MRP Workshop

FEI and FBC 2020 – 2024 Multi-Year Rate Plans

May 01, 2019

Energy at work

FORTIS BC™

Agenda

Time	Topic	Presenter
9:00 – 10:45	Introduction	Diane Roy
	Operations and Maintenance	Rick Gosselin
	Capital Expenditures	Joyce Martin
	Innovation Fund	Mark Warren
	Service Quality Indicators	James Wong
10:45 – 11:00	**BREAK**	
11:00 – 12:00	Incentives	Doug Slater
	Other MRP Framework Items	Doug Slater, Rick Gosselin
	Supporting Studies	Rick Gosselin
	Rate Impacts and Next Steps	Diane Roy
12:00 – 12:30	Questions	

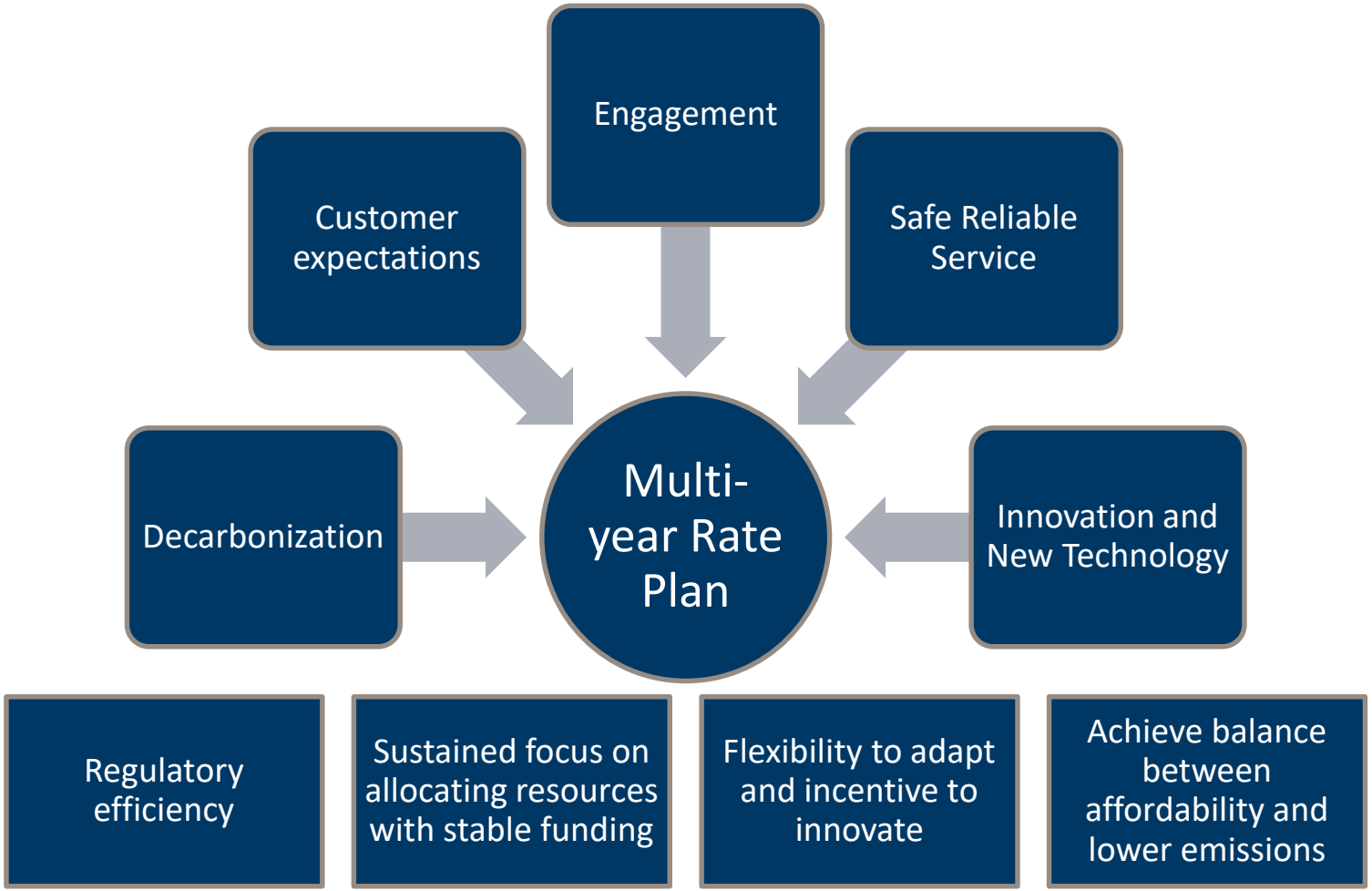
Introduction

MRPs Responsive to Environment, Experience and Feedback

- We have considered changes in our operating environment
- We have built on successes and challenges of the Current PBR Plans and prior Cost of Service and PBR plans
- We have heard from the BCUC and Interveners:
  - Effectiveness of capital funding formula
  - Need to address government energy policy
  - Diminishing opportunities for incremental operating savings

Introduction

MRPs Respond to Our Changing Operating Environment



Introduction

Current PBR Plans Achieved Efficiency and Managed Rates

Quantitative

- Rates
- Capital
- O&M
- Regulatory Efficiency

Qualitative

- Service Quality
- Innovation & revenue generation
- Achievement of energy policy

Introduction

Rates were Managed Effectively during PBR Term

2014 to 2019 Rates	Inflation Average 2%
	FEI 0.9% Average Delivery Rate Increase
	FBC 2.2% Average Rate Increase
	Future Pre-tax Revenue Surplus of $42 million (FEI) and $5M (FBC)

Introduction

MRPs Build on Current PBR Plans

Table B2-1: Main Features of the Current PBR Plans

Item		FEI PBR Plan	FBC PBR Plan
Term		Six years (2014-2019)	
Formula	O&M	$OM_t = OM_{t-1} * [1 + (I-X)] * (1+G/2)$	
	Capital	$Allowed\ Cost_t = Cost_{t-1} * (1+I-X) * (1+G/2)$ Three categories: (i) growth capital, (ii) sustainment capital (iii) other capital	$Allowed\ Cost_t = Cost_{t-1} * (1+I-X) * (1+G/2)$ Three categories: (i) growth capital, (ii) sustainment capital (iii) other capital
I-Factor		Composite index: 55% AWE:BC + 45% CPI:BC	
Growth Factor		G = Service line additions for growth capital, average number of customers for Sustainment/Other capital and O&M	G = Average number of customers
X-Factor		Fixed at 1.10% for the entire PBR term	Fixed at 1.03% for the entire PBR t
Y-Factor		Yes, Flow-through deferral account as well as a number of other deferral accounts such as DSM expenses, cost of gas/power supply, pension/OPEB expense.	
Z-Factor		Available for prudently incurred costs caused by exogenous factors.	
		Materiality threshold: 0.5% of 2013 base O&M which equalled $1.15 million.	Materiality threshold: 0.5% of 2013 ba O&M which equalled $0.301 million.
ESM		50/50 symmetric sharing for variances in formula O&M and for earnings on formu capex variances within a dead band.	

Five year term

Capital forecast except FEI Growth

True-up of Forecast

No X-factor

No materiality threshold

Sharing of ROE

Introduction

MRPs Build on Current PBR Plans

Item	FEI PBR Plan	FBC PBR Plan
Safeguard Mechanisms	Dead band for capital formula - If the capital dead band is exceeded, the opening plant in service for ratemaking purposes in the following year will be adjusted up or down by the amount that actual capital expenditures vary outside of the dead band from the formula-based amount, and the capital expenditure level utilized in calculating the earnings sharing is adjusted up or down by the same amount - One year 10% dead band or two-year cumulative 15% dead band PBR Off-ramp Off ramp triggered if earnings in any one year varies from approved ROE by more than +/- 200 bps (post sharing) and/or earnings vary from approved ROE by more than +/- 150 bps (post sharing) in two consecutive years.	
Efficiency Carryover Mechanism	Only on a case-by-case basis	
Incremental Capital	Available through CPCN process	Available through CPCN process plus certain major non-recurring projects
	Materiality threshold of $15 million	Materiality threshold of $20 million
SQIs	Yes, Included nine SQIs and four informational indicators	Yes, Included eight SQIs and three informational indicators

Removed dead band

New Efficiency Carryover Mechanism

Updated SQIs

Operations and Maintenance

Majority of O&M will be Indexed to Inflation

- Achieved operational savings
- Lower O&M starting point for MRP O&M Base
- Benchmarking study confirms efficient operations relative to peers
- An inflation-indexed unit cost approach for O&M will provide stable funding to address challenges, while promoting a culture of “do more with what we have”

Operations and Maintenance

2019 O&M Base includes Adjustments plus New Funding

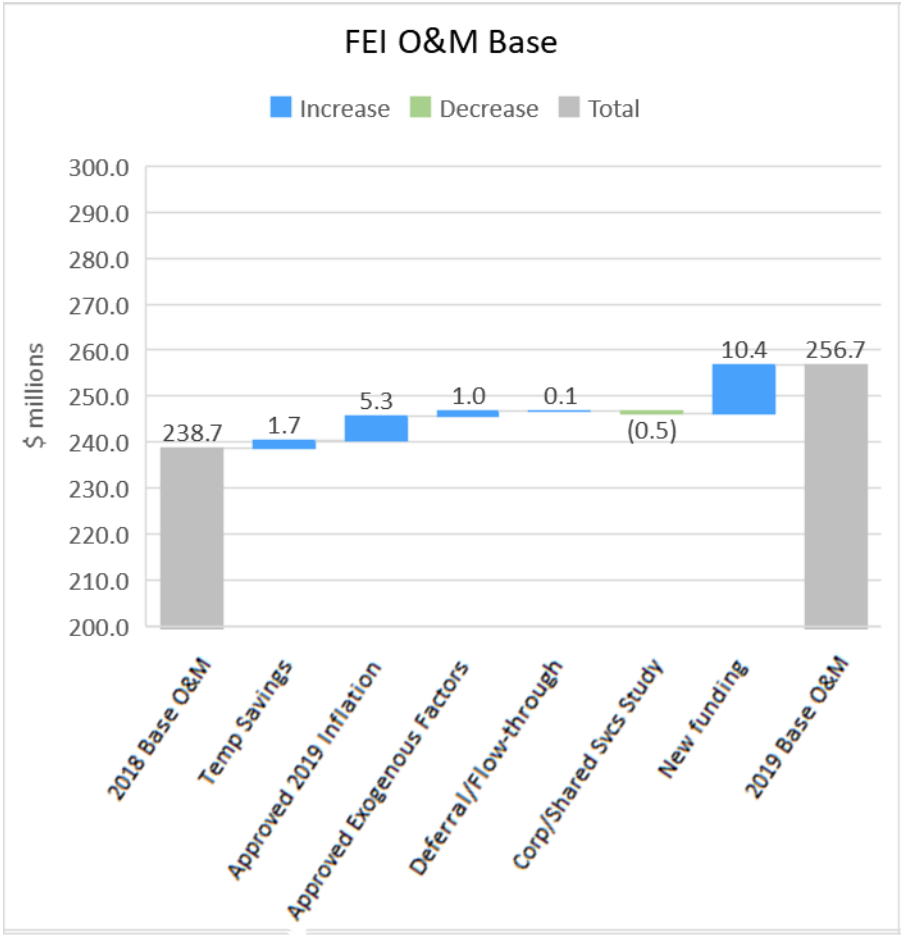


Table C2-1

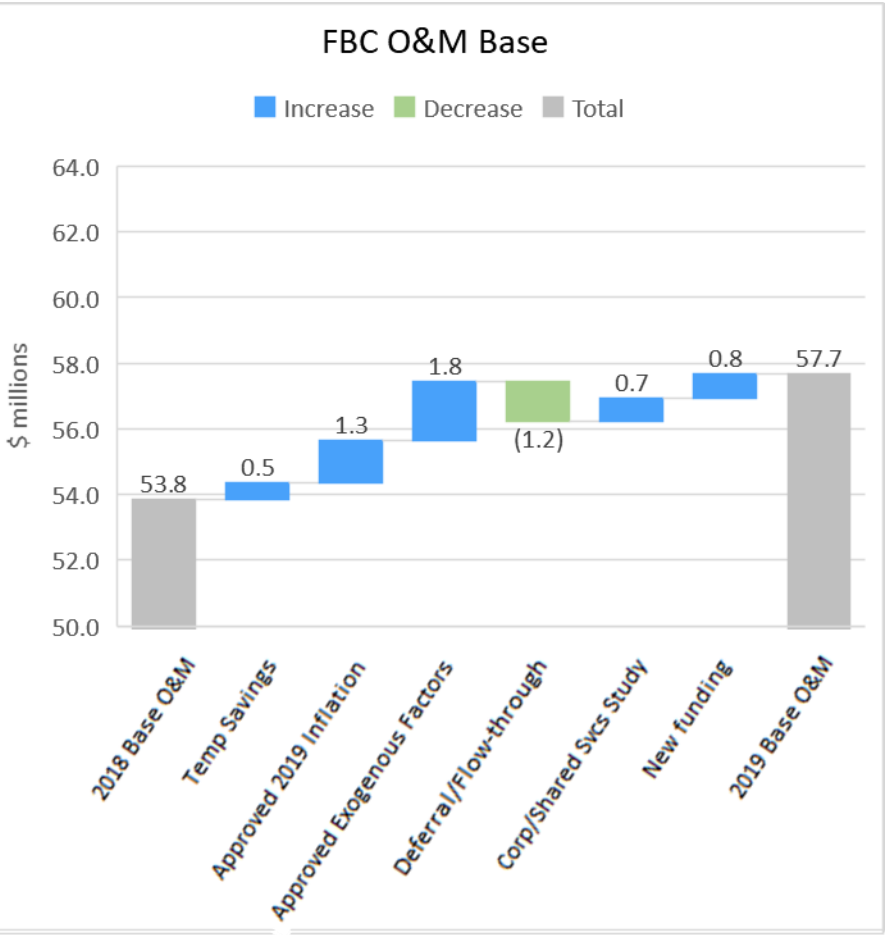


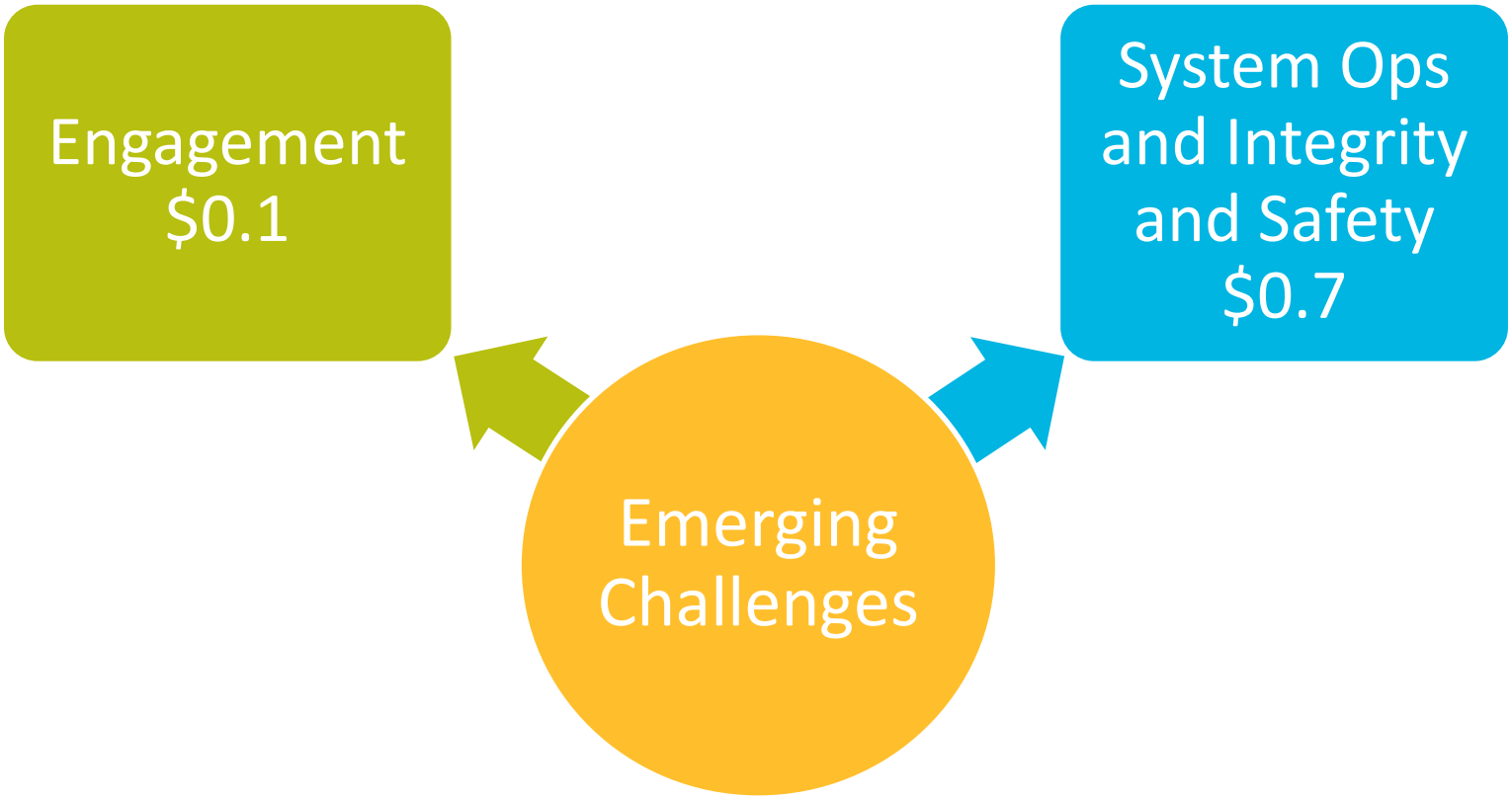
Table C2-14

Operations and Maintenance

FEI Incremental Funding for Increased Operational Requirements

Operations and Maintenance

FBC Incremental Funding for Increased Operational Requirements



Operations and Maintenance

2019 Net O&M per Customer Lower than 2013

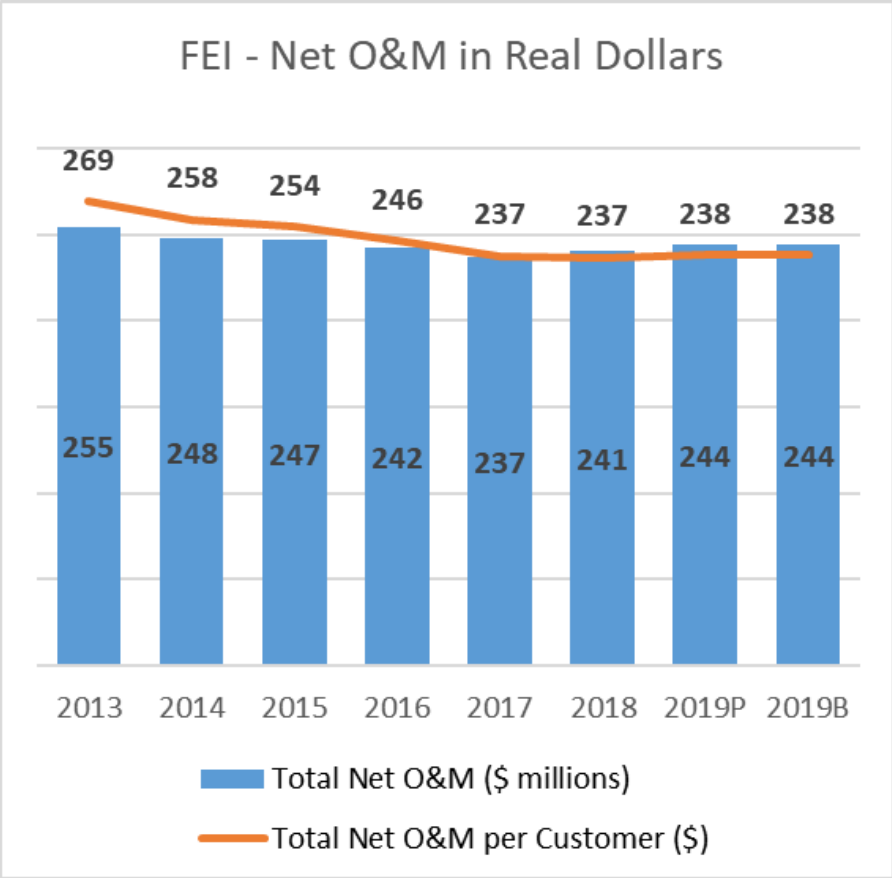


Figure C2-1

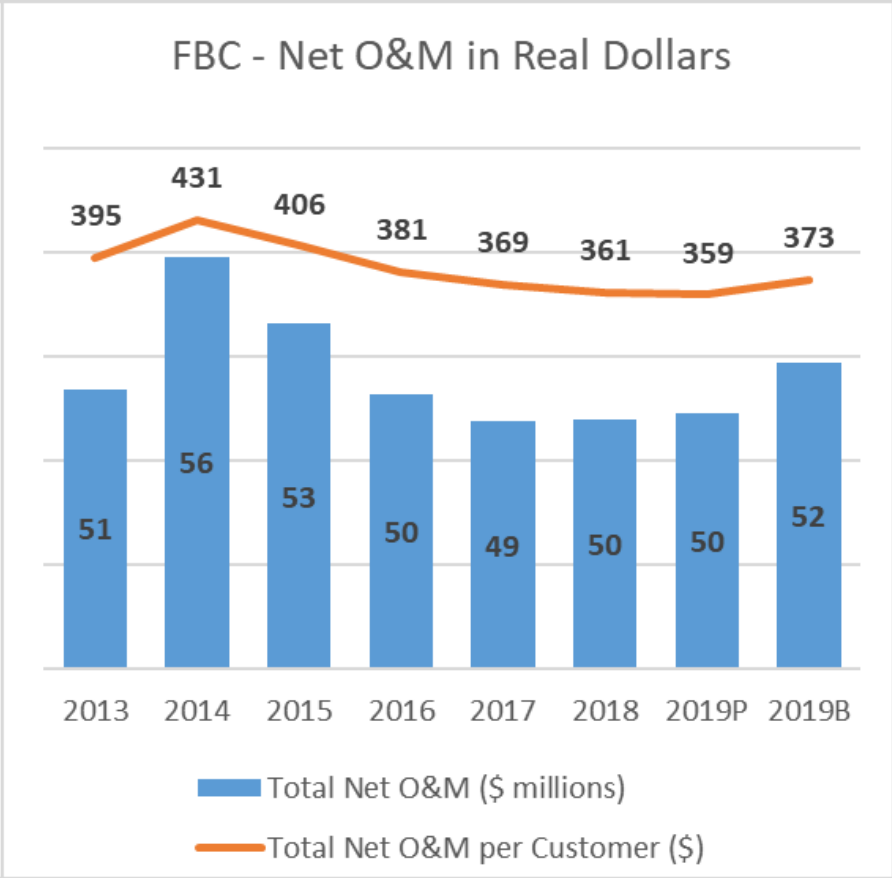


Figure C2-2

Operations and Maintenance

Example: Index-Based O&M Calculation and True-up

$$OM_t = UCOM_{t-1} \times (1 + I) \times AC_t$$

	Year 1		Year 2
Forecasts for Test Year			
Approved $UCOM_{t-1}$	$	250	$ 255
I factor		2.0%	2.2%
Approved $UCOM_t$	$	255	$ 261
Forecast Customers		1,100,000	1,105,000
$O\&M_t$ ($000)	$	280,500	$ 287,974
O&M Adjustment ($000)		-	***(255)***
$O\&M_t$ ($000)	**$**	**280,500**	**$ 287,719**

Actual for Test Year		
Actual Customers		1,099,000
Forecast Customers		1,100,000
Difference		(1,000)
$UCOM_t$	$	255
O&M Adjustment ($000)	***$***	***(255)***

Capital Expenditures

Combination of Unit Cost and Forecast Approach to Capital

- Unit Cost approach to FEI Growth Capital
  - Funding requirements are well correlated to customer additions
- Five year forecast approach for the rest of Regular Capital
  - In 2022, review capital forecast for 2023 and 2024 (years 4 and 5 of MRP)
- Continue to seek approval for Major Projects in separate applications
  - CPCN threshold is > $15 million for FEI, > $20 million for FBC

Capital Expenditures

FEI Growth Capital Appropriate for Unit Cost Approach

- Unit Cost Growth Capital increases by inflation annually
- Gross customer additions (GCA) is forecast annually and trued up in the year following

Figures are from Table C3-3, page C-61

Capital Expenditures

Example: FEI Growth Capital Formula and True Up

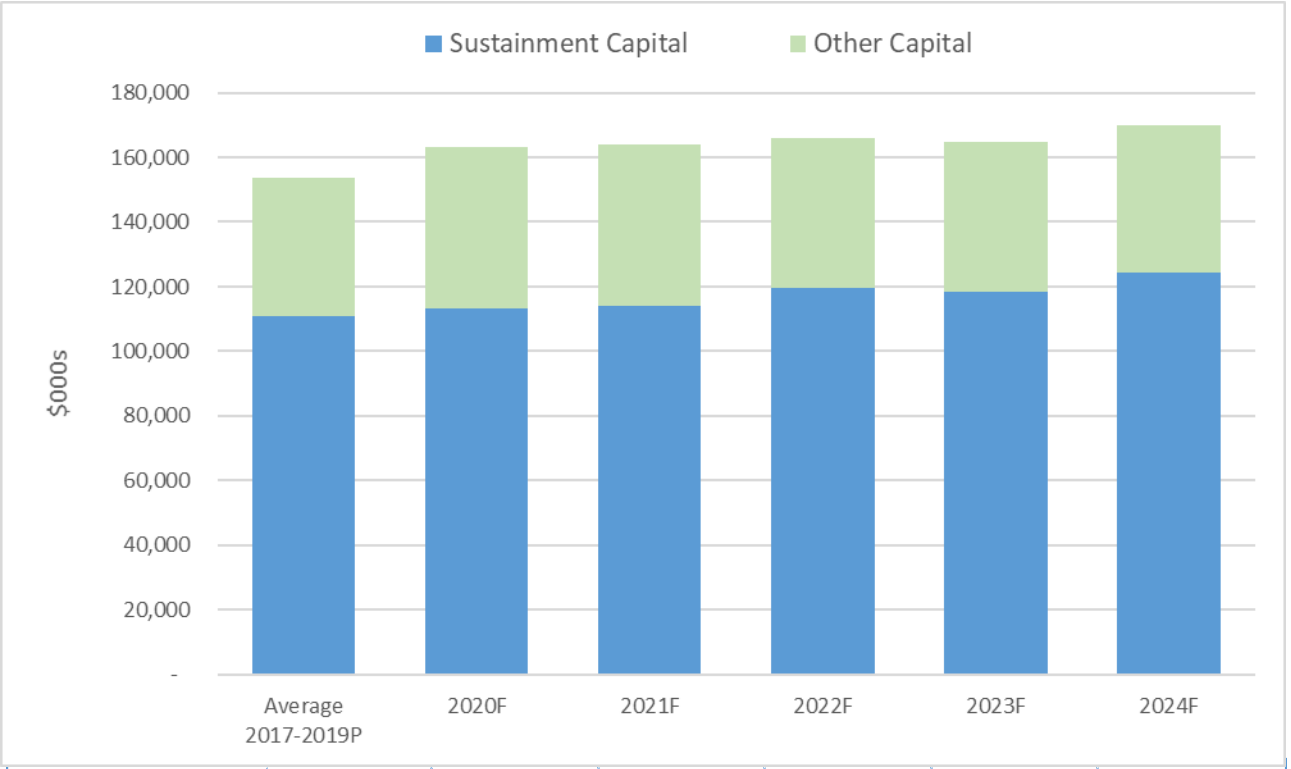
$$GC_t = UCGC_{t-1} \times (1 + I) \times GCA_t$$

	Year 1	Year 2
Forecasts for Test Year		
Approved $UCGC_{t-1}$	$ 3,800	$ 3,876
I factor	2.0%	2.2%
Approved $UCGC_t$	$ 3,876	$ 3,961
Forecast of Gross Customer Additions (GCA)	14,000	15,000
GC_t ($000)	$ 54,264	$ 59,419
Growth Capital Adjustment ($000)	-	***3,101***
GC_t ($000)	**$ 54,264**	**$ 62,520**

Actual for Test Year		
Actual GCA		14,800
Forecast GCA		14,000
Difference		800
$UCGC_t$	$	3,876
Growth Capital Adjustment ($000)	***$***	***3,101***

Capital Expenditures

FEI's Five-Year Regular Capital Forecast



$000	Average 2017-2019 P	2020 F	2021 F	2022 F	2023 F	2024 F
Sustainment Capital	110,811	113,408	114,214	119,399	118,541	124,527
Other Capital	42,970	49,770	49,916	46,474	46,403	45,351
Total	**153,781**	**163,178**	**164,130**	**165,873**	**164,944**	**169,878**

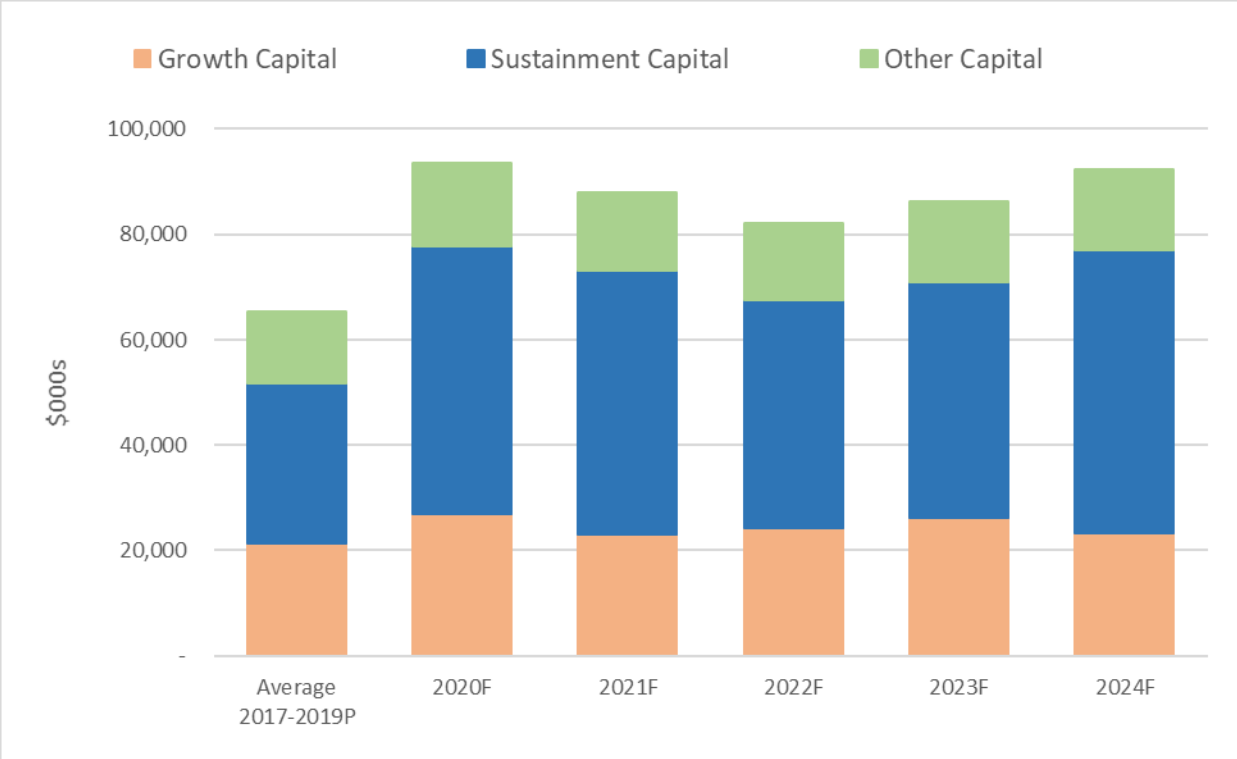
Capital Expenditures

FEI Capital Expenditures Driven by a Number of Influences

- System Reliability and Resiliency
  - Line Heater Twinning to Allow Internal Inspections
  - New Stations and Station Upgrades to Support Load Growth and Supply Redundancy
- System Integrity
  - Pipeline Inspections
  - Compressor Overhauls
  - Main and Service Renewals
- Regulatory Requirements
  - CSA Standards – Oil and Gas Pipeline Systems

Capital Expenditures

FBC's Five-Year Regular Capital Forecast



$000	Average 2017-2019 P	2020 F	2021 F	2022 F	2023 F	2024 F
Growth Capital	21,285	27,029	23,042	24,339	26,283	23,170
Sustainment Capital	30,403	50,743	50,098	43,110	44,657	53,901
Other Capital	13,683	15,752	14,712	14,756	15,281	15,134
Total	**65,371**	**93,524**	**87,852**	**82,205**	**86,221**	**92,205**

Capital Expenditures

FBC Capital Expenditures Driven by a Number of Influences

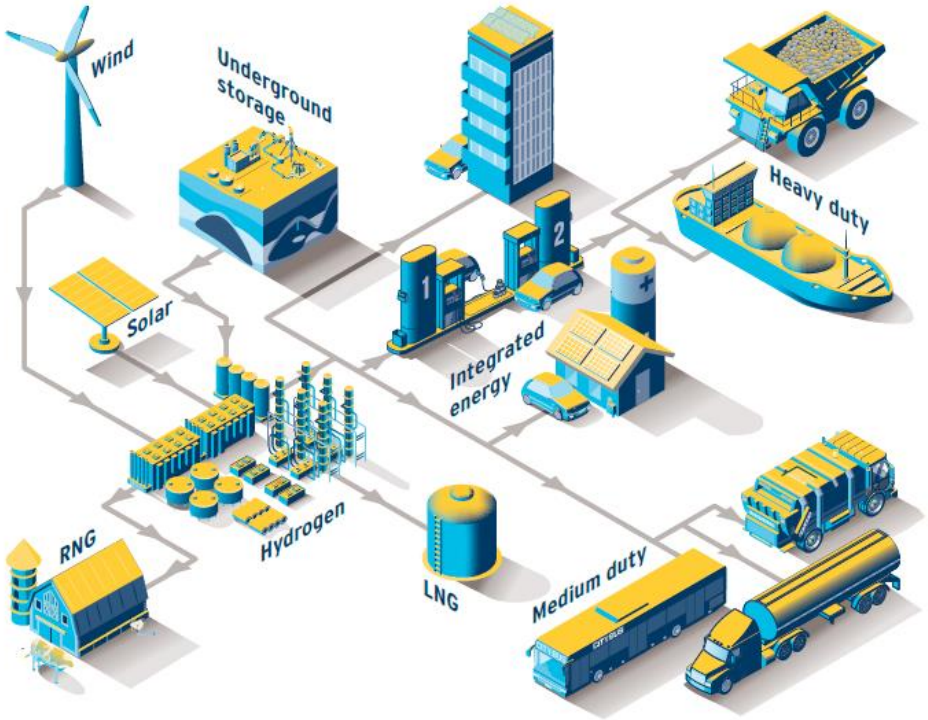
- Load-Driven System Improvements
  - Substation Upgrades and Transformer Additions
- Reliability and Condition of Facilities
  - Concrete Deterioration and Buildings at Generating Plants
  - Substation Upgrades and Transformer Replacements
  - Transmission Line Rehabilitation and Rights of Way Widening
  - Replacement of Porcelain-Insulated Fused Cutouts
- Regulatory Requirements
  - BC Dam Safety Regulations
  - Worksafe BC Legislation
  - PCB Regulations

Clean Growth Innovation Fund

Responsive to Climate Policy and Customer Expectations

Accelerate clean energy innovation

- Performance breakthroughs
- Cost reductions
- New clean energy end-uses and sources



Innovation Fund

Addressing current funding gaps

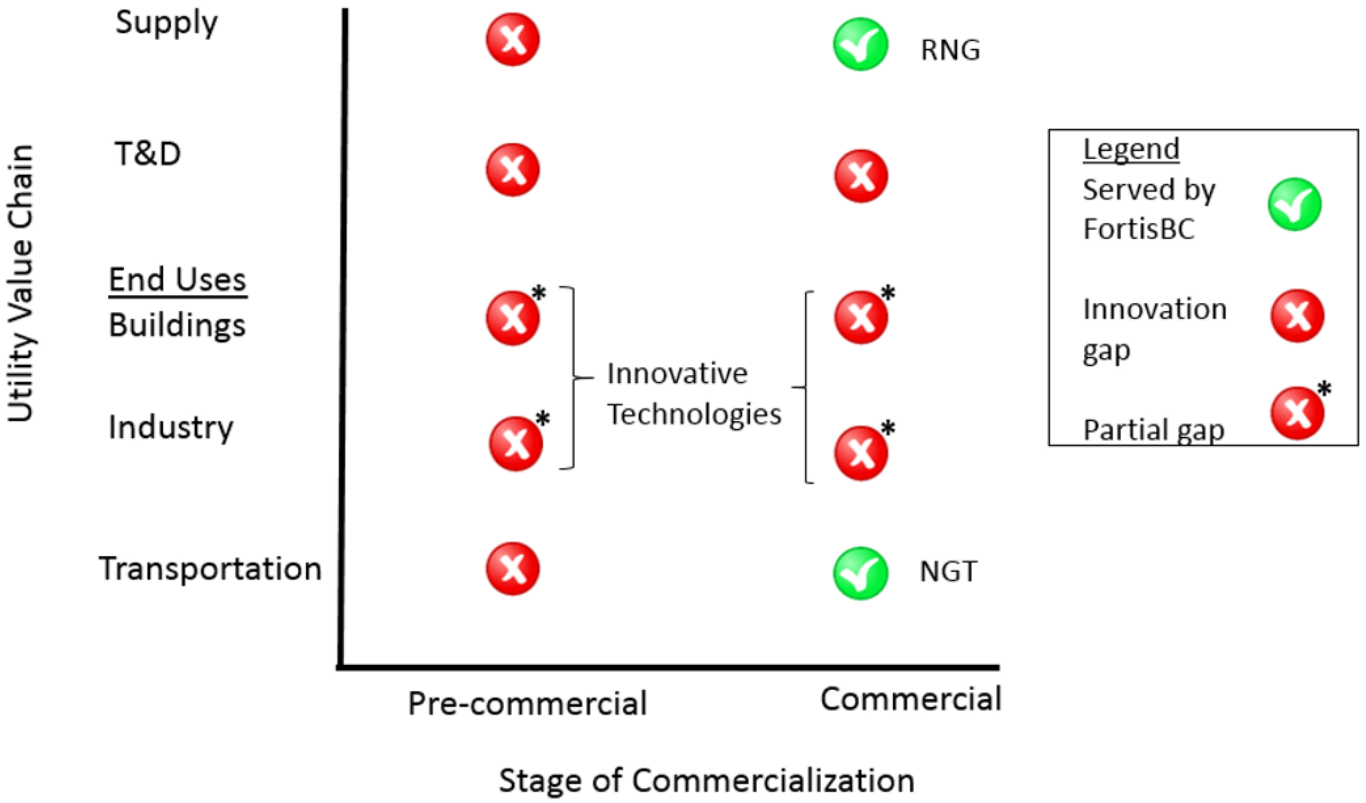


Figure C6-4, page C-139

Innovation Fund

Predictable and Stable Funding through MRP Term

Item	FEI	FBC
Basic Charge Rider per Month	$0.40	$0.30
Months	12	12
Forecast of Average Customers 2020 (FEI is non-bypass)	1,036,640	140,460
Anticipated Funding Levels	$4.9 million	$0.5 million

Table C6-3, page C-146

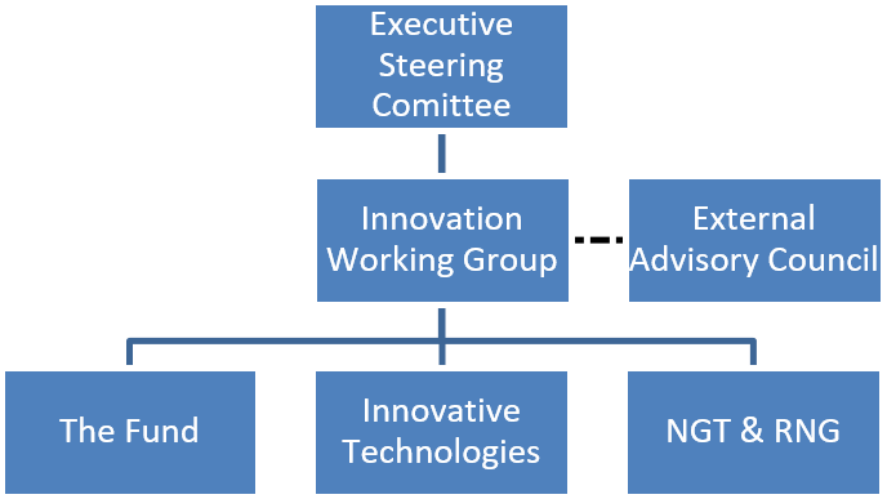
Innovation Fund

Robust Framework

Guiding Principles:

- ✓ Ensure transparency
- ✓ Pursue innovations with strong customer benefit
- ✓ Use a portfolio approach to diversify risks
- ✓ Leverage partnerships
- ✓ Coordinate innovation centrally to ensure maximum value
- ✓ Optimize FortisBC's regulated assets and expertise

Governance Structure:



Page C-142 to C-143

Figure C6-8, page C-145

Service Quality Indicators

Changes to SQIs

- Two New Informational Metrics
  - **Interconnection Utilization** – the time that an interconnection point was available and providing electric service to wholesale municipal customers
  - **Average Speed of Answer** - the time to answer a telephone call
- Annual Results
  - Replace three year average of results with annual results
  - Proposed approach easier to understand, clearer indicator of performance
- Benchmark and Threshold Updates
  - Where appropriate, benchmarks and thresholds have been updated to reflect historical performance

Service Quality Indicators

Benchmark and Threshold Updates

			Current		*Proposed*	
			Benchmark	Threshold	Benchmark	Threshold
FEI	**Safety**	**Public Contacts with Gas Lines**	<= 16	16	<=8	12
	Responsiveness to Customer Needs	**Billing Index**	<= 5	<=5	<=3	5
FBC	**Responsiveness to Customer Needs**	**Billing Index**	<= 5	<=5	<=3	5
	Responsiveness to Customer Needs	**First Contact Resolution**	>= 78%	72%	>=78%	74%
	Responsiveness to Customer Needs	**Meter Reading Accuracy** - Number of scheduled meter reads that were read	>= 97%	94%	>=98%	95%
	Reliability	**System Average Interruption Duration Index - Normalized**	<= 2.22	2.62	TBD	TBD
	Reliability	**System Average Interruption Frequency Index - Normalized**	<= 1.64	2.50	TBD	TBD

Incentives

MRP Incorporates Traditional and Targeted Incentives

Traditional Incentives (+ or –)

- "Built into" the rate mechanism to drive capital and operating cost efficiency.
- Net benefits/costs shared with customers through the MRP Earnings Sharing Mechanism

Targeted Incentives (+ only)

- Promote alignment in addressing challenges in the operating environment via:
  - Growth in renewable gas
  - Growth in gas/electric transportation
  - GHG emissions reductions
  - Enhancing customer engagement

Figure C8-1, page C-156

Incentives

Targeted Incentives Address Challenges and Opportunities

- Targeted approach proposed to:
  - Address longer-term challenges and opportunities
  - Foster innovation
  - Encourage the achievement of specific outcomes
- Targeted incentive mechanisms are increasingly recognized for their ability to address newer aspects of utility performance including:
  - Customer engagement
  - Environmental impacts
  - Clean energy policy goals
- Other jurisdictions using targeted incentives include: UK (RIIO), California, New York (REV), Illinois, and Hawaii

Incentives

FEI Targeted Incentives Address Challenges and Opportunities

Opportunity	Benefits (End User, Ratepayer, and Societal)	Incentive
Growth in Renewable Gas	✔ Reduced emissions and carbon taxes ✔ Avoidance of higher cost decarbonization alternatives (electrification)	10 BPS
Growth in Natural Gas Transportation	✔ Reduced emissions and carbon taxes ✔ Positive impact on rates (via delivery margin) ✔ Reduced operating costs	10 BPS
GHG Emissions Reduction (Customer)	✔ Reduced emissions and carbon taxes ✔ Positive impact on rates (via delivery margin) ✔ Reduced operating costs	5 BPS
GHG Emissions Reduction (Internal)	✔ Reduced emissions and carbon taxes ✔ Reduced fuel costs	5 BPS
Enhance Customer Engagement	✔ Increased customer engagement and convenience	5 BPS

Incentives

NGT Example: Targets Represent 'Stretch' Outcomes

NGT Volume (PJs)	2020	2021	2022	2023	2024	MRP Target
Target	3.0	4.0	5.0	6.0	7.0	25.0
Actual	2.0	4.1	5.1	7.0	9.0	27.2
Difference	**-1.0**	**+0.1**	**+0.1**	**+1.0**	**+2.0**	**+2.2**

- Target represents a 350% increase over the MRP Term (2.0 PJ to 7.0 PJ)
- 2020 – not achieved
  - No reward in 2020
- 2021 Target – achieved
  - Reward = BPS target x 2021 Approved Rate Base x Approved Equity Thickness
  - 10 BPS x $5.1 billion x 0.385 = $1.96 million
- MRP Target – achieved
  - Reward = BPS target x 2020 Approved Rate Base x Approved Equity Thickness
  - 10 BPS x $5.0 billion x 0.385 = $1.93 million

Incentives

FBC Targeted Incentives Address Challenges and Opportunities

Opportunity	Benefits (End User, Ratepayer, and Societal)	Incentive
Enhance Customer Engagement	✔ Increased customer engagement and convenience	5 BPS
Growth in Electric Vehicle Transportation	✔ Reduced emissions and carbon taxes ✔ Support Zero Emissions Vehicle Mandate ✔ Load growth, positive impact on rates	5 BPS
Power Supply Incentive	✔ Further optimization of power supply costs	Calculated per PSI

Incentives

Power Supply Example of Targeted Incentives

- The first $7.5 million reduction in power purchase expense relative to the passive portfolio flows to the customer
- Any reduction in power purchase expense beyond $7.5 million flows 90% to the customer and 10% to FBC

Item	2020 Hypothetical (000's)
[1] PPA Energy Displacement	$5,950
[2] PPA Capacity Displacement	$1,980
[3] Surplus Capacity Sales	$3,810
[4] Offsetting Incremental Costs	($140)
[5] Total = [1] + [2] + [3] + [4]	$11,600
[6] Customer Share = ($7,500 + 0.9 x ([5] - $7,500M)	$11,190
[7] FBC Share	$410

Other

Other MRP Framework Items

- Annual Review
- Forecast Revenue and Margins
- Non-controllable Expenses
- Exogenous Factors
- Off-Ramps

Other

Treatment of Variances Resulting from Regular Capital Forecasts

- Depreciation, Interest and Income Taxes on Capital

Line	Particulars	Forecast	Actual	Difference	Reference
1	Capital Spending	$100,000	$ 95,000	(5,000)	
2	Mid-Year add to Rate Base	$ 50,000	$ 47,500		
3					
4	Depreciation Rate	3.0%	3.0%		No depreciation impact in first year
5	Depreciation Expense	3,000	2,850		however, included in this calculation
6					
7	Debt Ratio	60%	60%		
8	Interest Rate	5.5%	5.5%		
9	Interest Expense	1,650	1,568		Line 2 x Line 7 x Line 8
10					
11	Income Tax Rate	27.0%	27.0%		
12	Income Tax Expense	666	632		Complex calc, therefore estimate
13					
14	**Sum of Depreciation, Interest and Income Tax Expense**	**5,316**	**5,050**	**(266)**	*** Line 5 + Line 9 + Line 12**

* Lower actual expenses than forecast, shown in the Difference column, will result in an increase to the earnings and, correspondingly, an increase in the achieved ROE.

Other

Treatment of Variances Resulting from Other Variances

- Index-based O&M and components of Other Revenue

Line	Particulars	Forecast	Actual	Difference	Reference
1	Index-Based O&M	$255,000	$250,000	(5,000)	
2	Other Forecast O&M	$ 30,000	$ 30,000		variances to flow-through
3	Total Gross O&M	$285,000	$280,000		Line 1 + Line 2
4	Capitalized Overhead Percentage	16%			
5	Capitalized Overheads	(45,600)	(45,600)		-Line 3 x Line 4 (no variance)
6	Net O&M	$239,400	$234,400	**$ (5,000)**	
7					
8					
9	Other Revenue	(40,000)	(38,000)	**$ 2,000**	
10					
11	**Variance falls to earnings and increases achieved ROE (all else equal)**			**$ (3,000)**	Line 6 + Line 9

Other

Return to a Traditional and Simplified Earnings Sharing Mechanism

- Earnings Sharing on achieved ROE
- Difference between Allowed and Achieved ROE shared 50/50 on actual Rate Base

Line	Particulars	2022 Actual	Reference
1	Mid Year Rate Base	$5,000,000	
2	Equity Ratio	40%	
3	Equity Component of Rate Base	$2,000,000	Line 1 x Line 2
4			
5	Achieved ROE	10.00%	
6	Approved ROE	9.00%	
7	**ROE Surplus (Deficit)**	**1.00%**	Line 5 - Line 6
8			
9	After Tax Surplus for Sharing Purposes	$ 20,000	Line 3 x Line 7
10	**Customers' 50% Share of Surplus (net of tax)**	**$ 10,000**	Line 9 x 50%

Other

Proposing a Traditional and Simple Efficiency Carryover Mechanism

- ROE earnings adder calculated from last 2 years of MRP

MRP Year	4	5
Earnings	$ 195,000	$ 205,000
Sharing	(5,000)	(5,000)
Earnings after Sharing	**$ 190,000**	**$ 200,000**

MRP Year	4	5
Mid Year Rate Base	$5,000,000	$5,000,000
Approved Equity Thickness	40%	40%
Equity Portion Mid Year Rate Base	$2,000,000	$2,000,000
Earnings after Sharing	190,000	200,000
Achieved ROE after Sharing	**9.50%**	**10.00%**

MRP Year	4	5	Simple Average
Achieved ROE after Sharing	9.50%	10.00%	
Allowed ROE	9.00%	9.00%	
Difference	0.50%	1.00%	0.75%
50 percent of Difference (maximum 50 Bps)			0.38%
Equity Portion Mid Year Rate Base Final Year of MRP			$ 2,000,000
Earnings added to Rev Reqt for two years post MRP			**$ 7,500**

Supporting Studies

Five Studies were Refreshed for the MRP

- Depreciation Study

Change in Rate	FEI	FBC
Depreciation	- 0.13%	+ 0.01%
Net Salvage	+ 0.21%	+ 0.11%
Total	+ 0.08%	+ 0.12%
Revenue Requirement Impact	**+$3.5 M**	**+$2.2 M**

Table D2-2, page D-3 and Table D2-9, page D-23

- Lead Lag Study for Cash Working Capital

Change in Net Lead/Lag Days	FEI	FBC
Approved	+6.2	+6.7
Proposed	+ 5.5	+ 9.5
Change	- 0.7	+ 2.8
Revenue Requirement Impact	**-$0.2 M**	**+$0.1 M**

Table D3-1, page D-34 and Table D3-2, page D-36

Supporting Studies

Five Studies were Refreshed for the MRP

- Shared Study and Corporate Services Study
  - Move to a cost driver approach for shared services

O&M Impact ($ million)	FEI	FBC
Shared Services	- $0.338	+ $0.338
Corporate Services	- $0.122	+ $0.383
Revenue Requirement Impact	**-$0.4 M**	**+$0.7 M**

Table D4-3, page D-40 and Table D5-4, page D-51

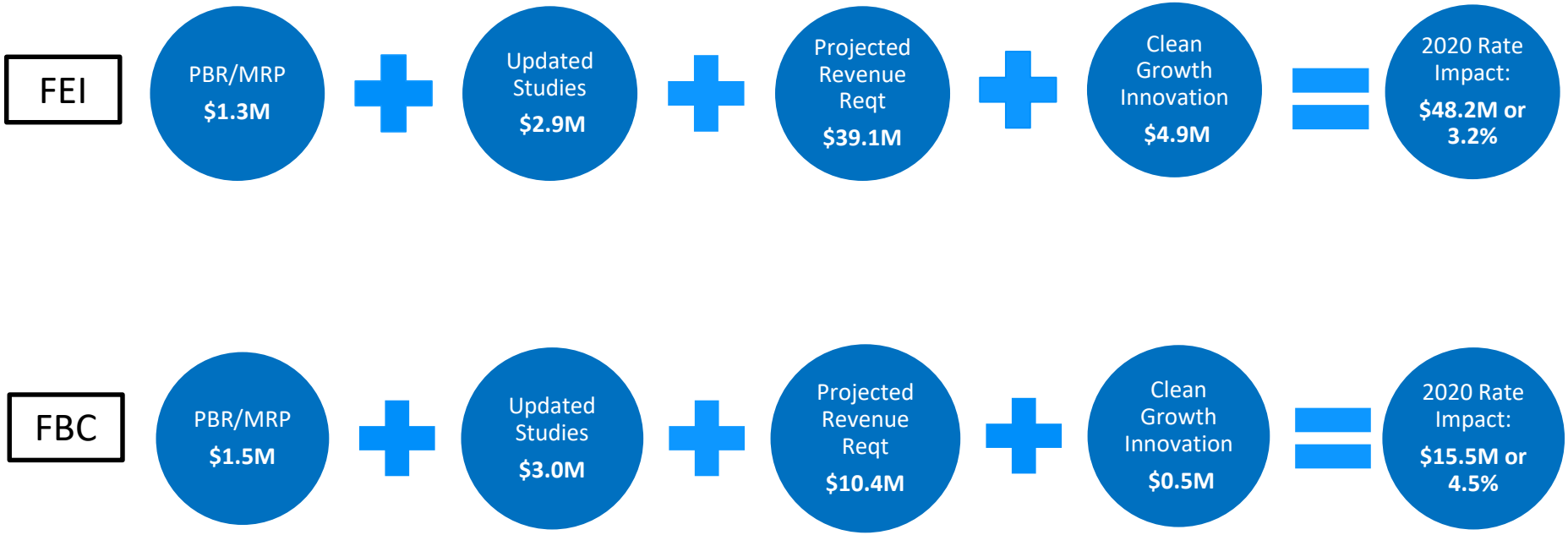
- Capitalized Overheads Study

Change in Rate	FEI	FBC
Capitalized Overhead Rate	+ 4% (16%)	+ 0% (15%)
Revenue Requirement Impact	**-$13.0 M**	**$0.0 M**

Table D2-2, page D-3 and Table D2-9, page D-23

Rates

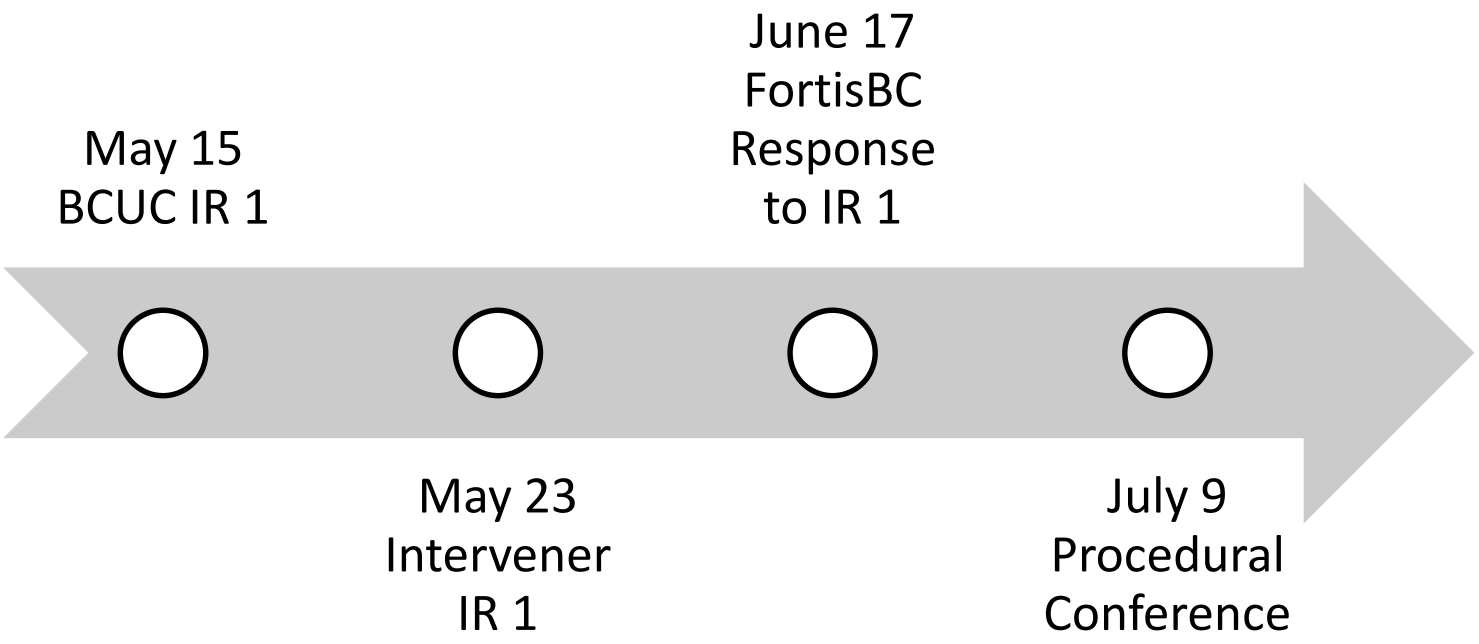
2020 Rate Impacts Mitigated by Revenue Surplus



Revenue surpluses can reduce rates by up to 4.8% for FEI and 1.3% for FBC

Tables C9-1 and C9-2, page C-173, C-174

Next Steps in the Regulatory Process



Request for 2020 Interim Rates will be filed by end of October 2019

Annual Review for 2020 Rates will follow a decision in this proceeding

Questions?

Energy at work

FORTIS BC™

Thank you

Energy at work FORTIS BC™

For further information, please contact:

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