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June 14, 2022

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, B.C.
V6Z 2N3

Attention: Mr. Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

Re: British Columbia Utilities Commission (BCUC) – 2022 Generic Cost of Capital Proceeding – Project No. 1599176

FortisBC Energy Inc. and FortisBC Inc. (collectively FortisBC) Response to BCUC Information Request (IR) No. 2 on FortisBC Evidence

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On January 18, 2021, BCUC initiated the proceeding referenced above. In accordance with the regulatory timetable established in BCUC Order G-106-22 for the review of FortisBC's Evidence, FortisBC respectfully submits the attached response to BCUC IR No. 2.

For convenience and efficiency, FortisBC has occasionally provided an internet address for referenced reports instead of attaching lengthy documents to its IR responses. FortisBC intends for the referenced documents to form part of its IR responses and the evidentiary record in this proceeding.

If further information is required, please contact the undersigned.

Sincerely,

on behalf of FORTISBC

Original signed:

Diane Roy

Attachments

cc (email only): Registered Parties

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A. QUESTIONS PRIMARILY RELATED TO FEI

62.0 Reference: PROPOSED CAPITAL STRUCTURE
Exhibit B1-8, pp. 1–2; Exhibit B1-9, BCUC IR 1.1, 1.1.2, 10.2
Return On and Of Capital

On page 1 and 2 of Exhibit B1-8, FortisBC states:

> The Fair Return Standard is a fundamental element of the regulatory compact and is captured in section 59(5) of the UCA [*Utilities Commission Act*]. The BCUC has confirmed that the Fair Return Standard requires that a fair and reasonable overall return (including a return on and of capital) […] [Footnote omitted]

In response to the British Columbia Utilities Commission (BCUC) Information Request (IR) 1.1, FortisBC stated that the ability to earn a return of capital was assessed in the Terasen Gas (TGI) 2006 Cost of Capital Decision, the TGI 2009 Cost of Capital Decision, the 2013 Cost of Capital Stage 1 Decision and the 2016 Cost of Capital Decision.

In response to BCUC IR 1.1.2, regarding the review of the return of capital, FortisBC stated:

> […] the return of capital in the context of cost of capital proceedings focuses on the risk that a utility's best estimate of depreciation rates may end up different than actual recoverable depreciation (for example due to cost disallowances).
>
> […] A utility may seek changes to depreciation rates if it becomes apparent that depreciation rates do not adequately reflect current estimates of economic life.

In response to BCUC IR 10.2, FortisBC stated:

> […] FEI considers return of capital when determining depreciation rates as depreciation rates are set to achieve just that - a return of capital invested over the useful life of the assets. With higher depreciation rates, return of capital is accelerated (i.e., timing of recovery of capital) <u>but higher depreciation rates do not result in a greater return of capital</u>.

> One approach that FEI could take in light of the Energy Transition risk would be to develop pathways to pay for the early retirement of assets (such as accelerating depreciation). A better approach for FEI currently and one that is has been pursuing to date is to develop alternative energy products and services that leverage existing assets while also reducing emissions. [Emphasis added]

62.1 Please confirm, or explain otherwise, that FortisBC's return of capital through depreciation is part of revenue requirements application reviews and therefore the utility already has a mechanism through delivery rate changes to mitigate any risk of non-recovery of its costs.

Response:

Not confirmed. As explained in the response to BCUC IR1 1.1.2, the review of return of capital in revenue requirement proceedings is focused on the determination of the appropriate depreciation rate based on the expected useful life of the assets. However, it is incorrect to suggest that the re-setting of the depreciation rates in revenue requirements provides a mechanism through delivery rate changes to mitigate any risk of non-recovery of costs.

As discussed in the NEB's decision below, there are two distinct aspects to return of capital, as it relates to cost of capital proceedings (used to reflect the long-term business risk of the utility not being able to fully depreciate its invested capital) and as it relates to revenue requirement proceedings (used for determination of depreciation rates):

> Depreciation and Business Risk
>
> There was discussion during the hearing regarding the extent to which regularly adjusting depreciation rates to reflect current best estimates of economic life affects the risk faced by TransCanada. The Board is of the view that there are two distinct aspects to risk as it relates to business risk and depreciation rates. The first is that the current best estimate of economic life, which is reflected in the depreciation rates, may ultimately prove to be wrong. Various business factors, including changes to supply or competitive forces, could alter the economic life of the Mainline. This possibility cannot be fully mitigated and therefore should be compensated through cost of capital. The second aspect of depreciation-related risk is that the depreciation rates in use may not actually reflect the estimates of economic life that would be selected if assessed at that point in time. A company can mitigate the risk that the estimates in use are not current by bringing forward an application to reconsider its depreciation rates. The part of this risk that is mitigable should not be compensated through the cost of capital. Should it become apparent that depreciation rates do not adequately reflect current estimates of economic life, it is incumbent on the management of the company to seek to change depreciation rates, not to expect incremental compensation through the cost of capital. Still related to the second aspect, there is a potential that a company's tolls may not incorporate sufficiently high depreciation rates because

competitive factors would prevent such rates from being charged. This potential, if significant, is appropriately compensated through the cost of capital. The assessment of cost of capital should assume that the depreciation rates reflect the best assessment of economic life of the pipeline. Consequently, resetting depreciation rates to reflect a new best estimate of economic life does not, by itself, reduce business risk from what it would be absent a change in the best estimate.

FortisBC's position on the relation between return on and of capital is consistent with the NEB's statements above.

62.1.1 Please provide any instances of cost disallowances related to FEI or FBC's recovery of capital in the past ten years.

Response:

Provided in the table below are two instances in the past 10 years of cost disallowances related to FortisBC's recovery of capital.

Company	Proceeding	Year	Order	Amount Disallowed ($millions)	Reasons
FEI	FEU 2012-2013 RRA	2012	G-44-12	$ 1.4445	The Olympic Cauldron was determined to not be a distribution asset and neither used nor useful in the provision of utility service. The BCUC directed that the cost of $2.889 million be removed from FEI's rate base, with half approved to 2012 O&M expense and the balance to be absorbed by the shareholder.
FBC	Kettle Valley Prudency Review	2013	G-47-13	$ 0.1157	Expenditures to be included in rate base for recovery from customers were reduced by $65,734 allocated to the Distribution Underground Feeder and $50,000 incurred to provide sufficient extra space for future site expansion.

62.2 FortisBC proposes an allowed return on equity (ROE) of 10.1 percent and deemed capital structure of 45 percent equity for FEI, and an allowed ROE of 10.0 percent and deemed capital structure of 40 percent for FBC. Please provide the breakdown of what portion is attributable to the (i) return on capital and (ii) return of capital. Include rationale and any assumptions used.

Response:

FortisBC is not aware of any expert or regulator that provides a breakdown of its ROE and capital structure in terms of return on and of capital.

As discussed in response to BCUC IR2 62.1, the unmitigable aspect of depreciation-related risk should be reflected in the cost of capital determination. From this aspect, the concepts of return on and of capital are interconnected and both inform the determination of ROE and capital structure. FEI's proposed ROE and capital structure only reflects this aspect of depreciation-related risk.

62.3 In response to BCUC 10.2, FortisBC stated that "higher depreciation rates do not result in a greater return of capital." Please confirm that the "greater return of capital" of a particular asset would have been captured in the return on capital.

62.3.1 If not confirmed, please explain how the BCUC would ensure that there is no double counting of allowed returns through the return on and of capital when setting FortisBC's allowed ROE and deemed capital structure.

Response:

The question posed in BCUC IR1 10.2 is reproduced below:

> Please explain whether FEI considers return of capital when determining depreciation rates. As part of the response, please discuss whether higher depreciation rates increase the return of capital and whether it would be appropriate to increase depreciation rates for a quicker return of capital. [Underlining added]

As shown above, the question asked FEI to discuss "whether higher depreciation rates increase the return of capital". In response, FEI clarified that although higher depreciation rates accelerate the return of capital (i.e., timing of recovery of capital) they do not result in a greater return of capital, meaning that the utility would still only have the opportunity (but not a guarantee) to recover its invested capital and nothing more.

FEI cannot confirm that the "greater return of capital" of a particular asset would have been captured in the return on capital since, as explained above, irrespective of the depreciation methodology used, the utility is only given an opportunity to recover its invested capital and nothing more.

It is unclear what the question means by "double counting of allowed returns". There is only one allowed return approved in the cost of capital proceedings (i.e., return on capital which also reflects the unmitigable depreciation-related risk). Return of capital in terms of the depreciation rate approved in the revenue requirement does not consider the risk of investors not being able to fully recover/depreciate their invested capital. This risk is only considered in the cost of capital proceeding and therefore there is no issue of double counting. The question seems to erroneously assume that approved depreciation rates in a revenue requirement proceeding somehow "guarantee" that the utility would be able to fully recover its invested capital. As explained in the response to BCUC IR1 1.1.2, a utility may seek changes to its depreciation rates if it becomes apparent that depreciation rates do not adequately reflect current estimates of economic life. However, the change in depreciation rates or depreciation methodology does not in any way guarantee that the utility would be able to fully recover its invested capital based on new estimates of economic life. The risk remains, particularly considering the utility's long-lived assets and the need to invest to ensure the safety and reliability of these assets.

Please also refer to the response to BCUC IR2 62.2.

62.4 Please elaborate on why FEI views that developing alternative energy products and services that leverage existing assets while also reducing emissions is a better approach than accelerating depreciation. Please compare the business risks of each approach.

Response:

Please refer to the responses to BCUC IR1 47.1, 47.2 and 47.2.1.

FEI believes that maintaining a role for the existing gas delivery system in BC's energy future is in the public interest. FEI's vision for the future of energy in BC is that of a diverse, integrated and resilient network of energy infrastructure and services, building on the strength and benefits of both the existing gas and electric energy delivery networks in the Province. The Clean Growth Pathway is FEI's approach to supporting increasing government ambition and intervention to reduce GHG emissions and the adoption of policies to take greater climate action. The Clean Growth Pathway report[1] describes FEI's framework to transition to a low-carbon energy future and is supported by four key pillars:

- **Pillar 1:** Transitioning to renewable and low-carbon gases to decarbonize the gas supply;
- **Pillar 2:** Investing in DSM programs in support of energy efficiency and conservation measures to reduce energy use among residential, commercial and industrial customers;

[1] https://www.cdn.fortisbc.com/libraries/docs/default-source/about-us-documents/clean-growth-pathway-brochure.pdf?sfvrsn=1a4b811f_2.

- **Pillar 3:** Support for low-carbon transportation infrastructure to reduce emissions in this sector; and
- **Pillar 4:** Investing in LNG to lower GHG emissions in marine fueling and global markets.

The Clean Growth Pathway has the advantage of leveraging the resilience and reliability of the provincial energy system as a whole, achieving GHG reductions aligned with the provincial government's objectives, and being a more affordable and practical pathway for BC than relying on electrification alone. In addition to achieving GHG reductions aligned with the provincial government's objectives, other benefits include meeting peak demand on the coldest days of the year with the lowest risk, fostering emerging technologies and innovation, and economic development across the energy services supply chain. Sharing costs across a diverse set of customer segments ensures that individual customers can more readily absorb the additional costs incurred through the low-carbon transition.

Some of the potential solutions in this pathway involve exploring innovative technologies and solutions that have never been implemented by any utility on a grand scale (such as hydrogen blending) and there are many factors such as government policy and support, technological advancements, customer adoption and price competitiveness than can influence the successful implementation of this strategy and make it inherently risky. In other words, although the Clean Growth Pathway is focused on managing the Energy Transition risk, it, too, involves its own risks. FEI strives to manage these risks by:

- working closely with its customers and other stakeholders to understand their needs and requirements with the goal of increasing customer adoption;
- updating the general public, governments and regulators regarding the steps it is taking to cut GHG emissions and explaining the public interest aspect of maintaining a safe, reliable and financially healthy gas infrastructure to ensure these assets are utilized;
- performing pilot projects such as those currently underway for gas absorption heat pumps and investing in research and development through collaborating with universities and joint industry programs such as the ongoing hydrogen blending research project with the University of British Columbia's Okanagan campus to be on top of the technological change; and
- seeking revenue generation opportunities as well as cost efficiencies.

In contrast and as explained in the response to BCUC IR1 47.2, accelerated depreciation is typically a mechanism of last resort that is used to limit losses when no other viable alternative exists to avoid asset impairment. In other words, choosing to accelerate depreciation of a gas utility's rate base sends a signal that a diversified pathway is not viable and that electrifying the energy end-uses served by the utility is the only appropriate approach to decarbonize the energy system.

From the perspective of FEI and its customers, a major drawback of an electrification-focused approach is that it will result in comparatively higher rates, reducing energy affordability. The issue

of energy affordability is particularly important in today's environment with record high inflation and its impact on household income. Higher rates caused by accelerated depreciation may also lead to a different pattern of customer exits (higher income customers are better equipped to adopt alternative energy solutions) which may result in equity issues across income levels where the legacy utility costs are recovered from captured customers[2]. This could then jeopardize FEI's ability to pursue initiatives that could reduce its customers' GHG emissions and could lead to a downward demand spiral. Another drawback of accelerated depreciation methods is that the annual depreciation expense would not represent the true consumption patterns of assets and may create intergenerational inequities.

BCUC IR2 64.4.1 asks how utilities would manage the risk associated with accelerated depreciation. FEI is not currently pursuing an accelerated depreciation approach and as such has not developed a strategy to manage the associated risk. As mentioned earlier, accelerating the depreciation of gas utilities' rate base sends a signal that a diversified pathway is not viable.This means that investors may be wary of continuing to invest in utilities' clean growth initiatives or may expect higher returns to do so.

As accelerated depreciation is typically pursued where other alternatives have been exhausted, the resulting rate increases will fall to the decreasing numbers of customers on the system, and lead to energy affordability and equity issues and can potentially result in a demand death spiral. By its definition, demand death spiral is a risk event that cannot be mitigated but is rather compensated through return on capital. As this risk increases, the utility investors should be compensated with higher returns. Nevertheless, from captured customers perspective, the utility could work with the government, non-profit organizations and charities to reduce the financial burden on the most vulnerable, although utilities' capabilities to manage this risk are more limited than governments as they are not experts in social assistance programs.

As explained in the response to BCUC IR1 47.2.1, accelerated depreciation may be a tool to consider at some time in the future, but should be based on further evidence and review of potential changes in useful lives of assets and any other relevant matters from depreciation experts. With no basis to adjust depreciation, and considering the current environment and uncertainty, at this time using accelerated depreciation would not be appropriate.

62.4.1 With respect to FEI's approach to manage energy transition risk, please discuss how FEI manages its willingness to take on business risk between the choices of (i) accelerating depreciation of its assets or (ii) developing alternative energy products and services.

[2] Davis & Hausman (March, 2022); "Who Will Pay for Legacy Utility Costs?", Energy Institute at Haas; https://haas.berkeley.edu/wp-content/uploads/WP317.pdf.

Response:

Both scenarios; namely accelerating depreciation rate of assets and developing alternative energy products and services, involve risks and investors expect to be compensated for taking on these risks in both cases. Please refer to the response to BCUC IR2 62.4 for a discussion of how FEI may manage these risks.

63.0 Reference: PROPOSED CAPITAL STRUCTURE

Exhibit B1-9, BCUC IR 6.3, 14.3.1; Exhibit B1-13, Residential Consumer Intervener Association (RCIA) IR 2.1.1

Capital Structure – Access to Capital

In response to BCUC IR 6.3, FortisBC stated, "at times during the 2008 financial crisis access to debt capital for even A rated companies like FEI was unavailable."

In response to BCUC IR 14.3.1, Mr. Coyne stated that "[w]hile natural gas utilities are not necessarily currently having trouble attracting new investors, there is evidence that the cost of both debt and equity is higher for companies with higher carbon emissions."

In response to RCIA IR 2.1.1, FortisBC stated:

> FEI issued long-term debt three times in the last three years: August 2019, July 2020 and April 2021. The last two debt issuances were during the COVID-19 pandemic. While FEI did not have any trouble attracting capital over the last three years due to the timing of its debt issuances, there were times during the COVID-19 pandemic when debt capital markets were experiencing significant volatility and access to debt was limited.

63.1 Please confirm if FEI sought to access debt capital during the 2008 financial crisis.

63.1.1 If confirmed, please state whether FEI was approved for all debt capital sought.

Response:

FEI completed one debt issuance during the 2008 financial crisis:

- $250 million 5.80% Series 23, due May 13, 2038 issued May 13, 2008.

As discussed in the response to BCUC IR1 6.4, the debt capital markets were restricted for the majority of 2008 (8 out of 12 months) especially to BBB rated companies. However, only for the month of October 2008 were the debt capital markets completely shut to either A or BBB rated companies. While debt capital markets may have been accessible to issuers at other times in 2008, they were potentially accessible at a high cost or on unfavourable terms. Therefore, during times of volatility it becomes critical to look for short windows of relative stability. As shown on the graph included in the response to BCUC IR1 6.4, May and June 2008 was the period when most A-rated companies chose to issue debt. Therefore, while the debt capital market was inaccessible to all issuers for only one month in 2008, it was effectively inaccessible for most of 2008 with an exception of short windows such as May and June 2008. FEI's A-level credit rating also plays an important role in terms of access to debt capital markets especially in times of volatility as discussed in the aforementioned IR.

Therefore, to clarify, when FortisBC refers to "access to debt capital markets", it not only refers to times when debt capital markets are accessible to issuers but also when debt can be issued at reasonable terms and conditions.

63.2 Please confirm if FEI sought to access debt capital within the last year (i.e. since April 2021).

63.2.1 If confirmed, please state whether FEI was approved for all debt capital sought.

Response:

FEI has not sought to access debt capital markets within the last year due to the following reasons:

- FEI's typical issuance cycle is approximately every 12-18 months. FEI's last debt issuance took place in April 2021 when it issued $150 million;
- In March 2022, FEI received an equity injection from Fortis Inc. of $150 million; and
- FEI's cash flows fluctuate due to the seasonal demands for natural gas where FEI generally produces higher revenues in the first and fourth quarters of the fiscal year. This, in addition to the April 2021 debt issuance and 2022 equity injection from Fortis Inc., has provided FEI sufficient liquidity to cover its financing needs since April 2021.

That being said, debt capital markets have been experiencing significant volatility this year, especially in early 2022 as a result of the war in Ukraine, concerns around inflation and rising oil and commodity prices. Interest rates have also increased significantly in the last year. For comparison purposes, the last two debt issuances completed by FEI carried a coupon of 2.42 percent for a 10-year bond issued in April 2021 and 2.54 percent for a 30-year bond issued in July 2020. As of May 9, 2022, the indicative yield for comparable debt issuances if FEI were to issue debt was approximately 4.5 percent for a 10-year bond and 4.8 percent for a 30-year bond.

63.3 Please discuss if FEI's cost of debt, in particular the premium to the prime or market rate, has increased in the last three years or if FEI's cost of debt is expected to increase over the next five years.

Response:

FEI has included below new issue rates for a 30-year bond for the last three years.

Historical Long-Term Debt Issuance Rates[1]	2019A	2020A	2021A
30-year GoC[2]	1.82%	1.20%	1.85%
30-year FEI Historical Spreads[2]	1.42%	1.55%	1.27%
FEI New Issue Rate	**3.24%**	**2.75%**	**3.12%**

1. Source: RBC.

2. Annual averages based on weekly data points.

As discussed in the preceding IR, FortisBC currently finds itself in a rising interest rate environment due to high inflation, Russia's invasion in Ukraine and removal of monetary policy actions that were prevalent during the COVID-19 pandemic era of 2020-2021. The indicative yields for new debt issuances have increased significantly in 2022 and are currently higher than historical yields as discussed in the above mentioned IR. For instance, the real-time indicative yield for FEI's 30-year bond, as quoted by TD, was 4.80 percent as at May 6, 2022. The market volatility is expected to persist given many ongoing elevated risk variables to valuations.

63.4 Please provide supporting evidence that financial institutions have raised the cost of debt and / or equity for companies with higher carbon emissions, particularly for natural gas distribution utilities.

Response:

Please refer to Figure 41 in Mr. Coyne's evidence (Appendix C, report p. 81) that shows the difference in debt yields between the highest and lowest carbon intensity issuers from January 2019 to May 2021.

Also, as discussed in Mr. Coyne's evidence (report section Energy Transition Risk that starts on p. 74) and the response to BCUC IR1 8.1, the shift towards increasing awareness of ESG related risks by credit rating agencies and institutional investors only started in the last several years, particularly 2020-2021. Therefore, ESG is negatively affecting the cost of capital for fossil fuel based companies and will likely have greater impact in the future.

64.0 Reference: PROPOSED CAPITAL STRUCTURE

Exhibit B1-9, BCUC IR 8.1

Capital Structure – Expected Credit Ratings

In response to BCUC IR 8.1, FortisBC stated:

> In this revised methodology, Moody's introduced five environmental categories that are considered most material to credit quality (1) carbon transition, (2) physical climate risks, (3) water management, (4) waste and pollution and (5) natural capital. All five environmental categories will be considered in determining Moody's newly launched environmental issuer profile scores and credit impact scores.

64.1 Please discuss how FEI intends to mitigate risk and support its credit rating profile for each of the five environmental categories introduced by Moody's.

Response:

FEI provides annual presentations to both credit rating agencies during which relevant business and financial updates are discussed, including FEI's sustainability strategy. Since the 30BY30 target to reduce 30 percent of customers' GHG emissions by 2030 was released by FEI in 2019, FEI has been discussing this strategy with Moody's and continues to update Moody's on further developments.

In terms of risk mitigation, the response to the BCUC IR2 62.4 provides a detailed explanation of how FEI is trying to mitigate its "carbon transition" risk. FEI's strives to manage its physical climate-related risks by preparing for, and responding to, extreme weather events, asset hardening, regular maintenance, and insurance. Similarly, with regards to the water management, waste and pollution and natural capital categories, FEI follows all the necessary regulations and strives to mitigate its negative externalities to the extent possible while ensuring that its customers have access to safe, reliable energy.

64.1.1 If FEI has held discussions with Moody's on its plan to mitigate this risk, please state when the credit rating agency is expected to incorporate it into their analysis and provide an updated report on FEI.

Response:

Considering the recency of the revised methodology, FortisBC believes that the five categories have not yet been fully incorporated into FEI's credit ratings by Moody's and the environmental risks will play a more significant role in the future. FortisBC does not have full visibility into how these risks will be factored into its credit rating by Moody's or held discussions with Moody's on this specific topic.

65.0 Reference: PROPOSED CAPITAL STRUCTURE

Exhibit B1-9, BCUC IR 9.2, 9.5

Capital Structure – Capital Expenditures

In response to BCUC IR 9.2, FortisBC explained that the Regional Gas Supply Diversity (RGSD) Project was not included in FortisBC's Table 6-5 for FEI's Major Capital Projects for 2019 to 2026 because FEI is not expecting construction to commence until late in 2026 (at the earliest) and does not have detailed information regarding the forecast capital expenditures or construction schedule beyond the high-level estimate of $4 billion.

In response to BCUC IR 9.5, FortisBC stated that "[n]ew pipeline infrastructure such as the RGSD project will support the decarbonization initiatives in the region, and will thus mitigate growing Energy Transition risk once approved, constructed, and in service."

65.1 Please provide an updated Table 6-5 for FEI's Major Capital Projects for 2019 to 2030, or longer if available, to include the entire $4 billion estimate of the RGSD project and any other expected projects during this updated timeline.

Response:

FEI does not have any additional details of other major capital projects to 2030 beyond those already shown in the response to BCUC IR1 9.3, and FEI does not have further information regarding the forecast capital expenditures or construction schedule for the RGSD Project since responding to BCUC IR1 9.2 and 9.3.

FEI has nevertheless prepared Table 1 below, which is an updated version of the table from BCUC IR1 9.3 and includes the information available for FEI's Major Capital Projects to 2030. As discussed above, FEI does not have further information regarding the construction schedule for the RGSD Project, and as such, FEI placed the entire $4 billion estimate of the RGSD Project in 2027. In addition, FEI does not have detailed sustainment capital forecasts beyond those provided in FEI's current MRP, therefore the sustainment capital numbers for 2025 to 2030 shown in Table 1 below are based on a 2 percent annual escalation.

Table 1: Updated Table 6-5 for FEI's Major Capital Projects from 2019 to 2030

FEI's Major Capital Projects	Actuals		Pro-Forma										Total Project	
Capital Expenditures (C$millions)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Costs	Approval
Tilbury 1B	7.8	12.1	-	32.1	40.6	52.2	80.9	-	-	-	-	-	400.0	OIC
Inland Gas Upgrades Project	8.2	50.1	99.3	93.5	67.4	31.2	-	-	-	-	-	-	360.2	BCUC
Okanagan Capacity Upgrade	-	7.9	11.3	113.5	139.2	-	-	-	-	-	-	-	271.3	Under Review
Pattullo Bridge Crossing Replacement	-	6.4	51.9	118.7	11.3	2.9	-	-	-	-	-	-	191.7	BCUC
TIMC (CTS)	-	9.4	21.3	7.4	4.5	92.5	2.9	-	-	-	-	-	137.8	Under Review
TIMC (ITS)	-	-	2.6	5.7	11.1	30.2	30.3	0.0	-	-	-	-	79.9	Developing
Advanced Metering Infrastructure	-	-	28.0	17.1	116.1	193.3	182.9	97.5	-	-	-	-	638.4	Under Review
Tilbury LNG Storage Expansion	-	8.6	4.6	18.0	165.8	251.7	210.2	110.9	-	-	-	-	769.0	Under Review
RGSD	-	-	-	-	-	-	-	-	4,000.0	-	-	-	4,000.0	Developing
Sustainment and other capital	151.5	163.2	166.1	159.7	162.2	165.8	169.2	172.5	176.0	179.5	183.1	186.8	995.5	
Total	**167.5**	**257.6**	**385.0**	**565.7**	**718.2**	**819.8**	**676.4**	**381.0**	**4,176.0**	**179.5**	**183.1**	**186.8**	**7,843.9**	

65.2 Please discuss whether FEI accounted for the decarbonization impacts of the RGSD project on the proposed ROE and if so, how.

65.2.1 If FEI has not accounted for the decarbonization impacts of the RGSD project on the proposed ROE, please explain why not.

Response:

FEI did not account for the RGSD project in proposing its ROE and capital structure because it would be premature to do so.

As explained in the response to BCUC IR1 9.2, FEI is only at the pre-feasibility phase of the RGSD project. In project management terminology, the pre-feasibility phase is designed to provide the basic information needed to assess the project at a high level and determine whether the project should proceed for further feasibility studies and basic engineering design. In other words, it is premature to consider the impact of this potential project on FEI's business risk for the purpose of determining its cost of capital at this time since the project may not advance to construction.

As explained in the response to BCUC IR1 9.5, the RGSD project, once approved, constructed and in service, would assist in mitigating the Energy Transition risk (other things being equal) for all regional stakeholders including electric utilities in the PNW. This is because it will improve the diversity of gas supply and reduce supply risks, particularly over the longer term when hydrogen can be blended into the gas network, thus requiring additional pipeline capacity due to hydrogen's lower heat content. Nevertheless, the demand, political and financial aspects of FEI's Energy Transition risk, all of which are significant elements of the risk, will remain even with the RGSD project in place.

66.0 Reference: REGULATORY RISK

Exhibit B1-9, BCUC IR 20.1, 22.2

Regulatory Risk – Deferral Accounts

In response to BCUC IR 20.1, FortisBC stated that "another source of regulatory uncertainty, despite unchanged legislation, is the BCUC's decision to revisit deferral account financing costs."

In response to BCUC IR 22.2, FortisBC quoted Moody's from the latest credit rating report for FEI and FBC published by Moody's on November 25, 2021, that the rating agency has "assumed that there will be no changes stemming from this decision that would put downward pressure on financial metrics." Further, FortisBC stated that "FEI's and FBC's financial metrics are already weak and a switch in approach to deferral financing could lead to further deterioration in FEI's and FBC's financial metrics and impact their credit rating, especially if the new approach is debt only financed."

66.1 Please provide specific references where Moody's directly refers to the GCOC Proceeding scope item of deferral account financing costs and how it can lead to a change "that would put downward pressure on financial metrics." As part of the response, please provide the supporting references from the November 25, 2021 report, or other relevant documents from the rating agency.

Response:

No specific references to deferral account financing costs were provided by Moody's, but as referenced above, any switch to debt only deferral account financing, will have a negative impact on FortisBC's already weak financial metrics and associated credit rating.

66.2 Please provide the total number of FEI's deferral accounts, which are financed using (i) weighted average cost of capital (WACC); (ii) weighted cost of debt (WACD); and (iii) other, if applicable. Please provide the same data for FBC.

Response:

Please refer to the table below for the total number of FEI and FBC deferral accounts in 2021 that are financed at WACC, WACD, and Short-term Interest (STI), or are non-interest bearing.

Financing	# of Deferral Accounts (2021)	
	FEI	FBC
WACC: Rate Base	42	13
WACC: Non-Rate Base	9	4
WACD	-	10
Other: STI	-	2
Other: Non-Interest Bearing	5	1
Total	**56**	**30**

66.3 Please provide the total 2021 financing charge of FEI's deferral accounts, which are financed using (i) WACC; (ii) WACD; and (iii) other, if applicable. Please provide the same data for FBC.

Response:

Please refer to the table below for the total 2021 financing charges of both FEI and FBC's deferral accounts. Positive amounts shown in the table below are debits, which result in financing costs being collected from customers, while negative amounts are credits, which result in financing costs being returned to customers.

	Financing Costs (2021)	
	FEI	FBC
WACC: Rate Base	$ (1,155,616)	$ 1,448,396
WACC: Non-Rate Base	1,271,434	(333,492)
WACD	-	20,882
Other: STI	-	(6,237)
Other: Non-Interest Bearing	-	-
Total	**$ 115,818**	**$ 1,129,549**

Note the impacts provided above will vary from year to year, sometimes significantly, depending on the actual and forecast activity in the individual deferral accounts. Using FEI as an example, the rate base financing was a credit in 2021 as the large credit balances in the pension and OPEB liability accounts and the net salvage deferral more than offset the large debit balance in the Demand Side Management (DSM) deferral account. Each of these are rate base deferral accounts and therefore attract a WACC return. However, taking the DSM deferral in isolation, moving from a WACC to a WACD return would have had an impact of decreasing FEI's return by approximately $4.0 million in 2021. The DSM deferral account and its treatment has been instrumental in:

- Achieving critical energy savings and bill reductions for FEI's customers;
- Reducing GHG emissions; and
- Ensuring FEI has the proper incentive to invest in beneficial DSM, despite its erosion of load on its system.

All of these are broadly-recognized requirements for successful DSM programs. This DSM example reinforces why a generic approach that does not consider the specific nature of each deferral account is not appropriate.

66.4 Please provide the total 2021 financing charge of FEI's deferral accounts if all the deferral accounts were to be financed using (i) only WACC and (ii) only WACD. Please provide the same data for FBC.

Response:

Please refer to the table below for the total 2021 financing charges of FEI and FBC deferral accounts if they were financed using only WACC or only WACD.

For reference, the amounts in the table below assume only deferral accounts currently subject to a return were to be financed all at WACC or WACD. Therefore, non-interest-bearing deferrals have been excluded from the results below as it is assumed those accounts would continue to be non-interest bearing.

The WACD amounts in the table below also assume a WACD return on rate base deferrals, which practically could not occur given rate base deferrals must be financed at WACC. These deferrals would need to be transferred to non-rate base first and then assigned a WACD return.

	Financing Costs	
	FEI	FBC
WACC Only	$ 115,818	$ 1,144,563
WACD Only	$ 75,738	$ 696,145

Please also refer to the response to BCUC IR2 66.3 for a discussion of how the impacts shown above can be misleading if considered in isolation of specific deferral account characteristics and when considering only one year.

67.0 Reference: ENERGY TRANSITION RISK

Exhibit B1-9, BCUC IR 4.4.1; Exhibit B1-13, RCIA IR 3.8, 3.9

Energy Transition Risk – Return on Equity

In response to BCUC IR 4.4.1, FortisBC stated:

> Should FEI be recognized and enabled to undertake actions that align with the province's decarbonization targets then it could employ essentially four main actions:
>
> 1. Significantly increasing the share of renewable and low-carbon fuel being delivered by FEI.
> 2. Significantly increasing the rate of energy efficiency improvement for all of FEI's customers, which will require stepped-up DSM program spending and other tools such as increased deployment of alternate energy services.
> 3. Pursuing negative emissions strategies such as carbon capture utilization and storage for large end-users and in the upstream gas sector, and carbon offsets
>
> or nature based carbon sequestration solutions such as reforestation of disturbed lands.
>
> 4. Increasing energy delivered to sectors not primarily serviced by FEI notably for medium and heavy-duty vehicles and marine vessels.

In response to RCIA IR 3.8, FortisBC stated:

> FEI has taken active measures to inform British Columbians of the steps it is taking to advance a lower carbon energy future.
>
> […]
>
> FEI has also been active in explaining new energy forms (such as RNG) and innovative technologies that are helping to reduce the province's GHG emissions.
>
> […] even with this messaging in place, the lack of acceptance and awareness is still pervasive.

In response to RCIA IR 3.9, FortisBC stated that "with ever-increasing restrictions and limitations on activities that may impact the environment, FEI faces an increased risk that it will not be able to comply, whether due to strict prohibitions, lack of resources, or inability to meet compliance deadlines. While FEI will continue to adopt, and in many cases plan to exceed, the requirements imposed by regulation, there are exogenous factors that may hinder its abilities to meet or exceed these regulations."

67.1 Please confirm whether the "four main actions" stated above in BCUC IR 4.4.1 mitigate FEI's energy transition risks.

Response

Successful implementation of the Clean Growth Pathway can mitigate some of FEI's Energy Transition risk; however, the successful execution of these pathways involves significant uncertainty. While FEI has and continues to develop plans to align with the Province's GHG reduction targets and is assertively pursuing business strategies to advance the four pillars, it cannot confirm that it will be able to fully execute these pathways. There is still significant technological, market, policy, and regulatory uncertainty over whether the pathways developed by FEI can be achieved. In other words, progress on the pathways that FEI is developing rely on, among other things, the implementation of an enabling framework from the Province and the regulator that will allow FEI to take action and make the requisite investments, and a shift in municipalities' response to FEI's solutions.

To-date, clear direction from the Province on the role and future of FEI's infrastructure to achieve its Energy Transition goals has not manifested. This has led to uncertainty in the design and objectives of provincial decarbonization policies to reduce emissions associated with FEI's infrastructure. As the Energy Transition will be a policy-led endeavour, clear direction from the Province is critical to ensure that the four main action areas FEI is pursuing will indeed be supported. Further, at the municipal level, FEI is experiencing increased opposition to the role of the gas system or even Renewable Gas which can challenge the successful implementation of its Clean Growth Pathway strategy. For instance, as discussed in response to CEC IR2 63.1, in a May 2022 council meeting, in line with BC's Building Electrification Roadmap, City of Vancouver Council approved or recommended several measures to restrain the use of natural gas and/or renewable gas in the building sector in favour of electrification[3].

67.1.1 If so, please confirm whether FEI is already pursuing the four main actions. As part of the response, include examples of ongoing and past applications to the BCUC over the past five years and indicate whether those applications have been approved.

Response

As explained in the response to BCUC IR2 62.4, the Clean Growth Pathway provides a framework to transition to a low-carbon energy future and is supported by the above-mentioned four key pillars. FEI's Clean Growth Pathway builds on the success of the programs and initiatives already implemented in the last five to ten years.

[3] https://www.zebx.org/wp-content/uploads/2021/04/BC-Building-Electrification-Road-Map-Final-Apr2021.pdf.

Pillar 1: Transitioning to renewable and low-carbon gases to decarbonize the gas supply:

Since 2010, FEI has recognized the significant role a renewable and low-carbon gas supply will play as a fundamental pillar in providing low-carbon energy to its customers. As shown in the figure below, the history of the Renewable Gas Program since 2010 can be described over five phases. Over the last five years, the majority of the applications with the BCUC relate to matters associated with the interpretation of the *Greenhouse Gas Reduction (Clean Energy) Regulation* (GGRR). For instance, a number of BCUC proceedings have dealt with interpretations of the GGRR and whether a renewable gas project and associated Biomethane Purchase Agreements (BPA) are prescribed undertakings, such as renewable natural gas (RNG or Biomethane) supply acquired by FEI from out-of-province suppliers. Examples of such projects include the following:

- BPA between FEI and Archaea Energy Marketing (accepted by Order E-4-22)
- BPA between FEI and Evergreen Environmental (Oshawa) Inc. (accepted by Order E-24-21)
- BPA between FEI and Tidal Energy Marketing (accepted by Order G-40-20)

Characteristic	**Phase 1** Pilot Program 2010-2013	**Phase 2** Permanent Program 2014-2016	**Phase 3** New Renewable Gas Rate (BERC) 2016-2017	**Phase 4** GGRR amended to include RG 2017-2021	**Phase 5** GGRR amended to further support RG; RG Program Review 2021+
Volumes and Acquisition Cost Cap	0.25 PJs/Yr @ $15.28/GJ	1.5 PJs/Yr @ $15.28/GJ	1.5 PJs/Yr @$15.28/GJ	8.9 PJs/Yr @$30/GJ	>31 PJs/Yr @ $31/GJ
Supply Projects	First two projects	Added projects	Continued to add projects	Out-of-province projects added	Acquisition opportunities expanded
Offerings	Customer program initiated	Expanded customer offering	Long term contracts available	No Change	See Proposals Section 7.4
Price Mechanism	BERC = Program Costs	BERC = Program Costs	BERC = Market Price	No Change	See Proposals Section 8

The Tidal Energy BPA was the first time that the BCUC accepted FEI's acquisition of renewable gas outside of BC as a prescribed undertaking under the GGRR, and Archaea was the first acquisition from outside of Canada.

Beyond the BPAs that continue to be filed with the BCUC for acceptance, FEI currently has one major application currently under review with the BCUC related to the renewable gas program – FEI's Comprehensive Review and Application for a Revised Renewable Gas Program (RG Application) filed in December of 2021. This application seeks approval to, among other things, blend renewable gas volumes with natural gas to be sold to all sales customers as part of their gas service, and provides a 100 percent Renewable Gas offering for new residential connections.

As part of the Clean Growth Pathway, over the next five years, FEI will be considering a number of approaches to further displace conventional natural gas in the gas system and opportunities to distribute other Renewable Gases such as hydrogen directly to gas customers.

Pillar 2: Investing in DSM programs in support of energy efficiency and conservation measures to reduce energy use among residential, commercial and industrial customers:

FEI has long invested in energy efficiency to ensure that customers have options to moderate their energy use and improve affordability. Some of the more recent proceedings are as follows:

- 2021 to 2022 Additional DSM expenditures – Residential and Low Income (accepted by Order G-301-21)
- 2021 to 2022 Additional DSM expenditures (accepted by Order G-135-21)
- 2019 to 2022 DSM expenditures plan request for acceptance of industrial expenditures budget transfer for 2020 (accepted by Order G-286-20)

As part of the Clean Growth Pathway, FEI is transitioning to a broader, high performance, whole-buildings approach that will likely involve activities beyond traditional equipment-focused DSM activities for both retrofit and new construction. FEI is also piloting next generation equipment, innovative technologies and new approaches to efficiency in the buildings sector such as deep energy retrofits, gas heat pumps, dual-fuel heating systems and buildings controls to leverage new emissions reduction energy technologies. FEI will be filing applications in the future in support of these broader approaches and to align with the CleanBC Roadmap to 2030's policy direction which seeks to transition away from incentives for conventional gas heating appliances and implement highest efficiency standards which require space and water heating appliances to meet or exceed 100 percent efficiency by 2030.

Pillar 3: Support for low-carbon transportation (LCT) infrastructure to reduce emissions in this sector:

As discussed in FEI's business risk appendix, the growth of LCT is primarily driven by the GGRR as it has allowed FEI to incentivize eligible vehicles and upgrades to maintenance facilities, invest in re-fueling infrastructure, and provide safety and training programs. FEI's LCT related applications with the BCUC have mainly been focused on rates and agreements for CNG-LNG fueling station services including those constructed and operated by FEI. Some recent examples are:

- Rates and agreements for constructing and operating a CNG fueling service for Waste Connections from the GFL Station in Abbotsford, BC (approved by Order G-98-22)
- Rates and agreements for constructing and operating an LNG fueling station under the GGRR for Vedder Transport and Ken Johnson Trucking in Port Kells, BC (approved by Order G-230-21)

Pillar 4: Investing in LNG to lower GHG emissions in marine fueling and global markets:

As explained in FEI's business risk evidence, LNG as a marine fuel involves two key sectors: short sea and trans-Pacific. Through the GGRR, FEI has been able to provide incentives to BC Ferries and Seaspan for their short sea marine vessels. However, the trans-Pacific segment requires more investments in the necessary infrastructure and development of technology for ship-to-ship LNG bunkering. FEI expects this capability to be developed sometime in 2023 or 2024. The majority of the activities in this segment are either non-regulated or are prescribed undertakings under the GGRR. With regard to the global LNG demand, FEI became the first company in Canada to supply LNG for export to China. There continues to be a significant demand for containerized LNG in Asia as Asia moves away from coal and diesel to a less carbon intensive future and FEI is ready to play a bigger role in this regard whether through LNG container exports or through the potential supply of gas to the Woodfibre LNG project.

67.1.1.1 If the four main actions are pursued, please discuss how they would impact the proposed ROE and capital structure.

Response:

As explained in the response to BCUC IR2 62.4, FEI's Clean Growth Pathway involves innovative and new technologies and solutions that have not been implemented at utility scale. Further, as stated in response to BCUC IR2 67.1, there are many factors that can influence the successful implementation of these strategies, such as:

1. Government policy and support. For example, FEI requires support from municipalities in FEI's new connections offering for Renewable Gas and, for Pillar 2, enabling DSM regulation from the provincial government.
2. Technological advancements, customer adoption, price, and technology competition. An example of this is in the development, mass production and customer acceptance of high-efficiency gas heat pumps.

Further, as stated in the response to BCUC IR1 8.1.1, as a natural gas utility, even while FEI is taking steps to actively position itself in response to the Energy Transition, there is no reasonable scenario where investors face less risk than what was assessed in the 2016 Proceeding. As discussed in response to CEC IR1 21.3, while not having a plan to address the challenges associated with the Energy Transition involves risk, currently investors have doubts about the scalability and permanency of these solutions and perceive significant risk to them as well.

FEI's proposed allowed ROE and equity thickness reflect these considerations and are required to attract the necessary capital to invest in its business.

Please also refer to the response to RCIA IR1 5.3.

67.1.2 If FEI is not already pursuing the four main actions stated above, please explain why not and discuss how these actions are different from what FEI is currently doing. As part of the response, please explain why FEI would not pursue the actions unless it is "recognized and enabled to undertake actions."

Response:

Please refer to the response to BCUC IR2 67.1

67.2 Please explain how FEI has accounted for the impact of its steps in advancing a lower carbon energy future and innovative technologies to mitigate energy transition risk on the proposed ROE. If FEI has not done so, please explain why not.

Response:

Please refer to the response to BCUC IR2 67.1.1.1

67.3 Please discuss how much the proposed ROE and capital structure could change if FEI is able to manage its energy transition risk through all its active measures and "main actions."

Response:

Concentric provides the following response:

Regardless of whether or not FEI is successfully managing its Energy Transition risk, the company faces higher risks than a company that does not face the same fundamental risks to its business environment. This is especially true when these policies limit the company's earnings potential. To the extent FEI is able to successfully implement its Clean Growth Pathway strategy, the company may be able to mitigate these risks in the eyes of its investors, but this remains to be seen. At this point in time, it is not possible to determine the impacts on ROE or capital structure.

67.4 Please confirm whether FEI has had any instances where it did not meet compliance requirements as it relates to its environmental regulations and obligations.

Response:

FEI strives to comply with applicable environmental regulations and obligations. FEI has taken steps to address instances of alleged non-compliance related to environmental regulations, and has not been subject to any charges, fines or penalties under these environmental regulations.

68.0 Reference: ENERGY TRANSITION RISK

Exhibit B1-9, BCUC IR 4.4.1, 6.2.1

Energy Transition – Credit Ratings Outlook

In response to BCUC IR 4.4.1, FortisBC stated:

> FEI has conducted preliminary analysis of compliance pathways to achieve the GHG emissions cap of a 47 percent reduction by 2030 in the CleanBC Roadmap and in 2018 conducted high level modeling in the Pathways to 2050 report (Pathways report) to understand pathways for the province to achieve its 2030 and 2050 GHG emissions targets.

In response to BCUC IR 6.2.1, FortisBC stated:

> Moody's views FEI as having a "very negative carbon transition risk" because of risks associated with carbon emissions targets and the fact that the Province of BC's legislated targets of 40 percent GHG reduction by 2020 and 80 percent GHG reduction by 2050 exceed FEI's own 30 percent GHG reduction target by 2030. Consistent with the general market trends and growing awareness around ESG related risks, FEI is expecting that ESG will play an increasingly important role in credit rating determination. For a natural gas distribution company such as FEI, that represents a significant risk going forward and puts an additional strain on the credit rating.

68.1 Please discuss how FEI's Pathways to 2050 Report, or any other relevant documents, supports FEI's mitigation of carbon transition risk.

Response:

FEI's Pathways to 2050 Report (Pathways report) shows a pathway for FEI to meet the provincially legislated 80 percent reduction of GHG emissions. The Pathways report also highlights the benefits of a diversified approach that optimizes FEI's infrastructure to meet the energy demands of British Columbia while reducing emissions in line with 2050 targets. This would save upwards of $100 billion in costs for British Columbians while enabling a more resilient provincial energy system[4].

The pathways report demonstrates how FEI can play a critical role in meeting the Province's legislated GHG reductions targets. However, as described in the response to BCUC IR2 67.1, whether FEI is enabled to achieve the Diversified Pathway is still subject to considerable risks. Successfully navigating the Energy Transition will require overcoming political risk associated with provincial policy and local government leadership, technological risks and market adoption risks.

[4] https://www.cdn.fortisbc.com/libraries/docs/default-source/about-us-documents/guidehouse-report.pdf?sfvrsn=dbb70958_0#:~:text=The%20Diversified%20Pathway%20reflects%20the%20climate%20initiatives,included%20in%20FortisBC%E2%80%99s%20Clean%20Growth%20Pathway%20to%202050.

Please also refer to the response to BCUC IR2 62.4 where FEI details how its Clean Growth Pathway can potentially help mitigate some of its Energy Transition risk as well as the challenges and risks associated with these pathways.

68.2 Please confirm if FEI's greenhouse gas (GHG) reduction target by 2030 remains at 30 percent as referenced in response to BCUC IR 6.2.1 or a 47 percent reduction of GHG emissions by 2030 as referenced in response to BCUC IR 4.4.1.

Response:

In response to growing climate ambition by all levels of government and in order to formally initiate and expedite the actions required to align with the Energy Transition, FortisBC implemented its 30 percent GHG reduction target in 2019. The 30 percent level was chosen to align with the original CleanBC GHG reduction goal set in 2018 and with the then federal GHG reduction target of a 30 percent reduction from 2005 levels.

Since that time, climate ambition has continued to strengthen by all levels of government culminating, for example, in the CleanBC Roadmap target of a 47 percent reduction in GHG emissions from natural gas utilities in the buildings and industry sectors by 2030. FEI is currently waiting for provincial policy direction on the exact nature of the 47 percent reduction obligation to natural gas utilities as well as assessing other changes in provincial, municipal and federal GHG reduction targets and policies. FEI will then determine how to build on its original 30 percent reduction target.

68.2.1 If FEI's GHG reduction target by 2030 remains at 30 percent, please explain why FEI does not intend to pursue the GHG emissions cap of a 47 percent reduction by 2030 per the preliminary analysis in the Pathways to 2050 report.

Response:

Please refer to the response to BCUC IR2 68.2.

68.2.2 If FEI's target is a 47 percent reduction of GHG emissions by 2030, please discuss whether, at the time of Moody's comments in the preamble, the credit rating agency was aware of FEI's Pathway to 2050 Report, and if so, what were Moody's comments and have those comments been incorporated into their assessment of FEI.

Response:

Please refer to the responses to BCUC IR2 67.1 and 68.1 which discuss challenges with FEI's 2030 decarbonization target.

FortisBC does not typically provide any specific published reports to its credit rating agencies considering the large volume of data pertaining to FEI that is publicly available. Moody's may be aware of Pathways to 2050 Report as it is a public report, however, it is an indicative report designed to compare trade-offs between different decarbonization pathways for BC, not a report to calculate carbon transition risks. FEI is not aware of whether this report has been incorporated into Moody's assessment of FEI.

68.2.2.1 If Moody's was not aware of FEI's Pathway to 2050 Report at the time of the comments, please state when Moody's next review of FEI will take place and whether FEI will provide this information to Moody's as part of their evaluation.

Response:

Please refer to the responses to BCUC IR2 64.1 and 68.2.2.

69.0 Reference: ENERGY TRANSITION RISK

FEI 2022 Annual Review of Rates Application, Exhibit B-2, pp. 39, 86; FEI and FortisBC Application for Approval of a Multi-Year Rate Plan for the Years 2020 through 2024, Decision and Orders G-165-20 and G-166-20 dated June 22, 2020, pp. 146, 155–157

Clean Growth Initiatives

As per the last Multi-Year Rate Plan for the Years 2020 through 2024, FEI was approved the Clean Growth Innovation Fund, which collects $0.40 per month from all non-bypass customers and amounts to $4.9 million for FEI, annually. The Panel in the MRP 2020–2024 determined that "to the extent FEI chooses to spend more on innovation activities than the amount collected through the Innovation Fund rate rider during the MRP term, such expenditures will be to the account of the shareholder."

On page 86 of the FEI 2022 Annual Review of Rates Application, FEI states that it is forecast to collect $5.1 million in 2022 and that actual expenditures from the innovation fund for 2020 were $1.0 million and are forecast to be $1.7 million and $5.0 million in 2021 and 2022, respectively.

On page 39 of the FEI 2022 Annual Review of Rates Application, FEI provides the following table, which shows approximately $14 million in forecast clean growth initiatives, including $1.0 million for renewable gas development:

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

Line No.	Description	Approved 2021	Projected 2021	Forecast 2022
1	Pension/OPEB (O&M Portion)	$ 22.354	$ 22.354	$ 9.537
2	Insurance	9.908	10.430	11.474
3	Integrity Digs	4.800	5.900	5.700
4	BCUC Levies	7.290	7.290	7.408
5	**Clean Growth Initiatives:**			
6	Biomethane O&M	1.848	2.668	3.355
7	Renewable Gas Development	0.750	1.000	1.000
8	NGT O&M	1.813	1.919	2.057
9	Variable LNG Production Costs	8.081	7.281	7.553
10	Forecast O&M	$ 56.844	$ 58.842	$ 48.084

69.1 Please discuss how the BCUC-approved clean growth initiatives mitigate FEI's energy transition risk. If these clean growth initiatives do not mitigate FEI's energy transition risk, please explain why not.

Response:

As shown in the Table 6-4 in the preamble, FEI's Clean Growth Initiatives involve Biomethane and Renewable Gas development as well as Low Carbon Transportation (LCT) and LNG production. In response to BCUC IR2 62.4 and 67.1.1, FEI explained how its Clean Growth Pathway, which includes the above mentioned initiatives, can mitigate the increasing Energy

Transition risk. Specifically, FEI's Biomethane and Renewable Gas initiatives can play a fundamental role in decarbonizing provincial energy consumption while leveraging the existing gas network infrastructure. Further, FEI's LCT and LNG initiatives can create additional revenue and ensure the costs of transition are shared across a more diverse set of customer segments, improving energy affordability.

Investing in new technologies through the Clean Growth Innovation Fund (CGIF) is another aspect of FEI's Clean Growth Pathway. As explained in the response to BCUC IR1 21.2, the CGIF is aimed at accelerating the development of clean technology and is a regulatory mechanism in the MRP that can potentially provide long-term benefits to ratepayers by achieving performance breakthroughs and supporting the transition to a lower carbon economy. This is in line with FEI's response to BCUC IR2 62.4 where FEI described its Clean Growth Pathway, including its plans to support the commercialization of new technologies by funding research, development and pilot projects in collaboration with universities, industry and other stakeholders.

69.1.1 Please discuss key projects and initiatives FEI has conducted using the Clean Growth Innovation Fund and how such projects and initiatives have helped FEI manage energy transition risk.

Response:

Key projects and initiatives that FEI has funded as part of the Clean Growth Innovation Fund have been in four key categories:

1. Renewable and low-carbon gases

This category includes a number of projects related to producing low-carbon gaseous fuels, particularly hydrogen and biomethane (renewable natural gas or RNG). The single largest project that is part of this category is a $500 thousand funding commitment for a "hydrogen lab" at UBC Okanagan, which is co-funded by Natural Sciences and Engineering Research Council and one other private company. The hydrogen lab is a scalable and automated laboratory setup for conducting an integrated experimental study on the performance and feasibility of hydrogen-enriched natural gas - from injection (for a range of 5-20 percent hydrogen by volume), mixing quality, material exposure, separation and combustion, to emission.

2. Low-carbon transportation

This category includes a research project focused on reducing GHG emissions from natural gas engines using a combination of lab-based engine experiments, as well as field measurements of GHG emissions from in-use engines. As well, funding is being provided

for the development of "conformable" CNG storage tanks that would allow more efficient gaseous fuel storage on vehicles.

3. Carbon capture

FEI is funding and investigating several initiatives which capture carbon dioxide in some manner. In some cases, the carbon dioxide is converted into other marketable products or other hydrocarbon fuels and in others the carbon dioxide is simply being captured. Initiatives related to carbon storage are being actively considered as well, though no funding has been approved to-date.

4. Innovative end-uses

FEI is funding companies that are making heating systems and boilers capable of running on blends of hydrogen and pure hydrogen. As well, FEI continues to fund research and development into integrated energy systems that can use both electricity and gaseous fuels interchangeably to optimize costs and carbon intensity.

Please also refer to the response to BCUC IR2 69.1 which explains how these investments can potentially help FEI to mitigate some of its increasing Energy Transition risk.

69.2 Please explain why FEI actual expenditures from the Clean Growth Innovation Fund for 2020 of $1.0 million and forecast $1.7 million in 2021 are below the $4.9 million annual amount (based on the $0.40 per month charge from all non-bypass customers). As part of the response, please discuss whether an increase in spend in 2020 and 2021 would have further mitigated FEI's energy transition risks.

Response:

FEI does not believe that increased spending would have been prudent in 2020 and 2021. Since the approval of the CGIF in June 2020, FEI believes it has invested in all of the projects and initiatives of which it has been made aware and that meet CGIF criteria. To date, FEI has been able to reduce CGIF expenditures by leveraging its partnerships with other utilities (for example, through the Natural Gas Innovation Fund, the Low-Carbon Innovation Fund and Natural Gas Futures) and by projects proponents leveraging government funding wherever possible.

70.0 Reference: PROPOSED CAPITAL STRUCTURE

Exhibit A2-12, Government of Canada Federal Budget 2021, Annex 6, Tax Measures – Supplementary Information, International Tax Measures, Interest Deductibility Limits; Exhibit B1-9, BCUC IR 5.1, 5.2, 5.3; Exhibit B1-13, RCIA IR 22.1

Capital Structure – Interest Deductibility

The Government of Canada Federal Budget 2021 states that "[i]nterest expense and interest income related to debts owing between Canadian members of a corporate group would generally be excluded."

In response to BCUC IR 5.1 and BCUC IR 5.3, FortisBC stated that "utilities with a relatively high regulated debt component may be limited in the amount of interest expense that they can deduct for tax purposes, which would result in an increase in income tax expense and therefore higher costs for ratepayers" and that "[t]here would be no impact to ROE, as the incremental tax cost would be considered an uncontrolled tax variance captured by the flow-through deferral account."

In response to BCUC IR 5.2, FortisBC stated that "[a]ll of the debt issued by FEI is initially issued to Canadian investors and, to the best of its knowledge, all debt issued by FEI continues to be held by Canadian investors."

In response to RCIA IR 22.1, FortisBC stated:

> While the incremental tax expense is directly recovered from ratepayers, the higher rates ultimately reduce FortisBC's cost competitiveness, which is a significant risk to FortisBC and its shareholder.
>
> […]
>
> It is unlikely, at the current allowed equity thicknesses and ROEs, that the FortisBC utilities will be able to benefit from the group ratio provisions in the proposed rules.

70.1 Please confirm, or explain otherwise, that the interest deductibility rule does not apply to FEI since the Government of Canada indicates that "debts owing between Canadian members of a corporate group would generally be excluded" and FortisBC states that "all debt issued by FEI continues to be held by Canadian investors."

Response:

The interest deductibility rules would apply to the regulated utilities of FortisBC.

References to "corporate group" relate to corporations that are affiliated with each other. The Fortis Group of Companies would constitute a corporate group and, therefore, interest from

intercompany borrowings would be exempt from these rules. However, debt issued to third party Canadian investors would be subject to these rules.

70.2 Please clarify why FortisBC stated that "[t]here would be no impact to ROE" regarding incremental tax cost as referenced in BCUC IR 5.3 but in response to RCIA IR 22.1, FortisBC submitted that incremental tax expense "… is a significant risk to FortisBC and its shareholder" referenced in RCIA IR 22.1.

Response:

FortisBC indicated in response to BCUC IR1 5.3 that there is no direct quantitative impact to ROE from the perspective that the incremental tax expense would be considered an uncontrolled tax variance and borne by ratepayers.

As noted in the response to RCIA IR1 22.1, the incremental tax expense would lead to higher rates which ultimately reduce FortisBC's cost competitiveness with BC Hydro which is a risk to FortisBC. An increase to equity thickness would reduce the need for interest-bearing debt financing thus helping to mitigate the impact of an incremental tax expense related to Interest Deductibility Limits Tax Measures.

70.3 Please confirm, or explain otherwise, whether the new Interest Deductibility Limits Tax Measures are applied similarly to gas and electric regulated utilities.

Response:

The limitation on interest deductibility rules would apply similarly to gas and electric regulated utilities that are subject to income tax.

70.3.1 If the tax deductibility limits are applied similarly across gas and electric regulated utilities, please clarify why FortisBC views that the incremental tax expense will reduce FortisBC's cost competitiveness. Please clarify which "FortisBC" utility is being referred to in RCIA IR 22.1.

Response:

The proposed limitation of interest deductibility rules would reduce FortisBC's regulated gas and electric utilities cost competitiveness compared to BC's largest electric utility, BC Hydro, which is not subject to income tax.

With respect to FEI, any rate impact of the proposed limitation of interest deductibility rules would reduce cost competitiveness of gas relative to electricity service from BC Hydro as there is a significant overlap in service territories.

As noted in section 6.2.1 of *Appendix B, FortisBC Inc. Business Risk Assessment*, the boundaries of FBC's service area are adjacent to BC Hydro's service area. FBC competes with BC Hydro in underdeveloped areas where the border of FBC's service area and BC Hydro's service area meet. Any rate impact of the proposed limitation of interest deductibility rules would further heighten BC Hydro's competitive rate advantage and reduce FBC's ability to expand beyond its currently serviced areas, but within the service area authorized by the *West Kootenay Power and Light Company, Limited, Act, 1897*.

B. QUESTIONS PRIMARILY RELATED TO FBC

71.0 Reference: FBC CREDIT RATING AND PROPOSED CAPITAL STRUCTURE

Exhibit B1-8, Section 1, p. 1, Section 4.1.2, p. 17; Exhibit B1-9, BCUC IR 24.1, 27.1, 27.3, 27.3.1, 27.4, 56.1, 56.2, 56.2.1, 57.1; Exhibit B1-11, CEC IR 16.1

Return on Equity

On page 1 of Exhibit B1-8, FortisBC seeks the following approvals:

- For FEI, approval of a capital structure consisting of 45 percent common equity and 55 percent debt, and a return on common equity of 10.1 percent.
- For FBC, approval of a capital structure consisting of 40 percent common equity and 60 percent debt, and a return on common equity of 10.0 percent.

On page 17 of Exhibit B1-8, FortisBC states: "FBC's overall business risk is similar to what was assessed in the 2013 Proceeding." In response to BCUC 24.1, FortisBC stated:

> The question erroneously compares FBC's proposed risk premium over the Benchmark Utility in the 2014 Stage 2 GCOC proceeding with the variance between FBC's proposed allowed ROE in this proceeding and the existing approved ROE of 9.15 percent. As such, FBC is unable to respond to this question as framed. [Emphasis added]

71.1 Given that FortisBC views that FBC's overall business risk is similar to what was assessed in the 2013 Proceeding, please explain how circumstances are expected to change in the future for FBC, in order for it to request a 10 percent ROE compared to the existing approved ROE of 9.15 percent. Is the proposed 10 percent ROE based on non-business risk factors of FBC and is solely a reflection of capital market conditions reflected in the Capital Asset Pricing Model (CAPM) and Discount Cash Flow (DCF) Model?

Response:

Yes, the requested ROE of 10.0 percent for FBC is based on the results of the CAPM and multi-stage DCF models for proxy groups of risk comparable electric utility companies under market conditions as of December 31, 2021, while the business risk for FBC is mainly reflected in the company's deemed equity ratio being maintained at 40.0 percent.

In response to BCUC IR 24.1, FortisBC stated:

> FBC's proposed ROE and equity thickness are below FEI's proposed allowed ROE and equity thickness. In other words, although FBC's standalone risk is similar to what was assessed in 2013, the increase in FEI's risk profile since that time is such that, on a relative basis, FEI is now a riskier utility.

In response to BCUC IR 27.1, FortisBC stated:

> Investors generally consider vertically integrated utilities as riskier and demand higher compensation for investing in these companies than distribution-only utilities. This is corroborated by an S&P Global examination of major rate case decisions in the U.S. released in July of 2019 which found that,"… the annual average authorized ROEs in vertically integrated cases typically are about 30 to 65 basis points higher than in delivery-only cases, arguably reflecting the increased risk associated with ownership and operation of generation assets."

In response to BCUC IR 27.3, FortisBC stated:

> […] utility investors perceive that vertically integrated utilities are riskier and expect higher compensation for this higher risk. Therefore, all else equal, an ROE premium for vertically integrated utilities is reasonable.

In response to BCUC IR 27.4, FortisBC stated:

> […] from investors' perspective, FEI and other North American natural gas utilities are ordinarily considered as distribution-only utilities.

In response to BCUC IR 56.1, Mr. Coyne stated:

> More generally, as noted by Moody's rating methodology, integrated electric utilities have risk associated with generation ownership, which represents a significant portion of an electric utility's rate base and which differentiates them from T&D [Transmission and Distribution] utilities and gas distribution companies. Integrated electric utilities have historically received higher authorized ROEs than T&D only electric utilities to compensate investors for the unique risks of generation ownership.

In response to BCUC IR 56.2, Mr. Coyne stated:

> The primary advantage of a T&D only company is the lack of technology, operating and capital investment risk associated with generation. Time has demonstrated that generation technology advances, shifts in fuels prices, and public policy initiatives often outpace the useful lives of generation assets, as currently demonstrated by the shift away from fossil-fuel based generation. These circumstances leave the utility and its customers exposed to stranded assets, whereas a T&D company is better able to navigate these shifts through reliance

on contracts or wholesale markets. On the plus side, a vertically integrated utility controls its supply, and is somewhat less exposed to price spikes in wholesale markets, and is better positioned to make long-term investments in larger scale projects on behalf of its customers.

In response to CEC IR 16.1, FBC stated:

> Hydro-based generation is capital cost intensive but low cost to operate on an annual basis.

71.2 Please explain whether FBC having control over its electricity supply and being less exposed to price fluctuations would help offset the risks associated with stranded assets in vertically integrated utilities.

Response:

Yes, FBC agrees that having some degree of control over electricity supply and risks that result from generation ownership, such as the potential for stranded assets, are offsetting factors in the consideration of overall risk. FBC notes that, in the period between 2013 and 2021, system peak load has risen from 699 MW to 777 MW while generation capacity has risen from 223 MW to 225 MW. To the extent that generation ownership is a mitigating factor to risk for FBC, the mitigation of this risk has diminished over time.

71.3 Please explain what would be considered as generation assets for a vertically integrated natural gas utility. For example, would owning or operating natural gas wells be considered generation for a natural gas utility?

71.3.1 If so, please explain whether vertically integrated natural gas utilities also face higher risks than T&D only natural gas utilities.

71.3.1.1 If so, please explain whether these higher risks are the same or different to vertically integrated electric utilities.

Response:

Concentric provides the following response:

A vertically-integrated natural gas company would include exploration and production operations, midstream operations (i.e., gathering, processing, storing, transport, and marketing), and distribution service.

A vertically-integrated natural gas company would face higher business risks than gas distribution companies such as FEI. Exploration and production operations and midstream operations are not regulated but are subject to competitive market forces. The companies in Mr. Coyne's proxy

groups are not vertically-integrated gas utility companies. In selecting his U.S. Gas proxy group, Mr. Coyne started with the Value Line universe of 10 companies that are natural gas distribution companies.

The risks of an integrated natural gas company are different than those of vertically integrated electric utilities, with one of the primary differences being that the exploration and production business and midstream operations are not regulated, while vertically-integrated electric utilities are. In general, a vertically integrated gas company would therefore be considered riskier than a vertically integrated electric utility.

71.4 Given Mr. Coyne's view that generation technology advances, shifts in fuel prices, and public policy initiatives often outpace the useful lives of generation assets for fossil fuel–based generation, please explain how technology advances, fuel prices and public policy affect hydro-based generation, which has a low cost to operate on an annual basis.

Response:

Concentric provides the following response:

Hydroelectric generation resources have their own set of risk characteristics, distinct from the risks of fossil generation. Primary risk factors for hydro-based generation in general are:

- Variability in generation output depending on cyclical rain and snowfall, exacerbated by disruptions to long-term water cycles.
- Requirements for licenses and approvals, as holders must comply with provincial, local and in some cases federal regulations. Among the more common challenges to existing dams and generation facilities are:
    - More stringent regulations pertaining to fisheries and minimum water flows.
    - Changes in reservoir management rules.
- Pressures from environmental, fisheries, recreation and First Nations advocates to restore rivers to their pre-developed state, or restrict water flows and impoundment.
- Dam or turbine failures in older facilities (FBC's hydro projects date from 1907/1940, 1925, 1928 and 1932).
- Site remediation when facilities reach the end of their economic lives or are not relicensed.
- For new or expansion projects, large upfront capital costs, with potential for significant cost overruns (e.g., Site C and Muskrat Falls).

71.4.1 Please explain whether technology advances, shifts in fuel prices, and public policy initiatives with the control of supply could be viewed as mitigating risk for hydro-based generation.

Response:

Concentric provides the following response:

Hydroelectric generation resources mitigate many of the risks associated with fossil-fired generation, but have their own set of risks, as described in response to BCUC IR2 71.4. In particular, hydro-electric resources mitigate risks associated with:

- Changing fuels prices
- Carbon reduction mandates and uncertainty regarding future carbon pricing
- Advances in fossil-fueled or other renewable technologies that render existing units subeconomic
- Fossil-fuel site remediation

71.5 In Mr. Coyne's view, please explain whether the low cost to operate hydro-based generation on an annual basis mitigates any of the risks from generation technology advances, shifts in fuel prices, and public policy initiatives.

Response:

Please refer to the responses to BCUC IR2 71.4 and 71.4.1, above.

In response to BCUC IR 57.1, Mr. Coyne stated:

> His 10.0% ROE recommendation for FBC is based on the average of the Multi-Stage DCF and CAPM results for the U.S. Electric proxy group. If Mr. Coyne were to make an explicit adjustment for FBC's small size similar to how the Commission made this adjustment in 2014, it would be relative to his ROE recommendation for FEI of 10.1%.

In response to BCUC IR 56.2.1, Mr. Coyne stated:

Please refer to CONFIDENTIAL Attachment 56.2.1 for a comparison of the authorized ROEs and equity ratios for vertically integrated electric utilities as compared to T&D only electric utilities. As shown in the Attachment, since 2010, the average authorized ROE for integrated electric utilities has been 44 basis points higher than T&D companies, while the average equity ratio has been 1.93 percentage points higher for companies than own regulated generation. [Emphasis added]

In response to BCUC IR 27.3.1, FBC stated:

since 2010, the average authorized ROE for integrated electric utilities has been 44 basis points higher than T&D companies, while the average equity ratio has been 1.93 percentage points higher for companies than own regulated generation. Based on these numbers, FBC believes that, holding all else equal, a 44 bps premium to allowed ROE and approximately 2 percent premium to equity ratio would be reasonable to account for the difference between vertically integrated and distribution-only utilities, including those in BC. [Emphasis added]

71.6 Please confirm, or explain otherwise, whether a 44-basis points (bps) premium to allowed ROE and 1.93 percent premium to equity ratio are included in FBC's return on common equity of 10.0 percent and 40 percent common equity.

71.6.1 If confirmed, please explain why ROE is only 0.1 basis point different and the equity thickness is a five percent difference between FEI and FBC.

71.6.2 If not confirmed, please explain why FBC's return on common equity of 10.0 percent and 40 percent common equity are not higher.

Response:

Concentric provides the following response:

Although Mr. Coyne did not screen the companies in his U.S. Electric proxy group for generation ownership, all of the companies in his U.S. Electric proxy group own some generation assets. To the extent that generation risk is considered important by equity investors, the results of the DCF and CAPM models for Mr. Coyne's U.S. Electric proxy group reflect the risk of generation ownership. Mr. Coyne did not make an explicit adjustment to his recommended ROE or equity ratio for FBC to reflect this risk as it is already represented by his proxy group. He cannot determine whether the 44 bps ROE and 1.93 percent differential observed historically in allowed ROE and capital structure is also represented in the market data he relies on because investors value the entire risk of these companies and not individual segments.

As explained on pages 4-5 of Mr. Coyne's report, the recommended ROE for FEI is based on the average results of the multi-stage DCF and CAPM models for a proxy group of comparable risk U.S. gas utilities. The proposed deemed equity ratio of 45.0 percent reflects the additional business and financial risks of FEI since the BCUC previously set the company's deemed equity ratio at 38.5 percent in 2016. This proposed equity ratio is approximately halfway between the

average equity ratio of the Canadian investor-owned gas distribution utilities and the U.S. Gas distributors.

As discussed in Mr. Coyne's report and FortisBC's risk evidence, the business risk of FEI has increased substantially since 2016, while the overall business risk of FBC is the same as in 2013. The changing risk profile of FEI relative to FBC supports the recommended five percentage point differential in the deemed common equity ratio for FEI relative to FBC. The 10 basis point differential in Mr. Coyne's ROE recommendation for FEI relative to FBC is supported by the results of the models he used to estimate the cost of equity for comparable risk groups of gas and electric utilities.

Please also refer to the response to the BCUC IR2 71.8.

71.7 Given that FBC purchases power from BC Hydro in addition to generating its own power, in FBC's and Mr. Coyne's view, please explain whether FBC would also have the advantages of the T&D utility. Please include whether this combination of generation and T&D would mitigate the risks from both utility types resulting in lower risk.

Response:

Concentric provides the following response:

FBC generates approximately 45 percent of its power supply from company-owned hydro plants and purchases the remaining 55 percent of its power supply from BC Hydro and other sources. FBC still retains generation risk, although that risk is lower than it would be for a fully integrated electric utility such as Nova Scotia Power in Canada (which derived 82 percent of its power supply from company-owned generation in 2021) or many of the companies in Mr. Coyne's U.S. Electric proxy group.

If one were to consider a risk adjustment for generation, it would also be necessary to consider a risk adjustment for FBC's small size in relation to the proxy companies.

On balance, as summarized in his report (p. 141) Mr. Coyne views "FBC's business risk as slightly lower than the operating companies in the U.S. Electric proxy group. However, the difference is not significant enough to cause an investor to assign a notably lower risk profile to FBC." Further, he concludes (p. 146) "The financial risk of FBC is slightly greater than the Canadian proxy group and markedly greater than the U.S. electric utility proxy group, based on an analysis of deemed equity ratios and key cash flow and interest coverage metrics." Given the recommended ROE is based on the U.S. average, but the equity ratio is nearly 10% below the U.S. proxy group, the recommended cost of capital is well below FBC's U.S. peers (Figure 65, p. 151).

71.8 Please explain whether a 44-bps premium to allowed ROE and approximately two percent premium to equity ratio would be reasonable to account for the difference between vertically integrated and distribution-only for natural gas utilities.

71.8.1 If so, given that FEI is a T&D-only natural gas utility, please explain why FEI has a proposed 0.1 percent ROE premium and a five percent equity component premium over FBC.

71.8.2 If so, given FEI is a T&D-only natural gas utility, please explain whether FEI's proposed ROE of 10.1 percent and equity ratio of 45 percent should be adjusted lower.

Response:

Concentric provides the following response:

The 44 basis point differential in the authorized ROE and the two percentage point differential in equity ratio referenced in Mr. Coyne's report pertain to authorized returns for vertically-integrated electric utilities as compared with transmission and distribution ("T&D") only electric utilities. These data points do not pertain to gas distribution companies such as FEI. As explained in the response to BCUC IR2 71.3, Mr. Coyne's ROE analysis for FEI does not include vertically-integrated gas utilities, and he does not believe it would be appropriate to apply the return differentials between integrated electric companies and electric T&D companies to the natural gas industry. Mr. Coyne's ROE recommendation for FEI is based on the average results of his multi-stage DCF and CAPM analyses for a comparable risk group of gas distribution companies, while his equity ratio recommendation of 45.0 percent is the approximate midpoint between the average deemed equity ratio for Canadian investor-owned gas distribution companies and the authorized equity ratio for U.S. gas distribution companies since January 2020.

72.0 Reference: FBC CREDIT RATING AND PROPOSED CAPITAL STRUCTURE

Exhibit B1-8, Section 6.2.3.1, pp. 39–40; Exhibit B1-9, BCUC IR 25.1, 25.2.1, 26.1, 36.2

Credit Rating

In response to BCUC IR 25.1, FortisBC stated:

> The financial metrics are impacted by a number of factors, including operating performance, changes in deferral accounts and how they are financed, level of debt required based on the capital program, allowed ROE and capital structure, and depreciation of assets. As a result, the financial metrics vary year over year and the slight improvement for the last twelve months ended September 2021, does not point to a consistent trend that will hold up after 2021.

On page 40 of Exhibit B1-8, FortisBC states:

> FBC's CFO pre-W/C to debt metric for the last two years ended 2020 and 2019 were 8.6 and 8.8 percent, respectively […]

72.1 Please explain which factors from the ones listed in response to BCUC IR 25.1 resulted in FBC's CFO pre-W/C to debt metric for the last two years ending 2020 and 2019 being 8.6 and 8.8 percent respectively.

Response:

As stated in the response to BCUC IR1 25.1, there are a number of factors that impact FBC's financial metrics. However, the primary factor that contributed to FBC's lower CFO pre-W/C to debt metric for the years ended 2020 and 2019 were changes in FBC's deferral accounts; in particular, the flow-through deferral account. In both years, FBC's regulatory liability associated with the ending balance in the flow-through deferral account was lower than the preceding year, resulting in lower operating cash flows.

A regulatory liability is recognized for the flow-through deferral account when eligible revenues are higher than approved, or eligible expenses are lower than approved. This liability is amortized into customer rates in the following year. The result is higher cash inflows from operating activities in the initial year the liability is incurred, and lower cash inflows from operating activities in the year the cash is returned to customers through deferral amortization.

In both years ended 2020 and 2019, the amount being refunded to customers through deferral amortization associated with the flow-through deferral account exceeded the additions in the year, resulting in lower CFO pre-W/C than would have otherwise been realized.

72.1.1 Please explain whether the factors discussed are expected to change or remain consistent for the next five years for FBC.

Response:

Given the nature of the flow-through deferral account as a mechanism to capture eligible variances from the approved forecast, FBC expects this factor to continue to create volatility in CFO pre-W/C. There are a number of factors outside of FBC's control that could impact the flow-through deferral account such as weather, energy market conditions and broader economic factors, all of which could result in additions to the flow-through deferral account and by virtue, increases or decreases to CFO pre-W/C.

In response to BCUC IR 25.2.1, FBC provided the following tables: The first to show the equity component that would be required to maintain a three-year average CFO Pre-WC / Debt ratio at 8, 9, 10 and 11 percent while keeping ROE at the current level of 9.15 percent. The second table below shows the ROE that would be required to maintain a three-year average CFO Pre-WC / Debt ratio at 8, 9, 10 and 11 percent while keeping the equity component at the current level of 40.0 percent:

Equity Component Required at ROE 9.15%	
CFO Pre-WC/Debt[1]	Equity Component
8%	34.8%
9%	39.5%
10%	43.8%
11%	47.8%

Note: [1] 3 year average from 2019-2021.

ROE Required at Equity Component of 40%	
CFO Pre-WC/Debt[1]	ROE
8%	5.9%
9%	8.9%
10%	11.9%
11%	14.9%

Note: [1] 3 year average from 2019-2021.

On page 40 of Exhibit B1-8, FortisBC states:

> […] key determinants of FBC's weak financial metrics are the low allowed equity component of its capital structure and low return on equity.
>
> […]

FBC's proposal to maintain its allowed equity should be viewed as a floor to avoid negative credit rating agency actions.

72.2 Given that the equity component required to maintain a three-year average CFO Pre-WC / Debt ratio at 8 percent, while keeping ROE at the current level of 9.15 percent would be 34.8 percent (which is lower than the proposed 40 percent) and the ROE required to maintain a three-year average CFO Pre-WC / Debt ratio at 8 percent, while keeping the equity component at the current level of 40.0 percent would be 5.9 percent (which is lower than the proposed 10 percent), please explain why FBC's proposal to maintain its allowed equity should be viewed as a floor.

Response:

As discussed in the filed evidence, most of FBC's financial metrics are weak and consistent with a non-investment grade rating of Ba. Similar to FEI, key determinants of FBC's weak financial metrics are the low allowed equity component of its capital structure and low return on equity.

The sensitivity tables noted are prepared on a normalized basis, but do not account for the year-to-year variation that can occur due to operating cash flow changes. This is the reason why FBC's CFO pre-W/C has varied year to year while having a consistent equity thickness and ROE during this time.

An example of such variability is that FBC's CFO pre-W/C to debt metric for the two years ended 2020 and 2019 were 8.6 and 8.8 percent, respectively, which means that this financial metric is critically close to a rating downgrade threshold of 8 percent. To put this in perspective, 2019 was the first time in the last 10 years that this metric has been below 9 percent.

Additionally, FBC's allowed common equity ratio has been stable at 40 percent since 1996 and any reduction in the common equity ratio may be viewed by the credit rating agencies as undermining the support of the regulatory framework. Traditionally, credit rating agencies have been sensitive to decreases in capital structure or ROE, so a decrease may have an adverse impact on FBC's credit ratings and as a result, its ability to continue to obtain debt financing on similar terms as it does now. Therefore, FBC's proposal to maintain its allowed equity should be viewed as a floor, with any downward adjustment potentially triggering negative credit rating agency actions.

In response to BCUC IR 26.1, FortisBC stated:

> […] FBC already has more limited access to the market compared to a larger A-level rated utility such as FEI which is primarily a result of FBC's smaller size, its BBB level credit rating and restrictive Trust Indentures that are sensitive to changes in the cost of borrowing. […]

On page 39 of Exhibit B1-8, FortisBC provides the following table with the Baa Rating thresholds:

Table 6-7: FBC's Key Financial Indicator Scores Compared to Minimum Baa Rating per Moody's Utility Rating Methodology

	FBC's Score	Baa - Rating Threshold[64]	2018	2019	2020	LTM Sept 2021
CFO pre-WC + Interest / Interest	Ba	3.0x-4.5x	3.6x	2.5x	2.5x	2.7x
CFO pre-WC / Debt	Ba	11.0% - 19.0%	9.8%	8.8%	8.6%	9.6%
CFO pre-WC - Dividends / Debt	Ba	7.0% - 15.0%	6.1%	5.1%	5.0%	5.9%
Debt / Capitalization[65,66]	Baa	50.0% - 59.0%	55.1%	56.0%	54.3%	54.3%

Source: Moody's Credit Rating Report for FBC, dated November 25th 2021.

In response to BCUC IR 36.2, FortisBC stated:

> FBC's financial metrics that are already weak and consistent with non-investment grade credit.

72.3 Given the responses to BCUC IR 25.2.1 where an equity component of 47.8 percent would be required to maintain a three-year average CFO Pre-WC / Debt ratio at 11, while keeping ROE at the current level of 9.15 percent and an ROE of 14.9 percent would be required to maintain a 3-year average CFO Pre-WC / Debt ratio at 11 percent, while keeping the equity component at the current level of 40.0 percent and FBC's proposal is a 40 percent equity component and 10.0 percent ROE, please explain whether FBC could achieve an investment grade rating under the current proposal.

Response:

To clarify, FBC already has an investment grade rating of Baa1; however, FBC's financial metrics are weak and consistent with a non-investment grade rating of Ba. Financial metrics have a 40 percent weighting in Moody's rating methodology (with CFO Pre-WC / Debt having 15 percent weighting); however, other factors such as the regulatory framework and ability to recover costs and earn returns are also considered and can offset some of the weakness in the financial metrics. Based on Moody's 2021 report, Moody does not expect that FBC's CFO Pre-WC / Debt would reach 11 percent but rather forecast that it will remain between 8 to 10 percent:

> FBC's credit profile is driven by its credit supportive regulatory environment and the monopoly position of its stable vertically integrated utility assets. Like affiliate utility FEI, the company has a track record of earning its allowed return on equity and its cash flow continues to be highly predictable. This is offset by the company's weak financial metrics that we forecast will be in the range of 8-10 percent CFO pre-WC to debt. These financial metrics are primarily the product of a low allowed

equity ratio, a low return on equity, depreciation rates and are also affected by a significant capitalized lease adjustment.

As shown in the response to BCUC IR1 25.2.1, FBC's proposed ROE and equity thickness ensures that FBC's CFO Pre-WC / Debt would remain in the upper bound of Moody's 8 to 10 percent forecast which along with other factors in Moody's rating methodology will help to maintain its current credit rating.

Also, as noted in the response to BCUC IR2 72.2, cash flows metrics will vary from year-to-year even with a consistent equity component and ROE. Establishing equity component and ROE levels based on these minimum thresholds will result in breaches of these thresholds due to such cash flow volatility.

72.3.1 Please explain what conditions would be needed or changed in order for FBC to achieve an investment grade credit rating.

Response:

To clarify, FBC currently has an investment grade rating of Baa1 by Moody's; however, the credit rating is at risk as the majority of FBC's financial metrics are consistent with a non-investment grade rating of Ba. As discussed in the evidence, in its 2021 credit rating report Moody's has stated that weak financial metrics are primarily the product of a low allowed equity ratio, a low return on equity, depreciation rates as well as a significant capitalized lease adjustment. Increasing the return on equity to 10 percent as requested by FBC will improve these relatively weak credit metrics.

72.4 Please explain whether FBC's smaller size or weak financial metrics have a greater impact on its credit rating.

Response:

FBC believes that it's weak financial metrics have a greater impact on its credit rating than FBC's size. FBC's smaller size matters in terms of liquidity of its bonds as FBC goes to the market less often and its debt issuance size is typically smaller which prevents FBC's bonds from becoming part of the bond index and therefore negatively impacts the liquidity of its bonds as discussed in the response to BCUC IR2 73.1.

72.5 Please explain what benefits FBC would achieve if it received an investment grade credit score.

Response:

Please refer to the response to BCUC IR2 72.3.1.

As discussed in the evidence, maintaining FBC's credit rating is critical since FBC already has more limited access to debt capital markets compared to FEI due to its smaller size and restrictive Trust Indentures that are sensitive to changes in the cost of borrowing. A downgrade would further diminish its access to capital markets and increase the cost of financing the debt component of its rate base and operations.

73.0 Reference: FBC CREDIT RATING AND PROPOSED CAPITAL STRUCTURE

Exhibit B1-9, BCUC IR 26.1, 26.2

Debt Issuance

In response to BCUC IR 26.1, FortisBC stated:

> FBC's issuance size and frequency is not driven by its credit rating. It is mostly a result of the smaller size of the utility, capital program and smaller credit facility capacity. The reason FBC's issuance size and frequency was noted in the Evidence was to demonstrate that FBC already has more limited access to the market compared to a larger A-level rated utility such as FEI which is primarily a result of FBC's smaller size, its BBB level credit rating and restrictive Trust Indentures that are sensitive to changes in the cost of borrowing. Therefore, maintaining FBC's credit rating is critical. If downgraded, FBC's access to capital markets would be further diminished and pricing and terms for the financing of the debt component of its capital expenditures and operations would be less favourable. [Emphasis added]

In response to BCUC IR 26.2, FortisBC stated:

> Not being part of the bond index, combined with less frequent debt issuances and a lower credit rating, contribute to weaker demand and lower liquidity of FBC bonds. This means that FBC needs to offer investors a higher interest rate to compensate them for these factors. [Emphasis added]

73.1 Please confirm, or explain otherwise, that maintaining FBC's credit rating is critical in order to maintain FBC's bond demand and liquidity.

73.1.1 If not confirmed, please explain why FBC's credit needs to be maintained in relation to its debt issuance and cost of borrowing.

Response:

Confirmed. Maintaining FBC's credit rating is critical in order to attract investors when FBC issues debt. In addition to the credit rating, the size of the bond and number of investors that purchase the bond in the primary market also play a role in terms of liquidity (whether the bond is traded in the secondary market) as there are certain conditions that need to be met in order for the bond to become part of the bond index (for example, minimum size of $100 million, held by at least 10 investors, investment grade credit rating etc.). Generally, a bond that is not in the bond index is considered a buy and hold product meaning that investors will have greater difficulty trading in the secondary market, which limits the initial investor pool that is interested in purchasing the bond as ETF[5]s and many investment mandates for asset managers specifically require bond index inclusion for participation.

[5] Exchange Traded Funds.

Please also refer to the response to BCUC IR1 6.4 that discusses importance of credit rating for the investors.

73.2 Please discuss whether FBC's smaller size and its frequency and size of debt issuances impacts its access to capital markets to a greater or lesser extent than its credit rating.

Response:

Please refer to the response to BCUC IR2 73.1.

74.0 Reference: FBC BUSINESS RISK

Exhibit B1-8-1, Appendix B, p. 31; Exhibit B1-9, BCUC IR 33.1, 33.9, 55.1

Customer Profile – Industrial

On page 31 of Appendix B of Exhibit B1-8-1, FortisBC states:

> […] cryptocurrency mining comes with considerable uncertainty as the utility industry as a whole has little experience with it. Cryptocurrency mining requires large amounts of electricity. Cryptocurrency mining load, however, is heavily tied to market fluctuations of digital currencies. The inherent volatility of the virtual mining industry and its uncertain future creates challenges for electric utilities engaged in long-term resource planning. For FBC, the cryptocurrency industry today is comprised of a single customer. While FBC has no indication that this customer has any intention of being other than a long-term stable load, it is generally understood that cryptocurrency customers are especially price-sensitive and more mobile than is generally the case. [Emphasis added]

In response to BCUC IR 33.1, FortisBC stated:

> FBC has noted at lines 29-31 on page 28 of Appendix B that the diversity and number of Industrial customers has increased between 2013 and 2020. However, due to the increase in diversity being in large part due to the addition of cryptocurrency load, which is viewed as inherently risky, the added diversity is not considered to mitigate risk.

In response to BCUC IR 33.9, FortisBC stated:

> FBC's view is that the emergence of the Technology sector represents a standalone risk that is not mitigated by the load growth in other sectors. The Government/Education/Health sector has grown from 15 percent of the load in the top 20 customers in 2013 to 20 percent in 2020. The Manufacturing sector has decreased from 27 percent to 19 percent. During this time, the Technology sector has grown from just 2 percent in 2013 to 23 percent in 2020 and includes FBC's single largest Industrial customer. It is not simply the proportion of load that each industry represents that is relevant, but also the nature of the load, including stability and portability of the load.

In response to BCUC IR 55.1, Mr. Coyne stated:

> Mr. Coyne considered the Government/Education/Health sector to be a stabilizing element of FBC's risk profile. He did not focus on the emerging crypto-currency sector as a risk to FBC's business profile. More experience will be required to understand the demand profile of these customers and their relative stability to draw meaningful conclusions related to risk

74.1 Please clarify whether FBC considers if the riskiness of crypto-currency stems from the crypto-currency industry as a whole or currently having only one crypto-currency customer.

Response:

The risk associated with cryptocurrency is primarily due to the characteristics of the industry as described in Exhibit B1-8-1.

Under the assumption that having multiple cryptocurrency customers would mitigate at least some of this risk because all such customers would be unlikely to fail or relocate within the same time frame, the risk to FBC is exacerbated by having only the single customer. (This assumption is akin to concluding that it would be helpful for FBC's industrial customer diversification if the load was spread amongst many customers.) However, the price and market fluctuation sensitivity are common to all cryptocurrency customers and the validity of that assumption remains to be tested through experience as suggested by Mr. Coyne in his response to BCUC IR1 55.1.

74.1.1 Please explain whether the crypto-currency industry would be helpful for FBC's industrial customer diversification if the load was spread amongst many customers.

Response:

Please refer to the response to BCUC IR2 74.1.

74.1.2 Please provide examples from other utilities in Canada or North America that consider having crypto-currency customers would increase or decrease the utilities' business risk. Briefly summarize the utilities' reasons.

Response:

FBC considers that the risk associated with the cryptocurrency industry is generally well acknowledged and commentary from utility industry observers is available.[6] Specific examples of utilities enacting measures to mitigate the risk include Hydro-Quebec, which in 2018 halted processing new applications to evaluate impacts to rates and started a review to determine how

[6] Such as, https://www.fitchratings.com/research/us-public-finance/crypto-mining-poses-challenges-to-public-power-utilities-24-01-2022.

to protect itself and its ratepayers. Hydro-Quebec has a limit on the amount of power it makes available to cryptocurrency customers.

In its 2021 Integrated Resource Plan, BC Hydro acknowledges that key uncertainties resulting in future loads that might be lower or higher than forecast includes those tied to cryptocurrency customers and are associated with having limited history from which to develop future projections.[7] FBC understands this to present a risk to both infrastructure and resource planning.

In the United States, a state that has seen an increase in interest from the cryptocurrency industry is Texas. In this case, risks attributed to cryptocurrency miners are those that may "…boost power bills…" and impact "…the state's shaky power grid."[8]

Generally speaking, utilities faced with a potential increase in load due to cryptocurrency customers are concerned with the impact on resource planning, infrastructure requirements, and the concentration of load in an industry without much history and that responds to changing market and power supply changes by shutting down or relocating in a relatively short time.

74.1.3 Please discuss whether any utility regulators that have commented on how crypto-currency customers affect utilities' business risks.

Response:

FBC has performed a limited review for the purpose of responding to this question and has not been able to find comments by utility regulators focused specifically on how cryptocurrency customers affect utilities' business risks.

74.2 Please explain the factors that make the crypto-currency industry volatile and inherently risky. Please include in the explanation why crypto-currency customers are price-sensitive and more mobile than other industrial customers.

Response:

As evidenced by the recent developments in the crypto-currency market[9], this market is volatile and inherently risky. This is largely because cryptocurrencies do not have intrinsic value, and are

[7] https://docs.bcuc.com/Documents/Proceedings/2021/DOC_65194_B-1-BCH-IntegratedResourcePlan-Public.pdf, page 5-7.

[8] As discussed here - https://www.bloomberg.com/news/articles/2022-03-15/crypto-mania-in-texas-risks-new-costs-and-strains-on-shaky-grid.

[9] Bitcoin's (the most liquid crypto-currency) 52 week range is currently at 34,336 CAD to 85,357 CAD.

largely traded as a hedge against inflation, or as a speculative investment vehicle. Investopedia notes that cryptocurrencies, such as Bitcoin, have prices that fluctuate because "…it is influenced by supply and demand, investor and user sentiments, government regulations, and media hype. All of these factors work together to create price volatility."[10] Another factor that makes the crypto currency prices volatile is lack of liquidity. Compared with Fiat currencies, like the US or Canadian dollar, the crypto currency market is considerably less liquid. This means that market Whales (entities-individuals, institutions and exchanges that hold significant amounts of tokens of a particular crypto-currency) are able to move the price of the crypto assets around with their large buy or sell orders causing price volatility. The recent crash in the so-called "stablecoins" designed to hold a steady value[11] indicates another factor that adds to this volatility, namely lack of proper government regulation and scrutiny.

Cryptocurrency customers are particularly sensitive to electricity prices simply because mining is a very energy intensive process and energy costs are therefore a significant proportion of overall operating costs. Unlike more traditional industries, such as forest-goods processing, cryptocurrency facilities can be constructed to a standard that is less permanent, such as the containerized version shown in the photo below, making them more mobile than other industrial customers.

74.2.1 Please explain whether FBC can mitigate any of these risks through any of the following measures:

- Rate design
- Customer contributions (to reduce stranded assets)

[10] https://www.investopedia.com/articles/investing/052014/why-bitcoins-value-so-volatile.asp#:~:text=Bitcoin's%20price%20fluctuates%20because%20it,together%20to%20create%20price%20volatility.

[11] "How $60 Billion in Terra Coins Went Up in Algorithmic Smoke"; accessed at: https://www.bloomberg.com/graphics/2022-crypto-luna-terra-stablecoin-explainer/.

- Establishing separate tariffs or conditions for crypto-currency customers, such as placing limits or caps on energy usage, requiring letters of credit and/or maintaining certain financial ratios

Response:

FBC is currently reviewing all of the options mentioned in the question in order to meet the needs of cryptocurrency customers while providing protection to other customers from the risks described in the preamble. This work is ongoing and has not yet resulted in options that can be discussed in detail. It is likely, however, that measures that would remove a substantial amount of the risk to FBC and its customers may be unattractive to cryptocurrency customers and would, therefore, also reduce the benefits that they may also provide in terms of rate mitigation through increased utilization of the system.

74.3 Please explain why Mr. Coyne did not focus on the emerging crypto-currency sector as a risk when FBC considers crypto-currency inherently risky.

Response:

Concentric provides the following response:

As stated Mr. Coyne's response to BCUC IR1 55.1, crypto-currency is an emerging sector and more experience is required to understand the demand profile and relative stability of this type of industrial customer.

74.4 Please explain why Mr. Coyne considers the Government/Education/Health sector to be a stabilizing element of FBC's risk profile. Please list the specific stabilizing elements and how they mitigate risks for FBC.

Response:

Concentric provides the following response:

Mr. Coyne considers the Government/Education/Health sector to be a stabilizing element of FBC's risk profile because the sector is typically more stable and predictable and less subject to sudden shifts in demand or loss of a large customer than many industrial customer groups.

74.5 Given that Mr. Coyne did not focus on the crypto-currency risk and considers the Government/Education/Health sector to be a stabilizing element of FBC's risk profile, please explain why FBC considers crypto-currency load so inherently risky that the added diversity is not considered to mitigate risk as suggested in response to BCUC IR 33.1.

Response:

Generally speaking, an increase in diversity would serve to mitigate risk; however, the view of FBC is that in its particular circumstance where the increase in diversity is due largely to an increase in cryptocurrency load, which is inherently risky and also involves a single customer, the diversity-related mitigation is effectively nullified.

75.0 Reference: FBC BUSINESS RISK

Exhibit B1-9, BCUC IR 34.1; Exhibit B1-10, BCOAPO IR 34.1; Exhibit B1-11, CEC IR 16.2

Energy Supply and Price Risk

In response to BCUC IR 34.1, FortisBC stated:

> The BC Hydro PPA Agreement is a core resource for FBC and an inability to renew has severe consequences to FBC's supply arrangements. FBC's LTERP considers not renewing the BC Hydro PPA and the potential cost impacts where FBC's Long Run Marginal Cost (LRMC) increases from $78 per MWh in the Base Case portfolio A1, in which the PPA is renewed, to $87 per MWh if a SCGT RNG unit is allowed (portfolio F4) and $157 per MWh if it is not (portfolio F5), assuming the PPA is not renewed

In response to CEC IR 16.2, FortisBC stated:

> Extensive changes were made in 2013 when the PPA was renewed at that time and FBC anticipates that further changes may be required in 2033 depending on the circumstances at the time. Such changes may include, but are not limited to, the right of FBC customers to export customer-owned generation while taking supply from FBC, the right of FBC to export surplus power from FBC-owned or contracted-for generation while taking supply from BC Hydro, the volume of power under the PPA that FBC is entitled to and the right of FBC to import intermittent power such as from solar and wind.

75.1 Please explain what clauses or terms in the current Power Purchase Agreement (PPA) could affect FBC's ability to renew the PPA. Please include whether advanced notice is required to the other party before any changes can be made or if the agreement can be rolled over to the next year. For example, is the PPA a fixed price contact or are prices indexed to the market?

Response:

The BC Hydro PPA cannot be unilaterally amended by either FBC or BC Hydro. The previous agreement that expired in 2013 (extended into 2014) was amended by BC Hydro in 2009 by application to the BCUC and FBC expects that a similar process would be required for any future amendments that either FBC or BC Hydro wished to bring forward in the current PPA. The PPA is a fixed price agreement with the rates being set as per BC Hydro Rate Schedule 3808.

Section 2.1 of the PPA states that the PPA shall continue until September 30, 2033. As it is not possible to foresee all circumstances that may exist in 2033, it is possible or even likely that it may be reasonable to negotiate changes to the PPA as part of the expected renewal process. However, there is no clause or term in the PPA that requires this.

If the renewal process is delayed, FBC expects that the existing PPA would be rolled over until the renewal process, including any required regulatory approvals, are completed. This is similar to what occurred in 2013 and 2014 when the PPA was last renewed.

75.2 Please explain whether the changes made to the PPA in 2013 had any impact on FBC's risk profile during the 2013 GCOC proceeding.

Response:

The 2013 PPA renewal had little impact on FBC's risk profile during the 2013 Stage 2 GCOC proceedings.

In the 2013 Stage 2 GCOC decision, the BCUC agreed with FBC's position that "the BC Hydro PPA renewal and the Wax CAPA have reduced its supply risk in terms of supply availability but assert that this was already low" [12]:

> With respect to availability of supply, FBC has acknowledged there is little difference compared to the Benchmark and describes availability risk as 'fairly low.' Neither ICG nor BCPSO took issue with this characterization nor does the Commission Panel.[13]

FBC's analysis of supply risk in this current proceeding leads to a similar conclusion that FBC assesses its supply risk as similar to what was assessed in the 2013 GCOC Stage 2 proceeding.

75.2.1 Please explain how the potential changes to the PPA listed in response to CEC IR 16.2 would impact FBC's risk profile, if any, in this proceeding.

Response:

As described in the response to BCUC IR2 75.2, the key point in the 2013 Stage 2 GCOC proceeding was that the PPA was renewed. As given in the preamble, the consequences to FBC if the PPA is not renewed are potentially quite severe. No one clause in the PPA in and of itself is likely to impact FBC's risk profile; however, the risk of failing to renegotiate the PPA due to an

[12] https://docs.bcuc.com/Documents/Proceedings/2014/DOC_41123_03-25-2014-BCUC-GCOC-Stage-2-Decision-WEB.pdf, page 76.

[13] https://docs.bcuc.com/Documents/Proceedings/2014/DOC_41123_03-25-2014-BCUC-GCOC-Stage-2-Decision-WEB.pdf, page 77.

inability to come to terms with BC Hydro on required changes to the PPA does increase FBC's risk.

In response to BCOAPO IR 34.1, FortisBC stated:

> Deferral accounts, such as the flow-through deferral account, are usually put in place to ensure that forecast variances do not result in costs being inappropriately borne by customers or the Company. Specifically, FBC's flow-through deferral account mitigates the risk associated with …. a variance in power purchase expense as a result of changes in the load, how the power is sourced or the price the Company must pay to obtain power. In this sense, the flow-through deferral account can mitigate FBC's short-term demand and power supply cost risks. [Emphasis added]

75.3 Please confirm, or explain otherwise, whether deferral accounts in general mitigate any severe consequences in regard to energy price risk.

75.3.1 If confirmed, please discuss whether there is any energy price risk with the PPA with BC Hydro or any other PPA.

Response:

Not confirmed. As stated in the preamble, "…the flow-through deferral account can mitigate FBC's short-term demand and power supply cost risks." Deferral accounts only mitigate the short-term price risk associated with variances in a given year by capturing those variances and amortizing them into rates in future years rather than having them immediately affect the utility's earnings.

The accounts do not mitigate all energy price risk because the long-term risk remains. There is always energy price risk with any contract in that the price could become uncompetitive. For example, the Brilliant PPA has a market price reopener in 2026 that could lead to material increases in the cost of power to FBC under the Brilliant PPA.

Please also refer to the response to BCOAPO IR2 56.1.

C. EVIDENCE OF MR. COYNE

76.0 Reference: ENERGY TRANSITION RISK

Exhibit B1-9, BCUC IR 45.2, 45.3; FEI Biomethane Energy Recovery Charge (BERC) Rate Assessment Report, Stage 2 Comprehensive Review and Application for a Revised Renewable Gas program, Section 6.4, pp. 80–81

Energy Transition Risk – Canada and US

In response to BCUC IR 45.2, regarding whether Mr. Coyne considers that it is riskier to be at the forefront of energy transition or to be a laggard with prohibition on bans of natural gas, Mr. Coyne stated:

> There is more risk for investors in jurisdictions that are at the forefront of changes in public policy, including the Energy Transition. In the case of regulated utilities, this is because future cost recovery is uncertain, no one knows exactly the extent to which the new carbon emissions policies will limit growth prospects for gas distribution companies, and there is the potential risk of stranded assets.

In response to BCUC IR 45.3, Mr. Coyne stated, "[t]he 2021 CleanBC Roadmap in British Columbia is more aggressive and will happen sooner than in the U.S. states which have gas use restrictions, which means that FEI has greater Energy Transition risk than any of the companies in the U.S. Gas proxy group."

On pages 80 and 81 of the FEI BERC Rate Assessment Report, Stage 2 Comprehensive Review and Application for a Revised Renewable Gas program, FEI discusses different risk mitigation strategies, including:

- The primary means of mitigating the risk of lower than expected production is to diversify the supply portfolio. Today, FEI has a diverse mixture of supply projects that use different feedstocks and technologies and are located in geographically separate areas.
- A second supply risk is competition from other purchasers of Renewable Gas. FEI has mitigated this risk to an extent by being a "first-mover" in the market and has an established regulatory path with known guidelines for supply agreements, particularly with respect to RNG. This established history in the Renewable Gas market is attractive to suppliers who are interested in long-term offtake agreements with a high degree of certainty of regulatory approval.
- There are technical and regulatory barriers to integrating alternate forms of Renewable Gas, such as hydrogen, into the gas system. These barriers could delay the use of hydrogen, synthesis and lignin to provide FEI's customers with low carbon energy services. FEI is undertaking steps to ensure that the existing gas pipeline system can accommodate other forms of Renewable Gas and,

as applicable, that there are alternative methods to deliver these gases to customers.

76.1 Please discuss the benefits and risks of being a regulated utility that is a laggard of changes in public policy, including energy transition.

Response:

Concentric and FortisBC have interpreted the question as addressing the relative risks and benefits between utilities in jurisdictions that are first movers in introducing policies related to the Energy Transition versus utilities in jurisdictions that lag behind (which was the context of the quoted passage in the preamble).

Concentric provides the following response:

For gas LDCs operating in Canadian or U.S. jurisdictions that do not have such aggressive carbon reduction targets and timelines as British Columbia, the risks of the Energy Transition are not as imminent as for FEI. First mover jurisdictions such as BC will shape the policy landscape on this issue and set precedent for how risks for regulated utilities are mitigated and how costs are recovered. While each jurisdiction has the ability to develop its own customized approach to these issues, the precedent established in first mover jurisdictions will provide some degree of certainty to investors contemplating investment in utilities in lagging jurisdictions. This should be considered a benefit to regulated utilities in provinces/states that are further down the curve, as long as the overall policy approach that is developed in leading jurisdictions is reasonable for regulated utilities from an investor perspective.

FortisBC further adds the following response:

The considerations discussed in FEI's business risk evidence show how, in addition to the elevated political risk facing FEI by virtue of being in a jurisdiction that is at the forefront of introducing policies unfavourable to natural gas use, the Energy Transition also comes with supply risk, operating risk and regulatory risk. As evidenced by the cost trajectory of renewable electricity projects such as wind and solar, first movers often have to pay a higher price until improvements in product design, manufacturing efficiency and economies of scale can come into effect and reduce the costs per unit of produced energy. That is why governments may need to support these emerging technologies in the form of tax credits, rebates or other incentives to reduce the financial burden on first movers.

Please also refer to the response to BCUC IR2 76.3.

76.1.1 If an estimate is quantifiable, please provide a percentage adjustment increase to ROE to account for the risk of being at the forefront of energy

transition and a percentage adjustment decrease to ROE to account for being a laggard of energy transitions.

76.1.1.1 If an estimate is not quantifiable, please briefly discuss the adjustment to ROE required in general to account for the risk of being at the forefront compared to being a laggard of energy transition.

Response:

Concentric provides the following response:

Mr. Coyne has accounted for the elevated Energy Transition risk in BC through his recommended equity ratio of 45.0 percent for FEI, not through the recommended ROE of 10.1 percent. The proposed increase in FEI's deemed equity ratio from 38.5 percent to 45.0 percent is due primarily to the higher business risk of FEI as compared to 2016, including higher Energy Transition risk of which FEI is at the forefront.

76.2 Please discuss the benefits of a regulated utility being at the forefront of changes in public policy, including energy transition.

Response:

Concentric and FortisBC have interpreted the question as addressing the relative benefits between utilities in jurisdictions that are first movers in introducing policies related to the Energy Transition versus utilities in jurisdictions that lag behind (which was the context of the quoted passage in the preamble).

Concentric provides the following response:

Regulated utilities that provide service in jurisdictions at the forefront of any major changes in public policy, including the Energy Transition, have an opportunity to shape how the regulatory framework is designed to address the specific issues raised by the changes in policy. Further, being a first adopter of progressive climate policies can potentially provide new revenue streams and benefit the customer perception and company brand, as long as customer views are aligned with these climate policies. However, the initial regulatory framework is often modified in subsequent years as more information becomes available regarding how the change in public policy is actually affecting the utility and its customers, and as other changes occur in the competitive marketplace, such as new technologies or innovations that shape the future direction of the industry. This is particularly apparent in FEI's current policy environment. The need for climate action is driving rapidly evolving climate targets and plans. Mr. Coyne expects that these plans will evolve further as international, federal, provincial and local governments and agencies respond to the challenges of climate change.

76.2.1 Please discuss how FEI's risk mitigation strategies, such as those described in the FEI BERC Rate Assessment Report, Stage 2 Comprehensive Review and Application for a Revised Renewable Gas program relating to supply risk, help to mitigate energy transition risk.

Response:

The risk discussed in the responses to BCUC IR1 45.2 and 45.3 is the uncertainty of future cost recovery due to evolving policy and regulations resulting from the Energy Transition. In contrast, the risk mitigation strategies described in FEI's RG Application relate to mitigating the supply side risk associated with purchasing and selling Renewable Gas. Renewable Gas production is more limited than conventional gas, and may also be more susceptible to variability of supply. This variability may lead to reduced supply from any particular source, at any particular time. FEI's customers on the other hand generally demand a reliable supply of Renewable Gas. The supply risk mitigation strategies are thus intended to be used to avoid situations wherein the supply of Renewable Gas is insufficient to meet the demand. These strategies do not therefore address the uncertainty of future cost recovery due to evolving policy and regulations resulting from the Energy Transition.

76.2.2 Please discuss how FEI can mitigate energy transition risk by targeting the sale of conventional natural gas to specific customer segments that have a significant reliance on natural gas, such as industrials.

Response:

FEI has interpreted the question as asking whether FEI can mitigate some of its Energy Transition risk related to the supply of Renewable Gas by targeting the sale of conventional natural gas to specific customer groups such as industrials and allocate Renewable Gas to residential and commercial customers.

As discussed in FEI's business risk evidence, in March 2021, the provincial government introduced sectoral GHG emission reduction targets to accelerate progress toward achieving its climate policies. These targets represent the required emission reductions from 2007 levels by 2030 for the following sectors:

- Transportation – 27 to 32 percent;
- Industry – 38 to 43 percent;

- Oil and Gas – 33 to 38 percent; and
- Buildings and Communities – 59 to 64 percent.

These sectoral targets indicate that all segments of FEI's customers are mandated to reduce their emissions, including those with material reliance on natural gas for their operations such as industrial customers. Therefore, while one might assume that natural gas demand in industrial or Low Carbon Transportation sectors can partially mitigate some of the lost revenue from loss of load in other sectors, these sectors are still under pressure to reduce their GHG emissions and rely on FEI for supply of Renewable Gases, in addition to conventional natural gas, to reduce their emissions and reach their sectoral targets.

Additionally, there are a number of responses to information requests in FEI's RG Application proceeding which touch on the issue of Energy Transition risk, such as the following, where FEI states:

- In response to BC Hydro IR1 1.9, "Energy consumers across the Province should have a choice between different low-carbon energy systems that best meet their needs; therefore, Renewable Gas should not necessarily be used to "target" specific markets."
- In response to BC Hydro IR1 1.10, "limiting Renewable Gas use to specific sectors may impede a cost-effective and resilient energy transition which will be required to achieve the provincial government's policy goals."
- In response to City of Vancouver IR1 4.1, FEI noted that all sectors are difficult to decarbonize, not just the industrial sector.

More generally, attempts to mitigate the Energy Transition risk by targeting the sale of conventional natural gas to specific customer segments that have a significant reliance on natural gas implies the recovery of costs from a limited subset of customers. With this approach, if some customer groups can no longer access the gas system, the remaining customers whose access has not or cannot be restricted would be burdened with the increase in cost recovery unless an offsetting increase in load and revenue comes from a customer segment whose access has not or cannot be restricted.

This approach contains its own inherent risk to cost recovery that, in FEI's view, limits its usefulness as an option to mitigate the Energy Transition risk; the risk here being the price sensitivity of customer segments that have a significant reliance on natural gas, and industrial customers in particular. Expecting that these customers will prove willing to bear the burden of additional cost recovery in the future may not be realistic. It is also not realistic to assume that there could be offsetting industrial load and revenue that FEI could target to mitigate reductions in certain customer groups. The progressively-increasing carbon tax will likely subject these customers to significant cost pressures in and of itself. Seeking greater cost recovery from these customers due to any adverse impacts of the Energy Transition would add to their burden. These customers will almost certainly seek to reduce their costs and may ultimately choose to do so by adopting another energy type, or by leaving BC for a lower cost jurisdiction.

76.3 Please discuss whether regulated utilities that are laggards of changes in public policy run a risk in the future of (i) having to "catch-up" and implement carbon emissions policies and/or (ii) insufficient assets that meet jurisdictional requirements and policies to run their operations particularly given known upcoming restrictions such as those outlined in the 2021 CleanBC Roadmap.

Response:

Concentric and FortisBC have interpreted the question as addressing the relative risk between utilities in jurisdictions that are first movers in introducing policies related to the Energy Transition versus utilities in jurisdictions that lag behind (which was the context of the quoted passage in the preamble).

Concentric provides the following response:

Energy Transition will occur at different paces and result in different outcomes depending on the policies, resource availability and consumer preferences in each jurisdiction. There will therefore be many Energy Transitions.

Utilities operating in jurisdictions with less aggressive carbon emission policies (such as a ban on gas bans) will face three potential scenarios (1) their policies remain less aggressive, in which case business as usual will remain a low risk strategy; (2) their policy environment shifts to more aggressive, in which case the utility must play catch up; or (3) more aggressive policies in other jurisdictions are relaxed or altered, in which case their existing strategy is validated. In the case of the second scenario, as envisioned in the question, as long as these utilities are moving in sync within their public policy environment they will not be considered laggards, and do not incur the same risks as those at the forefront of adapting their business and regulatory models to new policies. These utilities may face a greater risk for supply of renewable gas given the limited resources available at this time, but they will also have the benefit of lessons-learned, new technologies and solutions from companies at the forefront. Unlike competitive industries, first mover lessons learned in the utility sector are readily adopted by others in the industry. On balance, utilities in a less aggressive policy framework face a lower risk environment.

FortisBC further adds the following response:

As explained in the response to BCUC IR2 76.1, natural gas utilities benefit from being in jurisdictions that are not at the forefront of Energy Transition. Utilities not exposed to the type of restrictions outlined in the 2021 CleanBC Roadmap can adopt a wait-and-see strategy. They may never be required to implement the types of changes that FEI is contemplating. If required, they can "catch-up" and implement carbon reduction policies at potentially lower cost to their customers. For instance, while all utilities are planning for Energy Transition, those who have less restrictive and urgent mandates to reduce their GHG emissions may be hesitant to be the first

movers in new technologies such as hydrogen blending and may defer any significant investment until the cost-efficiency and scalability of the technology is more certain.

Utilities like FEI that are at the forefront of the Energy Transition do have the potential to somewhat mitigate the extent of the increased supply risk that is associated with the Energy Transition by virtue of being a first mover in a constrained supply market for renewable gas. For instance, as discussed in the preamble to this information request, FEI's status as the first natural gas utility in North America with an established and functioning RNG program provides the Company with the opportunity to mitigate some of its RNG supply risk considering that the conventional sources of RNG (such as waste-water treatment plants and landfills) are currently limited and the same supply source may be chased by multiple utilities in various jurisdictions. Please also refer to the response to BCUC IR2 76.2.1. However, FEI's ability to mitigate some of the additional RNG supply risk by being a first mover in the RNG market should not be interpreted as FEI being at lower risk from the Energy Transition compared to utilities in jurisdictions where government policies protect gas utilities or preserve the viability of a traditional operating model. As Concentric states above, other things being equal, utilities in a less aggressive policy framework face a lower risk environment.

76.3.1 Please discuss FEI's view that, while there is a risk of being at the forefront of changes, there is a potential greater risk with inaction in the energy transition and managing new carbon emissions policies.

Response:

Please refer to the response to CEC IR1 21.3 and BCUC IR2 67.2, where FEI explains that while not having a plan to address the challenges associated with the Energy Transition would involve very significant risk for FEI, FEI's plans under the Clean Growth Pathway also involve significant risk due to uncertainty around whether they will be successful. There is no reasonable scenario where investors in FEI face less risk than before the Energy Transition. FEI also notes that the risk of inaction for FEI is far greater than the risk of inaction for a utility in a jurisdiction that does not, and may never, have the same restrictive and urgent climate mandate as in BC.

77.0 Reference: ENERGY TRANSITION RISK

Exhibit B1-9, BCUC IR 46.1

Energy Transition Risk – Financial Leverage

In response to BCUC IR 46.1, regarding Mr. Coyne's views on how much gas utilities need to reduce their financial leverage given energy transition, Mr. Coyne stated:

> Mr. Coyne has not attempted to quantify what reduction in financial leverage would be required due to the Energy Transition because that answer varies depending on the specific environmental policies of the jurisdiction in which the utility provides service. However, Mr. Coyne finds that increasing the common equity ratio for FEI to 45.0 percent is appropriate given the Company's higher business risk profile in part due to the Energy Transition. Without such an increase in the deemed equity ratio, natural gas companies such as FEI may not be able to maintain their current credit ratings or raise debt or equity on terms as favorable as those prior to the transition.

77.1 Please explain whether Mr. Coyne views that without an increase in the deemed equity ratio, FEI will "not be able to maintain their current credit ratings or raise debt or equity on terms as favorable as those prior to the transition."

Response:

Concentric provides the following response:

In his response to BCUC IR1 46.1, Mr. Coyne stated that FEI may not be able to maintain its current credit ratings or raise debt or equity on terms as favorable as those prior to the energy Transition, not that FEI will not be able to do so. As discussed in Mr. Coyne's report, the carbon reduction policies in BC place pressure on future growth prospects for the natural gas industry. Nevertheless, under the regulatory compact, FEI has an obligation to continue making investments to provide safe and reliable service to existing customers. If FEI's earnings or cash flows are negatively impacted by the Energy Transition, the company may not be able to maintain its current credit ratings or access to debt/equity capital on as favorable terms. The same is true if investors perceive that assets may become stranded rather than being recovered in rates. Mr. Coyne's recommendation considers that the investment landscape for utilities and energy companies is changing, and carbon-intensive business models are viewed as riskier on a going forward basis, even though these fuels will be required to meet customer needs for some time. Moody's states this point clearly "[l]ong-term challenges to natural gas infrastructure are increasing" and that "carbon reduction commitments raise operating risks and cost of capital." (p. 95)

Please also refer to the response to BCUC IR1 8.1

77.2 Please elaborate on any other reasons, apart from the view that FEI has a higher business risk profile in part due to the energy transition, that supports an increasing common equity ratio from 38.5 percent to 45 percent.

Response:

Concentric provides the following response:

Please see Mr. Coyne's report at pages 74-106 for a discussion of FEI's business risk profile and how it has changed since 2016. As summarized on page 74, Mr. Coyne conducted an independent analysis of FEI's business risk profile, focusing on the following categories: 1) Energy Transition risk; 2) the relative risk of gas and electric utilities; 3) economic conditions and demographic trends in British Columbia relative to Canada generally; and 4) the regulatory environment for utilities in BC. In addition, Mr. Coyne also considered the business risk analysis and conclusions from FEI's evidence, including the following risk categories: 1) business profile; 2) economic conditions; 3) political; 4) Indigenous rights and engagement; 5) energy prices; 6) demand/market; 7) energy supply; 8) operating; and 9) regulatory. This risk assessment supports Mr. Coyne's conclusion that an increase in FEI's deemed common equity ratio from 38.5 percent to 45.0 percent is justified.

FortisBC further adds the following response:

FEI's filed evidence includes a detailed explanation of the factors that supports its proposed 45 percent capital structure. This includes, as suggested in the question, the significant increase in FEI's business risk, mainly due to the Energy Transition (reflected mainly in political risk, regulatory risk, demand/market risk, price risk and operational risk sections of FEI's business risk analysis) as well as increases in other risk categories such as Indigenous rights and engagement.

In addition to business risk, FEI's evidence includes evidence on its financial risk and weak credit metrics, caused mainly by low allowed return on equity and equity thickness, which are currently viewed by the rating agencies as being weak for the respective ratings, with one of the key financial metrics critically close to a rating downgrade threshold. FEI explained that an increase in the common equity component of FEI's capital structure is needed to strengthen FEI's credit metrics and support ongoing access to capital at reasonable rates, particularly given current weak metrics and the need to access capital over the near term. Additionally, FEI provided evidence regarding the financial risk aspect of Environmental, Social and Governance (ESG) investing which can put additional strain on its credit rating as well as potential restrictions on interest deductibility that reduce the benefits of higher debt ratio in utilities' capital structure. All of these factors support FEI's request for an increase to its equity thickness to 45 percent.

77.3 Please discuss whether regulated utilities at the forefront or regulated utilities that are laggards of changes in public policy related to energy transition warrant a greater reduction in their financial leverage and why.

Response:

Concentric provides the following response:

The Energy Transition is a more immediate consideration for investors in companies such as FEI that provide service in jurisdictions that are at the forefront of this transition. As public policy on carbon emissions evolves in each jurisdiction, regulated utilities in those provinces/states will potentially face similar challenges that FEI is facing today. In our experience working with investors in the utility sector, they are more cautious about investments in jurisdictions with more aggressive policies that place gas at a disadvantage vs. alternative fuels, and in some cases will not invest. Mr. Coyne's view is that utilities at the forefront require a stronger balance sheet than those operating in a business as usual or gas promoting jurisdictions. That said, Mr. Coyne's recommended equity ratio for FEI at 45% is still well below its U.S. peers, averaging 52.0%, who, in general, face less Energy Transition risk.

78.0 Reference: PROPOSED CAPITAL STRUCTURE

Exhibit B1-8-1, Appendix C - Evidence of Mr. James Coyne, pp. 120, 149; Exhibit B1-9, BCUC IR 45.1, 51.3

Capital Structure – Deemed Equity Ratio

On page 120 of Appendix C - Evidence of Mr. James Coyne, Mr. Coyne provides the following table:

Figure 50: Comparison of Deemed Equity Ratios

Operating Utility	Deemed Equity Ratio
FortisBC Energy Inc. (existing)	**38.5%**
FortisBC Energy Inc. (proposed)	**45.0%**
AltaGas Utilities, Inc.	39.0%
ATCO Gas	37.0%
Enbridge Gas	36.0%
Energir (formerly Gaz Metro)[198]	38.5%
Gazifere Inc.[199]	40.0%
Heritage Gas Limited	45.0%
Liberty Gas New Brunswick	45.0%
Pacific Northern Gas Ltd.[200]	46.5%
Pacific Northern Gas Ltd. (Fort St. John/Dawson Creek)	41.0%
Canadian Gas Average	**40.9%**
Canadian Gas Median	**40.0%**
US Gas LDC Average (2020/2021)[201]	**52.0%**
US Gas Proxy Group Average	**53.4%**

Footnote 201: Source: S&P Global Market Intelligence. 2021 decisions through December 31, 2021.

On page 149 of Appendix C - Evidence of Mr. James Coyne, Section VIII, Mr. Coyne shows the following table:

Figure 64: Comparison of Authorized Equity Returns

Operating Utility	Equity Return	Equity Ratio	Weighted ROE
FortisBC Energy Inc. (existing)	8.75%	38.50%	3.37%
FortisBC Energy Inc. (proposed)	10.1%	45.00%	4.55%
ATCO Gas	8.50%	37.00%	3.15%
Enbridge Gas[224]	8.66%	36.00%	3.12%
Energir[225]	8.90%	38.50%	3.43%
Canadian Gas Average	8.69%	37.17%	3.23%
Canadian Gas Median	8.66%	37.00%	3.15%
U.S Gas LDC Average	9.48%	52.0%	4.93%
U.S. Gas Proxy Group Average	9.45%	53.4%	5.05%

Further, on page 149 of Appendix C, Mr. Coyne states that FEI has greater risks relative to its Canadian investor-owned gas utility peer companies and only Energir is riskier than FEI, which has a slightly higher authorized ROE than FEI and an additional layer of deemed preferred equity in its capital structure. Mr. Coyne further states that with respect to the US Gas proxy group, FEI has greater financial risk but comparable business risk,

and at 45 percent, this would narrow the gap between FEI and its US comparators, strengthen its debt metrics, and better align with the Company's emerging risk profile.

In response to BCUC IR 45.1, Mr. Coyne stated that "[w]hile the Energy Transition is accelerating rapidly in the U.S., Mr. Coyne agrees that several jurisdictions in Canada, in particular British Columbia, are on the forefront of this movement."

In response to BCUC IR 51.3, whether Mr. Coyne considers FEI to be more comparable in terms of risk to Énergir or to the US Gas proxy groups, Mr. Coyne stated:

> Mr. Coyne considers the U.S. proxy group to be more comparable. Mr. Coyne included Energir in the section of his report that assesses the business risk of FEI against large gas distribution utilities in Canada, and he concluded that Energir has somewhat less energy transition risk than FEI and is smaller than FEI in terms of number of customers but comparable in terms of annual throughput and revenues
>
> […]
>
> Energir is not included in Mr. Coyne's Canadian proxy group because it is not publicly traded and therefore does not have market data that can be used to estimate the cost of equity. Again, Mr. Coyne's overall conclusion is that the U.S. Gas proxy group is most comparable to FEI in terms of business and financial risk.

78.1 Please elaborate on how Mr. Coyne determined that 45 percent was the appropriate proposed equity ratio to "narrow the gap between FEI and its U.S. comparators." As part of the response, please explain whether a value less than 45 percent (but greater than current 38.5 percent) would still be considered appropriate to "narrow the gap between FEI and its U.S. comparators."

Response:

Concentric provides the following response:

Mr. Coyne's recommended equity ratio of 45 percent for FEI is approximately halfway between the current average for investor-owned gas distributors in Canada of 40 percent and natural gas LDCs in the U.S. of 52 percent. Mr. Coyne believes his recommended equity ratio of 45 percent is appropriate for FEI given the relative risks of the company as compared with other investor owned gas LDCs in Canada and the U.S. This was also highlighted in Mr. Coyne's evidence[14]:

> In addition, FEI's proposed common equity ratio of 45.0 percent is reasonable, if not conservative, given the business and financial risks of the Company. In particular, the energy transition has contributed to a significant increase in investor risk for the natural

[14] Appendix C, page 162.

gas industry since 2016; this change is particularly important for FEI due to the policy mandates in BC that call into question the growth prospects of FEI.

Recognizing this is not an insignificant change in capital structure, and that an ultimate target would be parity with its U.S. peers, this is an important step and is consistent with the increase in risk for FEI today.

78.2 Please confirm whether Mr. Coyne considers the US proxy group or Energir to have more similar energy transition risk to FEI.

Response:

Concentric provides the following response:

Energir is more similar to FEI than the companies in the U.S. Gas proxy group because 50 percent of the U.S. Gas proxy group companies operate in jurisdictions with legislation that prohibits natural gas bans. However, that does not necessarily mean that those states will not seek to reduce carbon emissions or natural gas usage in other ways besides an outright ban on new customers or new buildings. Even though Energir's equity ratio was set some years ago prior to the evolution of the current risks for gas utilities, the company has a 46 percent equity ratio including common and preferred shares.

78.2.1 If it is the US proxy group, please reconcile the view that Canada is at the forefront of the energy transition movement.

Response:

Not applicable, based on the response to BCUC IR2 78.2.

78.2.2 If it is Energir, please explain whether the proposed equity ratio and allowed ROE for FEI should be comparable to Energir.

Response:

Concentric provides the following response:

As discussed on pages 110-111 of his report, Mr. Coyne believes FEI has somewhat greater risk from the Energy Transition than Energir due to the higher carbon reduction requirements and more aggressive timeline in BC than in Quebec, and therefore FEI should have a higher common equity ratio. Energir's deemed equity ratio is 38.5 percent, but as noted in footnote 225 of Mr. Coyne's report, Energir also has 7.5 percent preferred equity, meaning that long-term debt is only 54 percent of Energir's capital structure for ratemaking purposes.

Energir's authorized ROE of 8.90 percent and deemed common equity ratio of 38.5 percent were set in 2012 and is currently under review by the Regie in Quebec. Energir is requesting an authorized ROE of 10 percent and a deemed common equity ratio of 43.0 percent in that proceeding.

78.3 Please provide Energir's equity, preferred equity and debt comprising its capital structure. As part of the response, please provide Energir's deemed equity ratio, including and excluding its layer of deemed preferred equity in its capital structure.

Response:

Concentric provides the following response:

Deemed common equity is 38.5 percent, preferred equity is 7.5 percent, and long-term debt is 54.0 percent for Energir. If preferred equity is excluded from Energir's capital structure, common equity is equal to 41.6 percent of the company's capital structure.

79.0 Reference: PROPOSED CAPITAL STRUCTURE

Exhibit B1-8-1, Appendix C - Evidence of Mr. James Coyne, p. 147

Capital Structure – Deemed Equity Ratio and Return on Equity

On page 147 of Appendix C - Evidence of Mr. James Coyne, Section VIII, Mr. Coyne states:

> Other factors being equal, firms with lower common equity ratios require higher rates of return to compensate for the additional financial risks in the form of financial leverage to which their shareholders are exposed.

79.1 Please confirm if it is appropriate to view that firms with higher rates of return would not require higher common equity ratios to compensate for the additional financial risks in the form of financial leverage to which their shareholders are exposed.

Response:

Concentric provides the following response:

In general, this is confirmed. Both ROE and equity ratio matter to equity investors. However, from a credit perspective, the percentage of debt in the capital structure is important for key credit metrics such as FFO/Debt and should reflect the business risk of the enterprise.

Please also refer to FortisBC response to BCOAPO IR2 40.3.

79.2 Please elaborate on how Mr. Coyne determined that it is appropriate to propose both a higher equity ratio and a higher equity return for FEI.

Response:

Concentric provides the following response:

The recommended equity ratio of 45.0 percent reflects the increased business risk of FEI as compared to 2016 and relative to the proxy group companies, while the equity return of 10.1 percent is based on the current and projected market conditions and average industry risk captured in the DCF and CAPM models.

80.0 Reference: PROPOSED CAPITAL STRUCTURE

B1-9, BCUC IR 51.2

Capital Structure – US Gas Proxy Group

In response to BCUC IR 51.2, Mr. Coyne stated:

> Figure 50 of Mr. Coyne's report provides the average equity ratio for both the U.S. Gas proxy group and the U.S. Gas LDCs [local distribution company] because both serve as benchmarks of what capital structure investors expect for U.S. gas distributors given the equity returns authorized for those same companies. Even though these companies did not pass Mr. Coyne's screening criteria at the holding company level, the allowed capital structures provide a broader perspective of allowed equity ratios. The evidence shows that the average authorized equity ratio for the U.S. Gas LDCs in 2020 and 2021 was generally consistent with the authorized equity ratios for the operating companies in the U.S. Gas proxy group.

80.1 Please confirm, or explain otherwise, that "allowed" equity ratios and "authorized" equity ratios have the same meaning. As part of the response, please confirm that "allowed" and "authorized" equity ratios refer to equity ratios approved from the respective regulators.

Response:

Concentric provides the following response:

Confirmed. Mr. Coyne has used the terms "allowed equity ratio" and "authorized equity ratio" interchangeably in his report. Both terms refer to equity ratios approved by the regulators for ratemaking purposes.

80.2 Please define a "holding company". Please clarify how a "holding company" is different than a "parent company", considering the standalone principle where the regulated utility must be assessed as if it is a stand-alone entity, raising capital on the merits of its own economic, business and financial characteristics.

Response:

Concentric provides the following response:

The holding company and the parent company are generally one and the same, although there are instances where the holding company has a more complex corporate structure such that the regulated utilities are held under a separate and distinct parent. An example is ATCO Ltd., where the regulated utilities are held by Canadian Utilities Limited., which is held by the ultimate parent, ATCO Ltd. The stock of both entities is traded, but for purposes of his ROE analysis, Mr. Coyne uses market data for Canadian Utilities Limited.

80.2.1 Please explain why it is appropriate to use holding companies for the US gas companies in comparison to FEI.

Response:

Concentric provides the following response:

Holding companies are used in the development of the Mr. Coyne's ROE recommendations for FEI and FBC because market data for publicly-traded companies such as dividend yields, growth rates, and betas are available at the holding company level, but not at the operating company level. However, Mr. Coyne's risk analysis and his comparison of equity ratios is at the operating company level.

80.3 Please confirm whether these companies "at the holding company level" are regulated or unregulated.

Response:

Concentric provides the following response:

As stated in Mr. Coyne's report, the companies in the U.S. Gas and U.S. Electric proxy groups derive almost all of their operating income and revenues from regulated activities, and dedicate almost all of their assets to providing regulated utility service. This is true to a lesser extent for the Canadian proxy group, in which several of the companies engage in unregulated operations that account for a larger percentage of operating income, revenues and assets.

80.3.1 If regulated, please explain how and why the respective regulatory body would set "allowed capital structures" and "allowed equity ratios" of the companies at the holding company level.

Response:

Concentric provides the following response:

As in Canada, utility regulators in the U.S. set the allowed equity ratio for the operating utility, not the holding company. All of the equity ratios reported in Mr. Coyne's report are for the operating company, not the holding company.

80.3.2 If unregulated, please clarify why these holding companies would have allowed capital structures and why they would be considered in the screening process at all.

Response:

Please refer to the response to BCUC IR No. 80.3.1.

80.4 Please elaborate on how the allowed capital structures of the US Gas proxy group and the US Gas LDCs, which did not pass Mr. Coyne's screening criteria at the holding company level, provide a broader perspective of allowed equity ratios. As part of the response, please also elaborate on what is meant by "broader perspective of allowed equity ratios."

Response:

Concentric provides the following response:

Not all of the companies in the U.S. gas utility universe from Value Line met Mr. Coyne's screening criteria for inclusion in the U.S. Gas proxy group. Nevertheless, the rate decisions for these other companies are still a relevant benchmark for investors considering the industry. Further, the reasons these companies did not pass the screening criteria (such as M&A activity, or percentage of regulated income from gas LDC operations) mainly affect the calculation of the authorized ROE, and are less relevant to the allowed capital structure. For example, just because a company is engaged in a merger that might distort its stock price or projected EPS growth rate does not mean that the authorized equity ratio from the company's last rate decision should not be considered relevant for purposes of determining average equity ratios for gas LDCs.

80.5 Please confirm whether all of the companies used in the US Gas proxy group and the US Gas LDCs did not pass Mr. Coyne's screening criteria at the holding company level.

Response:

Concentric provides the following response:

Mr. Coyne applies his screening criteria to the Value Line universe of gas companies at the holding company level. As shown in Figure 19, four of those companies passed all the screens and are included in his U.S. Gas proxy group. Figure 50 shows the average common equity ratios for the U.S. gas companies based on 1) all operating companies that have received a decision in a rate case since January 2020, as reported by Regulatory Research Associates, and 2) the current common equity ratio for the operating companies held by each of the holding companies in Mr. Coyne's U.S. gas proxy group, regardless of when the decision was issued.

80.5.1 If not confirmed, please provide the average equity ratio for both the US Gas proxy group and the US Gas LDCs, excluding all companies that did not pass Mr. Coyne's screening criteria at the holding company level.

80.5.2 If confirmed, please provide the equity ratio for three US Gas comparables that would pass Mr. Coyne's screening criteria at the holding company level.

Response:

Concentric provides the following response:

Figure 50 provides the authorized equity ratio for the companies in the U.S. Gas proxy group at the operating company level. If Mr. Coyne excludes companies that did not pass his screening criteria at the holding company level, then the average authorized common equity ratio for U.S. Gas LDCs since January 2020 has been 54.28 percent.

80.6 Please discuss whether the companies used in the US Gas proxy group and the US Gas LDCs would pass Mr. Coyne's screening criteria at the operating company level.

80.6.1 If so, please provide the average equity ratio for both the US Gas proxy group and the US Gas LDCs, excluding all companies that would not pass Mr. Coyne's screening criteria at the operating company level.

Response:

Concentric provides the following response:

Mr. Coyne does not apply his screens at the operating company level, because as explained in the response to BCUC IR2 80.2.1, the proxy group must contain companies that are publicly traded and that have market data available for the ROE analysis. The equity ratios are compared at the operating company level because they are intended to reflect the utility business risks at the operating company level.

81.0 Reference: FBC PROPOSED CAPITAL STRUCTURE

Exhibit B1-9, BCUC IR 58.5; Exhibit B1-8-1, Appendix C - Evidence of Mr. James Coyne, Exhibit JMC-FBC-3, p. 2

Proxy Groups

In response to BCUC IR 58.5, Mr. Coyne stated:

> Mr. Coyne concludes that FBC has greater financial risk than the U.S. proxy companies but slightly lower business risk, but not enough to cause an investor to assign a notably lower risk profile to FBC. Mr. Coyne's Canadian proxy group consists of only six companies, two of which are primarily electric utilities (Hydro One Ltd. and Emera, Inc.), one of which is a combination gas/electric company (Canadian Utilities Ltd.), two of which are primarily gas utilities (AtlaGas Utilities and Enbridge Inc.), and one of which owns utilities primarily in the U.S even though it is based in Canada (Algonquin Power and Utilities Company)… Mr. Coyne believe it is more appropriate to rely on the U.S. Electric proxy group, which derives the majority of its operating income and revenues from regulated electric utility operations, rather than the Canadian proxy group which does not. [Emphasis added]

Page 2 of Exhibit JMC-FBC-3 in Appendix C shows the US Utilities that make up the US Electric Proxy Group:

FortisBC Inc.
Exhibit JMC-FBC-3
Page 2 of 3

U.S. ELECTRIC PROXY GROUP

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Company	Ticker	S&P Rating	Pays Dividends (Yes/No)	Postive Earnings Growth by more than one Analyst (Yes/No)	Market Cap (US$ Million)	Total Electric Customers	Total Revenue ($ Million)	Total Assets ($ Million)	Regulated Income / Total Income (%)	Regulated Electric Income / Total Regulated Income (%)	Involved in Merger (Yes/No)
Alliant Energy Corporation	LNT	A-	Yes	Yes	15,390	968,340	3,416	17,710	96%	91%	No
American Electric Power Company, Inc.	AEP	A-	Yes	Yes	44,810	4,393,024	14,919	80,757	97%	100%	No
Duke Energy Corporation	DUK	BBB+	Yes	Yes	80,668	7,781,159	23,453	162,388	99%	91%	No
Entergy Corporation	ETR	BBB+	Yes	Yes	22,641	2,917,322	10,114	58,239	100%	99%	No
Exelon Corporation	EXC	BBB+	Yes	Yes	56,418	8,978,948	33,039	129,317	79%	91%	No
Evergy Inc	EVRG	A-	Yes	Yes	15,574	1,604,300	4,913	27,115	100%	100%	No
NextEra Energy Inc.	NEE	A-	Yes	Yes	183,185	5,607,656	17,997	127,684	76%	100%	No
OGE Energy Corporation	OGE	BBB+	Yes	Yes	7,683	854,128	2,122	10,719	100%	100%	No
Pinnacle West Capital Corporation	PNW	BBB+	Yes	Yes	7,964	1,260,163	3,587	20,020	100%	100%	No
Portland General Electric Company	POR	BBB+	Yes	Yes	4,732	890,054	2,145	9,069	100%	100%	No
Average									95%	97%	

81.1 Please restate which US Electric proxy group companies are vertically integrated or T&D only.

Response:

Concentric provides the following response:

Although Mr. Coyne did not screen for generation ownership, all of the companies in Mr. Coyne's U.S. Electric proxy group are vertically integrated electric utility companies.

81.2 Please explain why derivation of operating income and revenues from regulated electric utility operations is the most appropriate comparison factor in determining which proxy group to rely on for FBC.

Response:

Concentric provides the following response:

As described on pages 41-42 of Mr. Coyne's report, he screened the electric proxy group for companies that derive at least 70 percent of operating income from regulated operations in the prior three year period and that derived at least 90 percent of regulated operating income from electric utility service. Mr. Coyne did not apply a screen based on revenues.

As explained on page 43 of Mr. Coyne's report, he screened his U.S. and North American proxy groups on the percent of net operating income from regulated operations to differentiate between utilities that are protected by regulation and those with substantial unregulated operations or market-related risks. Also, he screened the U.S. and North American proxy groups on the percentage contribution of the gas or electric utility segments to regulated consolidated financial results to select companies that, like FEI and FBC, derive the majority of their operating income from regulated gas or electric operations.

81.2.1 Please explain whether any other comparison factor could have been used to compare FBC to the proxy group.

Response:

Concentric provides the following response:

The business segment analysis could also consider the percentage of revenues derived from regulated gas/electric utility service and the percentage of total assets dedicated to regulated gas/electric utility service. These percentages are shown for the U.S. proxy groups in Exhibit JMC-FEI-11 and JMC-FBC-11. However, for the reasons explained in the response to BCUC IR2 81.2, Mr. Coyne believes that the operating income is he most appropriate measure for purposes of determining comparability.

82.0 Reference: DISCOUNTED CASHFLOW METHOD

Exhibit B1-8-1, Appendix C - Evidence of Mr. Coyne, pp. 48–50

Growth Rate

On page 48 of Appendix C - Evidence of Mr. James Coyne in Exhibit B1-8-1, Mr. Coyne states that the standard DCF model is shown in the formula:

$$P = \frac{D_0(1+g)^1}{(1+r)^1} + \frac{D_1(1+g)^2}{(1+r)^2} + \cdots + \frac{D_{n-1}(1+g)^n}{(1+r)^n}$$

where:

P = the current stock price

g = the dividend growth rate

D_n = the dividend in year n

r = the cost of common equity.

[Emphasis added]

On pages 49 to 50 of Appendix C - Evidence of Mr. James Coyne in Exhibit B1-8-1, Mr. Coyne states:

> In considering the appropriate growth rate for the DCF model, the most relied upon indicator of investors' expectations is analysts' estimates of future earnings growth. I have relied on earnings growth estimates from SNL Financial, Value Line, Zacks and Thomson First Call for the companies in the respective proxy groups. [Emphasis added]

> […] Investors typically rely on projected earnings growth rates rather than dividend growth rates for several reasons. First, although the DCF model is based on dividend growth rates, a company's dividend growth is derived from and can only be sustained by earnings growth. Second, in order to reduce the long-term growth rate to a single measure, as required in the Constant Growth DCF model, it is necessary to assume a constant payout ratio, and that earnings per share, dividends per share and book value per share grow at a constant rate. Third, earnings growth rates are less influenced by dividend decisions that companies may make in response to near-term changes in the business environment. Finally, analysts' forecasts of earnings growth are widely available, whereas dividend and book value growth rates are generally available only from Value Line.

> […] Value Line is the only publication of which I am aware that projects dividend and book value growth rates. Those estimates represent the Value Line analyst's perspective on dividend and book value growth. In contrast, many of the earnings growth rates that are publicly available are consensus estimates with contributions provided by several analysts.

82.1 Please describe if Mr. Coyne is aware of any jurisdictions in Canada or the US where the dividend growth rate is used, rather than the earnings growth rate, in the

DCF calculation. Please distinguish between (i) expert witness testimony and (ii) regulatory board decisions.

Response:

Concentric provides the following response:

Mr. Coyne is not aware of any utility regulators in Canada or the U.S. that have expressed a preference for the dividend growth rate rather than the earnings growth rate in the DCF model. Mr. Coyne has seen other witnesses propose using some combination of growth rates, including earnings, dividends, book value, and sustainable growth. For the reasons discussed on page 50 of Mr. Coyne's report and the response cited in the preamble to this question, he finds that EPS growth is the best indicator of future growth in the constant growth DCF model and the first stage of the multi-stage DCF model.

82.2 Please explain whether Mr. Coyne's selection of using the earnings growth rate rather than the dividends growth rate in the DCF model is supported by any academic papers or resources. Please include a brief overview of these academic papers or resources.

Response:

Concentric provides the following response:

The use of earnings growth rates rather than dividend growth rates in the DCF model is supported by academic textbooks and articles. As explained in Mr. Coyne's report, one of the assumptions of the DCF model is that earnings, dividends, and book value all grow at the same constant rate in perpetuity. Moreover, growth in dividends is only supported by growth in earnings. This is one reason that Dr. Lesser also supports the use of EPS growth in his August 2021 report to the BCUC and his 2019 textbook. Further, projected dividend growth rates are only available from a single analyst at Value Line, while EPS growth rates are available on a consensus basis from multiple sources including Zacks, Thomson First Call, SNL financial and Bloomberg.

The following is a brief summary of academic texts and articles that support the use of earnings growth rates in the DCF model. In *Fundamentals of Financial Management*, Brigham and Houston note:

> Growth in dividends occurs primarily as a result of growth in earnings per share (EPS). Earnings growth, in turn, results from a number of factors, including (1) inflation, (2) the amount of earnings the company retains and invests, and (3) the rate of return the company earns on its equity (ROE).[15]

[15] Eugene F. Brigham and Joel F. Houston, Fundamentals of Financial Management, at 317 (Concise Fourth Edition,

A 2002 study in the Journal of Accounting Research, examined "the valuation performance of a comprehensive list of value drivers" and found that "forward earnings explain stock prices remarkably well" and were generally superior to other value drivers analyzed.[16] A 2012 study from the journal Contemporary Accounting Research, found that the sell-side analysts with the most accurate stock price targets were those whom the researchers found to have more accurate earnings forecasts.[17]

Investment analysts report predominant reliance on EPS growth projections. In a survey completed by 297 members of the Association for Investment Management and Research, the majority of respondents ranked earnings as the most important variable in valuing a security (more important than cash flow, dividends, or book value).[18]

82.3 As a sensitivity analysis, please determine the multi-stage DCF ROE using the dividend growth rate from Value Line. As part of the response, please include a functional working spreadsheet, the detailed calculations, and the alternative ROE results.

Response:

Concentric provides the following response:

The multi-stage DCF results using only the dividend growth rates from Value Line are shown in the table below. Mr. Coyne does not believe this is a reliable indicator of the cost of equity capital for either FEI or FBC.

	FEI	FBC
Canadian Utilities	10.18%	10.18%
U.S. Gas Utilities	9.09%	
North American Gas Utilities	9.55%	
U.S. Electric Utilities		8.75%
North American Electric Utilities		8.77%

Please refer to Attachment 82.3 for the detailed calculations.

Thomson South-Western, 2004).

[16] Liu, Jing, et al., "Equity Valuation Using Multiples," Journal of Accounting Research, Vol. 40 No. 1, March 2002.

[17] Gleason, C.A., et al., "Valuation Model Use and the Price Target Performance of Sell-Side Equity Analysts," Contemporary Accounting Research.

[18] Block, Stanley B., "A Study of Financial Analysts: Practice and Theory", Financial Analysts Journal (July/August 1999).

83.0 Reference: RETURN ON EQUITY

Exhibit B1-13, RCIA 28.2; Exhibit B1-9, BCUC IR 43.1, IR 43.2; Exhibit B1-8-1, Appendix C - Evidence of Mr. Coyne, p. 69

Flotation Cost and Financing Flexibility

In RCIA IR 28.2 of Exhibit B1-13, the RCIA asked, "Please comment on the changes that should be considered to the above [interest rate, risk premium, forecast GDP growth] assumptions in consideration of the emergent geopolitical events in Russia, Ukraine or recent price spikes in energy and industrial commodity prices."

In response to the RCIA's IR 28.2 in Exhibit B1-13, Mr. Coyne stated:

> The ROE analyses in Mr. Coyne's report was prepared as of December 31, 2021. Since that time, annualized inflation has increased in both Canada and the U.S., and interest rates on long-term government bonds and utility bonds have also increased in both Canada and the U.S. In addition, central banks in both countries have started raising the short-term target rates (overnight rate in Canada and federal funds rate in the U.S.) in March 2022. The forecast of GDP growth in Mr. Coyne's analysis was derived from the October 2021 Consensus Economics report, and will be updated by that publication in April 2022. As economic and market conditions change, it may be appropriate to update his ROE analyses to reflect the most current market data. [Emphasis added]

In BCUC IR 43.1, the BCUC asked, "Please elaborate on what "financial flexibility" is intended to capture." In response to BCUC IR 43.1, Mr. Coyne stated:

> In the August 2016 Order for FEI's cost of equity, the BCUC approved an adjustment of 50 basis points for flotation costs and financing flexibility. The Commission referred to page 79 of its previous 2013 Order where it explained financing flexibility as follows: "The decision referenced a definition of this allowance for financing flexibility as consisting of: (1) flotation costs comprising financing and market pressure costs arising at the time of the sale of new equity; (2) a margin, or cushion, for unanticipated capital market conditions; and (3) a recognition of the "fairness" principle."
>
> In essence, financial flexibility is necessary so that utilities such as FEI and FBC have the ability raise capital under a variety of economic and market conditions, including periods such as the financial crisis of 2008/2009 and the COVID pandemic of 2020-2022.
>
> As shown on pages 70-72 of Mr. Coyne's report and specifically in Figure 36, this adjustment for flotation costs and financing flexibility is common in jurisdictions across Canada.

In BCUC IR 43.2, BCUC asked, "Please provide a breakdown of the 50-bps adjustment separating flotation costs from financing flexibility." In response to BCUC IR 43.2, Mr. Coyne stated:

> Mr. Coyne did not perform such an analysis in this proceeding. However, for an electric proxy group in the U.S., flotation costs are typically in the range of 10-15 basis points. This calculation is based on the flotation costs as a percentage of the two most recent equity issuances for a proxy group of companies. The remainder of the 50 basis points would be for financing flexibility.

On page 69 of Appendix C - Evidence of Mr. James Coyne in Exhibit B1-8-1, Mr. Coyne states:

> In its 2016 Decision, the BC Panel accepted a 50 bps adjustment for flotation and financing flexibility, but did not accept that the adjustment should automatically be applied to experts' analytical results, instead pointing to its stated position in a previous Terasen Gas proceeding where the Commission stated that it "will not automatically add a 50 basis point surcharge to whatever return it deems appropriate, but will exercise its judgement each time."

83.1 Please confirm whether the purpose of including a margin for financing flexibility within the ROE encompasses providing a buffer against unanticipated market conditions arising after the date at which initial assumptions are determined, possibly due to geopolitical events.

Response:

Concentric provides the following response:

Mr. Coyne agrees that the purpose of including a margin for financing flexibility in the authorized ROE is that it provides a buffer against unanticipated market conditions. This is necessary because the authorized ROE is intended to be forward-looking and should provide the utility the ability to raise capital under a variety of economic and capital market conditions.

83.1.1 If confirmed, please provide Mr. Coyne's views regarding the appropriateness of updating the ROE analysis to reflect most current market conditions (e.g. interest rate hikes, geopolitical events, inflation, supply chain issues), given the margin for financing flexibility included in Mr. Coyne's ROE analysis.

83.1.2 If not confirmed, please further clarify what "financial flexibility" is intended to capture and provide examples of where it would be used.

Response:

Concentric provides the following response:

Mr. Coyne agrees that financial flexibility is intended to provide a buffer in the authorized return against external events, the magnitude of changes in the current market, especially inflationary pressure and changes in monetary policy. The ROE analysis in Mr. Coyne's report is based on December 2021 market data, but also included forecasts of several important inputs including interest rates, earnings growth and market returns. As time goes on and market conditions vary from what was forecast in the evidence, it may be appropriate to update the ROE analysis. At this time, Mr. Coyne does not believe that market conditions have changed sufficiently to warrant an updating of the ROE models and the overall recommendation.

83.2 If Mr. Coyne views that model inputs should be updated, please explain what model inputs and analysis should be updated, and the timing of such updates. Otherwise, what model inputs, if any, should not be updated.

Response:

Concentric provides the following response:

Mr. Coyne believes that if any models are updated, they all should be updated since each model is used to estimate the cost of equity and may be affected differently by changing market conditions. If the BCUC determines that an update is appropriate, Mr. Coyne would propose to use the same models as in his original report and would update the inputs using the most up to date data available.

Please also refer to the response to the BCUC IR2 83.1.1

83.2.1 Please describe if the current market conditions warrant a change in the weight assigned to CAPM versus DCF models. Within the DCF model, to reflect on current market conditions, would there be a need to revise any inputs or methodology, such as the growth rate, or the length of each stage within the multi-stage DCF?

Response:

Concentric provides the following response:

Mr. Coyne does not believe any changes to the weights assigned to the respective models is necessary due to current market conditions, nor would he plan to make changes to the assumptions in his DCF or CAPM models, unless directed by the Commission. Mr. Coyne anticipates that any update would use model inputs that reflect the most current market data available.

83.3 Please comment on whether lenders and investors directly or indirectly consider flotation and financing costs as elements of the interest return and equity return required to lend to or invest in the utility sector.

Response:

Concentric provides the following response:

Equity and debt investors recognize that when they make an investment, a portion of the amount raised in equity or debt goes to pay flotation and financing costs. The authorized return must compensate investors not only for the risk of the investment, but also the cost of the equity or debt issuance itself. Otherwise, the utility will not have the opportunity to recover its full cost of capital, and its earned return will be lower than its authorized return. Dr. Shannon Pratt explains this concept as follows:

> Flotation costs occur when new issues of stock or debt are sold to the public. The firm usually incurs several kinds of flotation or transaction costs, which reduce the actual proceeds received by the firm. Some of these are direct out-of-pocket outlays, such as fees paid to underwriters, legal expenses, and prospectus preparation costs. Because of this reduction in proceeds, the firm's required returns on these proceeds equate to a higher return to compensate for the additional costs. Flotation costs can be accounted for either by amortizing the cost, thus reducing the cash flow to discount, or by incorporating the cost into the cost of capital. Because flotation costs are not typically applied to operating cash flow, one must incorporate them into the cost of capital.[19]

83.4 Please comment on whether Mr. Coyne views that flotation and financing costs are already recognized as elements within the components of the ROE calculation (i.e. risk-free interest rate, market risk premium, discount rate used in discounting

[19] Shannon P. Pratt, Cost of Capital Estimation and Applications, Second Edition, at 220-221.

cash flow returns). Is there a concern of double counting if flotation and financing costs become an additional component of the ROE calculation? Why or why not?

Response:

Concentric provides the following response:

No, flotation and financing costs are separate from the ROE estimates derived from the various models used to estimate the cost of equity, such as the DCF and CAPM models. An ROE adder is necessary to fully compensate equity investors for these additional costs, as explained in the response to BCUC IR2 83.3.

84.0 Reference: CAPM

Exhibit B1-9, BCUC IR 63.5, BCUC Attachment 39.5 - Multi-Stage MRP; Exhibit B1-8-1, Appendix C - Evidence of Mr. James Coyne, p. 60, Exhibits JMC-FEI-1 to 11

Market Risk Premium (MRP)

In response to BCUC IR 39.5, Mr. Coyne stated:

> Please refer to the response to Attachment 39.5. Using the Multi-Stage DCF model, the forward-looking MRP is 6.16% in Canada and 5.70% in the U.S.

Within BCUC Attachment 39.5 - Multi-Stage MRP, the following information is provided regarding the forward-looking risk-free rate for the MRP using the multi-stage DCF model:

- Tab "Canada MRP", cell I6 (labelled as: Canadian Government Bond 30 Year) is equal to 1.86%.
- Tab "US MRP", cell I6 (labelled as: US Government 30 Year Yield) is equal to 1.94%.

In Exhibits JMC-FEI-1 to 11 attached to Exhibit B1-8-1, the following information is provided regarding the forward-looking risk-free rate for the MRP using constant growth DCF model:

- Tab "JMC-FEI-6 Canada MRP", cell I6 (labelled as: Forecast Canadian Government Bond 30 Year) is equal to 2.58%.
- Tab "JMC-FEI-7 US MRP", cell I6 (labelled as: Forecast US Government Bond 30 Year) is equal to 2.91%.

84.1 Please explain and clarify why the multi-stage and constant growth DCF models do not use the same forward-looking risk-free rate.

Response:

Concentric provides the following response:

Attachment 39.5 provided in the response to BCUC IR1 39.5, should have used the same forecast 30-year government bond yield for Canada and the U.S. as shown in Exhibits JMC-FEI-6 and JMC-FEI-7. These are 2.58 percent for Canada and 2.91 percent for the U.S. Attachment 39.5 incorrectly used current average government bond yields for each country as of December 31, 2021.

84.1.1 Please restate BCUC Attachment 39.5 - Multi-Stage MRP from Exhibit B1-9 using the risk-free rates provided in Exhibit B1-8-1 (2.58 percent for Canada, and 2.91 percent for US).

Response:

Concentric provides the following response:

Please refer to Attachment 84.1.1 for the restated Attachment 39.5 using the correct government bond yields for Canada and the U.S.

Mr. Coyne does not believe the multi-stage approach is appropriate for estimating the market return, and is not aware of any regulator who has adopted this approach. He also notes some obvious distortions. For example, Microsoft, with an analyst growth rate of 13.62%, is trimmed to a DCF result of 5.79%. This is clearly not the expected or required return for an equity investment in Microsoft.

84.2 As a sensitivity analysis, please provide the ROE results using both versions of risk-free rates (1.86 percent vs 2.58 percent for Canada; and 1.94 percent vs 2.91 percent for US). Please provide the sensitivity analysis for all proxy groups, for both FEI and FBC.

Response:

Concentric provides the following response:

Please refer to Attachment 84.2. Mr. Coyne used the MRP that was developed in BCUC IR2 84.1 using the multi-stage DCF model, although the question does not specify if that was what the request intended. The results are summarized in the first worksheet of the Attachment. Mr. Coyne does not view these CAPM results as being consistent with the Fair Return Standard. The results, in all but one of the 24 combinations presented, would produce ROEs below those authorized for any North American gas or electric utilities.

84.3 Please break down the US and Canadian forward-looking risk-free rates used in the constant growth DCF model into the following components:

a) Forecast government 10-year yield; and

b) Adjustment from 10-year to 30-year yield

Response:

Concentric provides the following response:

The requested information is provided in Figure 27 of Mr. Coyne's report and reproduced below.

Figure 1: Risk Free Rate

30-Year Risk Free Estimate	**Canada**	**U.S.**
October 2021 Consensus Forecast Average 2022-2024 Forecast for the 10-year Bond Yield	2.27%	2.53%
Average Daily Spread between 10-year and 30-year government bonds (Dec 2021)	0.31%	0.38%
Sum	**2.58%**	**2.91%**

On page 60 of Appendix C - Evidence of Mr. James Coyne in Exhibit B1-8-1, Mr. Coyne states:

> Because the U.S. and Canadian economies are highly integrated and capital flows freely across the border, the risk premiums for each country are highly correlated. Accordingly, it is reasonable to derive a single forward-looking estimate of the MRP for Canada and the U.S., as provided in Figure 29.

Figure 29: Market Risk Premia – Canada and U.S.

	Canadian MRP	U.S. MRP
Historical	5.54%	7.25%
Forward-Looking	9.10%	12.08%
Average	8.49%	

84.4 While Mr. Coyne provides an argument for why it may be reasonable to combine MRP values for Canada and the US, please explain if it should be the preferred approach, as opposed to keeping the MRP values country specific.

Response:

Concentric provides the following response:

Mr. Coyne does not believe a combined MRP should be preferred over any other method that reasonably applies country-specific MRPs to individual companies based in that country. However, based on the economic and financial market integration between Canada and the U.S. (as described on pages 33-36 of his report), he believes that combining the MRPs is a reasonable approach and reflects the North American opportunities available to investors in both countries.

The NEB reached a similar conclusion when it found: "the opportunity cost of capital is not significantly different between Canada and the U.S." (RH-2-76 Part II, PDF pages 144-145).

84.4.1 Please comment on the implications that separating the MRP into country specific values would have on the ROE determination.

Response:

Concentric provides the following response:

Changing the MRPs to country specific values would only impact the CAPM results. Mr. Coyne has based his recommendations on the results of the U.S. proxy groups for both FBC and FEI, although he shows the results for Canadian and North American proxy groups. Changing the MRPs to country specific values would cause the U.S. results to increase, and the Canadian results to decrease. All things being equal, this change would lead to an increase in the ROE results, but Mr. Coyne does not recommend this change.

85.0 Reference: CAPM

Exhibit A2-18, The Journal of Finance, Volume 30, No. 3, "Betas and Their Regression Tendencies" dated June 1975, p. 786; Exhibit B1-8-1, Appendix C - Evidence of Mr. Coyne, pp. 160–161

Beta

On page 786 of the June 1975, Volume 30 of The Journal of Finance, in the *Betas and their Regression Tendencies* article by Marshall E. Blume, it states:

> Using the securities available as of June 1933, this investor could thus obtain four portfolios of 100 securities apiece with no security in common. Estimated over the same seven-year period, July 1926-June 1933, the betas for these portfolios would have ranged from 0.50 to 1.53. Similar portfolios can be constructed for each of the next seven-year periods through 1954 and their portfolio betas calculated.
>
> […] The betas for these same portfolios, but reestimated using the monthly portfolio relatives adjusted for delistings from the seven years following the grouping period, illustrate the magnitude of the regression tendency. Whereas the portfolio betas as estimated, for instance, in the grouping period 1926-33 ranged from 0.50 to 1.53, the betas as estimated for these same portfolios in the subsequent seven-year period 1933-40 ranged only from 0.61 to 1.42. The results for the other periods display a similar regression tendency.

85.1 Given that the initial study by Marshall Blume compared Betas over a seven-year grouping period, please explain how the appropriateness of applying the Blume-adjusted Beta varies with the time frame over which the ROE is expected to be in effect.

Response:

Concentric provides the following response:

The purpose of beta in the CAPM model is to express the expected risk of a company (or a proxy group of companies) in relation to the broader market. Because the expected beta cannot be observed, beta is measured based on the historical relationship between the company's return and that of the aggregate market index using regression analysis. Mr. Coyne has relied on Value Line and Bloomberg estimates of beta using 5 years of historical weekly data. Mr. Coyne recognizes that beta estimates are sensitive to period of measurement (e.g., daily, weekly, monthly), and the choice of the aggregate market index. Because both Value Line and Bloomberg betas are widely available to investors, and the Blume (or Bayesian) methodology they rely on has been subject to substantial academic research, Mr. Coyne believes that they are reasonable estimates of expected betas. The estimates of each company's beta can vary considerably, even within the same industry, as is the case for gas and electric utilities. Averaging betas for the proxy companies removes some of the uncertainty regarding the actual value of beta, but given the range of uncertainty surrounding beta estimation, Mr. Coyne does not believe that a further

adjustment of beta for the time period the ROE is expected to be in effect can be appropriately quantified. To do so would also require consideration of the time periods in effect for the proxy company rate plans from which beta is measured, as it is the proxy companies that determine the value of beta which is averaged across the group. If the proxy companies, on average, represent periods of rates similar to those for Fortis, their betas should also be representative. It is also not evident that investors would modify their expected betas based on the nominal period approved in a given rate case, as rate case parameters are often rolled-forward in subsequent plans.

85.1.1 In a hypothetical scenario where it is known that that the ROE would be re-determined in a short time frame, such as two years, what are Mr. Coyne's views on the appropriateness of applying a Blume-adjusted Beta?

Response:

Concentric provides the following response:

Please see response to BCUC IR2 85.1 Mr. Coyne's view is that Blume-adjusted betas remain appropriate. Mr. Coyne also notes that to his knowledge, the BCUC's consultant, Dr. Lesser, relies on Value Line betas (which are Blume-adjusted) in his CAPM analysis presented to regulators, and confirms this practice in his 2019 textbook.

85.1.2 In a hypothetical scenario where it is known that the ROE would be in effect for 14 years, what are Mr. Coyne's views on applying the Blume adjustment twice (a Blume adjusted – Blume adjusted Beta), given it covers two seven-year periods?

Response:

Please refer to the responses to BCUC IR2 85.1 and 85.1.1.

85.2 Given the following:

- The value of Beta for the utility under review is $B_0 < 1$ at the time a cost of capital proceeding is initiated;

- The next cost of capital proceeding is expected to take place seven years later; and
- Seven years later, the value of Beta for the same utility is expected to be $B_1 = 2/3 \times B_0 + 1/3$

Please explain if it would be more appropriate to take the average of B_0 and B_1 for the utility's Beta estimate for the initial cost of capital proceeding, rather than B_1, the Blume-adjusted Beta. In other words, would it overcompensate the utility to use B_1 given that it ignores the transition between B_0 and B_1?

Response:

Concentric provides the following response:

The purpose of beta is to estimate the risk and required return for the target company. Proxy groups and historic betas, adjusted for their tendency toward the market mean, provide estimates for these expected betas. If the beta for the target company is known in the future, that would provide valuable information to the investor. But even if the beta was known for the seven year out period, as posited, an investor would not necessarily use that beta for the required return. Investor horizons vary, from the short-term to the long-term, so they would not necessarily use the seven-year out beta, or be overcompensated in the hypothetical.

85.3 As a sensitivity analysis, please provide a comparison of the CAPM ROE results using raw Beta versus Blume-adjusted Beta for the US gas proxy group (for FEI) and US utilities proxy group (for FBC).

Response:

Concentric provides the following response:

Please refer to Attachment 85.3.

While Mr. Coyne has consistently supported the use of Blume-adjusted Betas in the CAPM analysis, he also observes that there is less effect than usual from using the Blume adjustment because raw betas for utility holding companies have increased substantially since January 2020.

85.4 Please explain Mr. Coyne's views regarding whether the appropriateness of applying the Blume adjustment varies based on the stage of the current economic cycle (expansion, recession, or depression).

Response:

Concentric provides the following response:

In Mr. Coyne's view the appropriateness of applying the Blume adjustment to raw Beta coefficients does not depend on the stage of the business cycle. Beta is a measure of non-diversifiable risk and is calculated based on the correlation in the relative returns and volatility of a specific company as compared with the broad market. Both raw and adjusted Betas themselves may fluctuate depending on the stage of the business cycle, as certain sectors of the economy become relatively more or less attractive to investors depending on the level of economic growth and the overall direction of interest rates.

85.4.1 Given the current economic and geopolitical environment (with rising inflation, and significant price adjustments in both the equity and debt markets), please discuss whether a Blume-adjusted beta is a better indicator of future opportunity costs rather than a historic raw beta. Are there any other adjustments that need to be made to the beta calculations given these recent geopolitical, economic, and capital market developments?

Response:

Concentric provides the following response:

In Mr. Coyne's view, Blume-adjusted Betas remain appropriate. Short-term fluctuations in the economy or capital markets are mitigated by using 5 years of historic data, as utilized by Mr. Coyne's. The Blume adjustment reflects the demonstrated tendency of Betas to revert toward the market average of 1.0, so these short term fluctuations are not over-emphasized. There is an extensive discussion of the academic literature on the measurement of beta, including Blume's study and others, and the validity of the Blume and similar adjustments for utilities, in New Regulatory Finance by Dr. Roger Morin (Public Utility Reports, 2006, pp. 71-77). The Commission could consider an adjustment to Betas for differences in capital structure between the target company and the proxy group. In his August 2021 report on ROE methodologies for the BCUC, Dr. Lesser appears to support use of the Hamada equation to adjust for these differences in capital structure. If Mr. Coyne were to make such an adjustment for leverage at his recommended equity ratio of 45.0 percent for FEI and 40.0 percent for FBC, the CAPM results for the Canadian, U.S. Gas and U.S. Electric proxy groups would increase. Please see the responses to BCOAPO IR2 85.1.1 and 85.3.1, which show the effect of adjusting Beta for differences in financial leverage using the Hamada equation.

85.5 Please provide a WACC calculation for FEI's and FBC's proxy groups showing the calculations for both the cost of debt and equity given proposed portions of debt and equity. As part of the response, to the extent possible, please complete country specific WACC calculations for each of the Canadian and US proxy groups. Please include country-specific tax rates, external interest rates and any other elements of the calculation for the Canadian and US proxy groups.

Response:

Concentric provides the following response:

Calculation of a WACC for each company in the proxy group would require numerous assumptions and research. At a minimum, calculation of a WACC would require for each of 10 gas companies and 16 electric companies:

- Embedded cost of debt.
- Estimated cost of equity.
- Federal, state and provincial tax rates apportioned according to business locations.
- Capital structure (debt, equity, preferred).

The requested analysis would be burdensome to develop, and of limited value given the lack of available data and the assumptions and estimates that would be required in its preparation.

Attachment 82.3

REFER TO LIVE SPREADSHEET MODEL

Provided in electronic format only

(accessible by opening the Attachments Tab in Adobe)

Attachment 84.1.1

REFER TO LIVE SPREADSHEET MODEL

Provided in electronic format only

(accessible by opening the Attachments Tab in Adobe)

Attachment 84.2

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Attachment 85.3

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