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September 21, 2022

Residential Consumer Intervener Association
c/o Midgard Consulting Inc.
Suite 828 – 1130 W Pender Street
Vancouver, B.C.
V6E 4A4

Attention: Mr. Peter Helland, Director

Dear Mr. Helland:

Re: FortisBC Energy Inc. (FEI)
Annual Review for 2023 Delivery Rates (Application)
Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 1

On July 29, 2022, FEI filed the Application referenced above. In accordance with regulatory timetable established in British Columbia Utilities Commission Order G-240-22 for the review of the Application, FEI respectfully submits the attached response to RCIA IR No. 1.

For convenience and efficiency, FEI has occasionally provided an internet address for referenced reports instead of attaching lengthy documents to its IR responses. FEI 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,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

1. Reference: Exhibit B-2 Application pp.42-43

New/Incremental System Operations, Integrity and Security Funding

On page 42 of the Application, FEI states:

"In the MRP Decision (page 115), the BCUC directed FEI to provide in each Annual Review a breakdown and explanation of both annual and cumulative variances between forecast/actual and formula O&M related to the approved new/incremental System Operations, Integrity and Security funding, and quantify the variances attributable to the following areas: integrity management; maintaining system infrastructure; operations, compliance and safety; cyber security; data analytics; gas control; Canadian Energy Pipeline Association (CEPA) participation; and any other significant factors or miscellaneous items."

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

Line No.	Description	2021 Formula O&M[1]	Actual 2021 O&M	2021 Forecast/Actual Variance	Cumulative Forecast/Actual Variance[2]
1	Integrity Management	$ 1.426	$ 2.331	$ 0.905	$ 0.671
2	Maintaining System Infrastructure	$ 0.739	$ 0.790	$ 0.051	$ 0.064
3	Operations, Compliance and Safety	$ 0.634	$ 0.925	$ 0.291	$ 0.381
4	Cyber Security	$ 0.537	$ 0.537	$ -	$ 0.610
5	Data Analytics	$ 0.317	$ -	$ (0.317)	$ (0.624)
6	Gas Control	$ 0.687	$ 0.134	$ (0.553)	$ (1.217)
7	CEPA Participation	$ 0.739	$ 0.235	$ (0.505)	$ (0.745)
8	Other	$ -		$ -	$ -
9	Total	$ 5.078	$ 4.951	$ (0.127)	$ (0.861)

According to its website, CEPA ceased operations on December 31, 2021.

1.1 Explain whether and how the variance shown in Table 6-3 is subject to the earnings sharing mechanism or is otherwise refunded to ratepayers.

Response:

Consistent with the approved treatment for all of FEI's formula O&M, any variances between formula and actual new/incremental System Operations, Integrity and Security funding are shared 50/50 with customers through the earnings sharing mechanism. Therefore, with regard to the cumulative variance of $(0.861) million shown in Table 6-3 of the Application, 50 percent of this amount has been or will be returned to customers through the earnings sharing mechanism during the course of the MRP term.

With regard to the 2021 Formula/Actual amounts shown in Table 6-3, the 2021 Formula O&M amount of $5.078 million was included as part of FEI's overall 2021 Formula O&M and therefore recovered from customers as part of 2021 delivery rates. The difference between the 2021 Formula and Actual O&M amount was $(0.127 million), 50 percent or $(0.064 million) of which

was recorded in the MRP Earnings Sharing deferral account as part of the overall earnings sharing calculation for 2022 and was therefore included as a credit amortization in the 2023 revenue requirement, which served to reduce the forecast 2023 delivery rate increase.

Please also refer to Section 10.2 of the Application which explains the mechanics of how the annual earnings sharing amounts are calculated.

1.2 Confirm whether FEI's CEPA Participation funding ceased in 2021.

1.2.1 If confirmed, explain whether and how this is reflected or accounted for in the 2022 and 2023 revenue requirements.

Response:

FEI confirms that CEPA ceased operations at the end of 2021; however, there are two components to the "CEPA Participation" incremental O&M shown in Table 6-3 of the Application: (1) the CEPA membership fees, and (2) work related to CEPA-driven activities.

CEPA supported its member organizations' commitment to continual improvement, development of rigorous standards, and on-going independent verification. The absence of CEPA-led coordination has resulted in FEI coordination of activities or partnerships with industry peers to fill the gap left by CEPA's dissolution. As the nature of the activities remains similar to the activities contemplated in the 2020-2024 MRP Application, FEI considers it appropriate to continue to record these costs in the "CEPA Participation" category in Table 6-3 when referring to these necessary and ongoing activities.

FEI continues to evaluate and continually improve in a number of key areas including pipeline integrity, damage prevention, emergency management, control room management, and security management and will need the funding earmarked as CEPA Participation to pursue these activities.

2. Reference: Exhibit B-2 Application p.47

Integrity Digs

At the above-noted location FEI provides Table 6-7:

Table 6-7: Integrity Digs – Activities and Expenditures

Line No.	Reason for Digs	Number of Digs per Year				
		2020 Actuals	2021 Actuals	2022 Approved	2022 Projected	2023 Forecast
1	**ILI Digs – New Tool(s):** ILI digs attributed or projected due to an inspection with an ILI technology or ILI tool that has not been previously run in a given pipeline segment[1]	27	13	40	22	50
2	**ILI Digs – New Practice(s):** ILI digs attributed or projected due to changes to industry practices or standards (e.g., strain-based criteria for dent digs) requiring a corresponding change from FEI's past integrity dig practices[2]	47	25	20	15	30
3	**ILI Digs – Established Tools and Practices:** ILI digs identified through previously established technologies, tools, and practices[3]	45	87	80	65	40
4	**Non-ILI Digs:** Digs identified through above-ground cathodic protection and coating surveys	27	17	15	17	20
5	**Facilities Digs:** Digs identified on piping within facilities (e.g., control stations, regulator stations, compressor stations) through assessment of available design, construction, operations, and maintenance information.	0	0	0	1	5
6	**Total Integrity Digs**	**146**	**142**	**155**	**120**	**145**
7	Total Integrity Dig Expenditures ($ millions)	5.9	7.2	5.7	6.0	7.0
8	Cost per dig ($000s)	40	51	37	50	48

2.1 Confirm whether any of the costs of the integrity digs are capitalized, including the costs of any repairs made in the course of completing the dig.

2.1.1 If not confirmed, explain why the costs of any repairs made to the pipeline in the course of integrity digs are not capitalized.

2.1.2 If confirmed, explain where these costs are shown in the Application.

Response:

The costs of the integrity digs themselves are not capitalized; however, the costs of any repairs made in the course of completing the dig may be capitalized depending on the amount of the pipeline replaced.

Since 2004, based on the direction provided by the BCUC in the decision on FEI's 2004 to 2007 Performance Based Ratemaking Plan (2004-2007 PBR Plan), FEI has been accounting for integrity dig costs as O&M expenses. In the 2004-2007 PBR Decision and Order G-51-03, Appendix A, page 6, the BCUC directed FEI to begin expensing costs associated with integrity digs.

> Beginning in 2004, ongoing pipeline integrity costs are to be expensed as O&M and a levelized adjustment will be made to the base O&M in the formula for years 2004-2007. Facilities retrofits will continue to be treated as CPCNs throughout the term.

For the treatment of costs related to any repairs made to the pipeline under FEI's existing capitalization policy, excluding the costs of the integrity digs, the repair costs are accounted for as capital when the replaced pipeline (i.e., cut-out, pipeline renewal) is greater than six metres in length.

3. Reference: Exhibit B-2 Application pp. 46, 50; CTS TIMC CPCN Application, p. 118

Integrity O&M

On page 46 of the Application, FEI states:

"In the MRP Decision and Order G-165-20,[25] the BCUC approved the treatment of integrity digs as a flow-through item with variances between forecast and actual amounts captured in the Flow through deferral account. Further, since the MRP Decision the BCUC has approved CPCNs for two integrity-driven projects: the IGU Project and the CTS TIMC Project. In these two CPCN applications FEI identified the need for changes to O&M associated with these projects and has included these incremental expenditures in the 2023 Forecast. As approved in the MRP Decision,[26] these expenditures also fall outside of the formula O&M."

Footnote 26 refers to the MRP Decision at pages 132 and 133:

"*Panel Determination*

- The Panel approves the continuation of the current process to review Major Projects outside of the Proposed MRPs; and
- The Panel also approves the establishment of CPCN thresholds for FEI and FBC of $15 million and $20 million, respectively, for the proposed MRP term."

3.1 As the Panel Determination in the MRP Decision at page 132 does not make reference to O&M expenditures, explain why FEI interprets Integrity O&M expenditures to fall outside of the formula O&M.

Response:

The MRP Decision and Order G-165-20 approved the continuation of the current process to review Major Projects outside of the MRP and annual review processes. This current process, as explained on page 132 of the MRP Decision, is as follows:

> FortisBC states, as in the case of the Current PBR Plans, it will continue to seek approval of Major Projects by way of CPCN or an application under section 44.2 of the UCA. FortisBC is also proposing that the approved CPCN thresholds for FEI and FBC of $15 million and $20 million, respectively, continue for the proposed MRP term. FortisBC also submits it will bring forward any changes to O&M or Regular capital as a result of a Major Project in the appropriate rate-setting proceeding. [Emphasis added]

In the case of the Inland Gas Upgrade (IGU) and Coastal Transmission System Transmission Integrity Management Capabilities (CTS TIMC) projects, the impact of approval of these projects is an increase to FEI's integrity O&M expenditures, which are approved for flow-through treatment under the current MRP. FEI anticipated the need to incorporate additional integrity O&M related

to the IGU project in the MRP Application, stating the following on page C-24 of the MRP Application:

> Given the uncertainties associated with integrity digs, the importance of continuing to focus on this vital activity, the level of transparency gained, and the potential impacts of the IGU project, accounting for the integrity digs as a flow through provides an effective solution. [Emphasis added]

FEI did not explicitly reference the CTS TIMC project in the MRP Application because the project was not well-developed at the time the MRP Application was filed; however, given that integrity expenses are treated as flow-through under the MRP and that the CPCN application for the CTS TIMC project had not been filed at the time[1] the MRP Application was being reviewed, it is evident that there are no expenditures related to CTS TIMC integrity O&M within the Base O&M.

Please also refer to the responses to BCOAPO IR1 7.1 and 7.2 for additional discussion of the approved treatment of integrity O&M expenses as flow-through under the MRP.

In the CTS TIMC CPCN Application on page 118, FEI states:

> "FEI will request approval of the incremental increase in O&M or Sustainment Capital either in the MRP Capital Forecast Update filed as part of the 2023 Annual Review, or in the next MRP or RRA filing, depending on when the runs are planned."

On page 50 of the Application, FEI states:

> "For 2023, FEI is forecasting $0.700 million in incremental O&M primarily associated with securing additional engineering resources to develop and implement the next QRA iteration. FEI will identify any incremental costs for further developing and implementing the QRA process in future rate applications, as well as incremental resources associated with the increased ILI program scope."

3.2 Identify where in each CPCN Application (IGU, CTS TIMC) FEI identifies the incremental O&M that FEI expects to arise from approval of the CPCN projects.

Response:

Please refer to the response to BCOAPO IR1 8.1.

[1] The CTS TIMC CPCN Application was filed with the BCUC in February 2021, while the MRP Application was filed in March 2019.

4. Reference: Exhibit B-2 Application pp.56-60

Sustainment Capital – Inflationary Pressures

In its Application at page 56, FEI states:

"As further explained in the subsections below, FEI has experienced pressures due to a variety of factors which are outside of the Company's control and could not have been anticipated at the time of the MRP proceeding, including the COVID-19 pandemic, supply chain issues, significant inflationary increases, and the war in Ukraine, among others. These factors have impacted FEI's ability to execute on all of its planned capital projects and programs within the approved capital spending envelope during the first three years of the MRP."

In its Application at page 58, FEI states:

"The drivers of the increases in the Transmission System Reliability & Integrity and the Distribution System Integrity portfolios are described in detail below but can be summarized as follows:

- Significant inflationary increases brought on by unanticipated events such as the COVID-19 pandemic and the war in Ukraine, which have resulted in large cost escalations in materials, labour and fuel;"

In its Application at page 59, FEI states:

"FEI's Original Forecasts were developed using an assumption of two percent for annual inflation. While FEI has generally managed its overall sustainment capital spending within the approved levels over the first two years of the MRP term, FEI has begun to experience pressures throughout its sustainment capital portfolios. These pressures coincide with the significant global market events experienced during this time period, including the COVID-19 pandemic, supply chain disruptions, and the war in Ukraine. These unforeseen events have had significant impacts on market conditions for many commodities and services that make up FEI's supply chain, and the impacts are still being felt and continue to contribute to volatility in the supply chain and the overall commodity and services market in 2022."

4.1 Provide a table of CPI for each year from 2018 to 2022 to date, along with the percentage change each year.

Response:

Please see the table below for the 2018 to July 2022 CPI data. FEI notes the data included in the table does not directly tie to the data used to calculated FEI's I-Factor because FEI uses the July to June yearly averages to calculate the I-Factor (as approved in the MRP Decision) whereas the data in the table below are year-end CPI numbers.

Year	CPI	% Increase
Dec-17	125.2	
Dec-18	129.0	3.0%
Dec-19	131.7	2.1%
Dec-20	132.8	0.8%
Dec-21	138.0	3.9%
Jul-22	147.6	7.0%

4.2 Provide a table showing the per-metre cost of pipe purchased by FEI for the years 2019 through 2022 for the five sizes representing the greatest expenditures (either plastic or steel), along with the year-over-year percentage change in the cost of each size of pipe.

Response:

Please refer to the following tables showing the per-metre cost of pipe purchased by FEI for the years 2019 through 2022 year-to-date and the year-over-year percentage change in costs.

Table 1: Average Cost of Pipe per Metre from 2019 to 2022

	Average Cost ($/m)			
Pipe Size (mm)	2019	2020	2021	2022
26	0.9	0.9	1.1	1.1
60	4.0	4.0	5.0	5.4
114	13.08	13.10	16.6	17.9
168	23.5	22.6	30.3	32.7
219	40.7	40.2	50.9	56.1

Table 2: Year-over-Year Percentage Increase on Average Cost of Pipe per Metre from 2019 to 2022

Year-over-Year (%)	2019	2020	2021	2022
26	N/A	1.1%	20.5%	6.6%
60	N/A	-0.2%	24.5%	9.2%
114	N/A	0.2%	26.6%	7.8%
168	N/A	-3.8%	33.9%	8.2%
219	N/A	-1.4%	26.8%	10.2%

Notes to Tables:

1. Information supplied for general inventory pipe. Non-standard orders not included.
2. Average cost per year, per metre provided.
3. 2022 data is based on year-to-date average cost.
4. No data available for 219 mm PE pipe in 2018. 2017 data used instead.

5. The pipe material for the five sizes included in the table is PE.

4.3 Provide a table showing the cost of customer meters purchased by FEI for the years 2019 through 2022 for the five meter types representing the greatest expenditures, along with the year-over-year percentage change in the cost of each type of meter.

Response:

Please refer to Table 1 below for the average unit cost for the top five meter types representing the greatest expenditures from 2019 to 2022. Please also refer to Table 2 for the year-over-year increase. FEI notes that the 200 series meters are predominately used by the residential rate class and represent over 90 percent of all of FEI's meter types.

Table 1: Average Unit Cost for FEI's Top Five Meter Types from 2019 to 2022

Meter Type (Avg. $/Unit)	2019	2020	2021	2022
200s	$ 88	$ 95	$ 94	$ 122
400s	$ 217	$ 223	$ 220	$ 248
600s[1]	$ 559	$ 574	$ -	$ 751
1000s	$ 671	$ 718	$ 766	$ 810
3Ms[2]	$ 1,462	$ 1,462	$ 1,462	$ 1,506

Table 2: Year-over-Year Percentage Increase on Average Unit Cost for FEI's Top Five Meter Types from 2019 to 2022

Year-over-year %	2019	2020	2021	2022
200s[3]	N/A	8%	-1%	30%
400s[3]	N/A	3%	-2%	13%
600s	N/A	3%	0%	31%
1000s	N/A	7%	7%	6%
3Ms	N/A	0%	0%	3%

Notes to Tables:

1. FEI did not purchase any 600 series meters in 2021, the year-over-year percentage increase shown is between 2022 and 2020.
2. There is no change in price for the 3M rotary meters from 2019 to 2021. FEI was able to maintain the same price point since 2018 due to large purchases over a 6-year period as part of a project to upgrade all rotary meters.
3. There is a decrease in the average unit cost of meters for the 200 and 400 series in 2021 because of more favourable USD-CAD exchange rates in 2021 as all meters are sourced in US dollars. The unit price in USD increased in 2022.

In its Application at pages 59 and 60, FEI states:

"Major contributing factors to the increased rates in the new M&S construction contract include:

- Increased labour costs associated with union-affiliated contractors. Labour rates across North America have increased by almost 12 percent from the first quarter of 2020 to the second quarter of 2022 as indicated by the Wood Mackenzie Report. As union agreements come up for renewal across British Columbia, some unions are proposing large labour rate increases."

4.4 Confirm whether the M&S construction contract was awarded to a union- affiliated contractor.

4.4.1 If not confirmed, explain why this is a reason for the increased rates in the M&S construction contract.

Response:

Confirmed.

5. Reference: Exhibit B-2 Application pp.57-59; Exhibit B-2 Application, Appendix C2, pp.1-8
Sustainment Capital - Projects

In its Application at page 57, FEI provides tables of sustainment and other capital expenditures:

Table 7-2: Sustainment and Other Capital Expenditures, 2020-2022 Approved, 2023-2024 Original Forecasts ($ millions)

Line No.	Description	Approved 2020	Approved 2021	Approved 2022	Original Forecast 2023	Original Forecast 2024
1	Sustainment Capital (excl. CIAC)	111.530	112.944	117.106	119.663	124.533
2	Other Capital	49.770	49.916	46.474	46.403	45.351
3	Total	161.300	162.860	163.580	166.066	169.884

Table 7-3: Sustainment and Other Capital Expenditures, 2020-2021 Actual, 2022 Projected, 2023-2024 Updated Forecasts ($ millions)

Line No.	Description	Actual 2020	Actual 2021	Projected 2022	Updated Forecast 2023	Updated Forecast 2024
1	Sustainment Capital (excl. CIAC)	112.405	115.763	124.160	129.086	130.378
2	Other Capital	50.745	50.246	48.183	54.456	51.194
3	Total Capital	163.151	166.009	172.343	183.542	181.572

On page 1 of Appendix C2 of the Application, FEI states:

"In this appendix, FEI provides descriptions of sustainment capital projects over $2 million." FEI identifies projects over $2 million that have been added or removed from the MRP 2020-2024 capital expenditure plans.

5.1 Identify any sustainment or other capital projects (other than those identified in Appendix C2 of the Application) that were canceled or deferred in 2022 and provide reasons why these projects were canceled or deferred with specific reference to how the risks faced by FEI changed as a result of the cancelation or deferral.

Response:

This response addresses RCIA IR1 5.1 to 5.4. As outlined in Section C3.2 of the 2020-2024 MRP Application, FEI has implemented an Asset Investment Planning (AIP) process to support risk-informed decision-making in capital planning. This process supports the creation of consistent, defendable and optimized decisions on which projects to invest Sustainment Capital dollars. The foundation of the AIP tool is the value framework that is used to quantify the value, or the risk

reduction, of potential investments. Investments are quantitatively valued through the value framework, and projects that provide the greater value, or greater risk reduction, are prioritized over projects that provide a lesser value or risk reduction. It is important to note that FEI does not manage risk to a specific figure but the Company is committed to making optimized, risk-informed decisions, in order to best allocate limited sustainment capital funds.

Some Sustainment Capital projects throughout the MRP term thus far have been deferred so as to re-prioritize projects that provide a greater value (in accordance with FEI's AIP process); however, projects can be deferred for several other reasons as well. For example, in some cases, projects may be tied to third party timelines, or there may be difficulties securing land or necessary permits, resulting in project delays. In other cases, FEI may elect to further investigate potential project alternatives, or to undertake additional project scoping studies (such as additional geotechnical investigations), to provide a higher level of cost certainty for the project or to investigate the feasibility of a lower cost alternative.

FEI continually manages a portfolio of approximately 1,500 – 2,000 active sustainment capital projects at various stages of the project lifecycle (from inception through to project closing). Due to the magnitude of the number of projects and the significant effort required, FEI is not able to provide the requested analysis of projects that were added, canceled or deferred compared to the Original Forecasts beyond the list of all projects greater than $2 million which was provided in Appendix C2 of the Application. However, FEI has provided a further summary for all Sustainment Capital projects that have been deferred, cancelled, added or removed and are over $2 million in Table 2 of the response to BCUC IR1 14.1.

No capital projects were canceled or deferred in the Other Capital category. FEI notes that the Kelowna Space Project, which is described in detail in the Application, commenced in 2022; therefore, this would be considered a project that was added compared to the Original Forecasts for 2022 through 2024. Additionally, FEI has described the addition to the Other Capital forecasts in 2023 and 2024 of capital expenditures to support energy efficiency and GHG reductions. No other capital projects have been added to Other Capital for 2022, 2023 or 2024.

5.2 Identify any sustainment or other capital projects (other than those identified in Appendix C2 of the Application) that FEI has added to its projects planned for 2022 and provide reasons why these projects were added with specific reference to how the risks faced by FEI will change as a result of the addition.

Response:

Please refer to the response to RCIA IR1 5.1.

5.3 Identify any sustainment or other capital projects (other than those identified in Appendix C2 of the Application) that FEI has removed from its projects planned for 2023 and 2024 and provide reasons why these projects were removed with specific reference to how the risks faced by FEI will change as a result of the removal.

Response:

Please refer to the response to RCIA IR1 5.1.

In its Application at pages 58 and 59, FEI states:

"The drivers of the increases in the Transmission System Reliability & Integrity and the Distribution System Integrity portfolios are described in detail below but can be summarized as follows:

- Additional reliability and integrity projects being required that were not anticipated at the time of the MRP proceeding."

5.4 Identify any sustainment or other capital projects (other than those identified in Appendix C2 of the Application) that FEI has added to its projects planned for 2023 and 2024 and provide reasons why these projects were added with specific reference to how the risks faced by FEI will change as a result of the addition.

Response:

Please refer to the response to RCIA IR1 5.1.

6. Reference: Exhibit B-2 Application pp.64-65

Other Capital – Kelowna Space Project

In its Application at page 64, FEI states:

"The total cost of the Kelowna Space Project is $13.996 million. Of this total, approximately $10.996 million is allocated to FEI based on employee count, with

$6.083 million and $3.913 million reflected in FEI's Updated Forecasts for 2023 and 2024, respectively.[46]"

FEI further states:

"The allocation of leasing costs for this site will be determined using a cost driver approach based on the number of employees for FEI and FBC."

6.1 Explain whether the employee count used for the allocation of costs between FEI and FBC is a point-in-time count, an average over a historical period, or a forecast employee count.

6.1.1 Provide the justification for the proposed employee count.

6.1.2 Confirm whether the same employee count allocator will be used for the capital costs as the ongoing leasing costs.

6.1.3 Confirm whether the ongoing leasing costs will be periodically reallocated based on future employee counts.

6.1.4 Provide the numbers of FEI and FBC employees for the years 2019, 2020, 2021, 2022 to-date, and forecast for 2023 and 2024 that would be included in various employee count allocator calculations as described in RCIA IR 6.1.

Response:

FEI discovered a typo while responding to these information requests. The correct total cost of the Kelowna Space Project is $13.930 million, not $13.996 million. This is only a typo, there is no change to the portion of the project cost allocated to FEI, which remains at $10.996 million, and no impact to the proposed 2023 delivery rate increase.

The employee count used for allocating the shared facility capital costs is based on the number of full time equivalents (FTEs) of FEI and FBC employees at the end of the year (i.e., December 2020).

FEI clarifies that only the allocation of the capital (i.e., $4.218 million of the total $13.930 million), which includes leasehold improvements and furniture and equipment for the new shared office facility, is based on a cost driver approach using the number of employees (FTEs). There are

capital costs incurred specifically for FEI (i.e., improvements at Benvoulin) and FBC which are attributed 100 percent to each respective company.

The allocation of costs based on the number of FEI and FBC employees provides a reasonable and representative basis and one that is efficient to administer. FEI is using the FEI and FBC FTEs as of December 2020 as this number is relatively recent and was available when the Project was being reviewed in 2021. Since that time, the allocation percentage has not changed significantly, with 2021 remaining at approximately 78 percent FEI and 22 percent FBC and 2022 year-to-date also at 78 percent FEI and 22 percent FBC. Additionally, using an allocator based on average FTEs during a year would have resulted in a similar allocation percentage as using FTEs at a point in time. For comparison, provided in the following table are the FTEs based on the average during the year and at the end of the year for the years 2019 to 2021 and 2022 YTD. FEI does not have a forecast for 2023 and 2024 employee counts to use for allocating costs but anticipates that the proportion of FEI and FBC employees will remain consistent with the years shown in the table below.

Table 1: FEI and FBC FTEs Based on Average during the Year and at Year End

Average FTEs	FEI	FBC	Total	FEI %	FBC %
2019A	1,765	526	2,291	77.0%	23.0%
2020A	1,816	540	2,356	77.1%	22.9%
2021A	1,917	546	2,463	77.9%	22.1%
2022 YTD	1,964	549	2,513	78.2%	21.8%

Year-end FTEs	FEI	FBC	Total	FEI %	FBC %
2019A	1,788	534	2,323	77.0%	23.0%
2020A	1,848	549	2,397	77.1%	22.9%
2021A	1,929	541	2,469	78.1%	21.9%
2022 YTD	1,945	557	2,502	77.7%	22.3%

Using an allocation based on a point in time for the capital costs associated with the new shared office facility best represents the intended use of the facility at the time of the decision to proceed and commit to funding the costs. On this basis, both FEI and FBC are paying their share of the new office facility agreed to at the time of the commitment. Also, based on recent years' data provided (referenced in the table above), the FEI and FBC allocation based on the number of employees has remained stable such that the choice of the allocation basis (current, historical or forecast) is unlikely to have a material difference in the sharing of the costs.

The same employee count allocator that will be used for the capital costs for the new shared office facility will be used for the ongoing leasing cost. FEI is not opposed to reviewing the allocation basis annually to validate that the existing allocation percentages remain representative. As evidenced by recent history, the proportion of FEI to FBC employees has remained relatively

stable at approximately 78 percent FEI and 22 percent FBC, suggesting it is unlikely that there will be significant changes in the allocation percentages in the future.

In its Application at page 65, FEI states:

"The Kelowna Space Project results in a number of benefits for both FEI and FBC, including:

- Provision of sufficient space for both Operations and Support Services:
  - Support Services space requirement of 25,000 ft^2 of office at a new leased facility;"

6.2 Provide the current amount of office space used by Support Services.

Response:

The Support Services Group in Kelowna currently has a footprint of approximately 18,500 Usable ft^2. The new lease location possesses 22,666 Usable ft,^{2} with a total available rental space of 25,000 ft^2. Usable ft^2 is the relevant measure as it excludes shared common spaces such as washrooms, stairs, elevators, and entries. This common space is used by the Operations Group at Springfield as well as other tenants at the new lease location.

6.3 Provide the employee counts for Support Services for the years 2019 through 2022 to-date and forecast for 2023 and 2024.

Response:

Please refer to the table below providing the FEI and FBC Kelowna Support Services employees (FTEs at year-end) for 2019, 2020, 2021 and 2022 to-date. FEI does not have a forecast for the 2023 and 2024 employee count.

Table 1: 2019 to 2021 and 2022 YTD FEI and FBC Kelowna Support Services FTEs

2019 Actuals	2020 Actuals	2021 Actuals	2022 to-date
115	128	128	132

6.4 Explain why additional space is needed now for Support Services.

Response:

Please refer to the response to BCUC IR1 18.2.

7. Reference: Exhibit B-2 Application pp.166

Service Quality Indicators - Process

In the 2020-2024 MRP Application on page C-147, FEI states:

"Similar to the Current PBR Plans, FEI and FBC will report each year's results to the BCUC and stakeholders at the Annual Review to allow a comparison of the Companies' SQI performance against the benchmark targets and the thresholds for each of the SQIs. Also consistent with the Current PBR Plans, failure to meet SQI benchmark thresholds, if determined by the BCUC after further process to be considered a serious degradation of service quality in whole or in part due to the actions (or inactions) of the Companies, may result in a reduction to the share of earnings sharing retained by the Companies, up to a maximum reduction to reflect a 60 percent share to the customer (i.e., penalty of 10 percent of the earnings sharing earned to the Companies), instead of the standard 50 percent."

7.1 Explain what the "further process" refers to in evaluating whether a reduction in earnings sharing is appropriate.

Response:

The reference to "further process" in the above preamble is in reference to the process that was agreed to with interveners and which was filed with the BCUC as a Consensus Recommendation and approved by Order G-14-15 dated February 4, 2015. FEI provides an excerpt from the Consensus Recommendation describing the process for evaluating SQI results which has been in place since the 2014-2019 PBR Plan.

2. Process

The Parties recommend a two-phase process for the examination of SQI results at each Annual Review:

Phase 1 – Identification of SQI results for discussion at Annual Review

The utility that is subject to the Annual Review in question will provide the results and a brief discussion for all SQIs required by the PBR Decision. It will provide additional explanation on an SQI at an Annual Review if either of the two following circumstances apply to the SQI:

a. the SQI score in the prior calendar year during the term of the PBR Plan is inferior to the agreed threshold; or

b. the SQI score in two successive calendar years during the term of the PBR Plan has been between the benchmark and the threshold.

The specification of the two circumstances which will trigger the utility's obligation to provide further explanation at the Annual Review does not eliminate the ability of the utility or any stakeholder to raise any issue or concern in relation to any SQI, or to ask information requests on any SQI as part of the Annual Review, or to propose a change to a threshold based on new information.

Phase 2 – Determination of any financial consequences

After consideration of the information provided by the utility at an Annual Review explaining any SQI performance outside of the performance range, a stakeholder may initiate a complaint with the Commission. The Commission will determine whether any financial consequences for the utility should be imposed and if so, the nature and degree of those consequences.

Determinations of any financial consequences will be made based on whether there has been a serious degradation of service and having regard to the other factors identified by the Commission in the following passage from the Decision:

> *"When assessing the magnitude of any reduction in each Company's share of the incentive earnings, the Commission will take into account the following factors:*
>
> - *Any economic gain made by each Company in allowing service levels to deteriorate;*
> - *The impact on the delivery of safe, reliable and adequate service;*
> - *Whether the impact is seen to be transitory or of a sustained nature; and*
> - *Whether each Company has taken measures to ameliorate the deterioration in service.*

1

2

8. Reference: Exhibit B-2 Application p.169

Service Quality Indicators – Gas Line Damages

At the above-noted location FEI provides Table 13-5:

Table 13-5: Historical Public Contact with Gas Lines Results

Description	2014	2015	2016	2017	2018	2019	2020	2021	June 2022 YTD
Annual Results	9	8	8	9	8	7	7	6	5
Benchmark	16						8		
Threshold	16						12		
BC One Call Ticket Volume	107,509	122,627	129,645	146,868	157,708	144,413	141,262	163,584	82,699
Line Damages	954	1,035	1,086	1,247	1,201	1,069	973	1,034	416

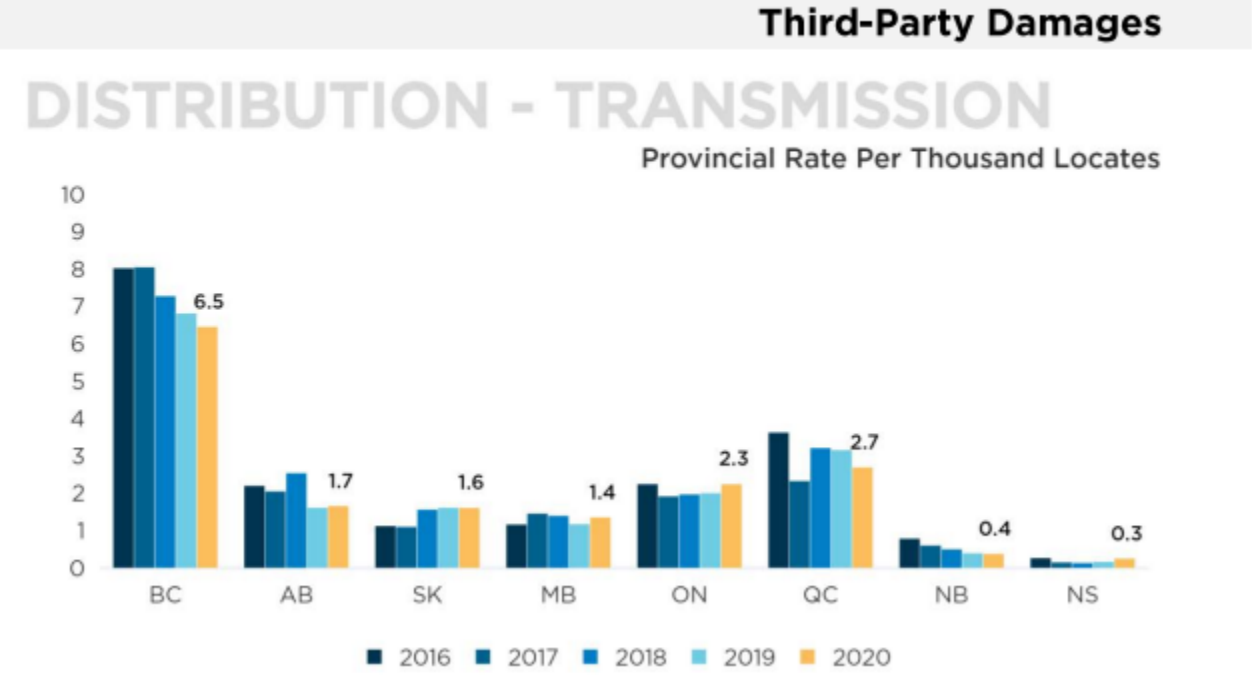
8.1 Provide the average number of line damages per 1,000 line locate requests for other Canadian gas utilities as aggregated and averaged by the Canadian Gas Association.

8.1.1 If there is a material discrepancy between FEI's benchmark and the CGA average, please explain.

Response:

The Canadian Gas Association (CGA) does not publish the number of line damages per 1,000 line locate requests by utility and instead provides it in aggregate by province for gas utilities. The chart provided below from the CGA shows the number of line damages per 1,000 line locate requests by province for the years 2017 to 2020.[2] FEI notes that the data for 2021 has not yet been released by the CGA.

[2] CGA Corporate Profile 2020 Final Report, page 30. Online: https://www.cga.ca/wp-content/uploads/2021/10/CGA-Corporate-Profile-2020.pdf.



FEI does not have specific information to explain the difference in the results between provinces. However, factors and practices that can influence line damage results include: the province's legislation around licensing and punitive damages for the offender; the role of the technical regulator and its regulations around excavators and excavation; and the effectiveness of damage prevention awareness programs like the BC One Call program. These factors make it difficult for a meaningful comparison of the results between provinces.

In the context of the MRP and interpretation of the results for FEI's line locates, FEI's annual results as outlined in Table 13-5 of the Application continue to improve year-over-year and the number of line damages per 1,000 locate requests continues to be better than the approved benchmark and threshold used to determine acceptable performance.

9. Reference: Exhibit B-2 Application pp.171-172; BCUC Decision G-366- 21, p.20; FEI AMI CPCN Application, p.20

Service Quality Indicators – Meter Reading Accuracy

In Decision G-366-21 on page 20 with respect to meter reading accuracy, the BCUC states:

"The benchmark is set at >=95 percent and threshold at 92 percent. FEI's 2020 results are 89 percent, which is 3 percent lower than the threshold. The June 2021 year-to-date results are 91 percent, which is 1 percent lower than the threshold… FEI states it has taken steps to mitigate the impacts to service quality such that FEI does not consider there has been any serious degradation of service. FEI expects that actual annual results for 2021 will reach the threshold."

In its Application at page 171, FEI states:

"The 2021 result was 88.0 percent, which is lower than the benchmark and threshold and represents the second consecutive year that FEI has had below threshold performance in this metric."

In its Application at page 172, FEI states:

"While the restrictions associated with the pandemic were gradually lifted and the State of Emergency expired on June 30, 2021, Olameter continued to experience staffing challenges throughout the remainder of the year, including periods where subsequent variants of the virus affected their employees. In addition, meter reading efforts in 2021 were significantly impacted by the multiple extreme weather events that occurred, including the active wildfire season, the extreme heat event, and the flooding that led to evacuations of several communities. All of these weather events contributed to larger percentages of estimated reads due to the inability to safely access meters."

9.1 Explain whether the meter reading accuracy metric declined from the June 2021 level of 91 percent to the full year result of 88 percent due solely or primarily to the extreme weather events described in the Application, or whether there were other factors.

Response:

Through the latter part of 2021, the extreme weather events played a role, along with the continuing impacts of the COVID-19 pandemic, on staffing challenges experienced by Olameter, FEI's meter reading contractor, in the meter reading accuracy being below threshold levels. However, FEI cannot determine the extent of each of these impacts separately.

On page 20 of its application for a CPCN for the Advanced Metering Infrastructure project, FEI states:

"FEI includes performance standards in its meter reading contracts to support a positive experience for customers. Current standards are defined in Table 3-3 below. Current standards are defined in Table 3-3 below. The contractor may be penalized for not meeting required standards and in some instances, may receive an incentive for performing above certain levels."

Table 3-3: Manual Meter Reading Performance Standards

Performance Standard	Definition	Performance Level
Meter Reading Accuracy	The number of correct monthly meter reads divided by the total number of regular reads on a monthly basis.	98%
Meter Reading Completion	The number of actual monthly meter reads obtained within the meter reading window as a percentage of the monthly meter reads requested.	95%

9.2 Confirm whether Olameter has contractual obligations to read meters according to the schedule of meter reads provided by FEI.

9.2.1 If confirmed, explain whether Olameter paid penalties to FEI for 2020 or 2021 and how those penalties were or will be shared with ratepayers.

9.2.2 If confirmed, compare the performance level required of Olameter with the Service Quality Indicator approved by the BCUC.

Response:

FEI confirms that Olameter has contractual obligations to read meters according to the schedule of meter reads provided by FEI.

In this regard, Olameter was issued penalty letters for not meeting certain performance standards in 2020 and 2021 and has subsequently paid those penalties to FEI of $175 thousand for 2020 and $265 thousand for 2021. The performance standard evaluation and penalty amounts are typically finalized and accounted for in the first quarter of the following year; however, due to a delay in the calculation of the penalty amount for 2020 in light of the COVID-19 pandemic, both penalty payments were applied as credits on Olameter meter reading invoices in 2022. That is, the amount that FEI paid to Olameter in 2022 for services has been reduced to reflect the penalty amounts owing from 2020 and 2021. Consistent with how other O&M variances are accounted for under the earnings sharing mechanism, these credits (O&M savings) and cost pressures (i.e., higher meter reading costs due to inflation in the renegotiated contract) are shared equally between customers and FEI.

Further, in its contract with Olameter, the performance standard titled Meter Reading Completion is the same as the Meter Reading Accuracy SQI (i.e., the definition for both is the same), including the contracted performance level which is equal to the approved benchmark of 95 percent and

the threshold of 92 percent for this metric.[3] As highlighted in the Application (page 172, lines 1-16), the BCUC in its decision on FEI's Annual Review for 2022 Delivery Rates found that overall service quality was met in 2020 and recognized that the lower than threshold Meter Reading Accuracy result (89.2 percent) was primarily attributable to the safety protocols introduced in response to the COVID-19 pandemic. Additionally, as explained in this Application, the 2021 Meter Reading Accuracy result of 88 percent that was below the threshold was attributable to the COVID-19 pandemic and extreme weather conditions in 2021, events that are outside of FEI's control, rather than any action or inaction by FEI.

In its Application at page 173, FEI states:

"FEI continues to work closely with Olameter on their improved performance and as such, barring the impact of any extreme weather or other unforeseen events, FEI expects Olameter to continue to meet the threshold and achieve the benchmark on a monthly basis for the remainder of the year."

9.3 Explain what specific actions FEI is taking to "work closely with Olameter". How is FEI influencing Olameter's performance?

Response:

FEI has several touch points with Olameter which include daily exchange of information with frontline staff and a regularly scheduled monthly meeting between Olameter and FEI's frontline leadership. This monthly meeting covers topics such as safety concerns raised by meter readers, process changes, customer complaints, job vacancies and impacts as well as Olameter's contingency plans to minimize the impacts of any challenges on FEI's customers. Previous months' numbers on various metrics are also discussed to understand the reasons behind variances. In addition to this, weekly and monthly meetings with Olameter senior leadership were introduced in late 2021 to discuss monthly performance level results and any anticipated challenges for the upcoming period. These meetings assist with maintaining constant communication with Olameter's leadership team to support Olameter's performance, discuss Olameter's obligations under the terms of the contract and assist where reasonable with operational challenges that may be faced by Olameter.

9.4 Explain whether FEI is undertaking any activities separate from any interactions with Olameter to improve its meter reading accuracy metric.

[3] For further clarity, the performance standard titled Meter Reading Accuracy in the contract with Olameter is a different metric than the SQI by the same name.

Response:

Due to the nature of the contract with Olameter, FEI has limited ability to influence or improve the meter reading accuracy metric beyond interactions with Olameter and the application of performance standards. However, FEI was able to identify two new actions to provide additional support to Olameter. The first was supporting the technical roll out of new handheld meter reading devices which are expected to provide efficiency gains for meter readers. The second was providing Olameter with two additional muster locations in Chilliwack and Albion to reduce commute times for readers and provide efficiencies in meter reading.

With limited ability to directly influence the results of this metric, FEI has focused its efforts on mitigating the service quality implications of the higher volume of estimated reads. These mitigation actions and activities for 2021 and 2022 include:

- FEI proactively contacts customers with multiple estimates in a row to determine if a customer-provided read is possible to support the estimation;
- FEI proactively reaches out to customers with meters that have been identified as hard to access to arrange for a special read and to work with the customer for future access to the meter; and,
- Where a customer has received a higher than expected bill, either as a result of the estimated consumption or any true-up once the actual read is available, FEI works with the customer on a one-on-one basis, providing flexible payment arrangements where appropriate.

These measures support both an improved accuracy of the estimated bill as well as improved accuracy to support informed energy use decisions and behaviors.

It should also be noted that FEI filed a CPCN[4] in May of 2021 for approval to automate meter reading. If approved, automation will improve and stabilize meter reading accuracy over the long term.

9.5 Confirm whether FEI requested approval from the BCUC for relief from its meter reading requirements due to the extreme weather events in the latter part of 2021.

9.5.1 If not confirmed, explain why not.

Response:

FEI did not request approval from the BCUC for relief from its meter reading requirements due to extreme weather events in the latter part of 2021. FEI reported to the BCUC about the severe weather event in November of 2021 and provided updates to the BCUC on customer outages in

[4] FEI Application for a Certificate of Public Convenience and Necessity for the Advanced Metering Infrastructure Project, filed May 5, 2021.

the affected communities. The most affected communities issued local states of emergency and evacuation orders due to the severe damage sustained to key infrastructure, community services, utilities, water and sewer systems, bridges, roadways and key transportation routes as well as businesses and homes. Also, at the time of the severe weather event, it was unknown how long the states of emergency and evacuation orders would remain in place. As it turned out, some of the hardest hit areas remained inaccessible or under evacuation orders for several months, and some of the key transportation routes continue to remain under repair.

Given that the BCUC was aware of the severe weather event, the local states of emergency, and evacuation orders, the uncertainty around their duration and that such events are not within the control of Olameter nor the Company, FEI did not believe that it was necessary to seek relief from the BCUC for its meter reading requirements.

9.6 Provide the number of meter read complaints or billing complaints related to consumption received by FEI for the years 2018 to 2021 and 2022 to-date.

9.6.1 Provide the number or proportion of meter read or consumption-related billing complaints for each of the years to which FEI attributes the cause being an estimated meter read.

Response:

FEI tracks several types of complaints received from customers but does not distinguish the proportion that are consumption related and as such, is not able to provide the information as requested.

FEI has seen an increase in the number of billing adjustment requests in 2020 to 2021 when compared to previous years. FEI believes that these are driven by external factors, such as the impacts of the COVID-19 pandemic on the meter reading contractor's ability to read meters along with extreme weather events in 2021 preventing some meters being read and subsequently requiring a billing adjustment when the actual read was obtained. Internal processes, such as proactively attempting to contact customers with multiple estimates to determine if a customer provided read is possible to support the estimation, also led to an increase in the billing adjustment requests.

10. Reference: Exhibit B-2 Application pp. 173-175

Service Quality Indicators – Telephone Service Factor (Non-Emergency)

In its Application at page 174, FEI states:

"Although the start of 2022 has been challenging, strong performance in first contact resolution, in addition to the promotion of self-service and the call back feature, continues to mitigate the impacts of lower TSF on customer experience and service quality."

10.1 Explain how the call back feature affects the Telephone Service Factor (Non-Emergency) metric. Are calls handled by the call back feature excluded from the metric? Are calls handled by the call back feature considered "answered" within 30 seconds as defined by the metric?

Response:

The answered calls of customers that select the call back feature are included in the TSF (non-emergency) metric like all other answered calls. The benefit for customers of the feature is that they remain in the queue without having to remain physically connected to the call. Thus, whether a customer chooses to remain connected to the call or select the call back feature, it is still accounted for and included in the TSF calculation.

To further elaborate, calls that use the call back feature are included in the denominator as part of the total calls answered. While it is possible, calls associated with the callback feature are unlikely to be included in the numerator of the metric (i.e., part of the group of calls answered within 30 seconds). This is because the call back feature is not offered as an option to customers until approximately the three-minute mark of wait time is reached. In periods of high volume, where average wait times are greater than two minutes, the offer for a call back occurs immediately. In those cases, due to the higher volume, it is unlikely that the call back will occur within 30 seconds of the selection of the option.

11. Reference: Exhibit B-2 Application p.175

Service Quality Indicators – Meter Exchange Appointments

In its Application at page 175, FEI states:

"The Meter Exchange Appointments SQI measures FEI's performance in meeting appointments for meter exchanges (excluding industrial meters). The calculation for percentage meter exchange appointments met is calculated as:

$$\frac{\text{Number of meter exchange appointments met}}{\text{Number of meter exchange appointments made}}$$"

11.1 Confirm or otherwise explain whether FEI has a window for each meter exchange appointment and whether the duration of that window has changed since this MRP metric was approved.

11.1.1 If confirmed, explain whether the change in the duration of the appointment window affects the metric and how this should be considered in terms of meeting the benchmark and threshold.

Response:

FEI has two appointment windows for meter exchange appointments, both four hours long. The morning appointment window is 8 am to 12 pm, and the afternoon appointment window is 12 pm to 4 pm. The appointment windows have not changed since this metric was approved as part of the MRP Decision and Order G-165-20.

12. Reference: Exhibit B-2 Application Appendix C2 pp.3-4; BC "Drilling and Production Regulation" 52.04(2), 52.04(4)

Transmission System Reliability & Integrity Capital Expenditures

In its Application Appendix C2 at page 3, FEI states:

"V1 Compressor Unit 1, 2 and 3 Seal Gas GHG Emissions Reductions: The *Drilling and Production Regulation* under the *Oil and Gas Activities Act* was recently amended and seal gas emissions need to be reduced to comply with the amended regulation. This will involve upgrading the existing seal gas system to have a methane emissions recapture system. The estimated cost of this project is approximately $2.1 million with spending primarily in 2024."

The British Columbia *Drilling and Production Regulation* states:

"52.04 (2) Subject to subsections (3) to (5), a facility permit holder who operates a facility that uses a type A compressor must ensure that the emissions of natural gas from the compressor are

(a) routed to hydrocarbon gas conservation equipment, or

(b) flared in accordance with sections 42 to 44.

…

52.04 (4) Subsection (2) does not apply in relation to a centrifugal compressor that was installed before January 1, 2021 if the emissions of natural gas from the compressor

(a) are routed to a vent, and

(b) do not exceed 0.17 m^3 per minute."

12.1 Confirm or otherwise explain whether the V1 compressors are exempt from subsection 52.04 (2).

Response:

All three compressors at V1 were installed prior to January 1, 2021, are classified as Type A compressors under the *Drilling and Production Regulation*, and are routed to a vent. As historical operating data shows that on average all units are below 0.17 m^3 per minute, it is FEI's understanding that subsection 52.04 (2) does not currently apply to the V1 compressor station.

However, there are instances where the high pressure compressors seal vents have been observed to be over the 0.17 m^3 per minute of leakage, which exceeds the limit in the *Drilling and Production Regulation*. Given these exceedances, degradation of the dry gas seals or changes in operating requirements could result in the average leakage rates exceeding the limit in the regulation. If this were to occur, FEI would then be forced to either continue operating the station in breach of the regulation or cease operation and risk capacity shortfalls on the Vancouver Island

Transmission System. The hydrocarbon gas conservation equipment is being installed to mitigate this risk.

12.2 If the V1 compressors are exempt, explain the necessity of the Seal Gas GHG Emissions Reductions project.

Response:

Please refer to the response to RCIA IR1 12.1.

12.3 If the V1 compressors are not exempt, explain whether FEI intends to install hydrocarbon gas conservation equipment or flare the gas.

12.3.1 Explain the pros and cons of each approach and why FEI chose the proposed option.

Response:

FEI intends to install hydrocarbon gas conservation equipment.

FEI has chosen to install hydrocarbon gas conservation equipment instead of flaring the gas for the following reasons:

- Increased environmental benefit when compared to the flaring option. The hydrocarbon gas conservation equipment will capture, compress, and re-inject the seal gas emissions back into the main gas stream. The goal of this system is to eliminate the seal gas emissions. With the flaring option, the seal gas emissions would be combusted. This would be an improvement over directly venting the seal gas to atmosphere but would still result in seal gas emissions and an overall increase in NOx.
- Constructability concerns with installing a flare at this location. The V1 compressor station has limited available space to flare without impeding egress or expanding the site footprint.
- Operational concerns with installing a flare as the current safety systems are designed to evacuate the natural gas in the compressor station automatically. Flaring is not a practice in FEI's compressor stations for this reason.
- Community relations concerns with the flaring option. The V1 compressor station is located close to a residential area and is surrounded by recreation trails. FEI is concerned that the flaring option could potentially have a negative impact on community relations. In

order to maintain adequate vegetation buffers for flare safety, the removal of a number of trees would likely be required.

- The V1 compressor station is located within the Metro Vancouver air shed and would thus require permission from Metro Vancouver to operate a flare. FEI expects this permitting process would be challenging and costly.
- The hydrocarbon gas conservation equipment that FEI intends to install is supplied by the same vendor as the gas turbine/compressor package. This will simplify integration with the existing station control system. Additionally, there will be ongoing support for the new equipment from a reputable vendor through existing commercial service agreements.

FEI further summarizes the pros and cons of the hydrocarbon gas conservation equipment option and the flare stack option in Tables 1 and 2, respectively, below.

Table 1: Hydrocarbon Gas Conservation Equipment Pros and Cons

Pros:	Cons:
• Greater environmental benefit • Relatively simple to construct/install • Familiar equipment to FEI Compression Operations • More practical to standardize across FEI's other compression stations (if necessary) • Greater rangeability to handle varying flow rates • Uses same vendor as the gas turbine and is therefore well-integrated into the existing skid package. • Ongoing support available from vendor • Minimal community impact • Greater scalability for potential future compressor units at V1	• Initial install cost is high • Has rotating components and therefore requires ongoing maintenance

Table 2: Flare Stack Pros and Cons

Pros:	Cons:
• Installation and operating costs are low • No rotating or moving parts (simpler design and operation)	• Emissions (GHG and NOx increase when compared to gas conservation equipment) • Wasted natural gas (gas is being combusted with no use) • Interaction between the flare and venting of the existing station piping safety systems is expected to be challenging and complex. • Need to establish a new vendor support process • Perceived challenging permitting process

In its Application Appendix C2 at page 3, FEI states:

"Savona Compressor Fire Protection: This project involves installing a foam fire suppression system, nitrogen fire suppression system, and fire, gas and heat detector upgrades in the control building of Savona Compressor. The estimated cost of this project is approximately $2.1 million with spending primarily in 2024."

12.4 Confirm whether the Savona compressor station already has a fire protection system.

12.4.1 If confirmed, explain why the existing system is inadequate or requires replacement.

Response:

The Savona compressor station does not have a fire suppression system.

12.5 Confirm or otherwise explain whether all of FEI's compressor stations have fire suppression systems.

Response:

All of FEI's compressor stations either have a fire suppression system or have a plan in development (including the Savona Compressor Station) to implement a fire suppression system before 2030. The fire suppression system improvement projects are being prioritized and implemented according to FEI's AIP process. Please refer to the response to RCIA IR1 5.1 for further details on the AIP process.

In its Application Appendix C2 at pages 3 and 4, FEI states:

"River Road Valve Assembly – New Valve & Automation: FEI has identified River Road Station as a location for a new mainline block valve that would allow remotely actuated security shutdown. The valve addition is meant to enable isolation of the TIL FRA 508 pipeline crossing of the Fraser River in case of emergency. The estimated cost of this project is $4.3 million with spending primarily in 2024."

12.6 Confirm whether the TIL FRA 508 river crossing can currently be isolated in an emergency and explain how the isolation would be effected.

12.6.1 If confirmed, explain why this project is needed now, considering this line can already be isolated, and why it cannot be deferred.

Response:

Currently, the nearest isolation point on the TIL FRA 508 river crossing is approximately 7 km away at Nelson Road Gate Station near Nelson Road and Westminster Highway. If an emergency were to occur in the river crossing, all the natural gas in the 508 mm TP pipeline between the Fraser Gate Station and the Nelson Road Gate Station would have to be removed from the pipeline before the repair could be performed. With the mainline block valve in place, the amount of natural gas requiring removal would be reduced to the amount between the Fraser Gate Station and the River Road Gate Station.

12.7 Confirm or otherwise explain whether all of the Coastal Transmission System river crossings have remotely actuated emergency shutdown valves.

Response:

Currently, the Coastal Transmission System (CTS) river crossings do not all have remotely actuated emergency shutdown valves. There is a program in place to upgrade the CTS so that all river crossings will have remotely actuated emergency shutdown valves. This project is part of that program.

13. Reference: Exhibit B-2 Application Appendix C2 p.5

Distribution System Reliability Capital Expenditures

In its Application Appendix C2 at page 5, FEI states:

"Penticton Second Supply: The City of Penticton and surrounding area are currently supplied through a single station. This project includes the installation of a second source of supply for the Penticton area to ensure reliable service to customers. Due to difficulties acquiring land in this area, the project has been delayed. The estimated cost of this project is approximately $5.2 million in 2024."

13.1 Considering the suspension of the Okanagan Capacity Upgrade and the uncertainty with the final capacity solution and routing, explain whether it would be prudent to delay the Penticton Second Supply project until a resolution of the OCU project is determined.

Response:

The Penticton Second Supply project and the Okanagan Capacity Upgrade (OCU) project are primarily discrete projects; therefore, delaying the Penticton Second Supply project would not be appropriate.

The OCU project will increase gas capacity in the Okanagan by strengthening the flow of gas into the Interior Transmission System (ITS), ultimately boosting tail end pressures at the weakest points of the ITS during periods of peak demand.

Conversely, the Penticton Second Supply project is driven by potential gas service disruption and not by forecast gas capacity shortfall. A second TP/DP feed in the northern part of Penticton will improve the security of gas supply to the approximately 11,350 customers served by the Penticton distribution network. This will be done by allowing sectionalization of the Penticton system into the north and south, reducing the demand on the existing TP/DP station, and providing full redundancy to the system in the event of a disruption to the south feed or the gas main that flows gas to the north.

Deferring the Penticton Second Supply project prolongs the risk of a large gas service disruption caused by an emergency at the existing TP/DP station or along the gas main that supplies gas to the north end of the city. The Penticton Second Supply project is being prioritized and implemented relative to all other Sustainment Capital projects in accordance with FEI's AIP processes.

13.2 Explain why the Penticton Second Supply project is needed in 2024 and cannot be deferred beyond the MRP period.

Response:

Please refer to the response to RCIA IR1 13.1.

14. Reference: Exhibit B-2 Application Appendix C2 p.7

Distribution System Reliability Capital Expenditures

In its Application Appendix C2 at page 7, FEI states:

"Second Narrows Shorted Flange Upgrade: A pair of isolating flanges on the IP pipeline feeding North Vancouver and West Vancouver at the south abutment of the Second Narrows Bridge have shorted, resulting in a section of pipeline no longer receiving adequate cathodic protection. This IP pipeline is the sole gas supply to customers on the North Shore. The recommended solution is to remove and replace a short spool of piping at the south abutment. Cathodic protection will be reinstalled. Due to suspected corrosion issues at the existing anchor block at the location, the construction work will additionally install a new anchor block downstream of the current location."

14.1 Confirm whether FEI will inspect the anchor block and assess whether it has been affected by corrosion prior to proceeding with its replacement.

14.1.1 If not confirmed, explain why not.

Response:

Please refer to the response to BCUC IR1 16.1.

15. Reference: Exhibit B-2 Application Appendix C3 pp.1,3

Gibsons Capacity Project

In its Application Appendix C3 at page 1, FEI states:

"As a result, FEI is currently unable to supply sufficient capacity to the community during design conditions without the support of a temporary contracted CNG trailer on site during winter months."

In its Application Appendix C3 at page 3, FEI states:

"Alternative 3:

- Install a peak shaving CNG facility near the current Gibsons District Station to generate and store CNG during periods of low gas demand to supplement the system during periods of high demand. The facility outlet will be tied into the existing 168 mm DP system. Two potential locations were identified for the peak shaving CNG station – one location off of the IP system and one location off of the DP system."

15.1 Confirm whether there are any existing CNG stations on the Sunshine Coast where CNG trailers can be filled.

Response:

Please refer to the response to BCUC IR1 33.3.

15.2 Confirm whether FEI investigated an alternative of purchasing CNG trailers and using them in a peak shaving role but filling them from an existing CNG station, either on the Sunshine Coast or on the Lower Mainland.

15.2.1 If confirmed, provide the advantages and disadvantages of such an alternative.

15.2.2 If not confirmed, provide an analysis showing the estimated project costs (for construction of a decanting station and the purchase of CNG trailers) and PV of the incremental revenue requirement.

Response:

Please refer to the response to BCUC IR1 33.3.

16. Reference: Exhibit B-2 Application Appendix C3 p.9

Gibsons Capacity Project

In its Application Appendix C3 at page 9, FEI states:

"Two locations were considered during the Class 4 study for the proposed CNG station. One potential location (called the IP Station) is 6 kilometres west of Gibsons just off Lower Road and is shown in Figure C3-5 below. The other location (called the DP station) is 2 kilometres north of Gibsons just off the Sunshine Coast Highway and is shown in Figure C3-6 below. FEI selected the DP station property due to its immediate proximity to the existing 168 mm DP main, which reduces the length of DP main extension work that needs to be done to tie the station into the DP system."

16.1 Explain why the CNG station could not be co-located with the Gibsons district station.

Response:

There is insufficient land available at the existing Gibsons district station to accommodate the necessary equipment. Additional land cannot be acquired at this location as the existing station is located between the local cemetery and Lower Road.

16.2 Provide the advantages and disadvantages, including life cycle costs (NPV revenue requirement), of the two potential locations: the IP station and DP station.

Response:

FEI does not have a cost estimate comparing the IP and DP stations to provide a life cycle cost analysis. FEI clarifies the statement as referenced in the preamble above is to highlight there are two possible locations for the proposed CNG station from a technical perspective. The Class 4 estimate shown in Table C3-1 of Appendix C3 was primarily based on the station itself (i.e., the vessel requirements, the type of equipment required, station layout arrangement, etc.) with an allowance for a 1 km IP/DP pipeline construction, therefore it was not an estimate that is specific for an IP or DP station. The cost of the IP/DP pipeline is only a small component of the total project cost as evident in Table C3-1 as well as Table C3-4 of Appendix C3 where the majority of the costs are driven by the facilities construction, which will be similar regardless of where the CNG station is located or the inlet pressure.

The DP station was selected shortly after the completion of the Class 4 estimate. Difficulties securing land for the IP station that would be both large enough and close enough to service the community of Gibsons became apparent to FEI at this time. On the other hand, FEI was able to

find a private property for the DP station where the landowner was amenable to sell the land to FEI and was located within 100 metres of FEI's existing DP main infrastructure.

17. Reference: Exhibit B-2 Application Appendix C3 p.18

Gibsons Capacity Project – Project Description

In its Application Appendix C3 at page 9, FEI states:

"The key features of the station design include:

- A gas dryer skid with a single-tower desiccant dryer;
- 2 x 100% compressor skids with electric-driven reciprocating CNG compressors;
- 4 x 1,945 Sm^3 CNG storage vessels with gas management panel;
- 2 x 100% pressure reduction skids with natural gas-fired water bath heater and metering;
- Decant post with connection port to a CNG transport trailer in case of an emergency outage;
- Natural gas backup generator;
- Motor Control Centre building and storage shed;
- Washroom facility and septic tank;
- 30 m x 50 m facility footprint on newly acquired 2.65 acre property; and
- Site access road with a 30-metre truck turning area adjacent to the facility."

17.1 Confirm whether electrical servicing or upgrades to the existing electrical infrastructure are required and whether these costs are included in the $12.914 million cost estimate.

Response:

The GCU project requires the installation of a power service from the existing BC Hydro infrastructure on Keith Road. These costs are included in the $12.914 million cost estimate.

18. Reference: Exhibit B-2 Application Appendix C3 p.14

Gibsons Capacity Project – Weighting of Alternatives

In its Application Appendix C3 at page 14, FEI states:

"The final weighting was determined by the following steps;

1. The 12 non-financial evaluation criteria were arranged in a table, both in a vertical manner and again in a transposed horizontal line. Then row by row, each vertical criterion was compared to a criterion found in the horizontal line and either was assigned a "more" or "less" value to determine the level of importance the criterion has to the project.
2. Once the table was filled out, the total scores for each criterion that had the "more" value selected was determined.
3. Based on the total score result, each criterion was assigned a rank number ranging from 1-12. The largest total score found in Step 2 above was assigned the lowest rank value and the smallest total score was assigned the largest rank value. If numerous criteria had the same total score, their rank value was the same and any sub-sequential numbering was skipped.
4. A pre-determined weighting section of 5 percent, 10 percent, or 15 percent was assigned as follows to the ranking values determined in Step 3: rank 1-3 was assigned 15 percent; rank 4 and 5 was assigned 10 percent; and the remaining ranks (6-12) were assigned 5 percent."

18.1 Confirm whether FEI has used the weighting process described above for any other capital projects or in CPCN applications.

18.1.1 If confirmed, identify the most recent projects or CPCN applications that have used this methodology.

Response:

The described weighting process has not been used for other capital projects or in CPCN applications. FEI conducts and evaluates various processes with a goal of continuous improvement, depending on factors including, but not limited to, the number of evaluation criteria applicable to the project, the number of feasible alternatives that are able to be evaluated, and how distinct the project alternatives are from each other. The process as laid out here may be used for future projects to determine weighting for selection criteria.

19. Reference: Exhibit B-2 Application Appendix C3 p.18

Gibsons Capacity Project – Compatibility with RNG and H_2

In its Application Appendix C3 at page 18, FEI states:

"The key features of the station design include:

- A gas dryer skid with a single-tower desiccant dryer;
- 2 x 100% compressor skids with electric-driven reciprocating CNG compressors;
- 4 x 1,945 Sm^3 CNG storage vessels with gas management panel;
- 2 x 100% pressure reduction skids with natural gas-fired water bath heater and metering;"

19.1 Confirm whether the compression, drying, storage, and pressure reducing equipment will be compatible with renewable natural gas and hydrogen in the proportions contemplated by FEI in the 2022 Long Term Gas Resource Plan.

19.1.1 If not confirmed, explain whether there is a risk of this equipment becoming stranded due to its inability to handle future gas streams.

Response:

All equipment and pipe will be able to accommodate Renewable Natural Gas (RNG). The proposed CNG vessels are capable of handling up to 100 percent hydrogen. Where equipment availability, material specifications, and project funding allow, all other equipment will be designed for a 10 percent hydrogen blend. A non-compatible component list will be generated to list any components that do not meet the 10 percent hydrogen blend criteria, as these components would need to be upgraded before a 10 percent hydrogen blend could be achieved.