### FBC Annual Review of 2020-21 Rates

Workshop



October 21, 2020

### Agenda

Topic	Presenter(s)
Торіс	
Overview & Approvals Sought	Diane Roy Vice President, Regulatory Affairs
Revenue Requirements & Rates	Sarah Walsh Manager, Regulatory Projects
Forecasting	David Bailey Customer Energy and Forecasting Manager
COVID-19 Pandemic Update	Michelle Carman Director, Customer Service James Wong Director, Budgeting and Strategic Initiatives
Service Quality Indicators (SQIs)	James Wong Director, Budgeting and Strategic Initiatives Dale Ernst
Playmor Substation Upgrade	Ryan Corbett Senior Regional Engineer
Open Question Period	All



### 2020 Rates Include 2014-2019 PBR Plan Elements

- Increase to 2020 Opening Rate Base for capital that was held outside of rate base:
  - \$17.1 million in excess of formula/allowed but within the dead band over the PBR term cumulatively
  - \$8.8 million outside of dead band for 2019
- 2019 Flow-through account balance
  - \$6.4 million credit for 2019
  - \$1.1 million credit true-up for 2018
- Final Earnings Sharing recovery of \$0.25 million for 2019 and for 2018 true-up
- Final 2019 SQI results all equal to or better than the threshold with exception of System Average Interruption Duration Index (SAIDI)



### Approved Multi-Year Rate Plan (MRP)

# MRP Term from 2020 to 2024

# Rate Increases for 2020 and 2021

# Service Quality Indicators

Formula-Driven Items Forecast Items (Approved and Flow-through)

Customer

Safety



## Key Differences between MRP and PBR Plan

#### • Capital:

- 2020 through 2022 regular capital has already been approved for the amount to include in rates
- No formula-driven capital

#### • 0&M

- Change to customer growth factor for indexed O&M: 75% of net customer growth with true-up
- Changes to which items are forecast and flowed-through outside of indexed O&M
- Earnings Sharing applies to more items
  - Some components of Other Revenue
  - Depreciation, financing and earned return on rate base (that is not otherwise subject to flow-through)



### FortisBC MRP Compared to PBR Plan

	Approved PBR	Approved MRP
Term	2014-2019 (6 years)	2020-2024 (5 years)
Indexing for O&M and FEI Growth Capital	Grow by inflation less 1% productivity; 55% labour and 45% non labour inflation	Grow by inflation less 0.5% productivity; adjust for actual PY labour percentages annually
Growth Factor for O&M and FEI Growth Capital	50% of lagged actual net customer growth for O&M and capital other than FEI growth; 50% of lagged gross customer adds for FEI growth capital	75% of forecast net customer growth for O&M, 100% of gross customer adds for FEI growth capital; both with true-up
"Z" Factors	Yes - 5 criteria including materiality threshold	Same but with reduced threshold (\$150K for FBC; \$500K for FEI)
Capital	Indexed as above	Forecast basis, except FEI growth
SQIs	13 for Gas; 11 for Electric	13 for Gas; 12 for Electric
Off Ramps	200 bps one year or 150 bps 2 consecutive yrs	150 bps one year
Innovation Fund	None – some funding occurring through O&M	\$5M for Gas
Incentives	50/50 O&M and capital earnings sharing only	50/50 ROE



### Approvals Sought

- 2020: Existing interim rate increase be made permanent (1 percent)
- 2021: Rate increase of 6.37 percent
- Six New Deferral Accounts
  - Four for regulatory proceedings Annual Reviews, BCUC Initiated Inquiries, 2021 LTERP, 2020 COSA
  - 2021 MRS Audit
  - Indigenous Relations Agreement for Huth Substation
- Existing Deferral Accounts
  - Five year amortization of the 2020-2024 MRP Application deferral
  - Draw down the 2018/2019 Revenue Surplus deferral account to zero over 2020 and 2021
  - Include COVID-19 incremental costs and related savings from 2020 and 2021 in the COVID-19 Customer Recovery Fund deferral



### Approvals Sought (cont'd)

- SQI benchmarks of 3.22 for SAIDI and 1.57 for SAIFI, and thresholds of 4.52 for SAIDI and 2.19 for SAIFI
- Acceptance of the capital expenditures for the Playmor Substation Upgrade Project under Section 44.2(3) of the UCA



### Questions?



### Revenue Requirements & Rates

Sarah Walsh, Manager, Regulatory Projects



### The MRP Formula for O&M



\* Subsequent true-up of customer forecast eliminates forecast variance



### Total O&M



2020 Gross O&M \$61.9 million

2021 Gross O&M \$65.1 million

FORTIS BC<sup>--12-</sup>

### 2020 Revenue Requirement Summary



FORTIS BC<sup>--13-</sup>

Working Capital

### Summary of 2020 Deficiency





### 2021 Revenue Requirement Summary





### Summary of 2021 Deficiency





### Questions?



### Forecasting

David Bailey, Manager, Customer Energy and Forecasting Manager



### Historical Forecast Results

- MAPE =
  - □ Mean (the average)

□ Absolute (removes the +/- cancellation effect)

- Percent
- □ Error (the variance)

# FBC 10 Year Load Forecast MAPE 1.56%



Pandemic Considerations for Forecasting

- Customer Forecast
  - No evidence of an impact to customer additions as per BCUC 8.1.1.
- Commercial
  - Forecast used the GDP forecast from the CBOC Preliminary Economic Forecast - April 2020
- Industrial and Wholesale Demand
  - Surveys completed in April
- Overall Demand
  - 2020 Projection used Actuals for January to June for all inputs, which would reflect the impacts of the Pandemic to that point



### Pandemic Impact - 2020 Load



Given the small variance in the months since the pandemic began, and with the understanding that the pandemic situation is unpredictable and changing rapidly, there is insufficient evidence to warrant forecast adjustments, either upwards or downwards



## Forecasting Results - "What" and "Why"

- A number of IRs asked for reasons why particular aspects of the forecast were up or down
- What?
  - Actual historical data by rate schedule, year and month
  - Weather normalized
  - Many drivers, all "intrinsic" to historical load
  - Key: Accurate historical data is critical to objective, repeatable "time series" methods
- Why?
  - Many reasons why customers do what they do
    - Appliance efficiency
    - Building envelopes
    - Appliance count
    - Household size
  - Many industry segments, all with different drivers
  - Key: "Why" is not an input to our forecast methods and therefore knowing "why" cannot improve the forecast results



### **Forecast Process**



#### Residential

- Customers: Regression of BC STATS population
- UPC: Regression of normalized actuals
- Load: Product of customers and UPC



#### Commercial

• Load and Customers: Regression of CBOC GDP



#### Industrial

Survey
 92%

 response
 by
 load/80%
 by
 customer



#### Wholesale

- Survey100%
  - response



#### Lighting

 Load is forecast using a naive forecast



#### Irrigation

 Load is forecast using a naive forecast



# Residential and Commercial Regressions





### Industrial Load

#### **FBC Industrial Loads**





### Load Variance Benchmark





### Aggregate Load Variance – FBC Results





### Questions?



### COVID-19 Pandemic Update

Michelle Carman, *Director, Customer Service* James Wong, *Director Budgeting and Strategic Initiatives* 



### COVID-19 Overview of Employee Impacts

Category	Measures & Protocols
Leadership Responsibility	<ul> <li>Outline, communicate and follow the Exposure Control Plan</li> <li>Business unit plans developed to communicate specific requirements including scheduling/staggering of work activities and remote work capabilities</li> <li>Ensure site safe work plans are developed, in place and communicated</li> <li>Joint Health and Safety Committee engaged in controls and measures including inspections, review of issues and ongoing communication</li> </ul>
Individual Responsibility	<ul> <li>Self-check for COVID-19 symptoms prior to coming into the workplace and reporting requirements</li> <li>Physical distance of 2m/6ft to be maintained with PPE requirements followed</li> <li>Good personal hygiene practices (washing hands, sanitizers, wipes, covering coughs/sneezes)</li> </ul>
Facilities & Personal Protective Equipment	<ul> <li>Workstation layout, proximity and high traffic and common areas reviewed and assessed with measures implemented to promote proper hygiene and allow for physical distancing requirements to be met</li> <li>Building occupancy limits posted and adhered to</li> <li>Access into the workplace is limited to employees (limited to no access for guests, visitors and customers)</li> <li>Clear guidelines on when PPE is required and how to use it</li> <li>PPE supplied and available</li> </ul>



### COVID-19 Overview of Customer Impacts

#### Minimal disruptions to customer experience through pandemic

• Non-urgent work and communications paused for several months

#### Financial and non-financial support provided to address needs

- Pause of collections related activities, including late payment charges and disconnections for non-payment
- Bill payment deferrals for all customers, with interest fee payment plans
- Bill credits for eligible small commercial customers
- Promotion and expansion of energy savings opportunities & community support

#### **Customer Recovery Fund Deferral Account**

• Forecast June 2021 balance of approximately \$2 million associated with forecast bill deferrals, bill credits and unrecovered revenues



### COVID-19 Unrecovered Revenues (Bad Debt)

- Customer Recovery Fund Deferral Account captures unrecovered revenues associated with COVID-19
- Forecast unrecovered costs in deferral account consistent with approach embedded in financial statements (US GAAP)
- Approach to recognizing actual costs in deferral account will be finalized as bad debt expense becomes more certain
- Principles for recognizing actual costs in deferral account:
  - Balances recognized will be reasonably verifiable as being caused by COVID-19, with customer input being a primary consideration
  - Bad debts associated with COVID-19 should not have a significant impact on index-based O&M and earnings sharing



### COVID-19 Net Incremental O&M costs





### Questions?



### Service Quality Indicators

James Wong, Director Budgeting and Strategic Initiatives Dale Ernst, Manager, System Operations



### Customer

Service Quality Indicator	2018 Results	2019 Results	2019 Status (Relative to Benchmark and Threshold)	2020 August YTD Results	2020 Status (Relative to Benchmark and Threshold)	Benchmark	Threshold
Customer SQIs							
First Contact Resolution	82%	82%	Meets	81%	Meets	78%	74%
Billing Index	0.29	1.96	Meets	0.17	Meets	<=3.0	5.0
Meter Reading Accuracy	99%	99%	Meets	99%	Meets	98%	96%
Telephone Service Factor (Non-Emergency)	72%	70%	Meets	74%	Meets	70%	68%

Informational Indicator	2018 Results	2019 Results		2020 August YTD Results		
Customer Satisfaction Index	8.3	8.7	n/a	8.4	n/a	
Average Speed of Answer	49 sec.	49 sec.	n/a	48 sec.	n/a	



### Safety and Reliability

Service Quality Indicator	2018 Results	2019 Results	<b>Status</b> (Relative to Benchmark and Threshold)	2020 August YTD Results	2020 Status (Relative to Benchmark and Threshold)	Benchmark	Threshold
Safety SQIs							
Emergency Response Time	94%	92%	Within Range	92%	Within Range	93.0%	90.6%
All Injury Frequency Rate	1.28	1.05	Meets	0.78	Meets	1.64	2.39
Reliability SQIs							
SAIDI - Normalized	3.10 *	3.22 *	Outside of Threshold	3.17	Meets	3.22	4.52
SAIFI - Normalized	1.62 *	1.57 *	Meets	1.63	Within Range	1.57	2.19

\* For 2018, 2019 – SAIDI and SAIFI were reported on a 3 year average basis.

Informational Indicator	2018 Results	2019 Results		2020 August YTD Results			
Generator Forced Outage Rate - informational	0.4%	0.1%	n/a	1.7%			
Interconnection Utilization	99.96%	99.98%	n/a	99.92%			
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### Proposed SAIDI and SAIFI Benchmarks and Thresholds

- Based on a similar approach as that used in the prior PBR Plan
  - Proposed <u>benchmarks</u> based on an average of recent three years results
    - 2017, 2018, 2019
  - Proposed <u>thresholds</u> based on historical volatility observed
    - 10 years from 2010 to 2019 provides for a reasonable proxy for normal volatility and includes the impact of the Outage Management System (OMS) and variation due to weather conditions
    - Calculating threshold based on years with OMS only (2017 to 2019) has similar result

#### Incorporates the impact of the OMS

- OMS impact started in 2017
- Order G-246-18 FBC 2019 Annual Review for 2019 Rates noted need to account for OMS in setting a future benchmark for SAIDI



### Reliability



### Outage Management System

Customers Affected	Outage Case     Call Records     Callads     Transformers     Oustomers       Call Comments     Damage Reports     Tickets     Jobs     Materials       User not logged h.     Case Status     Scheduled       Case 5     7517     Case Status     Scheduled       Description     246332 a cup sorter     Updated     2018:09:28 064436     By dist       Description     246332 a cup sorter     Description     246332 a cup sorter       Details     Status     Scheduled     Optional       Status     Scheduled     Optional     Case Status       Details     Status     Scheduled     Description       Status     Scheduled     Optional     Callers: Manual     Optional       Status     Scheduled     Optional     Auto Tweets     Auto Emails       Device Failure     None     Woorte     Woorte     Woorte       Veather     None     Woorte     Case Status     Case Status	EXVIEW
Outage Location (device)	Next Writin Case     Case     Solow Restar Case       Outage Location     Provide KEL 74d 72C893       Location     74C893       Next Upline 74C778     Prace       Problem Location     Problem Location       Work Status     Astioned       Work Status     Creves dibates       Remaining:     # Customers       Subtation     File       Restoration     Image Restoration       Restoration     Image Restoration	ALL



### Distribution Reporting System Comparison

#### Previous Reporting System





### FBC Reliability by Year





### Summary of 2019/2020 YTD Results

- For 2019, both SAIDI and SAIFI results were favourable compared to 2017 and 2018 due to several factors:
  - Decrease in Tree Contacts
  - Decrease in Adverse Weather
  - Decrease in Adverse Environment (fires, floods)
- The only area which saw a notable increase versus prior years was Foreign Interference (motor vehicles, birds or animals)
- There were no qualifying Major Events in 2019
- 2020 SAIDI YTD results as of end of August are slightly lower than the proposed Benchmark while SAIFI is slightly higher



### Interconnection Utilization

	2014	2015	2016	2017	2018	2019	2020
Interconnection Utilization	0.9998	0.9994	0.9999	0.9994	0.9995	0.9998	0.9992
# of Interruptions	13	16	9	19	19	15	21



### Questions?



### Playmor Station Upgrade

Ryan Corbett, Senior Regional Engineer



# Playmor (PLA) Substation Upgrade - Agenda

- Playmor substation and customer service area
- Project Need:
  - Station capacity is inadequate to meet customer requests
     Improve reliability for new and existing customers
     Aging equipment requires replacement
- Alternatives Considered and Recommendation
- Engagement
- Conclusion





### Project Location and Customer Service Area





### Playmor Substation

Key components of Playmor substation:

A single 16 MVA 63/13 kV transformer (PLA T1)

Metal-clad switchgear with main breaker and distribution feeder breakers

Three distribution feeders





# Existing Equipment is Nearing End of Life

Equipment condition for PLA T1 transformer:

- Manufactured in 1966 (54 years old)
- Recent Dissolved Gas Analysis results indicate a fast paper insulation aging process
- Load Tap Changer (LTC) experiencing abnormal arcing and cannot be repaired due to obsolescence
- Based on condition, this transformer was planned for replacement by 2026
- Winter peak load is limited to 16.6 MVA due to LTC condition





# Existing Equipment is Nearing End of Life

Equipment condition for Playmor metal-clad switchgear:

- Requires replacement by 2027 based on an analysis of condition data and equipment characteristics
- Switchgear is obsolete and there are no spare breakers
- Arc flash hazard at PLA is Category 3 (13 cal/cm<sup>2</sup>)
- Arc chutes are suspected to contain asbestos





Project Need - Playmor Substation Peak Load

Historical peak load on PLA T1:

- In 2016, winter peak load reached 86.6% of the 16.6 MVA load limit
- Due to low historical load growth rate in the area served by Playmor, distribution forecasts did not show PLA T1 load exceeding 16.6 MVA until after the 2020-2024 MRP term







### Project Need - Playmor Load Growth

- In 2019, FBC received several requests for commercial/ industrial services from new and existing customers
- Including recently connected services, FBC's distribution forecast peak for PLA T1 is 15.7 MVA (95%) in winter 2020
- Two large loads could not be connected at the requested levels since PLA T1 would be forecast to exceed 16.6 MVA





### Project Need - Reliability

Limited options to restore customer load in a PLA T1 outage:

- The only nearby stations with the potential to restore Playmor customers are Passmore (PAS) and Tarrys (TAR)
- Under peak load conditions, only 13 percent of Playmor customers can be restored through distribution switching
- Throughout the year, a mobile transformer is the only option to restore 100 percent of customers



### Project Need – Equipment Condition

The main issues with aging equipment at Playmor are:

- PLA T1 is 54 years old, shows signs of fast paper insulation aging and has an LTC that is experiencing abnormal arcing
- PLA metal-clad switchgear is 51 years old, is not arc-flash rated and has an asbestos exposure risk
- Deficiencies in the station DC system result in callouts and unnecessary cost

Given these equipment deficiencies, a full rebuild of the substation is the most feasible solution



### Project Alternatives

Three feasible alternatives were identified for Playmor:

#### Alternative A

• Install two 20 MVA transformers

#### **Alternative B**

• Install one 40 MVA transformer

#### Alternative C

• Do nothing

Additional Land Acquired Set The Leopo

Both Alternatives A and B also include expansion and a full rebuild of the station with FBC standard equipment



### Project Alternatives

Criteria	Alternative A – Two Transformers	Alternative B – Single transformer	Alternative C – Do Nothing
Capital Cost (\$2020)	\$10.128 million	\$ 8.976 million	\$ -
Incremental O&M (\$2020)	\$ 0.015 million	\$ 0.007 million	\$ -
Present Value Incremental Revenue Requirement	\$ 11.621 million	\$ 11.468 million	N/A
Levelized Rate Impact	0.19%	0.18%	N/A
Addresses station capacity constraints	$\checkmark$	$\checkmark$	X
Addresses reliability issues	$\checkmark$	X	X
Addresses aging infrastructure and equipment condition issues	$\checkmark$	$\checkmark$	X
Resolution Window	> 20 Years	14 years	1-2 years
Alternative Evaluation			
Ranking	1	2	3

Alternative A is recommended since it addresses all project needs and provides the longest term solution for the area



### Engagement

- FBC discussed the project directly with the Ktunaxa Nation and the Lower Kootenay Band
- A notification letter with a request for feedback was sent to the following Nations and Communities:
  - Secwepemc Nation;
  - Penticton Indian Band;
  - Okanagan Nation Alliance;
  - Lower Similkameen Indian Band;
  - Shuswap Indian Band; and
  - Ktunaxa Nation Council.
- Letters were also sent out to residents within 150 metres
- An FBC representative visited the three closest properties
- No concerns received to date



### Conclusion

- The Playmor project is necessary to support growth and improve reliability of service for customers
- Alternative A provides the best solution to meet all project objectives and requirements





### Questions?



### **Questions Period**





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