(121)	(144)	
19									
20	**Deferral Acconuts Non-Interest Bearing**	$ 50	$ -	$ -	$ -	$ -	$ 50	$ 50	
21									
22									
23	**Total Non Rate Base Deferral Accounts (including financing)**	**$ (1,990)**	**$ -**	**$ (820)**	**$ -**	**$ 3,957**	**$ 1,149**	**$ (421)**	

WORKING CAPITAL ALLOWANCE
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2021 Approved	2022 Forecast	Change	Cross Reference
	(1)	(2)	(3)	(4)	(5)
1	**Cash Working Capital**				
2	Cash Working Capital	$ 6,767	$ 7,061	$ 294	Schedule 14, Line 32, Column 5
3					
4	Add/Less: Funds Unavailable/(Funds Available)				
5	Customers Loans	470	329	(141)	
6	Employee Loans	340	443	103	
7	Inventories - Materials and Supplies	630	612	(18)	
8	Employee Withholdings	(2,163)	(2,191)	(28)	
9	Total	$ 6,044	$ 6,254	$ 210	

CASH WORKING CAPITAL
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2022 at Revised Rates	Lag (Lead) Days	Extended	Weighted Average Lag (Lead) Days	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)
1	**REVENUE**					
2	**Sales Revenue**					
3	Residential Tariff Revenue	$ 195,039	56.0	$ 10,922,184		
4	Commercial Tariff Revenue	104,306	45.1	4,704,201		
5	Wholesale Tariff Revenue	51,249	37.5	1,921,838		
6	Industrial Tariff Revenue	40,800	38.0	1,550,400		
7	Lighting Tariff Revenue	2,411	34.6	83,421		
8	Irrigation Tariff Revenue	3,385	47.0	159,095		
9						
10	**Other Revenue**					
11	Apparatus and Facilities Rental	6,018	90.0	541,620		
12	Contract Revenue	2,277	62.2	141,629		
13	Transmission Access Revenue	1,771	65.2	115,469		
14	Late Payment Charges	875	54.0	47,250		
15	Connection Charges	505	30.5	15,403		
16	Other Utility Income	386	63.4	24,472		
17	Total	$ 409,022		$ 20,226,982	49.5	
18						
19	**EXPENSES**					
20	Power Purchases	$ 143,779	(51.5)	$ (7,404,619)		
21	Wheeling	6,093	(46.9)	(285,762)		
22	Water Fees	11,958	(1.4)	(16,741)		
23	Operating and Maintenance	57,668	(28.6)	(1,649,305)		
24	Property Taxes	17,887	(4.9)	(87,646)		
25	GST	505	(45.4)	(22,932)		
26	Income Tax	7,574	(15.2)	(115,125)		
27	Total	$ 245,464		$ (9,582,130)	(39.0)	
28						
29	Net Lag (Lead) Days				10.5	
30	Total Expenses				$ 245,464	
31						
32	Cash Working Capital				$ 7,061	

SCHEDULE NOT APPLICABLE

UTILITY INCOME AND EARNED RETURN
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2021 Approved	2022 Forecast at 2021 Approved Rates	2022 Forecast Revised Revenue	2022 Forecast at Revised Rates	Change	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	**ENERGY VOLUMES**						
2	Sales Volume (GWh)	3,374	3,306	-	3,306	(68)	Schedule 17, Line 8, Column 3
3							
4	**REVENUE**						
5	Sales	$ 387,642	$ 383,895	$ -	$ 383,895	$ (3,747)	Schedule 17, Line 17, Column 3
6	Deficiency (Surplus)	-	-	13,295	13,295	13,295	
7	Total	387,642	383,895	13,295	397,190	9,548	Schedule 18, Line 7, Column 5
8							
9	**EXPENSES**						
10	Cost of Energy	161,559	161,830	-	161,830	271	Schedule 19, Line 30, Column 3
11	O&M Expense (net)	55,506	57,668	-	57,668	2,162	Schedule 20, Line 23, Column 4
12	Depreciation & Amortization	64,670	63,775	-	63,775	(895)	Schedule 21, Line 11, Column 3
13	Property Taxes	18,242	17,887	-	17,887	(355)	Schedule 22, Line 6, Column 3
14	Other Revenue	(12,221)	(11,832)	-	(11,832)	389	Schedule 23, Line 8, Column 3
15	Deferred 2021 Revenue Deficiency	(5,420)	-	-	-	5,420	
16	Utility Income Before Income Taxes	105,306	94,567	13,295	107,862	2,556	
17							
18	Income Taxes	8,519	3,985	3,589	7,574	(945)	Schedule 24, Line 13, Column 3
19							
20	**EARNED RETURN**	$ 96,787	$ 90,582	$ 9,706	$ 100,288	$ 3,501	Schedule 26, Line 5, Column 7
21							
22	**UTILITY RATE BASE**	$ 1,479,236	$ 1,579,117		$ 1,579,485	$ 100,249	Schedule 2, Line 29, Column 3
23	**RATE OF RETURN ON UTILITY RATE BASE**	6.54%	5.74%		6.35%	-0.19%	Schedule 26, Line 5, Column 6

VOLUME AND REVENUE Schedule 17
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2021 Approved	2022 Forecast	Change	Cross Reference
	(1)	(2)	(3)	(4)	(5)
1	**ENERGY VOLUME SOLD (GWh)**				
2	Residential	1,255	1,283	28	
3	Commercial	952	946	(6)	
4	Wholesale	584	560	(24)	
5	Industrial	537	470	(67)	
6	Lighting	10	10	0	
7	Irrigation	36	37	1	
8	Total	3,374	3,306	(68)	
9					
10	**REVENUE AT EXISTING RATES**				
11	Residential	$ 184,235	$ 188,510	$ 4,275	
12	Commercial	101,451	100,815	(636)	
13	Wholesale	51,623	49,534	(2,089)	
14	Industrial	44,776	39,434	(5,342)	
15	Lighting	2,261	2,330	69	
16	Irrigation	3,298	3,272	(26)	
17	Total	$ 387,642	$ 383,895	$ (3,747)	

REVENUE AT EXISTING AND REVISED RATES
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Schedule 18

Line No.	Particulars	2021 Approved Revenue	2022 Forecast Revenue at 2021 Approved Rates	2022 Forecast Effective Increase	2022 Forecast Revenue at Revised Rates	Average Number of Customers	GWh	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Residential	$ 184,235	$ 188,510	$ 6,529	$ 195,039	127,935	1,283	
2	Commercial	101,451	100,815	3,491	104,306	16,704	946	
3	Wholesale	51,623	49,534	1,715	51,249	11	560	
4	Industrial	44,776	39,434	1,366	40,800	43	470	
5	Lighting	2,261	2,330	81	2,411	1,415	10	
6	Irrigation	3,298	3,272	113	3,385	1,091	37	
7	Total	$ 387,642	$ 383,895	$ 13,295	$ 397,190	147,199	3,306	
8								
9	**Effective Increase**			3.46%				

COST OF ENERGY Schedule 19
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2021 Approved	2022 Forecast	Change	Cross Reference
	(1)	(2)	(3)	(4)	(5)
1	**POWER PURCHASES**				
2	Gross Load (GWh)	3,664	3,591	(73)	
3					
4	**Power Purchase Expense**				
5	Brilliant	$ 41,009	$ 41,841	$ 832	
6	BC Hydro PPA	47,440	44,062	(3,378)	
7	Waneta Expansion	41,640	42,701	1,061	
8	Market and Contracted Producers	14,751	15,102	351	
9	Independent Power Producers	76	73	(3)	
10	Self-Generators	61	-	(61)	
11	CPA Balancing Pool	(0)	-	0	
12	Total	$ 144,977	$ 143,779	$ (1,198)	
13					
14	**WHEELING**				
15	**Wheeling Nomination (MW months)**				
16	Okanagan Point of Interconnection	2,400	2,475	75	
17	Creston	420	420	-	
18					
19	**Wheeling Expense**				
20	Okanagan Point of Interconnect	$ 4,694	$ 4,903	$ 209	
21	Creston	535	542	7	
22	Other	485	648	163	
23	Total	$ 5,714	$ 6,093	$ 379	
24					
25	**WATER FEES**				
26	Plant Entitlement Use in previous year (GWh)	1,559	1,679	120	
27					
28	Water Fees	$ 10,868	$ 11,958	$ 1,090	
29					
30	Total	$ 161,559	$ 161,830	$ 271	

OPERATING AND MAINTENANCE EXPENSE
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	Inflation Indexed O&M	Forecast O&M	Total O&M	Cross Reference
	(1)	(2)	(3)	(4)	(5)
1	**Inflation Indexed O&M**				
2	2021 Base Unit Cost O&M	$ 437			
3	2022 Net Inflation Factor	4.089%			Schedule 3, Line 9, Column 5
4	2022 Base Unit Cost O&M	$ 455			Line 2 x (1 + Line 3)
5					
6	2022 Average Customer Forecast - Rate Setting Purpose	145,378			Schedule 3, Line 22, Column 6
7					
8	2022 Inflation Indexed O&M before prior year True-up	$ 66,147			Line 4 x Line 6 / 1000
9					
10	2020 Average Customer True-up	53			
11					
12	2022 Inflation Indexed O&M	$ 66,200		$ 66,200	Sum of Lines 8 and 10
13					
14	**O&M Tracked Outside of Formula**				
15	Pension & OPEB (O&M Portion)	$ (1,716)			
16	Insurance Premiums	2,223			
17	BCUC Levies	373			
18	MRS	765			
19	Sub-total	$ 1,645		1,645	Sum of Lines 15 through 18
20					
21	**Total Gross O&M**			$ 67,845	Line 12 + Line 19
22	Capitalized Overhead			(10,177)	-15 % x Line 21
23	**Net O&M Expense**			$ 57,668	Sum of Lines 21 and 22

DEPRECIATION AND AMORTIZATION EXPENSE
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2021 Approved	2022 Forecast	Change	Cross Reference
	(1)	(2)	(3)	(4)	(5)
1	**Depreciation**				
2	Depreciation Expense	$ 63,791	$ 66,273	$ 2,482	Schedule 7.1, Line 31, Column 7
3					
4	**Amortization**				
5	Rate Base Deferrals	$ 5,493	$ 5,919	$ 426	Schedule 11, Line 26, Column 6
6	Non-Rate Base Deferrals	(383)	(3,957)	(3,574)	Schedule 12.2, Line 23, Column 6
7	Utility Plant Acquisition Adjustment	186	186	-	
8	CIAC	(4,417)	(4,646)	(229)	Schedule 9, Line 7, Column 5
9		879	(2,498)	(3,377)	
10					
11	Total	$ 64,670	$ 63,775	$ (895)	

PROPERTY AND SUNDRY TAXES
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2021 Approved	2022 Forecast	Change	Cross Reference
	(1)	(2)	(3)	(4)	(5)
1	Generating Plant	$ 3,087	$ 3,210	$ 123	
2	Transmission and Distribution	8,075	7,426	(649)	
3	Substation Equipment	3,843	3,948	105	
4	Land and Buildings	1,112	1,165	53	
5	1% In-Lieu of Municipal Taxes	2,125	2,138	13	
6	Total	$ 18,242	$ 17,887	$ (355)	

OTHER REVENUE
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2021 Approved	2022 Forecast	Change	Cross Reference
	(1)	(2)	(3)	(4)	(5)
1	Apparatus and Facilities Rental	$ 5,930	$ 6,018	$ 88	
2	Contract Revenue	3,088	2,277	(811)	
3	Transmission Access Revenue	1,501	1,771	270	
4	Interest Income	20	20	-	
5	Late Payment Charges	829	875	46	
6	Connection Charges	476	505	29	
7	Other Recoveries	377	366	(11)	
8	Total	$ 12,221	$ 11,832	$ (389)	

INCOME TAXES
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2021 Approved	2022 Forecast	Change	Cross Reference
	(1)	(2)	(3)	(4)	(5)
1	**EARNED RETURN**	$ 96,787	$ 100,288	$ 3,501	Schedule 16, Line 20, Column 5
2	Deduct: Interest on Debt	(42,647)	(42,479)	168	Schedule 26, Line 1+2, Column 7
3	Adjustments to Taxable Income	(31,107)	(37,330)	(6,223)	Line 32
4	Accounting Income After Tax	$ 23,033	$ 20,479	$ (2,554)	
5					
6	1 - Current Income Tax Rate	73.00%	73.00%	0.00%	
7	Taxable Income	$ 31,552	$ 28,053	$ (3,499)	
8					
9	Current Income Tax Rate	27.00%	27.00%	0.00%	
10	Income Tax - Current	$ 8,519	$ 7,574	$ (945)	
11					
12	Previous Year Adjustment	-	-	-	
13	**Total Income Tax**	$ 8,519	$ 7,574	$ (945)	
14					
15					
16	**ADJUSTMENTS TO TAXABLE INCOME**				
17	Addbacks:				
18	Depreciation	$ 63,791	$ 66,273	$ 2,482	Schedule 21, Line 2, Column 3
19	Amortization of Deferred Charges	5,110	1,962	(3,148)	Schedule 21, Line 5+6, Column 3
20	Amortization of Utility Plant Acquisition Adjustment	186	186	-	Schedule 21, Line 7, Column 3
21	Pension Expense	4,231	84	(4,147)	
22	OPEB Expense	1,573	1,607	34	
23					
24	Deductions:				
25	Capital Cost Allowance	(85,236)	(86,234)	(998)	Schedule 25, Line 17, Column 6
26	CIAC Amortization	(4,417)	(4,646)	(229)	Schedule 21, Line 8, Column 3
27	Pension Contributions	(4,505)	(4,419)	86	
28	OPEB Contributions	(734)	(655)	79	
29	Overheads Capitalized Expensed for Tax Purposes	(9,795)	(10,177)	(382)	Schedule 20, Line 22, Column 4
30	Removal Costs	(1,200)	(1,200)	-	
31	All Other	(111)	(111)	-	
32	Total	$ (31,107)	$ (37,330)	$ (6,223)	

CAPITAL COST ALLOWANCE
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Class	CCA Rate	12/31/2021 UCC Balance	2022 Additions	UCC Adjustment for AIIP *	2022 CCA	Forecast 12/31/2022 UCC Balance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	1(a)	4%	$ 160,505	$ -	$ -	$ (6,420)	$ 154,085
2	1(b)	6%	33,395	1,895	947	(2,174)	33,116
3	2	6%	12,131	-	-	(728)	11,403
4	3	5%	682	-	-	(34)	648
5	6	10%	3	-	-	-	3
6	8	20%	3,947	778	389	(1,023)	3,702
7	10	30%	4,831	2,450	1,225	(2,552)	4,729
8	13	0%	11	-	-	-	11
9	14.1 (pre 2017)	7%	7,447	-	-	(521)	6,926
10	14.1 (post 2016)	5%	3,220	978	489	(234)	3,964
11	17	8%	145,639	30,502	15,250	(15,312)	160,829
12	42	12%	8,615	2,559	1,280	(1,494)	9,680
13	45	45%	1	-	-	-	1
14	46	30%	3,869	-	-	(1,161)	2,708
15	47	8%	480,754	66,379	33,189	(46,426)	500,707
16	50	55%	2,815	8,009	4,004	(8,155)	2,669
17	Total		$ 867,865	$ 113,550	$ 56,773	$ (86,234)	$ 895,181
18							
19	* Note - Accelerated Investment Incentive Property						

FORTISBC INC.

Schedule 26

RETURN ON CAPITAL
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	2021 Approved Earned Return	Amount	Ratio	2022 Average Embedded Cost	Cost Component	Earned Return	Earned Return Change	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Long Term Debt	$ 41,714	$ 860,000	54.45%	4.79%	2.61%	$ 41,155	$ (559)	Schedule 27, Line 11, Column 6
2	Short Term Debt	933	87,691	5.55%	1.51%	0.08%	1,324	391	
3	Common Equity	54,140	631,794	40.00%	9.15%	3.66%	57,809	3,669	
4									
5	Total	$ 96,787	$ 1,579,485	100.00%		6.35%	$ 100,288	$ 3,501	
6									
7	Cross Reference		Schedule 2, Line 29, Column 3						

EMBEDDED COST OF LONG TERM DEBT
FOR THE YEAR ENDING DECEMBER 31, 2022
($000s)

Line No.	Particulars	Issue Date	Maturity Date	Average Principal Outstanding	Interest Rate	Interest Expense	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	1993 Debt Issue - Series G	August 28, 1993	August 28, 2023	$ 25,000	8.800%	$ 2,200	
2	2005 Debt Issue - Series 1 - 05	November 9, 2005	November 9, 2035	100,000	5.600%	5,600	
3	2007 Debt Issue - Series 1 - 07	July 4, 2007	July 4, 2047	105,000	5.900%	6,195	
4	2009 Debt Issue - MTN - 09	June 2, 2009	June 2, 2039	105,000	6.100%	6,405	
5	2010 Debt Issue - MTN - 10	November 24, 2010	November 24, 2050	100,000	5.000%	5,000	
6	2014 Debt Issue - MTN - 14	October 28, 2014	October 28, 2044	200,000	4.000%	8,000	
7	2017 Debt Issue - MTN - 17	December 4, 2017	December 6, 2049	75,000	3.620%	2,715	
8	2020 Debt Issue - MTN - 20	May 11, 2020	May 11, 2050	75,000	3.120%	2,340	
9	2021 Debt Issue - MTN - 21	November 1, 2021	November 1, 2051	75,000	3.600%	2,700	
10							
11	Total			$ 860,000		$ 41,155	
12							
13	Average Embedded Cost				4.79%		

12. ACCOUNTING MATTERS

12.1 *INTRODUCTION AND OVERVIEW*

In this section, FBC discusses "Exogenous Factors" under its MRP, identifying one new exogenous factor for Mandatory Reliability Standards (MRS) Assessment Report No. 13 (AR13) and an update on the exogenous factor treatment for the impacts of the COVID-19 pandemic. FBC also discusses emerging accounting guidance, and the status of its non-rate base deferral accounts. With respect to its non-rate base deferral accounts, FBC requests approval for the disposition of one existing deferral account and provides information on the Flow-through deferral account.

12.2 *EXOGENOUS (Z) FACTORS*

FBC is permitted to adjust the cost of service for "Exogenous Factors" under the MRP. The BCUC established the following criteria for evaluating whether the impact of an event qualifies for exogenous factor treatment:

1. The costs/savings must be attributable entirely to events outside the control of a prudently operated utility;
2. The costs/savings must be directly related to the exogenous event and clearly outside the base upon which the rates were originally derived;
3. The impact of the event was unforeseen;
4. The costs must be prudently incurred; and
5. The costs/savings related to each exogenous event must exceed the BCUC-defined materiality threshold.

The materiality threshold (item 5) for FBC has been established at $0.150 million, as approved in the MRP Decision.

FBC has identified one new exogenous factor related to MRS Assessment Report No. 13 that affects 2021, 2022 and future years. FBC is also currently evaluating the impact on its O&M and capital costs from ongoing wildfires in its service area and, similar to the Z-factor treatment approved for the costs of repair associated with wildfires in 2015,[30] if the wildfires result in costs exceeding the materiality threshold, FBC will be updating its Application to include these costs.

In the Annual Review for 2020 and 2021 Rates, FBC identified the COVID-19 pandemic as a potential exogenous factor affecting 2020 and future years, and the BCUC approved FBC's request to record COVID-19 pandemic incremental costs and cost reductions from 2020 and

[30] Order G-202-15.

2021 into the previously approved COVID-19 Customer Recovery Fund Deferral Account.[31] FBC also stated in the Annual Review for 2020 and 2021 Rates application that it would review the amounts in 2021 when actual 2020 amounts and forecasts for future years could be ascertained, and an appropriate recovery method could be determined. FBC provides an update on the COVID-19 pandemic net incremental costs (costs less cost reductions) in Section 12.2.2.

12.2.1 Mandatory Reliability Standards

In the MRP Decision, the BCUC stated that continuing with exogenous factor treatment for costs associated with future policy changes such as new MRS standards, consistent with the approach taken during the 2014-2019 PBR Plan term, was appropriate, as FBC would still be allowed to recover costs that have been reviewed and approved by the BCUC.[32]

FBC accordingly requests exogenous factor treatment for the incremental MRS costs for 2021 and 2022 related to MRS Assessment Report No. 13. The MRS costs identified in this Application meet the exogenous factor criteria, consistent with past MRS assessment report costs which were approved for exogenous factor treatment during the 2014-2019 PBR Plan term.[33]

- The costs are entirely attributed to complying with the changes in BC's MRS program approved by Order R-19-20, which are events outside the control of FBC. These changes were developed by regulatory bodies in the US, assessed for adoption by BC Hydro and then adopted by the BCUC. FBC is legally obligated to comply with the new reliability standards.
- The costs are directly and solely attributable to complying with the changes to the BC MRS program approved by the BCUC. These costs have not been previously incurred and were not known at the time of setting the 2019 Base O&M used to determine formula O&M during the MRP term.
- The costs to comply with the reliability standards that were approved by Order R-19-20 could not have been foreseen at the time the 2019 Base O&M was set as the new standards were either non-existent or under preliminary development at the time.
- FBC will manage its costs to comply with the reliability standards in a prudent manner and the BCUC will have the opportunity to review the costs in subsequent annual reviews.
- For 2021, the incremental MRS costs that qualify for exogenous factor treatment are projected to be $0.100 million and are all O&M expenditures. For 2022, the incremental MRS costs that qualify for exogenous factor treatment are forecast to be $1.700 million, comprised of $0.765 million in incremental O&M expenses and $0.935 million in

[31] FBC Annual Review for 2020 and 2021 Rates Decision and Order G-42-21.
[32] MRP Decision, p. 75.
[33] Orders G-202-15, G-8-17, G-38-18 and G-246-18.

incremental capital expenditures. Please refer to Section 6.3.5 and Section 7.2.2 for details on the incremental O&M and capital expenditures, respectively.

As detailed above, FBC's incremental costs related to MRS AR13 satisfy the exogenous factor criteria. FBC has therefore forecast these costs outside of the O&M and capital formulas described in Sections 6 and 7 of the Application. FBC expects to incur additional costs related to AR13 in 2023 and will provide a forecast of these costs in the 2023 Annual Review.

12.2.2 COVID-19 Pandemic

During the COVID-19 pandemic, FBC has taken the necessary steps as a critical infrastructure service provider to ensure the health, safety and well-being of its customers, employees and their communities, and to continue to operate its system safely and reliably. This has resulted in net incremental O&M impacts to date.

12.2.2.1 FBC Has Reasonably Tracked the Impact of the COVID-19 Pandemic on Net Operating Costs

Consistent with the MRP, FBC's general approach to managing its formula O&M funding is at an overall Company level. O&M funding is prioritized and allocated as required to meet the business environment, conditions and requirements the Company faces. Funding utilized for a specific purpose in one year may be used differently in the following year. As a result, this makes the determination of COVID-19 pandemic net incremental O&M costs from year to year challenging and fluid, particularly for cost reductions, as the Company reprioritizes its funding regularly to meet its needs to provide safe and reliable operations.

Recognizing the above circumstances, FBC has undertaken its best efforts to track and report on the net incremental O&M costs that are directly related to the COVID-19 pandemic. FBC has included in this section all costs that are specifically identifiable as attributable to activities required to respond to the COVID-19 pandemic as part of the overall net incremental costs (costs less cost reductions) discussed below.

However, the COVID-19 pandemic, unlike other events experienced by the Company (e.g. responding to an emergency situation affecting delivery of energy), has a broader impact throughout the organization, making the determination of the incremental costs more challenging. The impact of the COVID-19 pandemic varies in different parts of the business, affecting the determination of the costs that are attributable to the pandemic. For example, there may be incremental costs such as additional overtime costs in departments that are indirectly influenced by the pandemic (e.g. less internal resources available due to reassignment to assist with other priorities) which are difficult to specifically identify. Also, there may be delays in work scheduled as a result of the pandemic that may increase the total cost of the work required which are not specifically identified as COVID-19 pandemic related. While acknowledging these uncertainties, the following summary of net incremental costs provides a reasonable representation of the overall COVID-19 pandemic impact on the Company.

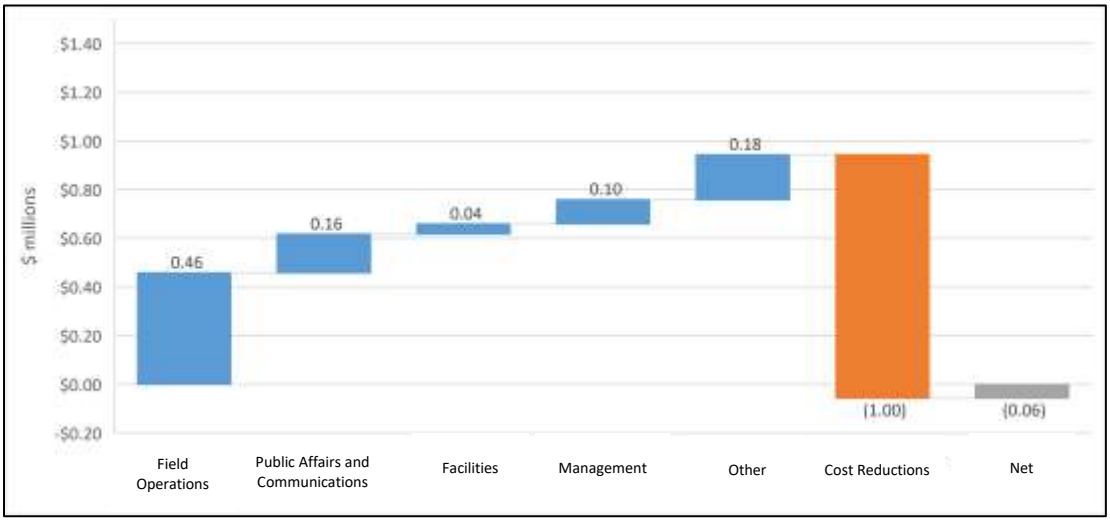
12.2.2.2 Summary of Net Incremental Costs

Overall, in 2020, as a result of the COVID-19 pandemic, the Company's net incremental O&M (costs less cost reductions) decreased by approximately $0.060 million.

12.2.2.3 2020 COVID-19 Pandemic Impact

While the COVID-19 pandemic increased O&M costs in 2020, these costs were offset by lower employee related expenses. As of December 2020, FBC incurred approximately $0.94 million in O&M costs related to the COVID-19 pandemic. These costs were primarily to ensure the health, safety and well-being of FBC's customers, employees, and their communities, and to continue to operate the system safely and reliably. The incremental costs were offset by approximately $1.0 million in cost reductions. The figure below shows the categories of costs incurred and the offsetting savings. Each of the categories is described further below.

Figure 12-1: FBC COVID-19 Pandemic Net O&M Costs



12.2.2.3.1 INCREASED O&M EXPENDITURES DUE TO THE COVID-19 PANDEMIC

In Field Operations, FBC incurred approximately $0.46 million. Of this amount, $0.39 million was related to the sequestering of system control centre employees from having to return to their homes to ensure a safe and healthy work environment for this critical function (i.e., 10 employees were sequestered from April 3 to May 14, both for days on and off shift). FBC also incurred costs for Personal Protective Equipment (PPE).

In Public Affairs Emergency Team and Communications, FBC spent approximately $0.16 million on activities to keep FBC's customers and key stakeholders informed of the Company's assistance available during the COVID-19 pandemic. FBC incurred costs for advertising, various communication materials such as bill inserts, and labour and consultant services required to develop the materials and to monitor and maintain messaging as needed.

FBC incurred approximately $0.04 million for Facilities-related resources and activities, including safety supplies, additional cleaning, first aid coverage, and signage.

Under the category of Management, approximately $0.10 million in management resource costs were added to support the following areas: the operation of the Emergency Operating Centre (EOC); the Human Resources and Environmental, Health and Safety groups' response to COVID-19 pandemic incidents and issues for employees and contractors; and the increased needs of supporting departments such as Information Systems, Supply Chain, Communications and Business Continuity. The resources were necessary to respond to the COVID-19 pandemic and to address the various needs of the health authorities, regulators and organizations like Emergency Management BC.

The Other category of approximately $0.18 million includes miscellaneous items such as different support group costs (e.g. Information Systems and Telus Babylon health service).

12.2.2.3.2 O&M COST REDUCTIONS OFFSET INCREASED COSTS

The cost reductions that FBC achieved consist primarily of lower employee expenses, in part as a response to the travel restrictions, including in and out of province travel, and the effect that the COVID-19 pandemic has had on social interactions. Employee expenses include course fees, travel, meals and accommodation, company function expenses, and employee hiring and relocation expenses.

As at December 2020, the reduced employee expenses identified and reprioritized by departments for addressing COVID-19 pandemic costs were estimated at approximately $0.9 million. In addition to reduced employee expenses, there was an estimated $0.1 million reduction in employee health benefits (dental, employee health spending, etc.) used by employees, bringing the total cost reductions to approximately $1.0 million in 2020.

12.2.2.3.3 NET IMPACT IN 2020 IS NOT MATERIAL

The variances for the net incremental O&M (costs less cost reductions) total to a net decrease of approximately $0.060 million in 2020.

12.2.2.4 2021 COVID-19 Pandemic Impact

Based on the current outlook regarding the COVID-19 pandemic in BC, FBC expects the impact on the Company's operating costs to decline in the coming months and eventually end. FBC's current plans are to resume normal operations coinciding with the Province achieving Step 4 of the Province of BC Four Step Restart Plan, currently planned for September 7, 2021. Step 4 includes the lifting of restrictions with normal social contact allowed and workplaces fully reopened.

To date in 2021, FBC is continuing to incur additional expenditures to manage the impact of the COVID-19 pandemic. The nature of the costs being incurred is similar to that observed in 2020 and includes costs for activities in Field Operations, Public Affairs Emergency Team and

Communications and Facilities. FBC expects to continue to incur additional expenditures to approximately when Step 4 of the Province of BC Four Step Restart Plan begins, at which time the majority of incremental expenditures related to the COVID-19 pandemic, except for expenditures related to the Company's reintegration efforts, will have occurred. FBC is also monitoring for any significant cost reductions related to COVID-19 such as a continued temporary reduction in employee-related expenses that may help to offset the incremental expenditures.

Upon resumption of normal operating conditions expected later this year, FBC will no longer be tracking COVID-19 pandemic related net incremental O&M costs.

12.2.2.5 Conclusion

FBC will report to the BCUC on the final 2021 estimated net incremental O&M costs in the Annual Review for 2023 Rates application. At that time, when the total of the 2020 and 2021 net incremental O&M costs will be available, FBC can make a final recommendation on whether or not the amounts exceed the materiality threshold.

12.3 *ACCOUNTING MATTERS*

In the following section, FBC provides information on emerging accounting guidance.

12.3.1 Emerging Accounting Guidance

In the PBR Plan decision, the BCUC directed FBC to "communicate any accounting policy changes and updates to the Commission and other stakeholders as part of the Annual Review process during the PBR period." While this directive was not included as part of the MRP Decision, FBC will continue to provide accounting policy changes and updates as part of the Annual Review materials.

There are no new accounting policy changes that FBC is proposing, or that are required to be implemented under US GAAP, that result in a change in accounting for 2022.

12.4 *NON RATE BASE DEFERRAL ACCOUNTS*

FBC maintains both rate base and non-rate base deferral accounts. Rate base deferral accounts are included in rate base and earn a rate base return. In contrast, non-rate base deferral accounts are outside of rate base and may have varying rates of return, depending on the nature of the account and the return approved by the BCUC.

In the following sections, FBC requests disposition of one previously approved deferral account, and provides information on its Flow-through deferral account. Information on FBC's non-rate base earnings sharing deferral account is included in Section 10.

12.4.1 Existing Deferral Accounts

12.4.1.1 Rate Design and Rates for Electric Vehicle Direct Current Fast Charging Service Application Deferral Account

In the Annual Review for 2019 Rates Decision and Order G-246-18, FBC received approval to establish a non-rate base deferral account to capture the regulatory proceeding costs associated with the FBC Rate Design and Rates for Electric Vehicle (EV) Direct Current Fast Charging (DCFC) Service proceeding.

The FBC Rate Design and Rates for EV DCFC Service application was filed in 2018 and the proceeding was subsequently adjourned; however, in July 2020 the BCUC re-started the review process. On July 14, 2021, the BCUC issued Order G-215-21 finding that FBC's EV DCFC stations are prescribed undertakings under section 5 of the GGRR and approving FBC to include the assets in FBC's rate base. However, as part of Order G-215-21, the BCUC sought submissions on a potential adjournment of the proceeding and established a regulatory timetable for these submissions. FBC filed its submission on August 3, 2021 and also sought clarity on the directives contained in Order G-215-21.

The forecast opening 2022 balance in the Rate Design and Rates for EV DCFC Service Application deferral account is $0.203 million ($0.148 million after-tax). At this time, given the uncertainty regarding the potential adjournment of the proceeding and the potential future regulatory process, FBC anticipates that further additions to the deferral account may be required in 2021 and 2022 but is unable to estimate the amounts. The actual costs for 2021 and 2022 will be added to the deferral account and the updated balance will be reported on in the next annual review.

FBC seeks approval to amortize the Rate Design and Rates for EV DCFC Service Application deferral account over three years, commencing January 1, 2022. FBC believes a three-year amortization period is appropriate as it is consistent with the recovery period of other similar regulatory proceeding applications and it takes into consideration potential rate impacts.

12.4.1.2 Flow-Through Deferral Account (2020-2024)

As approved by Order G-166-20, the Flow-through deferral account is used to capture the annual variances between the approved and actual amounts for all costs and revenues which are forecast annually, are not subject to earnings sharing, and which do not have a previously approved deferral account. The specific items included in the Flow-through deferral account were set out in Table C4-1 of the MRP Application, reproduced below.

Table 12-1: Variances Captured in the Flow-through Deferral Account

	FEI	FBC
Delivery Revenues (FEI):		
Residential and commercial use rate variances	RSAM	N/A
Customer variances	Flow-through deferral	N/A
Industrial and all other revenue variances	Flow-through deferral	N/A
Revenues and Power Supply (FBC):		
Revenue variances	N/A	Flow-through deferral
Power Supply variances net of PSI	N/A	Flow-through deferral
Gross O&M:		
Index-based O&M variances	Subject to earnings sharing	Subject to earnings sharing
BCUC fees variances	BCUC variances deferral	BCUC variances deferral
Pension & OPEB variances	Pension/OPEB variances deferral	Pension/OPEB variances deferral
All other O&M variances [1,3]	Flow-through deferral	Flow-through deferral
Capitalized Overhead:		
Capitalized overhead variances	No variance	No variance
Depreciation and Amortization:		
Depreciation rate variances	No variance	No variance
Depreciation on Clean Growth Projects [2,3]	Flow-through deferral	Flow-through deferral
Other depreciation variances	Subject to earnings sharing	Subject to earnings sharing
Amortization of deferrals	No variance	No variance
Property Tax:		
Property tax variances	Flow-through deferral	Flow-through deferral
Other Revenues :		
SCP Mitigation revenues variances	SCP Revenues deferral	N/A
CNG/LNG Recoveries variances	CNG/LNG Recoveries deferral	N/A
Revenues from Clean Growth Projects [2,3]	Flow-through deferral	Flow-through deferral
All other other revenue/income variances	Subject to earnings sharing	Subject to earnings sharing
Interest Expense/Cost of Debt:		
Interest on RSAM/CCRA/MCRA/Gas storage	Interest on RSAM/CCRA/MCRA/Gas Storage	N/A
Interest rate variances	Flow-through deferral	Flow-through deferral
Interest on Clean Growth Projects [2,3]	Flow-through deferral	Flow-through deferral
Other interest variances	Subject to earnings sharing	Subject to earnings sharing
Income Tax:		
Income tax rate variances	Flow-through deferral	Flow-through deferral
Income tax on Clean Growth Projects [2,3]	Flow-through deferral	Flow-through deferral
Other income tax variances	Subject to earnings sharing	Subject to earnings sharing

1: Including items forecast outside of the formula such as insurance premiums, NGT stations, biomethane, variable LNG production, integrity digs and EV charging stations.
2: Cost of service for NGT fueling stations and tankers, variable LNG production, and EV stations will be captured in the Flow-through deferral account.
3: Biomethane other revenues will continue to capture the actual cost of service of the biomethane capital assets and transfer it to the BVA

In accordance with the method set out in the table above, the calculation of the 2021 Projected Flow-through amount of $4.360 million credit is shown in Table 12-2 below. To calculate the amount to be distributed to customers, FBC has also included the following adjustments:

- A $0.859 million debit to correct the forecast Cost of Removal in the 2021 financial schedules, as explained further and shown in Table 12-3 below; and
- The $0.213 million debit difference between the projected ending 2020 deferral account balance of zero[34] embedded in 2021 rates, and the actual ending 2020 deferral debit balance of $0.213 million. A more detailed breakout of the 2020 variance is provided in Table 12-4 below. FBC notes that the financing return on this account is included in the aggregate financing of deferral accounts at Section 11, Schedule 12.2, Line 18.

Table 12-2: 2021 Projected Flow-through Deferral Account Additions ($ millions)

Line No.	Particulars	2021 Approved	2021 Projected	After-Tax Flow-Through Variance
	(1)	(2)	(3)	(4)
1	**Total Revenue**	$ (387.642)	$ (389.100)	$ (1.458)
2				
3	**Total Power Purchase Expense**	144.977	141.747	(3.230)
4				
5	**Total Wheeling**	5.714	5.836	0.122
6				
7	**Total Water Fees**	10.868	10.878	0.010
8				
9	**Net O&M Expense**			
10	Pension & OPEB	0.775	0.775	-
11	Insurance	1.916	2.022	0.107
12	BCUC Fees	0.350	0.350	-
13	MRS	-	0.100	0.100
14	Capitalized Overhead	(9.795)	(9.795)	-
15				
16	**Depreciation and Amortization**			
17	Amortization of Deferrals	5.110	5.110	-
18	Depreciation variance on Clean Growth Projects/CPCNs	-	-	-
19	CIAC Amortization variance on Clean Growth Projects/CPCNs	-	-	-
20				
21	**Total Property Taxes**	18.242	17.225	(1.017)
22				
23	**Interest Expense**			
24	Long-term debt interest expense variance	41.714	40.698	(1.016)
25	Interest variance on Clean Growth Projects/CPCNs	-	-	-
26	Short-term debt rate variance	-	(0.500)	(0.500)
27	Short-term debt volume variance from long-term debt issue variance	-	-	-
28	Short-term debt timing variance from long-term debt issue timing	-	0.910	0.910
29				
30	**Income Tax Expense**			
31	Income tax variance on Clean Growth Projects/CPCNs	-	-	-
32	Income tax/CCA rate changes	-	-	-
33	Income tax on taxable flowthrough variances above (excl. Clean Growth Projects/CPCNs)	-	1.613	1.613
34				
35	**2021 After-Tax Flow-Through Amount (excluding Financing and net salvage adjustment)**			**(4.360)**
36				
37	Net salvage forecast adjustment			0.859
38				
39	**2021 After-Tax Flow-Through Addition to Deferral Account (excluding Financing)**			**(3.501)**
40				
41	2020 Ending Deferral Account Balance True-up			0.213
42				
43	**2022 After-Tax Amortization**			**(3.288)**

[34] FBC Annual Review for 2020 and 2021 Rates, October 28, 2020 Evidentiary Update financial schedules, Section 11 – 2021, Schedule 12.2, Line 4, Column 2.

12.4.1.2.1 2021 PROJECTED FLOW-THROUGH VARIANCES

FBC provides the following explanations for the 2021 Projected flow-through variances shown in Table 12-2 above:

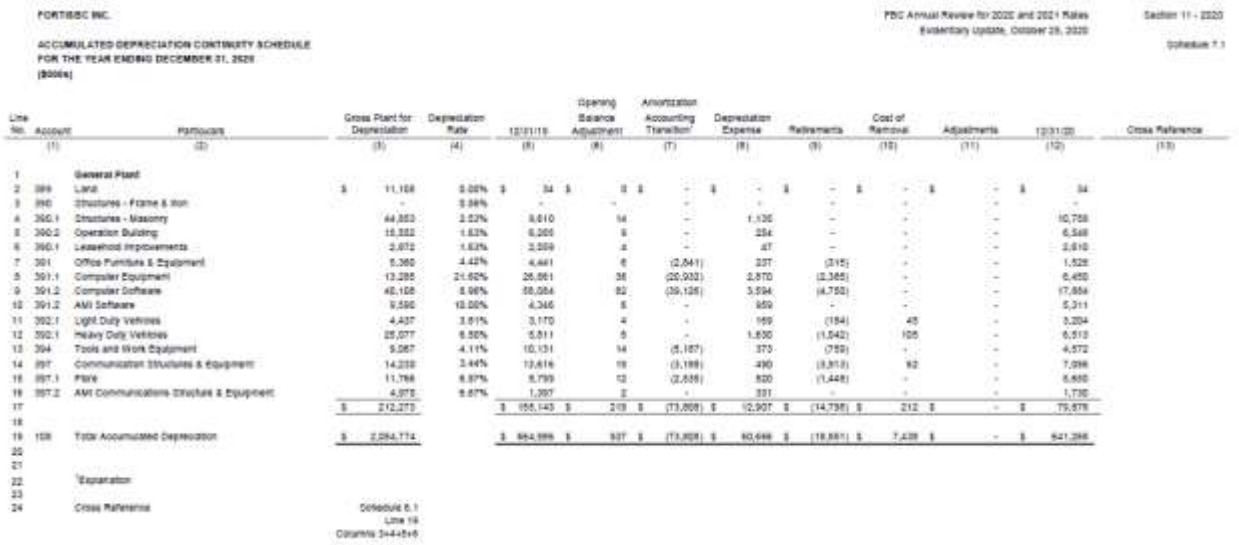
- The variance in revenue is due to increased residential load which is partially offset by decreased industrial, commercial and wholesale loads;
- The variance in power purchase expense is primarily due to additional market purchases used to displace BC Hydro PPA energy and capacity purchases at a lower total cost, as well as a reduction in gross load;
- Variances in wheeling and water fees are discussed in Section 4;
- Flow-through O&M amounts are discussed in Section 6;
- Amortization expense is equal to the approved value;
- Variances in property taxes are described in Section 9;
- The projected interest expense variances are derived from FBC expecting to issue long-term debt later in 2021 than forecast, and FBC projecting a lower short-term interest rate than the approved short-term interest rate, both as described in Section 8; and
- The income tax variance is derived as 27 percent of the aforementioned variances.

An adjustment to include the difference between the projected and final actual amounts for 2021 subject to flow-through will be recorded in the deferral account in 2021 and amortized in 2023 rates.

12.4.1.2.2 2021 FORECAST COST OF REMOVAL

FBC has included a line item in the Flow-through deferral account to correct an error in the financial schedules filed in the FBC Annual Review for 2020 and 2021 Rates, October 28, 2020 Evidentiary Update. This error was recently discovered during the preparation of the 2020 FBC Annual Report to the BCUC. The Cost of Removal amounts shown on Schedules 7 and 7.1, for both 2020 and 2021, were incorrectly shown as positive amounts, when they were in fact negative amounts. Excerpts of both the 2020 and 2021 Schedules 7.1 are provided below in Figures 12-2 and 12-3 below for ease of reference. The Cost of Removal shown in column (10) should have been in parentheses to indicate it was negative, consistent with the format of other numbers in the table. The total Cost of Removal amounts are also shown on Line 10 of Table 12-3 below.

Figure 12-2: 2020 Approved Financial Schedule 7.1



FORTISBC INC.

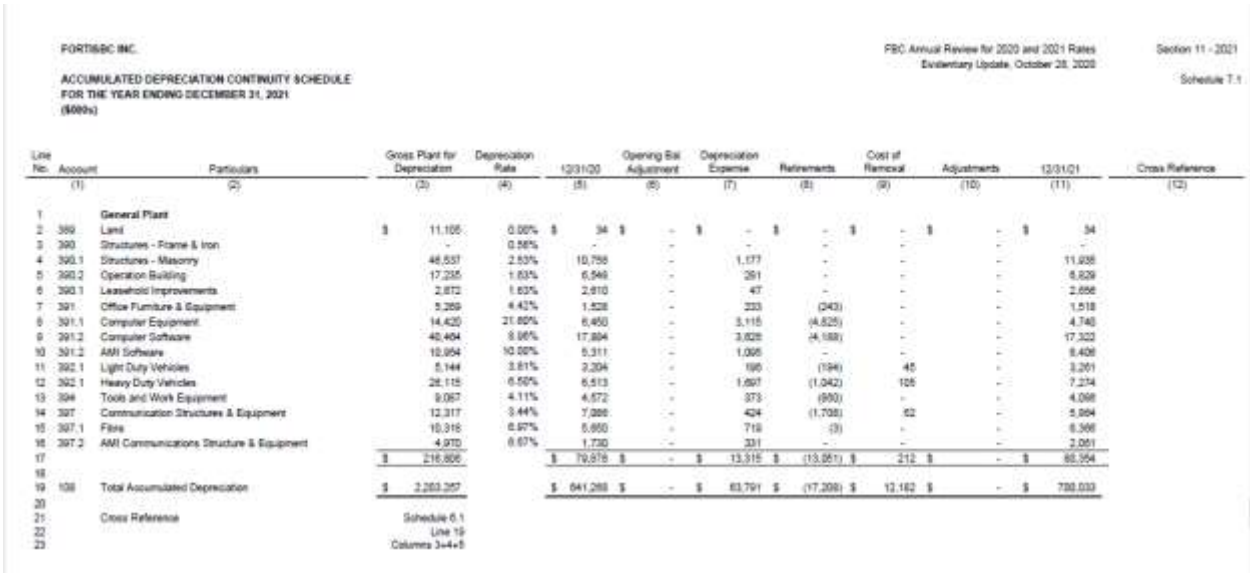
ACCUMULATED DEPRECIATION CONTINUITY SCHEDULE
FOR THE YEAR ENDING DECEMBER 31, 2020
($000s)

FBC Annual Review for 2020 and 2021 Rates
Evidentiary Update, October 28, 2020

Section 11 - 2020
Schedule 7.1

Line No.	Account	Particulars	Gross Plant for Depreciation	Depreciation Rate	12/31/19	Opening Balance Adjustment	Amortization Accounting Transition[1]	Depreciation Expense	Retirements	Cost of Removal	Adjustments	12/31/20	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1		General Plant											
2	389	Land	$ 11,108	0.00%	$ 34	$ -	$ -	$ -	$ -	$ -	$ -	$ 34	
3	390	Structures - Frame & Iron	-	0.56%	-	-	-	-	-	-	-	-	
4	390.1	Structures - Masonry	44,553	2.53%	9,610	14	-	1,130	-	-	-	10,758	
5	390.2	Operation Building	16,332	1.63%	6,266	9	-	264	-	-	-	6,548	
6	390.1	Leasehold Improvements	2,672	1.63%	2,559	4	-	47	-	-	-	2,610	
7	391	Office Furniture & Equipment	5,360	4.42%	4,461	6	(2,641)	237	(315)	-	-	1,528	
8	391.1	Computer Equipment	13,285	21.62%	26,861	38	(20,933)	2,870	(2,365)	-	-	6,450	
9	391.2	Computer Software	40,108	9.96%	58,084	82	(39,126)	5,594	(4,750)	-	-	17,884	
10	391.2	AMI Software	9,590	10.00%	4,346	6	-	959	-	-	-	5,311	
11	392.1	Light Duty Vehicles	4,437	3.81%	3,170	4	-	169	(184)	45	-	3,204	
12	392.1	Heavy Duty Vehicles	25,077	6.56%	5,811	8	-	1,630	(1,042)	105	-	6,513	
13	394	Tools and Work Equipment	9,067	4.11%	10,131	14	(5,187)	373	(750)	-	-	4,572	
14	397	Communication Structures & Equipment	14,230	3.44%	13,616	19	(3,199)	490	(3,913)	92	-	7,096	
15	397.1	Fibre	11,766	6.97%	8,799	12	(2,638)	820	(1,448)	-	-	6,660	
16	397.2	AMI Communications Structure & Equipment	4,973	6.67%	1,397	2	-	331	-	-	-	1,730	
17			$ 212,273		$ 155,143	$ 219	$ (73,808)	$ 12,907	$ (14,736)	$ 212	$ -	$ 79,879	
18													
19	108	Total Accumulated Depreciation	$ 2,084,774		$ 864,999	$ 937	$ (73,808)	$ 80,648	$ (18,881)	$ 7,438	$ -	$ 821,286	
20													
21													
22		[1]Explanation											
23													
24		Cross Reference	Schedule 6.1 Line 19 Columns 3+4+5+6										

Figure 12-3: 2021 Approved Financial Schedule 7.1



FORTISBC INC.

ACCUMULATED DEPRECIATION CONTINUITY SCHEDULE
FOR THE YEAR ENDING DECEMBER 31, 2021
($000s)

FBC Annual Review for 2020 and 2021 Rates
Evidentiary Update, October 28, 2020

Section 11 - 2021
Schedule 7.1

Line No.	Account	Particulars	Gross Plant for Depreciation	Depreciation Rate	12/31/20	Opening Bal Adjustment	Depreciation Expense	Retirements	Cost of Removal	Adjustments	12/31/21	Cross Reference
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1		General Plant										
2	389	Land	$ 11,108	0.00%	$ 34	$ -	$ -	$ -	$ -	$ -	$ 34	
3	390	Structures - Frame & Iron	-	0.56%	-	-	-	-	-	-	-	
4	390.1	Structures - Masonry	46,537	2.53%	10,758	-	1,177	-	-	-	11,935	
5	390.2	Operation Building	17,235	1.63%	6,548	-	281	-	-	-	6,829	
6	390.1	Leasehold Improvements	2,672	1.63%	2,610	-	47	-	-	-	2,656	
7	391	Office Furniture & Equipment	5,269	4.42%	1,528	-	233	(243)	-	-	1,518	
8	391.1	Computer Equipment	14,420	21.80%	6,450	-	3,115	(4,825)	-	-	4,740	
9	391.2	Computer Software	40,464	9.96%	17,884	-	3,828	(4,188)	-	-	17,523	
10	391.2	AMI Software	10,954	10.00%	5,311	-	1,095	-	-	-	6,406	
11	392.1	Light Duty Vehicles	5,144	3.81%	3,204	-	196	(194)	45	-	3,251	
12	392.1	Heavy Duty Vehicles	28,115	6.56%	6,513	-	1,697	(1,042)	105	-	7,274	
13	394	Tools and Work Equipment	9,067	4.11%	4,572	-	373	(950)	-	-	4,096	
14	397	Communication Structures & Equipment	12,317	3.44%	7,096	-	424	(1,708)	92	-	5,904	
15	397.1	Fibre	10,316	6.97%	6,660	-	719	(3)	-	-	6,366	
16	397.2	AMI Communications Structure & Equipment	4,970	6.67%	1,730	-	331	-	-	-	2,061	
17			$ 216,806		$ 79,878	$ -	$ 13,315	$ (13,061)	$ 212	$ -	$ 80,354	
18												
19	108	Total Accumulated Depreciation	$ 2,283,257		$ 841,288	$ -	$ 63,791	$ (17,209)	$ 12,162	$ -	$ 799,033	
20												
21		Cross Reference	Schedule 6.1 Line 19 Columns 3+4+5									

The inadvertent error by FBC in its 2020 and 2021 financial schedules resulted in a reduction to the approved rate base amounts for both 2020 and 2021, and resulted in an under-forecasting of the related revenue requirement amounts and an under-collection of rate revenues. The impact of the under-collection of rate revenues is partially mitigated by FBC's approved earnings sharing mechanism, which will recover half the rate base revenue requirement impacts of the error and record them in the Earnings Sharing deferral account to be recovered in future revenue requirements.

FBC incurred a revenue shortfall of $228 thousand in 2020 due to the error. FBC is not proposing any mechanism to recover this amount given that 2020 actuals have been finalized.

FBC is, however, requesting approval to recover its unrecovered revenue in 2021 of $859 thousand through a one-time adjustment to the Flow-through deferral account. The 2021 amount of $859 thousand is shown on Line 37 in Table 12-2 above, and a calculation of how that amount was derived is included in Table 12-3 below.

FBC apologizes for the error in its 2020 and 2021 financial schedules. FBC makes best efforts to avoid such errors; however, the scope and complexity of modern regulatory processes makes a standard of perfection unachievable. While correcting for the impacts of the error in 2021 requires the collection of unrecovered 2021 revenue in FBC's proposed 2022 rates, the unrecovered revenue was due to an unintentional clerical error, rather than any inaccuracy in FBC's forecast that would properly be the responsibility of FBC to manage. While in this instance the error resulted in an under-collection from customers, clerical errors of this nature could positively or negatively impact customers. Had the error resulted in an over-collection from customers, FBC would have refunded the amounts to customers, as has been the practice with similar items in the past. It is also relevant that FBC is applying to correct the error in 2021 rates during 2021, before 2021 actuals have been finalized and as part of the flow-through of other variances that occurred in 2021. In these circumstances, FBC submits that its proposal to remedy the impacts of the error in 2021 through a one-time adjustment to the Flow-through deferral account reflects a just balancing of interests between FBC and its customers.

Table 12-3: Calculation of 2020 and 2021 Unrecovered Revenue ($ thousands)

Line	Particular	2020 Approved	2020 Corrected	2021 Approved	2021 Corrected
1	Gross Plant in service, Beginning	$ 2,112,240	$ 2,112,240	$ 2,162,849	$ 2,162,849
2	Opening Balance Adjustment	(47,893)	(47,893)	-	-
3	CPCN's	20,427	20,427	40,407	40,407
4	Additions	97,027	97,027	103,626	103,626
5	Disposals/Retirements	(18,951)	(18,951)	(17,208)	(17,208)
6	Gross Plant in service, Ending	2,162,849	2,162,849	2,289,676	2,289,676
7					
8	Accumulated Depreciation Beginning - Plant	(664,986)	(664,986)	(641,268)	(626,392)
9	Opening Balance Adjustment	72,871	72,871	-	-
10	**Cost of Removal**	**(7,438)**	**7,438**	**(12,182)**	**12,182**
11	Additions and Retirements	(41,715)	(41,715)	(46,583)	(46,583)
12	Accumulated Depreciation Ending - Plant	(641,268)	(626,392)	(700,033)	(660,793)
13					
14	Contributions in aid of construction, Beginning	(209,719)	(209,719)	(220,826)	(220,826)
15	Opening Balance Adjustment	-	-	-	-
16	Contributions in aid of construction, Ending	(220,826)	(220,826)	(232,291)	(232,291)
17					
18	Accumulated Amortization Beginning - CIAC	75,672	75,672	79,867	79,867
19	Opening Balance Adjustment	-	-	-	-
20	Accumulated Amortization Ending - CIAC	79,867	79,867	84,283	84,283
21					
22	Net plant in service, Mid-year	$ 1,359,404	$ 1,366,842	$ 1,411,129	$ 1,438,187
23	Adjustment for timing of Capital additions	10,214	10,214	20,204	20,204
24	Capital Work in Progress, No AFUDC	11,228	11,228	11,228	11,228
25					
26	Sub-total	1,380,846	1,388,284	1,442,560	1,469,618
27					
28	Unamortized Deferred Charges	20,398	20,398	25,696	25,696
29	Working Capital	5,788	5,788	6,044	6,044
30	Utility Plant Acquisition Adjustment	5,121	5,121	4,935	4,935
31	**Mid-Year Utility Rate Base**	**1,412,153**	**1,419,591**	**1,479,236**	**1,506,294**
32					
33	**Revenue Requirement Impact**				
34	Capital Structure				
35	STD Rate	1.86%	1.86%	2.22%	2.22%
36	STD Ratio	4.55%	4.55%	2.84%	2.84%
37	LTD Rate	5.05%	5.05%	4.93%	4.93%
38	LTD Ratio	55.45%	55.45%	57.16%	57.16%
39	ROE	9.15%	9.15%	9.15%	9.15%
40	Equity Thickness	40.00%	40.00%	40.00%	40.00%
41					
42	**Earned Return**				
43	Short Term Debt (assumes corrected amount would have impacted ST debt only)	1,195	1,278	933	1,294
44	Long Term Debt	39,566	39,566	41,714	41,714
45	ROE	51,685	51,957	54,140	55,130
46	**Total Earned Return**	**92,446**	**92,801**	**96,787**	**98,138**
47					
48	**Income Taxes**				
49	Earned Return	92,446	92,801	96,787	98,138
50	Deduct - Interest on Debt	(40,761)	(40,844)	(42,647)	(43,008)
51	Net Additions (Deductions)	(38,386)	(38,386)	(38,386)	(38,386)
52					
53	Tabable Income before Tax	13,299	13,571	15,754	16,744
54					
55	Income Tax Rate (Current Tax)	27%	27%	27%	27%
56	1 - Current Income Tax Rate	73%	73%	73%	73%
57					
58	**Income Tax Expense**	**4,919**	**5,019**	**5,827**	**6,193**
59					
60	**Revenue Requirement**				
61	Earned Return	92,446	92,801	96,787	98,138
62	Income Tax	4,919	5,019	5,827	6,193
63	**Total**	**97,365**	**97,821**	**102,614**	**104,331**
64	**Surplus / (Deficiency)**		**(456)**		**(1,717)**
65	Sharing %		50%		50%
66	**Customers share of Surplus / (Deficit) Earnings (net of tax)**		**(228)**		**(859)**

12.4.1.2.3 2020 FLOW-THROUGH DEFERRAL ACCOUNT TRUE-UP

As mentioned above, FBC is also providing a breakdown of the 2020 true-up amount of $0.213 million debit in Table 12-4 below, along with an explanation of the variances.

Table 12-4: 2020 Actual vs. Projected Flow-through Deferral Account Additions ($ millions)

Line No.	Particulars	2020 Projected	2020 Actual	After-Tax Flow-Through Variance
	(1)	(2)	(3)	(4)
1	**Total Revenue**	$ (366.652)	$ (367.196)	$ (0.544)
2				
3	**Total Power Purchase Expense**	138.772	139.354	0.582
4				
5	**Total Wheeling**	5.747	5.846	0.099
6				
7	**Total Water Fees**	10.968	10.968	-
8				
9	**Net O&M Expense**			
10	Pension & OPEB	0.470	0.470	-
11	Insurance	1.691	1.691	-
12	Upper Bonnington Old Unit Inspections	(0.043)	(0.043)	-
13	BCUC Fees	0.330	0.330	-
14	Capitalized Overhead	(9.330)	(9.330)	-
15				
16	**Depreciation and Amortization**			
17	Amortization of Deferrals	(2.759)	(2.759)	-
18	Depreciation variance on Clean Growth Projects/CPCNs	-	(0.017)	(0.017)
19	CIAC Amortization variance on Clean Growth Projects/CPCNs	-	-	-
20				
21	**Total Property Taxes**	16.993	16.990	(0.003)
22				
23	**Interest Expense**			
24	Long-term debt interest expense variance	39.565	39.565	-
25	Interest variance on Clean Growth Projects/CPCNs	-	0.000	0.000
26	Short-term debt rate variance	-	0.245	0.245
27	Short-term debt volume variance from long-term debt issue variance	-	-	-
28	Short-term debt timing variance from long-term debt issue timing	-	-	-
29				
30	**Income Tax Expense**			
31	Income tax variance on Clean Growth Projects/CPCNs	-	(0.047)	(0.047)
32	Income tax/CCA rate changes	-	-	-
33	Income tax on taxable flowthrough variances above (excl. Clean Growth Projects/CPCNs)	-	(0.102)	(0.102)
34				
35	**2020 Ending Deferral Account Balance True-up**			**0.213**

The 2020 Actual variances shown in Table 12-4 above are described as follows:

- The variance in revenue of $0.544 million was due to higher than forecast customer growth, higher residential UPC and increased commercial loads. Favourable variances in residential ($1.163 million), commercial ($1.558 million) and lighting ($0.662 million) revenue were partially offset by unfavourable variances in wholesale ($0.550 million), industrial ($1.817 million), and irrigation ($0.471 million) revenue;
- The increase in power purchase expense of $0.582 million was primarily due to market savings coming in below forecast. FBC had included $1.500 million in forecast savings for the fourth quarter of 2020 in the 2020 Projected amount but, due to system and market conditions, was not able to realize those savings. This increase was partially offset by total actual 2020 gross load coming in lower than approved;
- The increase in wheeling costs of $0.099 million was primarily due to increased use of both the Open Access Transmission Tariff and Teck 71L wheeling;

- Actual property tax expenses were $0.003 million lower, which is comparable to the approved amount;
- The variance between the actual (2.24 percent) and approved (1.86 percent) short-term debt interest rates results in an amount recoverable from customers of $0.245 million,[35] shown on Line 26 of the table above;
- The favourable income tax variance of $0.102 million is calculated as 27 percent of the aforementioned variances; and
- The combined favourable variance of $0.064 million related to depreciation, CIAC amortization, interest and tax variances on Clean Growth/CPCN amounts, shown on Lines 18, 19, 25 and 31, respectively, were derived for 2020 by comparing the actual 2020 cost of service impacts of the UBO and Corra Linn projects to the amounts forecast for those same projects.

12.5 *SUMMARY*

FBC has discussed one new exogenous factor that affects rates in 2022 and provided an update on a previously discussed potential exogenous factor, has provided an update on certain accounting related matters, requested approval for the disposition of one existing deferral account, and included information on the Flow-through deferral account.

[35] (2.24% - 1.86%) x $64.292 million forecast 2020 short-term debt in Schedule 26 of October 28, 2020 Evidentiary Update financial schedules.

13. SERVICE QUALITY INDICATORS

13.1 *INTRODUCTION AND OVERVIEW*

Under the MRP, SQIs are used to monitor the Utility's performance to ensure that any efficiencies and cost reductions do not result in a degradation of the quality of service to customers.

In the MRP Decision and Order G-166-20, the BCUC approved a balanced set of SQIs for FBC, covering safety, responsiveness to customer needs, and reliability. Eight of the SQIs have benchmarks and performance ranges set by a threshold level. Four of the SQIs are for information only and as such do not have benchmarks or performance ranges.

In the subsections below, FBC reports on its 2020 and June 2021 year-to-date performance as measured against the SQI benchmarks and thresholds. The 2020 and June 2021 year-to-date SQI results indicate that the Company's overall performance to date meets service quality requirements. In 2020, for the eight SQIs with benchmarks, six met or were better than the benchmark, with two better than the threshold. For the four SQIs that are informational only, performance generally remains at a level consistent with prior years. In 2021 to date, performance for the metrics with benchmarks are trending towards meeting the benchmark or the threshold.

Consistent with how SQIs were reviewed during the 2014-2019 PBR Plan term,[36] FBC has provided 2020 and year-to-date 2021 SQI results in this annual review. In accordance with Order G-44-16, the BCUC will evaluate FBC's actual 2021 SQI performance in the Annual Review for 2023 Rates when actual SQI results are known. FBC also notes that it will provide information on the 2022 year-to-date SQI results in the Annual Review for 2023 Rates.

13.2 *REVIEW OF THE PERFORMANCE OF SERVICE QUALITY INDICATORS*

For each SQI, Table 13-1 provides a comparison of FBC's 2020 and June year-to-date performance for 2021 to the proposed benchmarks and thresholds approved as part of the MRP. Actual 2020 and June year-to-date results for 2021 are also provided for the four informational SQIs.

[36] MRP Decision page 99: "the Panel determines that the existing approved process for interpreting metric performance is to remain in effect over the term of the MRPs."

Table 13-1: Approved SQIs, Benchmarks and Actual Performance

Performance Measure	Description	Benchmark	Threshold	2020 Results	June 2021 YTD Results
Safety SQIs					
Emergency Response Time	Percent of calls responded to within two hours	>=93%	90.6%	92%	94%
All Injury Frequency Rate (AIFR)	3 year average of lost time injuries plus medical treatment injuries per 200,000 hours worked	<=1.64	2.39	0.87	0.65
Responsiveness to Customer Needs SQIs					
First Contact Resolution	Percent of customers who achieved call resolution in one call	>=78%	74%	82%[37]	81%
Billing Index	Measure of customer bills produced meeting performance criteria	<=3.0	5.0	0.13	0.16
Meter Reading Accuracy	Number of scheduled meters that were read	>=98%	96%	99%	98%
Telephone Service Factor (Non-Emergency)	Percent of non-emergency calls answered within 30 seconds or less	>=70%	68%	70%	69%
Customer Satisfaction Index	Informational indicator - measures overall customer satisfaction	-	-	8.5	8.4
Average Speed of Answer	Informational indicator – the amount of time it takes to answer a call (seconds)	-	-	71	66
Reliability SQIs					
System Average Interruption Duration Index (SAIDI) – Normalized	Annual SAIDI (average of cumulative customer outage time)	3.22[38]	4.52	3.17	2.90
System Average Interruption Frequency Index (SAIFI) - Normalized	Annual SAIFI (average customer outage)	1.57	2.19	1.64	1.64
Generator Forced Outage Rate	Informational indicator – Percent of time a generating unit is removed from service due to component failure or other events.	-	-	1.26%	0.04%

[37] First Contact Resolution surveying was suspended from March 23 - May 3, 2020 as a result of the COVID-19 pandemic, thus the 2020 results do not contain data for the period that surveys were suspended.

[38] Benchmarks and thresholds for SAIDI and SAIFI were approved in the FBC Annual Review for 2020 and 2021 Rates Decision and Order G-42-21.

Performance Measure	Description	Benchmark	Threshold	2020 Results	June 2021 YTD Results
Interconnection Utilization	Informational indicator – percent of time that an interconnection point was available and providing electrical service to wholesale customers.	-	-	99.89%	99.87%

In the following sections, FBC reviews each SQI's year-to-date individual performance in 2020 and 2021. Discussion is also provided for the informational SQIs.

13.2.1 Safety Service Quality Indicators

Emergency Response Time

Emergency Response Time is the time elapsed from the initial identification of a loss of electrical power (via a customer call or internal notification) to the arrival of FBC personnel on site at the trouble location. This metric provides ongoing information to assess FBC crew sizes and crew locations in response to system trouble. The target measures the percentage of emergency calls responded to within two hours. The measure is calculated as follows:

$$\frac{\text{Number of emergency calls responded to within two hours}}{\text{Total number of emergency calls in the year}}$$

There are many variables affecting the response time, including time of day (i.e., during business hours or after business hours), number and type of events (i.e., widespread outages), available resources, location (i.e., travel times and traffic congestion) and weather conditions.

The 2020 result was 92 percent which was better than the threshold of 90.6 percent. The June 2021 year-to-date performance is 94 percent, which is better than the benchmark of 93 percent.

For comparison, the Company's annual results under the 2014-2019 PBR Plan, the 2020 results and the June 2021 year-to-date emergency response time results are provided below. While the results have been relatively consistent, variables such as the location and severity of outage and the number of trouble calls contribute to the observed volatility in the annual performance for this metric.

Table 13-2: Historical Emergency Response Time

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Results	91%	92%	97%	93%	94%	92%	92%	94%
Benchmark	93%							
Threshold	90.6%							

All Injury Frequency Rate

The All Injury Frequency Rate (AIFR) is an employee safety performance indicator based on injuries per 200,000 hours worked, with injuries defined as lost time injuries (i.e., one or more days missed from work) and medical treatments (i.e., medical treatment was given or prescribed). The annual performance for this metric is calculated as:

$$\frac{\text{Number of Employee Injuries x 200,000 hours}}{\text{Total Exposure Hours Worked}}$$

For the purpose of this SQI, the measurement of performance is based on the three-year rolling average of the annual results.

The 2020 (three-year rolling average) result was 0.87 which was better than the benchmark of 1.64. The 2020 annual AIFR was 0.66 which reflected 1 Medical Treatment and 2 Lost Time Injuries.

The June 2021 year-to-date performance (three-year rolling average) result is 0.65 which is better than the benchmark. The June 2021 year-to-date performance (annual) is 1.67 and reflects 1 Medical Treatment and 3 Lost Time Injuries.

Strengthening the safety culture continues to be a key driver for FBC, building on the commitment to learn from safety events, identify safety hazards, assess risk and continually improve through the implementation and sustainment of robust safety barriers and controls.

For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date AIFR results are provided below.

Table 13-3: Historical All Injury Frequency Rate Results

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Annual Results	3.21	1.54	1.15	1.13	1.56	0.46	0.66	1.67
Three year rolling average	2.58	2.52	1.97	1.27	1.28	1.06	0.87	0.65
Benchmark	1.64							
Threshold	2.39							

13.2.2 Responsiveness to Customer Needs Service Quality Indicators

First Contact Resolution

First Contact Resolution (FCR) measures the percentage of customers who receive resolution to their issue in one contact with FBC. The Company determines the FCR results using a customer survey, tracking the number of customers who responded that their issue was

resolved in the first contact with the Company. The FCR rate is impacted by factors such as the quality and effectiveness of the Company's coaching and training programs and the composition of the different call drivers.

The 2020 result was 82 percent which was better than the benchmark of 78 percent. This result excludes surveys from March 23 to May 3, 2020, as all Service Quality Measurement (SQM) surveys were suspended during that time due to the COVID-19 pandemic. The June 2021 year-to-date performance is 81 percent which is also better the benchmark.

For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date results are provided below.

Table 13-4: Historical First Contact Resolution Levels

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Annual Results	73%	76%	79%	80%	82%	82%	82%	81%
Benchmark	78%							
Threshold	72%						74%	

Billing Index

The Billing Index indicator tracks the effectiveness of the Company's billing system by measuring the percentage of customer bills produced meeting performance criteria. The Billing Index is a composite index with three components:

- Billing completion (percent of accounts billed within two days of the billing due date);
- Billing timeliness (percent of invoices delivered to Canada Post within two days of file creation); and
- Billing accuracy (percent of bills without a production issue based on input data).

The objective is to achieve a score of five or less.

The Billing Index is impacted by factors such as the performance of the Company's billing system, weather variability, which can cause a high volume of billing checks and estimation issues, and mail delivery by Canada Post.

The 2020 result was 0.13 which was better than the benchmark of 3.0. No significant billing issues occurred in 2020. The June 2021 year-to-date result is 0.16, which is also better than the benchmark.

The 2020 Billing Index sub-measures calculation is as follows.

Table 13-5: Calculation of 2020 Billing Index

Billing sub-measure	Percent Achieved (PA)	Formula		Result
Billing Accuracy (Percent of bills without a Production Issue, based on input data); Target: 99.9%	100.00%	If (PA≥99.9%,5000*(1 - PA),100*(1.05-PA))	=5000*(1-1)	0.00
Billing Timeliness (Percent of invoices delivered to Canada Post within 2 days of file creation); Target: 95%	100.00%	(100%-PA)*100	=(100%-100%)*100	0.00
Billing Completion (Percent of accounts billed within 2 days of the billing due date); Target: 95%	99.60%	(100%-PA)*100	=(100%-99.60%)*100	0.40
Billing Service Quality Indicator; Target < 3.0		(Accuracy PA+Timeliness PA+Completion PA)/3	=(0+0+0.40) /3	0.13

For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date results are provided below.

Table 13-6: Historical Billing Index Results

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Annual Results	2.34	0.39	0.57	0.15	0.29	1.96	0.13	0.16
Benchmark	5.0						3.0	
Threshold	5.0							

Meter Reading Accuracy

This SQI compares the number of meters that are read to those scheduled to be read. Providing accurate and timely meter reads for customers is a key driver for the Company and its customers. The results are calculated as:

$$\frac{\text{Number of scheduled meters read}}{\text{Number of scheduled meters for reading}}$$

The 2020 result was 99 percent, which was better than the benchmark. The June 2021 year-to-date result is 98 percent, which meets the benchmark.

For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date results are provided below.

Table 13-7: Historical Meter Reading Accuracy Results

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Annual Results	98%	96%	99%	99%	99%	99%	99%	98%
Benchmark	97%						98%	
Threshold	94%						96%	

Telephone Service Factor (Non-Emergency)

The Telephone Service Factor (Non-Emergency) measures the percentage of non-emergency calls that are answered in 30 seconds. It is calculated as:

$$\frac{\text{Number of non-emergency calls answered within 30 seconds}}{\text{Number of non-emergency calls received}}$$

The TSF is a measure of how well the Company can balance costs and service levels with the overall objective to maintain a consistent TSF level. This ensures the Company is staying within appropriate cost levels and maintaining adequate service for its customers. The principal factors influencing the TSF results include volume and type of inbound calls received and the resources available to answer those calls. Staffing is matched to the expected call volume based on historical data in order to reach the service level benchmark desired. Other factors that can influence the TSF are billing system related issues and weather patterns that may generate high numbers of billing related queries and the complexity of the calls.

The 2020 result was 70 percent which met the benchmark. The June 2021 year-to-date performance is 69 percent, which is above the threshold. Although lower than the benchmark on a mid-year basis, the Company expects to achieve the benchmark performance level for 2021.

For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date results are provided below. As discussed in the Annual Review for 2015 Rates, the 2014 result was negatively impacted by events such as the first verified meter readings occurring after the IBEW labour disruption ended in December 2013, introduction of the Residential Conservation Rate, and the integration of the City of Kelowna customers.

Table 13-8: Historical TSF Results

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Annual Results	48%	71%	70%	70%	72%	70%	70%	69%
Benchmark	70%							
Threshold	68%							

Customer Satisfaction Index

The Customer Satisfaction Index (CSI) is an informational indicator that measures overall customer satisfaction with the Company. The index reflects customer feedback about important service touch points including the contact centre, perceived accuracy of meter reading, energy conservation information and field services. The index includes feedback from both residential and commercial customers. The survey is conducted quarterly and results are presented as a score out of ten.

The CSI survey investigates service quality as well as customer attitudes that are often influenced by factors outside the Company's control. Important examples include storm-related unplanned outages and media coverage.

The annual CSI score for 2020 was 8.5, the same as that obtained in 2019. There were no statistically significant shifts from 2019 to 2020 in the five measures that make up the overall customer satisfaction score. The score for overall satisfaction, which has the highest weighting, increased from 8.4 in 2019 to 8.5 in 2020. The scores for satisfaction with the accuracy of meter reading and energy conservation metrics decreased from 8.3 in 2019 to 8.2 in 2020, and 7.7 in 2019 to 7.6 in 2020, respectively. In addition, the scores for the satisfaction with the contact centre and field services metrics decreased from 8.6 in 2019 to 8.5 in 2020, and 9.1 in 2019 to 9.0 in 2020, respectively.

The score for 2021 year-to-date is 8.4 which is lower than the 8.5 annual score recorded for 2020. Of the five measures that make up the overall customer satisfaction score, the results for June 2021 year-to-date were lower in three areas, higher in one, and static in one when compared to the annual 2020 scores. The scores for overall satisfaction and satisfaction with energy conservation information decreased from 8.5 to 8.3 and 7.6 to 7.5, respectively. Also, satisfaction with the contact centre decreased from 8.5 to 8.4. For satisfaction with field services, the 2021 year-to-date score increased from 9.0 to 9.1 compared to the 2020 annual score. The score for the accuracy of meter reading metric was static at 8.2, from results achieved in 2020. None of these changes are statistically significant.

For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date results are provided below.

Table 13-9: Historical Customer Satisfaction Results

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Annual Results	8.1	8.1	8.2	8.2	8.3	8.5	8.5	8.4
Benchmark	n/a							
Threshold	n/a							

Average Speed of Answer

The Average Speed of Answer (ASA) is an informational indicator that measures the amount of time it takes for a customer service representative to answer a customer's call (seconds).

The 2020 result was 71 seconds and the June 2021 year-to-date performance is 66 seconds.

For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date results are provided below.[39] As with previous years, both 2020 and 2021 remain within a reasonable range from a customer experience perspective in that, on average, calls to the contact centre were answered in and around the one minute mark.

The 2021 year-to-date results are improving over the 2020 results and FBC expects this to continue.

Table 13-10: Average Speed of Answer

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Annual Results	226	49	48	49	49	49	71	66
Benchmark	n/a							
Threshold	n/a							

13.2.3 Reliability Service Quality Indicators

FBC measures transmission and distribution system reliability according to the Institute of Electrical and Electronics Engineers (IEEE) method of normalizing reliability statistics by excluding "major events". Major events are identified as those that cause outages exceeding a threshold number of customer-hours. Threshold values are calculated by applying a statistical method called the "2.5 Beta" adjustment to historical reliability data. Any single outage event that exceeds the threshold value is excluded from the reliability data. Excluding major events allows them to be studied separately and reveals trends in daily operations that would be hidden or skewed if they were included in the data set. Major event days in the FBC service territory have been caused by mudslides, wind or snow storms, and wildfires.

Reported outages included in these measures are of one minute or longer in duration, which is consistent with the Canadian Electricity Association (CEA) standard for reporting.

System Average Interruption Duration Index (SAIDI) – Normalized

SAIDI is the amount of time the average customer's power is off during the year (i.e., the total amount of time the average customer's clock would lose during a year), after adjusting for the impact of major events as described above, and is calculated as follows:

[39] ASA in 2014 is higher than other years due to the impact of the six months of job action that took place in Q3 and Q4 of 2013. This job action resulted in a higher number of bill estimates, which led to a higher volume of customer inquiries in 2014 as bill adjustments were made reflecting actual meter reads.

$$\frac{\text{Total Customer Hours of Interruption}}{\text{Total Number of Customers Served}}$$

Customer Hours of Interruption related to a power outage are calculated by multiplying the number of customers affected by the outage by the duration of the outage.

For the purpose of this SQI, the measurement of performance is based on the annual results.

The 2020 result was 3.17 and the June 2021 year-to-date performance is 2.90, which are both better than the benchmark of 3.22. In 2020, there were four days that qualified as a "major event" day. The first major event day was a heavy snowstorm that started in the afternoon of December 31, 2019 and continued to January 1, 2020. It resulted in approximately 20,000 customer hours interrupted and impacted 1,100 customers on December 31. The January 1, 2020 totals were approximately 37,000 customer hours interrupted and impacted 5,000 customers. The second major event day was on March 4, 2020 due to a major windstorm. It impacted approximately 13,750 customers and 63,800 customer hours. The third major event day occurred on September 7, 2020 where a major wind storm moved through the West Kootenay causing outages to approximately 12,000 customers with 19,600 customer-interruptions and 212,800 customer-hours of interruption. This event is the highest total customer hours FBC has on record (dating back to 2003). Restoration efforts took over three days to complete and required support from FBC crews from the Okanagan, contractor crews from across the Province as well as mutual aid from BC Hydro. The fourth major event day was on December 21, 2020 where a major snowstorm moved through the Okanagan and Kootenays causing approximately 15,000 customer-interruptions and 60,600 customer-hours of interruption.

In 2021 to-date, there have been two days that qualified as a "major event" day. On January 13, a major wind storm across the Okanagan and Kootenays caused approximately 11,000 customer-interruptions and totaled over 155,000 customer hours of interruption. Additionally, on April 18, a major wind storm across the West Kootenays caused approximately 19,800 customer-interruptions and totaled over 200,800 customer-hours of interruption. Of note, this event is the second highest total customer hours interrupted FBC has on record since 2003.

For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date results are provided below. From 2014 to 2019, the benchmark and the threshold reflect the values established under the PBR Plan using three-year rolling average results. Starting in 2020, the benchmark and threshold reflect the values approved by the BCUC for the MRP term.[40]

[40] The benchmark and threshold for SAIDI were approved in the FBC Annual Review for 2020 and 2021 Rates Decision and Order G-42-21.

Table 13-11: Historical SAIDI Results

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Annual normalized results	2.32	2.13	2.10	4.05	3.15	2.45	3.17	2.90
Benchmark	2.22						3.22	
Threshold	2.62						4.52	

System Average Interruption Frequency Index (SAIFI) – Normalized

SAIFI is the average number of interruptions per customer served per year (i.e., the number of times the average customer would have to reset their clock during the year), after adjusting for the impact of major events as described above, and is calculated as follows:

$$\frac{\text{Total Number of Customer Interruptions}}{\text{Total Number of Customers Served}}$$

The Number of Customer Interruptions related to a power outage is the number of customers affected by the outage.

For the purpose of this SQI, the measurement of performance is based on the annual results.

The 2020 and June 2021 year-to-date performances are 1.64 which are better than the threshold of 2.19, but worse than the benchmark of 1.57.

For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date results are provided below. From 2014 to 2019, the benchmark and the threshold reflect the values established under the PBR Plan using three-year rolling average results. Starting in 2020, the benchmark and threshold reflect the values approved by the BCUC for the MRP term.[41]

Table 13-12: Historical SAIFI Results

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Annual normalized results	1.64	1.56	1.34	1.78	1.73	1.21	1.64	1.64
Benchmark	1.64						1.57	
Threshold	2.50						2.19	

[41] The benchmark and threshold for SAIFI were approved in the FBC Annual Review for 2020 and 2021 Rates Decision and Order G-42-21.

Generator Forced Outage Rate

Generator Forced Outage Rate (GFOR), an informational indicator, is a measure of the percentage of time in one year that the generating units experienced forced outages compared to the amount of time they could have operated without a forced outage. A forced outage means the removal of a generating unit from service due to the occurrence of a component failure or other event, making it unavailable to produce power due to the unexpected breakdown. The GFOR is defined by the CEA as follows:

$$\frac{\text{Total Forced Outage Time}}{\text{Total Forced Outage Time + Total Operating Time}} \text{ X } 100$$

The 2020 result for GFOR was 1.3 percent. The result was due mainly to an outage in June (339 hours) and in July (377 hours) at the UBO Unit 1, related primarily to the oil contamination of the generator field winding, lasting approximately 30 days. Crews were not able to perform the cleaning of the generator field winding due to the high water levels in the tailrace during the freshet period which made isolation of the unit very difficult. In addition, there was an outage on South Slocan Unit 2 related to the malfunction of a speed switch lasting approximately 9 days. The June 2021 year-to-date performance is 0.04 percent.

For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date results are provided below.

Table 13-13: Historical Generator Forced Outages

	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
FBC	1.7%	0.1%	0.8%	0.6%	0.4%	0.1%	1.3%	0.04%
CEA	6.3%	6.2%	6.2%	6.2%	6.7%	4.9%	TBD	

Interconnection Utilization

Interconnection Utilization, an informational indicator, is a measurement of the time that an interconnection point was available and providing electrical service to the municipal wholesale customers (City of Penticton, City of Summerland, City of Grand Forks and City of Nelson). There are twelve points of interconnection combined between the four customers.

The Interconnection Utilization metric for the interconnection points listed is calculated as follows:

$$\frac{\text{Total Operating Hours}}{\text{Total Operating Hours + Total Outage Time}}$$

The 2020 result of 99.89 percent and June 2021 year-to-date result of 99.87 percent are generally consistent with prior years' results. The City of Nelson interconnection at Coffee Creek has been negatively impacted by both "major events" on the FBC system described in the

SAIDI section. For comparison, the Company's results under the 2014 to 2019 PBR Plan, the 2020 results and the June 2021 year-to-date results are provided below.

Table 13-14: Interconnection Utilization

Description	2014	2015	2016	2017	2018	2019	2020	June 2021 YTD
Interconnection Utilization	99.99%	99.94%	99.99%	99.95%	99.96%	99.98%	99.89%	99.87%
Benchmark	n/a							
Threshold	n/a							

13.3 *SUMMARY*

In summary, FBC's 2020 and June 2021 year-to-date SQI results indicate that the Company's overall performance meets service quality requirements. In 2020, for the eight SQIs with benchmarks, six met or were better than the benchmark with two better than the threshold. For the four SQIs that are informational only, performance generally remained at a level consistent with prior years.

Appendix A
LOAD FORECAST SUPPLEMENTARY INFORMATION

Table A1-1: Consumer Price Index (CPI)

Products and product groups[3, 4]	Reference period	British Columbia(map)
		2002=100
All-items	July 2019	132.4
	August 2019	132.2
	September 2019	132.0
	October 2019	132.2
	November 2019	131.8
	December 2019	131.7
	January 2020	132.1
	February 2020	132.9
	March 2020	132.3
	April 2020	131.2
	May 2020	131.5
	June 2020	132.6
	July 2020	132.6
	August 2020	132.4
	September 2020	132.5
	October 2020	132.9
	November 2020	133.3
	December 2020	132.8
	January 2021	133.6
	February 2021	134.1
	March 2021	134.9
	April 2021	135.2
	May 2021	135.1
	June 2021	135.8

Table A1-2: Average Weekly Earnings (AWE)

		Average weekly earnings including overtime for all employees[6]
Geography	**Reference period**	**Industrial aggregate excluding unclassified businesses[6, 7]**
		Dollars
British Columbia(map)	July 2019	995.70[A]
	August 2019	1,003.20[A]
	September 2019	1,007.69[B]
	October 2019	1,015.61[B]
	November 2019	1,012.26[B]
	December 2019	1,014.87[B]
	January 2020	1,025.98[B]
	February 2020	1,024.80[B]
	March 2020	1,029.14[B]
	April 2020	1,105.84[B]
	May 2020	1,127.73[B]
	June 2020	1,097.00[B]
	July 2020	1,095.17[B]
	August 2020	1,089.30[B]
	September 2020	1,092.97[B]
	October 2020	1,093.25[B]
	November 2020	1,098.85[B]
	December 2020	1,109.54[B]
	January 2021	1,115.13[B]
	February 2021	1,114.34[B]
	March 2021	1,104.90[B]
	April 2021	1,111.16[B]
	May 2021	1,124.55[B]

Table A1-3: Provincial Outlook Long Term Economic Forecast 2021

Table 11
Key economic indicators: British Columbia, 2021–23
(forecast completed February 24, 2021)

	2021Q1	2021Q2	2021Q3	2021Q4	2022Q1	2022Q2	2022Q3	2022Q4	2023Q1	2023Q2	2023Q3	2023Q4	2021	2022	2023
GDP at market prices ($ millions)	314,410	314,735	323,234	329,728	333,657	336,953	339,785	341,727	343,639	345,929	348,497	350,873	320,527	338,030	347,234
	0.2	*0.1*	*2.7*	*2.0*	*1.2*	*1.0*	*0.8*	*0.6*	*0.6*	*0.7*	*0.7*	*0.7*	*5.7*	*5.5*	*2.7*
GDP at market prices (2012 $ millions)	265,276	266,319	274,650	279,708	281,275	281,245	281,521	281,407	281,961	282,726	283,470	284,339	271,488	281,362	283,124
	0.0	*0.4*	*3.1*	*1.8*	*0.6*	*0.0*	*0.1*	*0.0*	*0.2*	*0.3*	*0.3*	*0.3*	*4.9*	*3.6*	*0.6*
GDP at basic prices (2012 $ millions)	248,503	249,834	255,662	260,435	262,468	262,527	263,006	263,457	264,198	264,825	265,470	265,994	253,608	262,864	265,122
	-0.1	*0.5*	*2.3*	*1.9*	*0.8*	*0.0*	*0.2*	*0.2*	*0.3*	*0.2*	*0.2*	*0.2*	*4.7*	*3.6*	*0.9*
Consumer price index (2002 = 1.000)	1.336	1.342	1.348	1.357	1.365	1.371	1.378	1.388	1.395	1.400	1.406	1.415	1.346	1.375	1.404
	0.4	*0.5*	*0.4*	*0.7*	*0.6*	*0.4*	*0.5*	*0.7*	*0.5*	*0.4*	*0.5*	*0.6*	*1.6*	*2.2*	*2.1*
Implicit price deflator—GDP at market prices	1.185	1.182	1.177	1.179	1.186	1.198	1.207	1.214	1.219	1.224	1.229	1.234	1.181	1.201	1.226
(2012 = 1.000)	*0.2*	*-0.3*	*-0.4*	*0.2*	*0.6*	*1.0*	*0.7*	*0.6*	*0.4*	*0.4*	*0.5*	*0.4*	*0.8*	*1.8*	*2.1*
Wages and salary per employee ($ 000s)	52.4	52.2	52.2	52.3	52.4	52.6	52.8	53.1	53.5	53.8	54.1	54.4	52.3	52.8	53.9
	-0.5	*-0.5*	*0.0*	*0.4*	*0.2*	*0.3*	*0.4*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*-1.8*	*0.9*	*2.2*
Primary household income ($ millions)	228,223	229,314	232,535	236,280	239,670	242,402	244,766	247,207	249,853	252,093	254,495	256,893	231,588	243,511	253,333
	1.0	*0.5*	*1.4*	*1.6*	*1.4*	*1.1*	*1.0*	*1.0*	*1.1*	*0.9*	*1.0*	*0.9*	*5.3*	*5.1*	*4.0*
Household disposable income ($ millions)	203,223	203,426	205,943	207,375	209,980	212,170	214,184	216,292	217,955	219,862	221,851	223,829	204,992	213,156	220,875
	0.4	*0.1*	*1.2*	*0.7*	*1.3*	*1.0*	*0.9*	*1.0*	*0.8*	*0.9*	*0.9*	*0.9*	*-0.7*	*4.0*	*3.6*
Household net savings rate (per cent)	8.7	7.0	5.0	3.4	3.7	3.5	3.2	3.4	3.3	3.1	2.9	2.7	6.0	3.5	3.0
Population (000s)	5,151	5,158	5,166	5,174	5,184	5,194	5,207	5,221	5,235	5,249	5,263	5,277	5,162	5,202	5,256
	0.1	*0.1*	*0.2*	*0.2*	*0.2*	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.4*	*0.8*	*1.0*
Employment (000s)	2,599	2,604	2,625	2,646	2,665	2,677	2,686	2,693	2,700	2,709	2,717	2,725	2,618	2,680	2,713
	0.5	*0.2*	*0.8*	*0.8*	*0.7*	*0.5*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*5.1*	*2.4*	*1.2*
Labour force (000s)	2,796	2,800	2,806	2,812	2,822	2,830	2,839	2,847	2,855	2,864	2,872	2,880	2,804	2,835	2,868
	0.0	*0.1*	*0.2*	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*2.4*	*1.1*	*1.2*
Labour force participation rate (per cent)	64.9	64.8	64.8	64.8	64.8	64.8	64.8	64.8	64.8	64.9	64.9	64.9	64.8	64.8	64.9
Unemployment rate (per cent)	7.0	7.0	6.4	5.9	5.6	5.4	5.4	5.4	5.4	5.4	5.4	5.4	6.6	5.4	5.4
Retail sales ($ millions)	89,168	89,194	89,978	90,221	90,888	91,473	92,202	92,983	93,658	94,419	95,328	96,196	89,640	91,886	94,900
	-0.3	*0.0*	*0.9*	*0.3*	*0.7*	*0.6*	*0.8*	*0.8*	*0.7*	*0.8*	*1.0*	*0.9*	*3.4*	*2.5*	*3.3*
Housing starts (units, 000s)	32,275	32,850	32,425	32,000	31,826	31,653	31,479	31,305	31,048	30,791	30,534	30,277	32,388	31,566	30,663
	-20.3	*1.8*	*-1.3*	*-1.3*	*-0.5*	*-0.5*	*-0.5*	*-0.6*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-14.2*	*-2.5*	*-2.9*
Net interprovincial migration (000s)	0.5	1.1	4.3	5.5	6.6	7.6	9.0	9.6	9.7	9.5	7.9	7.5	2.9	8.2	8.7
Net international migration (000s)	21.8	22.3	22.8	24.0	26.2	29.3	38.4	41.4	42.0	42.3	42.4	42.4	22.7	33.8	42.3

Shaded area represents forecast data, *italics indicate percentage change* .
All data are in millions of dollars, seasonally adjusted at annual rates, unless otherwise specified.
For each indicator, the first line is the level and the second line is the percentage change from the previous period.
Sources: The Conference Board of Canada; Statistics Canada; CMHC Housing Time Series Database.

Note: Table above is from the Conference Board of Canada, British Columbia Two-Year Outlook, March 18, 2021.

Appendix A-2

Load Forecast Tables

Table of Contents

1. INTRODUCTION

This appendix provides the historical and forecast load data used in Section 3 of the Application. Tables 2.1 to 5.2 show ten years of historical data and the before-savings and after-savings forecast for 2021 and 2022. Table 5.3 shows the DSM that was deducted from the before-savings forecast to provide the after-savings forecast for 2022. Tables 6.1 and 6.2 show the variance of the customer accounts and forecasts from 2015 to 2020 when compared to the actuals. Table 6.3 shows the annual growth of customer and load that FBC has experienced since 2015. Table 6.4 and 6.5 show the Residential UPC and Winter peak variances from forecast from 2018 to 2020. Finally Table 6.6 shows the system load factor from the years 2015 to 2020 and the forecast load factor for 2021 and 2022.

The tables in this appendix reflect the acquisition by FBC of the assets and customers of the City of Kelowna electric utility effective March 31, 2013. The acquisition resulted in an increase in direct customers to FBC and a re-distribution of load from wholesale to other rate classes in 2013 and 2014.

2. MONTHLY LOAD FORECAST

Forecast loads are shown:

- before-savings – the load before DSM and includes Normalized loads to December 2020.
- after-savings – the load after DSM and includes Normalized loads to December 2020.

2.1 GROSS LOAD (MWH)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Historical Normalized Actuals													
2011	374,096	313,764	312,059	254,039	235,722	242,276	268,421	273,732	242,593	260,877	307,093	362,607	3,447,280
2012	354,376	315,497	304,411	253,594	237,899	233,308	272,143	275,122	236,457	262,538	313,757	362,555	3,421,657
2013	372,939	327,919	300,296	255,888	249,987	235,093	291,183	274,786	241,239	266,317	303,923	380,406	3,499,975
2014	363,947	304,540	303,886	253,159	241,999	242,933	284,643	269,971	229,496	256,060	300,844	381,603	3,433,082
2015	365,681	319,636	299,774	250,449	249,965	245,501	286,189	276,449	233,713	256,762	300,047	361,987	3,446,152
2016	363,248	311,848	292,351	268,698	248,319	242,786	289,259	280,588	234,770	266,284	332,085	350,062	3,480,297
2017	361,265	295,737	307,586	263,795	249,642	251,284	299,544	288,941	246,701	265,695	326,103	355,527	3,511,820
2018	375,664	309,496	306,028	264,140	273,621	256,591	308,227	297,251	231,377	262,531	302,555	376,342	3,563,824
2019	372,224	288,274	315,330	261,324	268,354	257,653	298,081	293,227	260,757	291,917	313,593	371,724	3,592,459
2020	382,181	332,609	303,499	246,152	239,601	248,354	309,611	303,017	260,523	282,780	333,207	374,349	3,615,884
Before-Savings													
2021S	382,500	309,324	310,930	257,857	262,565	253,778	315,752	303,394	253,543	279,746	318,944	376,841	3,625,175
2022F	384,794	311,507	313,149	259,924	264,644	255,847	318,095	305,815	255,747	281,906	321,155	379,045	3,651,628
After-Savings													
2021S	379,811	306,657	308,328	255,340	260,138	251,408	313,407	301,020	251,115	277,223	316,343	374,192	3,594,982
2022F	379,411	306,163	307,931	254,870	259,766	251,079	313,371	301,029	250,848	276,812	315,900	373,691	3,590,871

2.2 NET LOAD (MWH)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Historical Normalized Actuals													
2011	333,975	282,076	283,208	233,733	218,542	223,679	246,555	251,059	223,951	240,135	278,304	324,686	3,139,902
2012	321,730	286,779	279,732	235,517	222,312	217,842	252,099	254,667	220,598	243,793	286,926	328,517	3,150,511
2013	337,728	297,641	276,667	237,842	233,199	219,696	268,867	254,751	225,078	247,419	279,078	343,897	3,221,865
2014	330,080	277,952	279,588	235,366	226,108	226,460	263,122	250,470	214,691	238,394	276,319	344,675	3,163,224
2015	331,359	290,442	275,968	232,925	232,996	228,619	264,346	255,968	218,317	238,919	275,526	328,297	3,173,683
2016	329,697	284,239	269,871	248,933	231,743	226,433	267,219	259,761	219,415	247,393	302,834	318,710	3,206,245
2017	327,600	270,353	282,545	244,429	232,661	233,596	275,700	266,639	229,612	246,617	297,428	322,834	3,230,015
2018	340,082	282,343	281,627	245,049	253,803	238,507	283,500	274,131	216,479	244,187	277,988	340,643	3,278,339
2019	337,457	264,607	289,706	242,736	249,368	239,550	274,993	270,833	242,244	269,708	287,514	337,042	3,305,758
2020	346,177	302,227	279,953	229,763	224,464	231,690	285,178	279,540	242,297	262,136	304,435	339,684	3,327,545
Before-Savings													
2021S	346,565	282,827	286,390	240,043	244,656	236,487	290,502	279,946	236,283	259,585	292,494	341,872	3,337,649
2022F	348,687	284,832	288,441	241,958	246,586	238,405	292,659	282,170	238,318	261,585	294,533	343,918	3,362,093
After-Savings													
2021S	344,080	280,362	283,986	237,717	242,414	234,298	288,335	277,753	234,039	257,254	290,090	339,425	3,309,752
2022F	343,712	279,894	283,619	237,289	242,079	234,000	288,294	277,748	233,791	256,878	289,677	338,971	3,305,953

2.3 RESIDENTIAL (MWH)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Historical Normalized Actuals													
2011	150,580	112,169	121,527	98,312	80,093	79,957	85,233	91,744	76,608	88,720	117,345	146,806	1,249,094
2012	134,187	105,958	112,447	88,508	81,808	82,946	97,309	91,118	73,417	89,175	117,807	154,029	1,228,709
2013	145,263	115,730	114,637	112,100	90,869	85,319	120,666	100,397	73,591	97,867	124,661	171,845	1,352,945
2014	147,191	120,724	129,852	84,813	80,792	77,673	105,443	102,753	73,260	95,314	119,531	159,107	1,296,452
2015	150,230	122,084	120,304	91,957	76,652	84,441	110,145	97,235	73,384	99,324	125,839	146,556	1,298,150
2016	147,429	121,286	113,080	99,963	91,648	85,702	101,212	96,335	77,431	96,417	129,741	135,335	1,295,580
2017	145,663	112,986	118,857	102,166	94,155	86,021	106,392	95,082	82,012	96,745	129,829	150,584	1,320,492
2018	154,740	121,081	119,975	97,261	100,276	86,146	109,349	100,153	70,342	89,942	112,695	150,638	1,312,598
2019	147,714	98,552	116,377	90,039	91,727	81,739	100,157	94,674	87,612	98,618	112,609	146,320	1,266,137
2020	150,634	126,164	117,219	93,211	89,289	91,128	111,958	103,644	86,533	100,913	126,958	149,181	1,346,832
Before-Savings													
2021S	149,895	114,400	116,972	92,801	93,059	85,689	106,350	98,743	80,884	95,766	116,538	147,596	1,298,692
2022F	149,053	113,757	116,315	92,280	92,537	85,208	105,752	98,188	80,429	95,228	115,884	146,767	1,291,397
After-Savings													
2021S	149,484	114,000	116,601	92,470	92,768	85,426	106,097	98,480	80,592	95,435	116,167	147,196	1,294,715
2022F	148,228	112,950	115,563	91,606	91,941	84,669	105,234	97,646	79,824	94,536	115,105	145,922	1,283,223

2.4 COMMERCIAL (MWH)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Normliazed Actuals													
2011	57,742	59,980	55,524	50,675	51,759	55,477	59,401	55,911	50,918	50,637	53,116	55,779	656,918
2012	64,101	63,452	59,292	53,673	54,431	49,553	55,968	62,008	56,661	52,596	57,398	51,423	680,553
2013	65,750	60,623	56,214	57,036	69,494	61,665	67,834	73,941	72,704	67,185	66,229	69,533	788,208
2014	80,917	72,012	69,241	70,566	73,379	72,714	75,404	74,677	66,669	60,028	65,444	82,026	863,078
2015	81,041	74,201	68,933	64,674	71,533	72,581	71,204	71,712	68,657	62,650	66,828	79,463	853,478
2016	82,612	75,915	71,711	71,671	69,996	66,744	76,904	77,981	68,748	70,333	81,859	90,367	904,841
2017	85,017	74,211	77,360	69,012	70,513	72,529	81,817	81,344	72,335	73,835	78,070	78,916	914,960
2018	87,447	74,470	78,245	70,839	73,624	72,175	81,335	82,374	71,079	73,218	76,070	85,202	926,078
2019	86,215	75,958	80,152	69,784	72,863	72,688	80,601	81,248	73,015	75,305	77,661	86,230	931,722
2020	88,558	80,807	76,026	63,736	65,028	67,948	79,777	81,941	74,160	76,659	80,994	86,252	921,886
Before-Savings													
2021S	88,053	76,466	80,251	71,359	73,866	74,000	82,973	83,386	73,672	75,690	78,904	85,217	943,837
2022F	90,308	78,424	82,306	73,186	75,757	75,894	85,097	85,521	75,558	77,628	80,925	87,399	968,005
After-Savings													
2021S	87,082	75,500	79,300	70,428	72,954	73,103	82,081	82,489	72,760	74,759	77,953	84,252	932,661
2022F	88,365	76,491	80,399	71,316	73,923	74,086	83,296	83,707	73,716	75,748	79,007	85,455	945,509

Note: The commercial class is normalized from 2014 to 2020 since weather correlation appeared in the data at that time, all numbers before 2014 are actuals.

2.5 WHOLESALE (MWH)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Historical Normalized Actuals													
2011	100,725	84,225	82,112	65,996	58,766	60,441	68,427	71,106	64,187	70,871	84,304	98,386	909,548
2012	96,036	85,333	81,119	66,560	58,307	59,084	69,719	70,177	60,311	72,646	82,146	97,532	898,971
2013	103,661	88,423	80,309	42,225	37,653	34,630	44,414	42,889	38,531	44,175	51,637	66,656	675,204
2014	64,115	50,647	51,900	41,917	35,985	34,959	43,081	42,482	38,972	41,116	53,678	68,270	567,123
2015	65,841	58,564	51,584	41,088	41,147	36,029	45,222	43,897	37,441	42,668	51,945	65,059	580,485
2016	64,687	55,006	49,218	43,812	36,262	35,106	48,506	43,480	37,096	43,408	59,685	58,167	574,434
2017	61,637	51,026	51,573	40,753	35,692	35,965	47,044	49,971	39,411	42,639	56,771	61,621	574,101
2018	65,721	51,837	50,293	43,769	41,467	33,766	45,024	47,275	36,478	47,576	54,103	67,407	584,715
2019	61,944	48,097	50,091	42,390	39,513	36,881	47,393	44,924	37,351	44,052	49,804	63,534	565,972
2020	64,233	56,219	48,768	39,333	33,066	35,088	44,642	44,913	39,548	45,075	55,660	62,943	569,488
Before-Savings													
2021S	63,042	51,299	48,999	41,226	37,466	34,736	45,026	45,044	37,247	44,910	52,421	63,695	565,111
2022F	63,261	51,478	49,169	41,370	37,596	34,857	45,183	45,200	37,376	45,066	52,603	63,916	567,076
After-Savings													
2021S	62,701	50,962	48,673	40,915	37,169	34,450	44,744	44,757	36,950	44,598	52,095	63,358	561,372
2022F	62,578	50,801	48,513	40,742	36,997	34,277	44,610	44,619	36,772	44,431	51,938	63,228	559,507

2.6 INDUSTRIAL (MWH)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Historical Actuals													
2011	23,160	24,129	21,555	17,261	24,902	22,812	25,671	21,690	22,374	24,978	20,262	21,971	270,764
2012	24,973	30,356	25,036	25,285	23,707	21,432	22,094	22,115	22,666	22,863	26,328	23,917	290,771
2013	19,966	30,774	23,744	24,489	31,517	33,006	29,815	29,726	31,598	32,105	32,500	33,084	352,325
2014	35,943	32,746	26,411	34,532	30,112	32,770	29,719	22,362	30,032	38,104	35,138	33,043	380,912
2015	32,138	33,574	32,797	31,186	36,574	26,261	27,971	34,078	32,395	29,853	27,852	34,997	379,676
2016	32,901	29,835	33,180	28,953	27,588	31,785	31,632	32,805	30,120	33,350	28,559	32,687	373,396
2017	33,109	30,227	32,593	30,117	27,928	31,621	29,477	29,518	28,665	28,831	30,770	29,734	362,590
2018	30,089	33,113	31,062	30,455	32,718	39,030	38,264	35,307	33,245	30,034	33,591	35,836	402,744
2019	40,014	40,563	41,563	37,886	39,198	40,876	38,967	41,784	39,929	49,045	45,695	39,390	494,911
2020	41,115	37,485	36,324	30,596	32,632	32,899	39,933	39,350	35,590	36,265	39,250	39,794	441,233
Before-Savings													
2021S	43,892	39,124	38,516	31,990	34,945	35,695	47,498	43,903	39,187	40,186	43,082	43,885	481,903
2022F	44,382	39,635	38,999	32,456	35,376	36,078	47,971	44,390	39,661	40,630	43,573	44,357	487,509
After-Savings													
2021S	43,163	38,395	37,792	31,269	34,234	34,987	46,799	43,201	38,487	39,467	42,361	43,174	473,330
2022F	42,924	38,178	37,552	31,015	33,955	34,665	46,574	42,987	38,262	39,194	42,135	42,938	470,379

2.7 LIGHTING (MWH)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Historical Actuals													
2011	1,114	1,027	1,674	582	1,092	1,098	1,086	1,113	1,615	560	1,121	1,153	13,233
2012	1,618	1,031	1,232	601	1,666	601	1,661	1,137	611	1,127	1,137	1,064	13,487
2013	1,532	863	1,003	1,112	1,186	1,101	1,151	1,069	1,135	1,132	1,080	1,114	13,479
2014	1,282	1,273	1,251	1,310	1,327	1,331	1,329	1,374	1,257	1,255	1,260	1,382	15,633
2015	1,319	1,339	1,261	1,321	1,372	1,382	1,299	1,347	1,248	1,349	1,295	1,359	15,891
2016	1,245	1,363	1,341	1,362	1,361	1,347	1,404	1,381	1,294	1,191	1,251	1,388	15,930
2017	1,394	1,233	1,390	1,286	1,339	1,301	1,383	1,382	1,289	1,335	1,270	1,330	15,932
2018	1,385	1,178	1,291	1,307	1,198	1,118	1,068	998	988	952	848	894	13,225
2019	907	808	873	943	965	937	917	949	955	947	909	928	11,039
2020	929	892	955	900	914	874	932	949	878	907	863	852	10,846
Before-Savings													
2021S	995	889	963	973	951	905	901	895	871	867	810	826	10,846
2022F	995	889	963	973	951	905	901	895	871	867	810	826	10,846
After-Savings													
2021S	963	857	933	945	924	880	876	870	845	838	779	794	10,503
2022F	931	828	906	921	903	861	859	853	828	822	762	778	10,252

2.8 IRRIGATION (MWH)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Historical Normalized Actuals													
2011	654	545	816	908	1,931	3,894	6,737	9,495	8,249	4,369	2,156	590	40,345
2012	816	650	606	890	2,393	4,226	5,348	8,113	6,933	5,385	2,109	552	38,019
2013	1,557	1,228	759	880	2,480	3,974	4,986	6,729	7,519	4,955	2,970	1,666	39,704
2014	633	549	932	2,227	4,512	7,013	8,146	6,822	4,501	2,578	1,267	847	40,025
2015	790	680	1,089	2,698	5,718	7,925	8,506	7,700	5,192	3,074	1,768	863	46,003
2016	822	834	1,341	3,172	4,888	5,748	7,561	7,778	4,724	2,694	1,739	765	42,065
2017	780	670	772	1,096	3,035	6,160	9,587	9,343	5,898	3,231	719	649	41,939
2018	700	662	761	1,419	4,521	6,271	8,461	8,024	4,348	2,465	681	666	38,979
2019	663	630	650	1,694	5,103	6,429	6,958	7,254	3,381	1,741	835	640	35,978
2020	708	660	662	1,987	3,535	3,752	7,936	8,743	5,588	2,317	709	662	37,260
Before-Savings													
2021S	687	648	688	1,693	4,370	5,463	7,755	7,976	4,422	2,166	739	653	37,260
2022F	687	648	688	1,693	4,370	5,463	7,755	7,976	4,422	2,166	739	653	37,260
After-Savings													
2021S	687	647	687	1,691	4,365	5,452	7,738	7,956	4,406	2,156	735	652	37,171
2022F	686	646	686	1,689	4,360	5,442	7,720	7,936	4,390	2,147	731	650	37,083

2.9 *SYSTEM PEAK (MW)*

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Winter	Summer
Historical Normalized Actuals														
2011	722	666	593	516	472	448	529	537	509	508	632	691	702	537
2012	702	675	560	523	493	418	589	540	453	501	624	723	723	589
2013	720	631	549	493	515	442	600	565	523	502	598	698	698	600
2014	651	580	562	469	403	482	620	605	412	467	572	645	693	620
2015	693	679	568	488	501	523	611	587	437	514	669	631	685	611
2016	685	683	569	540	490	582	587	593	443	480	613	724	755	593
2017	755	673	595	510	597	505	600	605	561	515	594	648	714	605
2018	714	648	583	516	602	533	630	631	429	459	609	659	682	631
2019	678	682	651	514	568	502	626	639	538	562	622	701	732	639
2020	732	680	609	500	482	515	666	665	551	549	631	667	731	666
Before-Savings														
2021S	676	633	570	475	443	513	593	600	466	499	600	656	716	606
2022F	681	638	574	479	446	517	597	605	469	502	604	661	718	611
After-Savings														
2021S	675	632	569	474	442	512	592	599	465	498	599	655	715	606
2022F	679	636	572	477	445	515	595	603	468	500	602	659	717	609

Note: The peaks show in the table above are seasonal peaks. The seasonal winter peak is based on November and December of the current year and January and February of the following year. The seasonal summer peak is based on June, July and August of the current year.

3. CUSTOMER FORECAST

3.1 CUSTOMERS

Customer Count	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
Residential	98,795	99,228	111,862	113,431	114,166	115,772	117,748	120,291	122,465	124,966	126,746	128,941
Commercial	11,525	11,811	13,662	14,363	14,976	15,073	15,398	15,678	15,956	16,165	16,384	16,975
Wholesale	7	7	6	6	6	6	6	6	6	6	6	6
Industrial	36	39	47	49	50	50	50	52	51	43	43	43
Lighting	1,803	1,739	1,644	1,620	1,590	1,559	1,511	1,482	1,467	1,443	1,425	1,406
Irrigation	1,092	1,091	1,097	1,103	1,095	1,090	1,080	1,078	1,082	1,091	1,091	1,091
Total Direct	113,258	113,915	128,318	130,572	131,883	133,550	135,793	138,587	141,027	143,714	145,695	148,461

3.2 CUSTOMER ADDITIONS

Customer Additions	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
Residential	912	433	12,634	1,569	735	1,606	1,976	2,543	2,174	2,501	1,780	2,195
Commercial	106	286	1,851	701	613	97	325	280	278	209	219	591
Wholesale	-	-	(1)	-	-	-	-	-	-	-	-	-
Industrial	1	3	8	2	1	-	-	2	(1)	(8)	-	-
Lighting	(27)	(64)	(95)	(24)	(30)	(31)	(48)	(29)	(15)	(24)	(18)	(20)
Irrigation	17	(1)	6	6	(8)	(5)	(10)	(2)	4	9	-	-
Total Direct	1,009	657	14,403	2,254	1,311	1,667	2,243	2,794	2,440	2,687	1,981	2,766

4. NORMALIZED AFTER-SAVINGS USE PER CUSTOMER (UPC)

MWh/Customer	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
Residential	12.70	12.41	12.48	11.51	11.41	11.27	11.31	11.03	10.43	10.89	10.29	10.04

5. LOAD

5.1 NORMALIZED AFTER-SAVINGS LOAD

Energy (GWh)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
Residential	1,249	1,229	1,353	1,296	1,298	1,296	1,320	1,313	1,266	1,347	1,295	1,283
Commercial	657	681	788	863	853	905	915	926	932	922	933	946
Wholesale	910	899	675	567	580	574	574	585	566	569	561	560
Industrial	271	291	352	381	380	373	363	403	495	441	473	470
Lighting	13	13	13	16	16	16	16	13	11	11	11	10
Irrigation	40	38	40	40	46	42	42	39	36	37	37	37
Net	3,140	3,151	3,222	3,163	3,174	3,206	3,230	3,278	3,306	3,328	3,310	3,306
Losses & Company Use	307	271	278	270	272	274	282	285	287	288	285	285
Gross	3,447	3,422	3,500	3,433	3,446	3,480	3,512	3,564	3,592	3,616	3,595	3,591
System Peak (MW)												
Winter Peak	702	723	698	693	685	755	714	682	732	731	715	717
Summer Peak	537	589	600	620	611	593	605	631	639	666	606	609

5.2 NORMALIZED AFTER-SAVINGS WHOLESALE LOAD

Wholesale (GWh)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021S	2022F
BCH Lardeau	8	6	6	6	6	6	8	8	7	6	7	7
BCH Kingsgate	3	5	5	5	5	5	5	5	5	5	5	5
City of Grand Forks	41	41	41	39	41	41	39	46	37	38	39	38
City of Nelson	88	80	83	81	83	80	86	88	84	82	79	78
City of Penticton	344	341	348	342	348	345	338	340	338	340	335	335
District of Summerland	96	95	98	94	97	98	98	99	95	99	97	97
City of Kelowna	329	332	94	-	-	-	-	-	-	-	-	-
Total	910	899	675	567	580	574	574	585	566	569	561	560

5.3 DSM (GWH) WITHOUT LOSSES

Energy (GWh)	2016	2017	2018	2019	2020	2021S	2022F
Demand Side Management	(23)	(28)	(31)	(26)	(26)	(30)	(61)

6. VARIANCES TO FORECAST

6.1 *CUSTOMER COUNT VARIANCE*

Customer Count	2015	2016	2017	2018	2019	2020
Actual						
Residential	114,166	115,772	117,748	120,291	122,465	124,966
Commercial	14,976	15,073	15,398	15,678	15,956	16,165
Wholesale	6	6	6	6	6	6
Industrial	50	50	50	52	51	43
Lighting	1,590	1,559	1,511	1,482	1,467	1,443
Irrigation	1,095	1,090	1,080	1,078	1,082	1,091
Total	131,883	133,550	135,793	138,587	141,027	143,714
Forecast						
Residential	114,855	115,758	116,031	117,774	120,405	124,076
Commercial	14,531	15,042	15,813	16,122	16,405	16,220
Wholesale	6	6	6	6	6	6
Industrial	49	49	50	50	51	57
Lighting	1,620	1,620	1,590	1,559	1,511	1,425
Irrigation	1,103	1,103	1,095	1,090	1,080	1,082
Total	132,164	133,578	134,585	136,602	139,459	142,865
Variance (customers)						
Residential	(689)	14	1,717	2,517	2,060	890
Commercial	445	31	(415)	(444)	(449)	(55)
Wholesale	0	0	0	0	0	0
Industrial	1	1	0	2	0	(14)
Lighting	(30)	(61)	(79)	(77)	(44)	18
Irrigation	(8)	(13)	(15)	(12)	2	9
Total	(281)	(28)	1,208	1,986	1,569	849
Variance (%)						
Residential	-0.6%	0.0%	1.5%	2.1%	1.7%	0.7%
Commercial	3.0%	0.2%	-2.7%	-2.8%	-2.8%	-0.3%
Wholesale	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Industrial	2.0%	2.0%	0.0%	3.8%	0.0%	-32.6%
Lighting	-1.9%	-3.9%	-5.2%	-5.2%	-3.0%	1.3%
Irrigation	-0.7%	-1.2%	-1.4%	-1.1%	0.2%	0.8%
Total	-0.2%	0.0%	0.9%	1.4%	1.1%	0.6%

6.2 *LOAD VARIANCE, NORMALIZED ACTUAL TO FORECAST*

Energy (GWh)	2015	2016	2017	2018	2019	2020
Normalized						
Residential	1,298	1,296	1,320	1,313	1,266	1,347
Commercial	853	905	915	926	932	922
Wholesale	580	574	574	585	566	569
Industrial	380	373	363	403	495	441
Lighting	16	16	16	13	11	11
Irrigation	46	42	42	39	36	37
Net	3,174	3,206	3,230	3,278	3,306	3,328
Gross	3,446	3,480	3,512	3,564	3,592	3,616
Forecast						
Residential	1,397	1,367	1,353	1,280	1,349	1,326
Commercial	808	871	879	912	935	902
Wholesale	593	579	587	586	594	567
Industrial	371	393	407	379	385	453
Lighting	14	13	14	15	13	11
Irrigation	40	39	40	41	42	35
Net	3,224	3,262	3,282	3,213	3,319	3,294
Gross	3,499	3,540	3,559	3,485	3,602	3,602
Variance (GWh)						
Residential	(99)	(71)	(33)	33	(83)	21
Commercial	45	34	36	14	(3)	20
Wholesale	(13)	(5)	(13)	(1)	(28)	2
Industrial	9	(20)	(44)	24	110	(12)
Lighting	2	3	1	(2)	(2)	0
Irrigation	6	3	2	(2)	(6)	2
Net	(50)	(56)	(52)	65	(13)	34
Gross	(53)	(59)	(47)	79	(10)	14
Variance (%)						
Residential	-7.6%	-5.5%	-2.5%	2.5%	-6.6%	1.6%
Commercial	5.3%	3.8%	3.9%	1.5%	-0.4%	2.2%
Wholesale	-2.2%	-0.8%	-2.3%	-0.2%	-5.0%	0.4%
Industrial	2.3%	-5.3%	-12.3%	5.9%	22.2%	-2.7%
Lighting	12.7%	16.3%	9.4%	-13.4%	-17.8%	2.1%
Irrigation	12.1%	7.7%	3.9%	-5.2%	-16.7%	5.3%
Net	-1.6%	-1.7%	-1.6%	2.0%	-0.4%	1.0%
Gross	-1.5%	-1.7%	-1.3%	2.2%	-0.3%	0.4%

6.3 *NORMALIZED AFTER-SAVINGS ANNUAL PERCENT GROWTH*

Energy (GWh)	2015	2016	2017	2018	2019	2020	2021S	2022F
Residential	1,298	1,296	1,320	1,313	1,266	1,347	1,295	1,283
Commercial	853	905	915	926	932	922	933	946
Wholesale	580	574	574	585	566	569	561	560
Industrial	380	373	363	403	495	441	473	470
Lighting	16	16	16	13	11	11	11	10
Irrigation	46	42	42	39	36	37	37	37
Net	3,174	3,206	3,230	3,278	3,306	3,328	3,310	3,306
Losses & Company Use	272	274	282	285	287	288	285	285
Gross	3,446	3,480	3,512	3,564	3,592	3,616	3,595	3,591
System Peak								
Winter Peak (MW)	685	755	714	682	732	731	715	717
Summer Peak (MW)	611	593	605	631	639	666	606	609

Growth Year over Year	2015	2016	2017	2018	2019	2020	2021S	2022F
Residential	0%	0%	2%	-1%	-4%	6%	-4%	-1%
Commercial	-1%	6%	1%	1%	1%	-1%	1%	1%
Wholesale	2%	-1%	0%	2%	-3%	1%	-1%	0%
Industrial	0%	-2%	-3%	11%	23%	-11%	7%	-1%
Lighting	2%	0%	0%	-17%	-17%	-2%	-3%	-2%
Irrigation	15%	-9%	0%	-7%	-8%	4%	0%	0%
Net	0%	1%	1%	1%	1%	1%	-1%	0%
Losses & Company Use	1%	1%	3%	1%	0%	1%	-1%	0%
Gross	0%	1%	1%	1%	1%	1%	-1%	0%
System Peak								
Winter Peak (MW)	-1%	10%	-5%	-4%	7%	0%	-2%	0%
Summer Peak (MW)	-1%	-3%	2%	4%	1%	4%	-9%	1%

Customer Count	2015	2016	2017	2018	2019	2020	2021S	2022F
Residential	114,166	115,772	117,748	120,291	122,465	124,966	126,746	128,941
Commercial	14,976	15,073	15,398	15,678	15,956	16,165	16,384	16,975
Wholesale	6	6	6	6	6	6	6	6
Industrial	50	50	50	52	51	43	43	43
Lighting	1,590	1,559	1,511	1,482	1,467	1,443	1,425	1,406
Irrigation	1,095	1,090	1,080	1,078	1,082	1,091	1,091	1,091
Total Direct	131,883	133,550	135,793	138,587	141,027	143,714	145,695	148,461

Growth Year over Year	2014	2015	2016	2017	2018	2019	2021S	2022F
Residential	1%	1%	2%	2%	2%	2%	1%	2%
Commercial	4%	1%	2%	2%	2%	1%	1%	4%
Wholesale	0%	0%	0%	0%	0%	0%	0%	0%
Industrial	2%	0%	0%	4%	-2%	-16%	0%	0%
Lighting	-2%	-2%	-3%	-2%	-1%	-2%	-1%	-1%
Irrigation	-1%	0%	-1%	0%	0%	1%	0%	0%
Total Direct	1%	1%	2%	2%	2%	2%	1%	2%

6.4 RESIDENTIAL UPC, NORMALIZED ACTUAL TO FORECAST

Residential UPC (MWh)	2018	2019	2020
After- Savings Normalized Actual UPC	11.03	10.43	10.89
Forecast	10.92	11.27	10.75
Variance	0.11	(0.84)	0.13
Variance (%)	1.0%	-8.0%	1.2%

6.5 WINTER PEAK , ACTUAL TO FORECAST

Winter Peak (MW)	2018	2019	2020
After- Savings Actual Peak	691	732	725
Forecast	712	764	737
Variance	(21)	(32)	(12)
Variance (%)	-3%	-4%	-2%

Note: The peaks reflected in this table are the actual seasonal peaks are not normalized.

6.6 SYSTEM LOAD FACTOR

The following table shows annual after-savings gross load, peak load and load factor. The annual load factor is calculated as annual load ÷ peak hourly load x number of hours in a year (8,760).

Year	Energy (MWh)	Peak (MW)	Load Factor
2015	3,446,152	685	0.57
2016	3,480,297	755	0.53
2017	3,511,820	714	0.56
2018	3,563,824	682	0.60
2019	3,592,459	732	0.56
2020	3,615,884	731	0.56
2021S	3,594,982	715	0.57
2022F	3,590,871	717	0.57

Note: The peaks in this table represent annual peaks meaning they happened in the calendar year and are not the seasonal peaks.

Appendix A-3

Load Forecast Methods

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1. LOAD FORECAST METHODS

This appendix describes FBC's load forecast methods on which the forecast in Section 3 of the Application is based.

In the figures provided in this appendix, the following three time frames are shown:

- Actual Years: Actual years are those for which actual data exists for the full calendar year[1]. For the 2022 Annual Review the latest calendar year for which full actual data exists is the 2020 calendar year.
- Seed Year: The Seed Year is the year prior to the first forecast year. The Seed Year is forecast based on the latest years of actual data available, and will be different than the original forecast for that year in the previous filing. For example, for this Application the Seed Year is 2021 (2021S) and the Seed Year forecast is based on the latest actual years, including 2020. As such, the 2021 Seed Year forecast in this Application will differ from the 2021 Forecast presented in the Annual Review for 2020 and 2021 Rates, for which 2020 actual data was not available.
- Forecast Year(s): This is the year or years for which the forecast is being developed. This can be one year (in the case of the Annual Review) or a range of two or more years depending on the filing. In this Application, 2022 is the Forecast Year (2022F).

1.1 *WEATHER NORMALIZATION*

Electricity consumption is impacted by weather, particularly by temperature. For example, load requirements in an extremely cold winter month can be significantly higher than requirements in normal weather conditions in the same month, due to additional heating loads. As the load forecast is made under an assumption of normal weather, it is necessary to remove those extreme weather effects from the historical data. This is the first step in forecasting.

Statistical tests were made to check whether the residential, wholesale, commercial and irrigation loads were sensitive to temperature due to heating and cooling demands and whether the irrigation load was sensitive to the amount of precipitation[2]. The results from the regression for these four rate classes are shown below. The results show significant results with high R^2 values greater than 0.60 for all seasons for the residential, wholesale and commercial[3] load classes; therefore these classes are normalized. The irrigation class shows a R^2 value of less than 0.60 for the Winter, Summer and Fall seasons; therefore this class was not normalized.

[1] FBC's load forecast is developed using only full years of historical data. FBC requires the full year of load data in order to validate it, including the review of and potential adjustments to unbilled energy. For this reason partial year data is not used in forecasting.
[2] Industrial and street lighting loads are typically insensitive to the weather.
[3] The commercial class data is normalized from 2014 to 2020 since a strong correlation was present in those years. All commercial data prior to 2014 is actual because it did not show a correlation to weather at that time.

Table A3-1: Residential Regression Table

Residential	Winter	Spring	Summer	Fall
Intercept	42,292	66,590	71,844	66,329
Slope HDD	169	113	-	88
Slope CDD	-	-	219	-
Adjusted R^2	0.69	0.76	0.81	0.77

Table A3-2: Wholesale Regression Table

Wholesale	Winter	Spring	Summer	Fall
Intercept	57,006	55,074	57,796	60,738
Slope HDD	68	53	-	35
Slope CDD	-	-	110	-
Adjusted R^2	0.96	0.96	0.96	0.97

Table A3-3: Commercial Regression Table

Commercial	Winter	Spring	Summer	Fall
Intercept	44,698	50,677	52,414	52,489
Slope HDD	28	13	-	1
Slope CDD	-	-	59	-
Adjusted R^2	0.72	0.71	0.74	0.73

Table A3-4: Irrigation Regression Table

Irrigation	Winter	Spring	Summer	Fall
Intercept	1,935	4,863	4,957	6,540
Slope HDD	(2)	(10)	-	(12)
Slope CDD	-	-	25	-
Adjusted R^2	0.07	0.76	0.41	0.45

Steps for weather (temperature) normalization are as follows:

1. Calculate monthly Heating Degree Days (HDD)[4] and Cooling Degree Days (CDD)[5] for the Penticton weather station.
2. Calculate 10-year HDD and CDD averages for each month of the year. These are used as the parameters of normal weather.
3. For each of the residential, wholesale and commercial classes, regress load on HDD or CDD on a seasonal basis. Four seasons were defined: winter (November to February), spring (March to May), summer (June to August) and fall (September to October). Thus all monthly load and degree day data for each season is used and four separate

[4] Heating degree-days for a given day are the number of Celsius degrees that the mean temperature is below 18 Celsius degrees.
[5] Cooling degree-days for a given day are the number of Celsius degrees that the mean temperature is above 18 Celsius degrees.

regressions are calculated for each class. The City of Kelowna (CoK) Event variables were included in the regressions to recognize the integration of the CoK in 2013 into the FBC direct customer base.

4. To normalize a month, e.g. February 2020:

   (a) obtain the month's HDD (or CDD) information from Environment Canada;

   (b) calculate the deviation from the 10-year average (2011-2020) HDD (CDD) as found in Step 2;

   (c) apply the regression slope obtained in Step 3 to this deviation to come up with a normalization adder; and

   (d) add the normalization adder to the month's load (residential, commerical or wholesale).

The general equation to normalize load requirements in month t is shown below.

$$Normalized\ Load_t = Load_t - HDD\ Slope_t \times (HDD_t - Normal\ HDD_t)$$

$$where\ HDD\ is\ Heating\ Degree\ Days\ and\ t = Spring, Fall\ and\ Winter$$

And

$$Normalized\ Load_t = Load_t - CDD\ Slope_t \times (CDD_t - Normal\ CDD_t)$$

$$where\ CDD\ is\ Cooling\ Degree\ Days\ and\ t = Summer$$

1.2 *LOAD FORECAST*

FBC forecasts energy requirements by customer class based on weather normalized historical loads. These are referred to as the "before-savings[6]" loads. DSM savings that are incremental to those embedded in historical loads (up to and including 2020) are also forecast for each customer class and subtracted from the before-savings loads to arrive at the "after-savings" loads. This section discusses the before-savings forecast load requirements for each of FBC's load classes.

1.2.1 Residential

The formula to forecast the expected before-savings residential load in year *t* is:

$$Before\ Savings\ Load_t = UPC_t \times Average\ Customer\ Count_t$$

where UPC (use per customer in MWh per customer per year) is before-savings.

[6] The term "before-savings" is used in the remainder of this section and refers to "before incremental savings after 2020".

The before-savings UPC was based on a ten-year historic trend of annual UPC values from 2011 to 2020. FBC reviews the forecast methods on an annual basis. As FBC found that there was a strong correlation, it therefore applied a ten year trend.

Table A3-5: Results of UPC Trend Analysis

Regression	UPC
Start Year	2011
End Year	2020
R^2	0.87
Adjusted R^2	0.85
df	9
Intercept	450
Slope UPC	-0.22

Next, average customer count in year *t* is calculated as:

$$Average\ Customer\ Count_t = \frac{(Year\ End\ Count_t + Year\ End\ Count_{t-1})}{2}$$

The year-end customer count was based on the least squares regression model below.

$$Year\ End\ Customer\ Count_t = b_0 + b_1 \times Population_t$$

$Population_t$ is the population data supplied by BC Stats for the Company's direct service area.

Table A3-6: Results of Residential Regression

Regression	Residential
Start Year	2018
End Year	2020
R^2	0.99
Adjusted R^2	0.98
df	2
Intercept	(106,215)
Slope Population	0.83

The residential class represented 39.1 percent of the net load in 2020.

1.2.2 Commercial

The expected before-savings commercial load in year *t* is forecast based on the provincial GDP supplied by the CBOC. The relationship was estimated from the following equation.

$$Before\ Savings\ Load_t = b_0 + b_1 \times GDP_t + b_2 \times Princeton\ Event_t + b_3 \times CoK\ Event_t$$

The Princeton $Event_t$ is a binary variable for the Princeton Light and Power (PLP) integration event in 2007, CoK_t is a binary variable for the City of Kelowna integration event in 2013.

Coefficients b0, b1, b2, and b3 are obtained from an ordinary least squares (OLS) regression analysis on the 2006 to 2020 data. The commercial class represented 28.2 percent of the net load in 2020.

Table A3-7: Results of Commercial Regression

Regression	GEN
Start Year	2006
End Year	2020
R^2	0.99
Adjusted R^2	0.99
df	14
Intercept	119,795
Slope GDP	2.61
Slope PLP Event	25,880
Slope CoK Event	135,969

1.2.3 Wholesale

The Company forecasts the wholesale load based on load surveys from all wholesale customers. For this forecast, the response rate was 100 percent. FBC then summed the wholesale customers' forecasts to calculate the before-savings wholesale load forecast. This approach recognizes that in the near to medium term, the wholesale customers themselves are best able to forecast their load growth based on their knowledge of their customer mix, load behaviors, development projects with associated load requirements, etc. The wholesale class represented 17.0 percent of the net load in 2020.

1.2.4 Industrial

The before-savings industrial load is the sum of forecasts supplied by those individual customers who responded to the load survey and, for customers who did not respond, escalation of the customer's load in the preceding year by the CBOC forecast GDP growth rates for the industrial sector the customer is in. Eighty-one percent of FBC's industrial customers responded to the surveys, accounting for 91 percent of 2020 load.

FBC assumes no new industrial customers in the current forecast unless there is a confirmed commitment from an industrial customer. FBC works with key account managers to identify new customers and existing customers with expansion plans that have commited contracts that are being added to the system. The key account managers work with the new customers directly and relay the load requirements to the forecasting group. The industrial class represented 14.3 percent of the net load in 2020.

1.2.5 Irrigation

The before-savings irrigation load forecast uses the 2020 actuals as the forecast due to the variability in the load in recent years. The irrigation class represented 1.1 percent of the net load in 2020.

1.2.6 Lighting

The before-savings lighting load uses the 2020 actuals due to the variability in the load primarily due to streetlight LED replacement programs which reduced the loads from 2018 to 2020. The lighting class represented 0.3 percent of the net load in 2020.

1.2.7 Demand Side Mangment (DSM) Savings

FBC forecasts load reductions resulting from its DSM programs.

The forecast of DSM savings is consistent with the Company's approved 2019-2022 DSM Plan. DSM measures are grouped into applicable programs that are then added to produce the three primary sector (residential, commercial & industrial) annual plan savings targets. Finally, the annual sector targets beginning with the Seed Year are converted into a cumulative time series, and disaggregated into the customer rate classes and commensurate system loss reductions.

1.3 *PEAK DEMAND FORECAST*

The peak demand forecast is produced by taking the ten year average (2011-2020) of historical peak data. The historical peak data is escalated by the gross load growth rate before it is averaged to account for the growth of demand on the FBC system. Self-generating customers are removed from the historical load data since the underlying trends that impact other loads do not apply. Seasonal peaks were used for both the winter and the summer. The twelve monthly peaks, as well as the seasonal peaks, were then escalated by the annual load growth rates in the forecast period to produce forecast monthly peaks. The winter peak and the summer peak are assumed to replace monthly peaks in December and July, respectively.

The after DSM peak forecast was calculated by subtracting DSM capacity savings forecast from the before DSM peak forecast for each month in each year.

Appendix B
PRIOR YEAR DIRECTIVES

No.	Decision Page No.	Directive No.	Reference	Description / Details	Status	Section in this Application
G-8-17 – FBC ANNUAL REVIEW FOR 2017 RATES						
1.	21	6	Upper Bonnington Old Units Refurbishment Project	The Panel directs FBC to report in each of its annual review applications during the remainder of the PBR term the following information on the UBO Refurbishment project: • The status of both the UBO Refurbishment project as a whole and of the individual units, including a comparison of the project timeline provided in the current Applicaton to any updated project timeline as at the time of filing each annual review application. • Updated cost estimates and cost descriptions compared to the cost estimates and scope descriptions provided in the current Application, including explanations for any variances/changes to the cost estimates or project scope. • Actual costs incurred to date on the UBO Refurbishment project as a whole and on each individual unit as at the time of filing each annual review application. • Final actual refurbishment costs at the completion of each unit, including a description of the scope of work completed relative to the conditions found and against the cost estimate.	Ongoing until Project complete	Appendix B2
G-246-18 – FBC ANNUAL REVIEW FOR 2019 RATES						
2.	15		Loss Recovery Request	The Panel directs FBC to provide forecast Loss Recoveries in future revenue requirements applications.	Ongoing	Section 4.8
G-165-20 AND G-166-20 – FEI AND FBC MULTI-YEAR RATE PLAN FOR 2020 THROUGH 2024						
3.	75	24	General Flow-through Deferral Account	The Panel directs [FBC] to provide a detailed analysis of the individual forecast variances recorded in the Flow-through deferral account in each Annual Review.	Ongoing during the MRP term	Section 12.4.1.2

No.	Decision Page No.	Directive No.	Reference	Description / Details	Status	Section in this Application
4.	87	32	Efficiency Carry-Over Mechanism	Therefore, the Panel determines the following process for the handling of an ECM application: 1. An ECM can be applied for at any time in the last three years of the MRPs, either in advance or following the action or initiative being undertaken. 2. For proposed activities where identifiable savings are expected to extend beyond the term of the MRP, FortisBC is to file an ECM proposal describing the initiative, its timing, costs and benefits and savings. 3. Parties will have the opportunity to review and comment on the proposal and the BCUC will determine whether to approve the ECM proposal (an Approved ECM Initiative). FortisBC must submit details of continued savings annually under an Approved ECM Initiative as part of the Annual Review process. The net savings will be shared equally between ratepayers and the Utilities will carry forward past the end of the MRP for a maximum period of three years.	No approved ECM initiatives to report on	n/a
5.	99	35	SAIDI and SAIFI major events	The Panel also directs FBC to include a discussion of major events relevant to the SAIDI and SAIFI results in future Annual Review materials.	Ongoing during the MRP term	Section 13
6.	99-100		SQI Informational Indicators	In addition to the SQIs, the Panel approves the following informational indicators for the Utilities: • Customer Satisfaction Index (measures overall customer satisfaction) – FEI and FBC. • Average Speed of Answer (average number of seconds to answer emergency and non-emergency calls) – FEI and FBC. • Generator Forced Outage Rate (percent of time a generating unit is removed from service due to component failure or other events) – FBC only. • Interconnection Utilization (percent of time that an interconnection point was available and providing electrical service to wholesale customers) – FBC only. The Utilities are directed to report on these informational indicators along with the SQIs as part of the Annual Review process.	Ongoing during the MRP term	Section 13

No.	Decision Page No.	Directive No.	Reference	Description / Details	Status	Section in this Application
7.	118	42	System Operations, Integrity and Security Expenditures	The Panel directs FBC to provide the following information related to System Operations, Integrity and Security expenditures in its future revenue requirements applications over the term of the Proposed MRPs: 1. A breakdown and explanation of both annual and cumulative variances between forecast/actual and formula O&M related to System Operations, Integrity and Security expenditures, which quantify the variances attributable to the following areas: • Tree management; • Generation dam safety; • Network operations apprentice program; • Cyber security; • Data analytics; and • Any other significant factors or miscellaneous items. 2. A description of how FBC is prioritizing its System Operations, Integrity and Security expenditures.	Ongoing during the MRP term	Section 6.2.1
8.	131	49	Forecast Capital Expenditures	The Panel directs FortisBC to file an updated forecast of the 2023 to 2024 capital expenditures in the 2023 Annual Review.	Will be filed in FBC's Annual Review for 2023 Rates	n/a
G-42-21 – FBC ANNUAL REVIEW FOR 2020 AND 2021 RATES						
9.	21		Regulatory Proceeding Deferral Accounts	The Panel approves the following deferral account requests: a. Creation of rate base deferral accounts for the following regulatory proceedings: ii. FBC's 2021 LTERP, with the amortization period to be determined in a future proceeding; iii. FBC's 2020 COSA, with the amortization period to be determined in a future proceeding;	Amortization periods requested in this Application	Section 7.6.2
10.	21		COVID-19 Customer Recovery Fund Deferral Account	The Panel approves the following deferral account requests: f. Recording of the COVID-19 incremental costs and related savings from 2020 and 2021 into the previously approved COVID-19 Customer Recovery Fund deferral account, as discussed in Section 12.2.1 of the Application.	Status of COVID-19 exogenous factor treatment provided in this Application	Section 12.2.2

Appendix B-2

FortisBC Inc.

Upper Bonnington Old Units Refurbishment Project

Status Report

August 2021

Table of Contents

1. PROJECT STATUS

1.1 PROJECT BACKGROUND

On January 20, 2017, the British Columbia Utilities Commission (BCUC) approved capital expenditures related to the Upper Bonnington (UBO) Old Units Refurbishment (UBO Refurbishment Project, or the Project) in Order G-8-17. Directive 6 of Order G-8-17 required FBC to file specific information on the Project's updated scope, progress and costs as part of FBC's future annual review applications. Specifically, the BCUC directed FBC to provide the following information about the progress of the Project:

- The status of both the UBO Refurbishment Project as a whole and of the individual units, including a comparison of the Project timeline provided in the [Annual Review for 2017 Rates] Application to any updated Project timeline as at the time of filing each annual review application.
- Updated cost estimates and cost descriptions compared to the cost estimates and scope descriptions provided in the [Annual Review for 2017 Rates] Application, including explanations for any variances/changes to the cost estimates or Project scope.
- Actual costs incurred to date on the UBO Refurbishment Project as a whole and on each individual unit as at the time of filing each annual review application.
- Final actual refurbishment costs at the completion of each unit, including a description of the scope of work completed relative to the conditions found and against the cost estimate.[1]

The UBO Refurbishment Project involves the refurbishment of generating Units 1-4 (the Old Units), which are over 100 years old, in order to extend their lives for an additional twenty years or more. The Project will also reduce the safety and environmental risks associated with failures of the aged equipment.

FBC submits the following report regarding the UBO Refurbishment Project in compliance with Directive 6 of Order G-8-17, including costs to June 30, 2021.

1.2 GENERAL PROJECT STATUS

Unit 2, the last of the four units refurbished as part of the Project, was returned to service in Q4, 2020. Similar to the other generating units, Unit 2 turbine components were found to have higher than anticipated levels of corrosion and wear that required additional unplanned work. FBC was

[1] Order G-8-17, Appendix A, page 21.

able to manage various scopes of work to compensate for the poor condition of the turbine components and was able to refurbish most of the components.

Throughout 2021, clean up, balance of plant scope of work (described below in Section 1.3.4), and Project close out activities have progressed well and are scheduled to be complete in Q3.

The balance of plant scope of work, previously reported to be complete in Q2 2021, is behind schedule due to sequencing issues and operational constraints within the operating plant. The following table shows the status of each of the generating units, as well as the balance of plant activities, and the remaining work that will be completed in Q3 2021.

Table B2-1: Project Status

Upper Bonnington Refurbishment	Project Start	Project Duration	In-service Date	Remaining Work
Unit 3	Q1 2017	10 Months	Q4 2017	Painting
Unit 4	Q1 2018	10 Months	Q4 2018	Painting
Unit 1	Q1 2019	10 Months	Q4 2019	Painting
Unit 2	Q1 2020	9 Months	Q4 2020	Painting
Balance of Plant	Q3 2020	7 Months		
	Q2 2021	4 Months		Ventilation access walkway
	Q2 2021	3 Months		Water wheel exciter removal
	Q3 2021	1 Month		Demobilization

The UBO Refurbishment Project was approved with a Class 4 capital cost estimate of $31.783 million in as-spent dollars (including $0.867 million of AFUDC and $1.880 million of removal costs). Project expenditures to June 30, 2021 are approximately $33.398 million. Final Project costs (including $1.183 million of AFUDC and $1.769 million of removal costs) are currently forecast to be $34.180 million. The construction schedule remains substantially unchanged from the business case and previous updates provided in the Annual Review for 2020 and 2021 Rates, with the exception of the balance of plant scope of work. The balance of plant schedule is extended from Q2 2021 to Q3 2021, as explained above.

1.3 *MAJOR ACCOMPLISHMENTS, WORK COMPLETED AND KEY DECISIONS MADE*

1.3.1 Detailed Engineering (2017-2021)

FBC has completed the detailed engineering for all units and balance of plant scopes of work.

1.3.2 Procurement (2017-2021)

The procurement activities for the Project are complete and the remaining active contracts are nearing completion. Where possible, FBC procured components as a single tender for all units to standardize equipment and realize savings by purchasing bulk material. As the Project progressed, FBC implemented learnings from all contracts to continually improve the procurement quality and performance. Using preferred vendors yielded many process improvements that resulted in time and cost savings throughout the Project.

1.3.3 Construction (2017-2021)

All Units (1-4) have been put into commercial operation and are performing well. The only remaining work to be completed is balance of plant work.

1.3.4 Project Scope (2017-2021)

The scope items submitted in the business case for the Project are either complete or in progress. The following is a brief summary of each scope item against the Project business case.

Balance of Plant and Infrastructure

The scope of the balance of plant work has evolved as the Project progressed. The installation of new equipment and removal of old equipment within an operating facility presented unanticipated challenges that could not be defined during the planning stage. These challenges have postponed certain scopes and expanded other scopes of work throughout the Project.

The removal of the asbestos, lead based coatings, and other hazardous materials within the operating plant has prevented the completion of each unit's scope as listed in Table C4-1 during their respective refurbishments. The incremental spending in each unit's work breakdown structure is a result of completing the delayed scope caused by hazardous materials removal and interconnection of live equipment. Removal and remediation of the lead base coatings and painting of the four generating units' stators will commence with the reduction in river flows, allowing the generating units to be shut down and containments constructed around the equipment. The generating units are scheduled to be shut down in early Q3 2021 and the remaining balance of plant work inclusive of painting will be completed.

To support the upgrades to the plant equipment and generating units, the AC and DC station service equipment were replaced. Each unit has its own designated AC and DC station service panel, and plant equipment is separate and independent for each of the units. The Project also installed new 600 volt, arc-resistant, metal clad, AC station service motor control centres.

The anchoring required to strengthen the intake of Units 1, 2 and 4 due to the structural condition of the existing concrete has been completed.

Turbine Shaft Bearings and Brakes (Units 1, 2, 3 and 4)

The upper, lower and head cover guide bearings (Turbine Guide Bearings) were refurbished to include new babbitting, a different oil delivery/passage system and installation of new resistant temperature detectors. The new turbine bearing oil system used to lubricate the turbine guide bearings allow precise control of the lubrication system.

The thrust bearings were refurbished with the exception of the Unit 4 runner plate, which required replacement due to excessive wear. A high-pressure oil lift system was installed in the thrust bearing that reduces bearing friction on start-up and will extend the life expectancy of the bearings.

The in-water generator braking systems on all four generators were replaced with out-of-water modern disc brake systems that can be easily maintained and operated.

Turbine Runner and Seals (Units 1, 2 and 4)

The generator turbines/runners were found in poor condition, however they were all repaired and had their seal rings replaced to meet specification.

The turbine shaft bearing journals that support the alignment of the turbines were repaired by sleaving the shafts with stainless steel and machine finishing the shaft to a fine surface profile. The shaft bearing journal finish will extend the life of the bearings by reducing wear and maintenance.

Governor System (Units 1, 2, 3 and 4)

Similar to all other governors on each generating unit FBC owns, each unit is equipped with a high pressure governor system designed by L&S Electric, Inc. (L&S). The high-pressure systems use much less oil than the original governor system to govern the unit reducing the environmental risk associated with operating each unit.

All of the linkages between the governor and the wicket gate, including the governor tree and column, were either refurbished or replaced. The new components enable finer control of the generator and FBC now has the drawings to build replacement parts if or when required.

Turbine (Distributer) Components (Units 1, 2 and 4)

The turbine head covers and gate linkages were refurbished as intended. All wicket gates were able to be refurbished with the exception of four which were replaced due to their condition.

The operating rings for the wicket gates were replaced with a modern design allowing finer adjustment of the wicket gates and better control of the unit speed.

The bearing trees that support the main turbine bearings were refurbished and fitted with new bearing caps made of corrosion resistant aluminium. The bearing inserts were replaced to accommodate the refurbished turbine shaft bearing journals.

Trash Rack Replacement (Units 1, 2, 3 and 4)

The trash racks were replaced on the four generating units. After dismantling the trash racks, a concealed steel beam and concrete structure was found in poor condition. Additional unplanned work was required to replace the steel beams and supporting concrete.

Generator Rotor and Stator (Units 1, 2 and 4)

All generator components containing asbestos were removed. The generator stator and rotor were rewound and the rotor poles were refurbished. Rewinding Unit 2 generator stator and rotor was not included in the Project as it was rewound in 1995, however the main leads had to be reconfigured to accommodate the new protection and control equipment and braking system.

Excitation System (Units 1, 2, 3 and 4)

All four generating units are equipped with new independent digital excitation systems. Having an independent excitation system for each unit allows finer control of power production and enables each of the generating units to operate independently with differing set points.

The old excitation systems are in the process of being removed and the water intakes are plugged with concrete.

Generator Step-Up Transformer Unit 1 & Oil Containment

The Unit 1 transformer and all associated high and low voltage cables, supports, and insulators were replaced.

The double walled oil containment system that was originally planned was not required as the Project was able to meet the environmental requirements by reusing the existing oil collection tanks and modifying the building structure to function as the secondary form of containment.

Unit Protection and Control (Units 1, 2, 3 and 4)

All four units have new independent micro processor-based protection and control (P&C) equipment. These generators were not intended to be able to be remotely operated, however the standard P&C equipment sourced for the Project came with remote operation functionality. The units are all still operated locally; however, with additional testing, performance monitoring and communication modifications, these units may be operated remotely in the future.

1.3.5 Construction Pictures

The following pictures outline some of the equipment after being replaced or refurbished.

Figure B2-1: Bearing Oil Lubrication Unit

Figure B2-2: Bearing meters, Valves and Piping

Figure B2-3: Turbine Refurbishment

Figure B2-4: Turbine Bearing Journal

Figure B2-5: Governor High Pressure Unit

Figure B2-6: Governor Accumulators

Figure B2-7: Governor Interface

Figure B2-8: Governor Controls and Protection

Figure B2-9: Excitation System

Figure B2-10: Exciter Brushes and Speed Sensor

Figure B2-11: Unit Protection and Control

Figure B2-12: High Pressure Lift Pump

1.3.6 Environmental

The Project continues to follow the Environmental Management Plan (EMP) developed in 2017 and to date there are no reportable environmental incidents.

1.3.7 Safety

The Project accumulated approximately 157 thousand hours without a lost time incident. The majority of the effort on the Project is internal FBC labour, with approximately 18 thousand hours supplied externally.

1.4 *PROJECT CHALLENGES AND ISSUES*

1.4.1 Project Issues (Units 1, 2 ,3 and 4)

Unit 2 refurbishment is complete and all challenges and issues for each of the four generating units have been resolved. As the Project is substantialy complete, no further challenges or issues are anticipated.

2. PROJECT SCHEDULE

Major milestones are substantially complete and remaining balance of plant work for the Project has been identified in the milestone summary below.

Table B2-2: Milestone Summary

Milestone	Planned Completion Date	Actual Completion Date	Status
Engineering			
Mechanical Components – Machining and Fabrication Specifications	Q4, 2017	Q4, 2017	Complete
All Units Detailed Engineering	Q1, 2018	Q1, 2018	Complete
Balance of Plant Engineering	Q3, 2020	Q4, 2020	Complete
Procurement of All Major Mechanical/Electrical	Q2, 2020	Q2, 2020	Complete
Construction			
Refurbishment of Unit 3	Q4, 2017	Q4, 2017	Complete
Refurbishment of Unit 4	Q4, 2018	Q4, 2018	Complete
Refurbishment of Unit 1[1]	Q4, 2020	Q4, 2019	Complete
Refurbishment of Unit 2[1]	Q4, 2019	Q4, 2020	Complete
U3 Oil Leak Deficiency Repair	Q1, 2021	Q2, 2021	Complete
Balance of Plant Work	Q2, 2021		In Progress

Note:

[1] *Units 1 and 2 construction years were changed from the original schedule to gain efficiencies by removing equipment while operating a live plant.*

3. PROJECT COSTS

The following table outlines the Project expenditures to June 30, 2021 and the forecast Project expenditures to completion.

Table B2-3: Cost Summary

Description	Application/ Control Budget	Spent to Date	Estimate to Complete	Forecast Total to Complete	Variance
	(1)	(2)	(3)	(4)=(2)+(3)	(5)=((4)-(1))/(1)
	($000s)				(%)
Unit 4	6,634	8,058	0	8,058	21%
Unit 3	4,079	6,518	10	6,528	60%
Unit 2	5,641	6,587	15	6,602	17%
Unit 1	8,050	8,287	0	8,287	3%
Balance of Plant	860	1,067	593	1,661	93%
Subtotal - Construction	25,264	30,518	618	31,136	23%
Cost of Removal	1,880	1,734	35	1,769	-6%
Project Contingency	3,771	-	92	92	-98%
Subtotal- Construction & Removal	30,916	32,252	745	32,997	7%
AFUDC	867	1,146	36	1,183	36%
Total Project Cost	31,783	33,398	782	34,180	8%

3.1 *PROJECT COST SUMMARY*

Unit 4 – The forecast total for Unit 4 is currently $8.058 million, which represents a variance of $1.424 million. This variance is mainly due to the higher than estimated costs to rewind the stator and rotor, the as-found condition of the concealed components, and the challenges associated with installing a modern system in an antiquated operating plant.

Unit 3 - The forecast total for Unit 3 is currently $6.528 million, which represents a variance of $2.449 million. This variance is mainly due to the additional upfront engineering costs as this was the first unit to be refurbished, and the higher than estimated costs to rewind the stator and rotor. Additionally, after the commissioning of Unit 3, a leak developed due to the rotor casting flaws of the generator. This leak was repaired and resulted in additional costs of $0.252 million.

Unit 2 - The forecast total for Unit 2 is currently $6.602 million, which represents a variance of $0.961 million. This variance is mainly due to the additional work required to modify the existing stator equipment to facilitate the new braking system, the as-found condition of the concealed components, and the challenges associated with installing a modern system in an antiquated operating plant.

Unit 1 - The forecast total for Unit 1 is currently $8.287 million, which represents a variance of $0.237 million. The total variance on Unit 1 was offset by a positive variance of $0.813 million savings on the GSU transformer and oil containment replacement.

The common variances associated with Units 1-4 are the higher than estimated costs to rewind the stator and rotor, the as-found condition of the concealed components, and the challenges associated with installing a modern system in an antiquated operating plant. The estimate to rewind the generators was developed using a combination of actual costs from other rewound units and vendor input. When the generator rewind work was tendered to three contractors, the costs received were higher than budgeted. The costs to rewind all generators was approximately $1.442 million higher than estimated.

Balance of Plant Work - The forecast total for the balance of plant work is currently $1.661 million, which represents a variance of $0.801 million. The scope of this work has evolved as the Project progressed. The installation of new equipment and removal of old equipment within an operating facility presents unanticipated challenges that could not be defined during the planning stage. This variance is mainly due to the extra effort required to remove equipment and cabling which was not initially expected to contain asbestos, and the additional scope created by the relocation of plant equipment.

Cost of Removal – The forecast total for cost of removal is $1.769 million, which represents a positive variance of $0.111 million. This variance is mainly due to lower than anticipated removals for stator and rotor and the lower engineering and construction management costs during these removals.

Contingency – Project contingency has been utilized to offset the variances that were encountered among the different Units. The remaining Project contingency of $92 thousand is for risks that may still be realized.

AFUDC – The forecast total for AFUDC is $1.183 million, which represents a variance of $0.316 million. The variance is mainly due to advancing engineering and equipment procurement early in the Project. This variance was offset by efficiencies in engineering and economies of scale in procurement within the individual system costs.

The Project estimate was approved as Class 4 in the Annual Review for 2017 Rates because it was difficult to achieve further definition without dismantling the units. The solutions developed to address the uncertainties by FBC engineering and construction crews resulted in learnings, which were applied as the work progressed. FBC has realized efficiencies as the Project progressed, but could not overcome the budget pressures caused by higher than planned rewind costs of $1.442 million, the scope changes of $2.015 million required during the Project, and the poor condition of the turbine components.

3.2 *PROJECT SCOPE CHANGE SUMMARY*

Throughout detailed engineering, FBC made adjustments in order to address unforeseen challenges and issues not considered during the planning stage. These adjustments and construction changes total approximately $2.015 million.

The following table is a summary of Project changes over $50 thousand.

Table B2-4: Change Summary

	Title	Cost ($ thousands)	Status	Comment
1	Revised Protection & Control Costs	$102	Complete	Detailed design required changes to equipment.
2	Rotor and Stator Quality Control	$70	Complete	Third party oversight while Voith performed rewinds.
3	Specialized Tool Purchase	$223	Complete	The dismantle of the generators required pedestals and specialty tools.
4	Turbine Condition Assessments	$125	Complete	To reduce procurement risk the turbines were inspected prior to refurbishment .
5	Additional Tailrace Gate	$50	Complete	The additional tailrace gate was required to maintain outage water levels through freshet.
6	Wash car Trailer	$112	Complete	The wash car initially planned for the Project was condemned due to structural and infestation issues.
7	Trash Rack Upper Beam Repair	$198	Complete	Main deck supporting beam was deteriorated an all four units.
8	Governor Interface, Actuators and Gate Locks	$551	Complete	The governor actuator and its interfacing required redesign and replacement for all governor systems.
9	Runner Plate Replacement Unit 4 Thrust Assembly	$93	Complete	The as found condition of the runner plate did not meet specification and required replacement.
10	Unit 2 Generator Modifications	$239	Complete	Equipment relocation and reconfiguration to facilitate new brakes and controls.
11	Unit 3 Rotor Leak Repair	$252	Complete	Leaks developed after unit commissioning and additional outage and dismantle was required to repair.

4. PROJECT RISKS

The Project risk has significantly diminished from the last submitted report, as the work is substantially complete. The remaining risk to the Project is the ongoing Covid-19 pandemic.

4.1 *COVID-19 PANDEMIC*

The COVID-19 pandemic has introduced challenges to construction and operational responses have been developed to continue construction activities. The Project team will continue the Covid-19 operational responses, following the provincial guidelines.

5. CONCLUSION

The UBO Refurbishment Project is almost complete and has successfully eliminated or reduced the safety and environmental risks previously associated with operating the plant. The Project maintained schedule and returned the units to commercial service within the year planned. While the total forecast Project cost increased to $34.180 million, the increase was required to ensure the units could operate safely for twenty years or more, as originally planned. FBC continues to focus on the safe and efficient execution of the balance of plant work, and on reducing the remaining risks of the Project.

Appendix C
DRAFT ORDER

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Utilities Commission

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ORDER NUMBER
G-xx-xx

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

FortisBC Inc.
Annual Review for 2022 Rates

BEFORE:
[Panel Chair]
Commissioner
Commissioner

on Date

ORDER

WHEREAS:

A. On June 22, 2020, the British Columbia Utilities Commission (BCUC) issued its Decision and Orders G-165-20 for FortisBC Energy Inc. (FEI) and G-166-20 for FortisBC Inc. (FBC) approving a Multi-Year Rate Plan (MRP) for 2020 through 2024 (MRP Decision). In accordance with the MRP Decision, FBC is to conduct an annual review process to set rates for each year;

B. By letter dated July 13, 2021, FBC proposed a regulatory timetable for its annual review for 2022 rates;

C. By Order G-226-21 dated July 27, 2021, the BCUC established the regulatory timetable for the Annual Review for FBC's 2022 rates, which included FBC filing its Annual Review materials, intervener registration, one round of information requests, a workshop, FBC's response to undertakings at the workshop, and written final and reply arguments;

D. On August 6, 2021, FBC submitted its materials for the Annual Review for 2022 Rates Application (Application). In the Application, FBC forecasts a 3.46 percent rate increase over 2021 rates, effective January 1, 2022;

E. The Application also requests the following deferral account approvals as described in Sections 7.6 and 12.4 of the Application:

    1. Creation of a rate base deferral account for the 2021 Generic Cost of Capital proceeding;

    2. Amortization periods for the following previously approved deferral accounts:
        i. A one-year amortization period for the 2020 Cost of Service Analysis (COSA) deferral account commencing January 1, 2022;

ii. A three-year amortization period for the Mandatory Reliability Standards (MRS) 2021 Audit deferral account commencing January 1, 2022;
iii. A three-year amortization period for the 2021 Long-term Electric Resource Plan (LTERP) deferral account commencing January 1, 2022;
iv. A three-year amortization period for the Rate Design and Rates for Electric Vehicle (EV) Direct Current Fast Charging (DCFC) Service Application deferral account commencing January 1, 2022;

F. The Application also requests approval of the following:

1. Approval to change the frequency of reporting on the COVID-19 Customer Recovery Fund Deferral Account from monthly to quarterly, as described in Section 7.6.2.1 of the Application;

2. Z-factor treatment for the incremental O&M and capital expenditures related to MRS Assessment Report No. 13, as described in Section 12.2.1 of the Application; and

G. The BCUC has reviewed the Application and makes the following determinations.

NOW THEREFORE pursuant to sections 59 to 61 of the UCA, for the reasons stated in the decision issued concurrently with this order, the BCUC orders as follows:

1. FBC is approved to recover the 2022 revenue requirement and resultant rate changes on a permanent basis, effective January 1, 2022, as filed in the Application, subject to any adjustments identified by FBC during the regulatory process and from any directives or determinations made in the reasons for decision issued concurrently with this order.

2. The following deferral account treatments are approved:

a. Creation of a rate base deferral account for the 2021 Generic Cost of Capital proceeding;

b. Amortization periods for the following previously approved deferral accounts:

i. A one-year amortization period for the 2020 COSA deferral account commencing January 1, 2022;

ii. A three-year amortization period for the MRS 2021 Audit deferral account commencing January 1, 2022;

iii. A three-year amortization period for the 2021 LTERP deferral account commencing January 1, 2022; and

iv. A three-year amortization period for the Rate Design and Rates for EV DCFC Service Application deferral account commencing January 1, 2022.

3. FBC is approved to change the frequency of reporting on the COVID-19 Customer Recovery Fund Deferral Account from monthly to quarterly, as described in Section 7.6.2.1 of the Application.

4. FBC is approved for Z-factor treatment for the incremental O&M and capital expenditures related to MRS Assessment Report No. 13, as described in Section 12.2.1 of the Application.

5. FBC is directed to file with the BCUC, within 30 days of the issuance of this order, amended tariff pages in accordance with the terms of this order.

DATED at the City of Vancouver, in the Province of British Columbia, this (XX) day of (Month Year).

BY ORDER

(X. X. last name)
Commissioner