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May 13, 2021

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

Attention: Mr. Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

Re: FortisBC Energy Inc. (FEI)

Project No. 1599152

Application for a Certificate of Public Convenience and Necessity for the Okanagan Capacity Upgrade (OCU) Project (Application)

Response to the British Columbia Utilities Commission (BCUC) Information Request (IR) No. 2

On November 16, 2020, FEI filed the Application referenced above. In accordance with BCUC Order G-97-21 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to BCUC IR No. 2.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Registered Parties



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27 28 29 30 Re	41.1 sponse:	Please to the 2	e discuss directionally l 2019 forecast.	how the 2020) customer ad	ccount foreca	ast compares

Directionally, the updated 2020 customer forecast is lower than the 2019 forecast, based on the following changes:

• The majority of the customer reduction is from the residential rate schedule. The residential customer count is lower due to a lower annual growth rate forecast from the



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Conference Board of Canada (CBOC) coupled with lower net customer additions of 2 2,425 in 2019 compared to 4,007 in 2018.

- 3 The commercial customer forecast in 2020 is slightly lower than the 2019 forecast for • 4 small commercial customers and for large commercial customers in the first years of the 5 forecast. From 2025 onward the large commercial customer count grows at a greater 6 rate than in the 2019 forecast.
- 7 The 2020 industrial customer count was up ten customers, or 4.5 percent, compared to • 8 the 2019 forecast.
- 9 The aggregate customer forecasts for 2020 and 2019 are shown in the following figure:



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11 FEI notes that the actual customer totals were less than 1 percent below forecast when 12 compared to the 2019 forecast. As discussed above, the 2020 forecast is lower primarily due to 13 lower residential additions and the CBOC forecast, but the 2020 actual customer additions were

14 slightly above forecast.

ITS Customers			2019 F	orecast	2020 F	orecast	
				Actual	Percent	Actual	Percent
				Variance to	Variance to	Variance to	Variance to
	2019 Forecast	2020 Forecast	Actual	Forecast	Forecast	Forecast	Forecast
2019	197,974	196,721	196,721	(1,253)	-0.64%		
2020	201,319	198,902	199,565	(1,754)	-0.88%	663	0.33%

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- 41.2 Please clarify whether the preliminary results of the 2020 customer account forecast indicate any potential change to the date by which the Project will be needed.
- 4 5

6 **Response:**

7 The preliminary results of the 2020 customer account forecast do not indicate any potential 8 change to the date by which the Project will be needed. The preliminary load forecast derived 9 from the 2020 account forecast indicates that the Project will still require contingency measures 10 to be enacted in the winter of 2022/23 in the event of a Design Degree Day weather occurrence 11 because of unacceptably low station inlet pressures. As such, the Project is still needed prior to 12 the winter of 2023/24.



1	42.0	Referen	ice:	PROJECT NEED
2				Exhibit B-2, BCUC IR 5.1, 5.2, 5.2.1;
3				Order G-10-19
4 5				FEI Application For Updated DSM Expenditures for the Period covering from 2021 to 2022 proceeding
6 7				FEI 2017 Long Term Gas Resource Plan proceeding, Exhibit B-2, BCUC IR 29.1
8				UPCpeak
9		In respo	nse to	BCUC IR 5.1, FEI states:
10 11 12 13 14		 	n dete blannin establis and wh upgrade	rmining an appropriate UPCpeak [Use Per Customer peak] for system g, FEI considers these two competing objectives. The first objective is to the a stable value of UPCpeak that doesn't vary greatly from year to year nich can be applied to hydraulic models to determine system capacity e requirements, if any
15 16 17 18 19		r e i	The se utilizatio easona efficien nsulatio	cond objective is to have timely recognition of changes in customer on reflected in the current value of UPCpeak. For example, over time it is able to expect that the average residential customer might become more t and the average premise might have a lower UPCpeak due to better on, more efficient appliances, etc.
20 21		42.1 F	Please JPCpe	explain further why FEI has an objective to establish a stable value of ak that doesn't vary greatly from year to year.
22 23 24		2	42.1.1	Please explain the consequences or limitations, if any, of applying UPCpeak values that vary by year to hydraulic models.
25	Resp	onse:		
26 27 28 29	FEI us The v foreca for loc	ses the U ast major ist variatio al distribu	PC _{peak} ity of tl ons is r ition sy	values to identify capacity upgrades throughout its entire operating area. nese upgrades occur within the distribution system, and damping of load needed because of the resulting effects of UPC _{peak} variations on the timing stem capacity improvements.

Local distribution system capacities are highly sensitive to the UPC_{peak} values of local customers 30 31 used to measure capacity. FEI found that undue year-to-year variation in UPC_{peak} when determining the need and timing for local distribution system upgrades resulted in varying the 32 33 timing by several years (either advancement or deferral) due to the annual UPC_{peak} adjustments. This year-to-year churn (which was primarily due to the calculation methodology and not actual 34 changes in load) was disruptive for the annual capital planning process. FEI therefore adopted 35 the current method to establish a stable value of UPC_{peak} as described. The annual variations 36 37 have a smaller net impact at the larger system-wide scale that drives transmission system



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upgrades like the OCU Project; for consistency, FEI uses a single method for determining
 UPC_{peak}.

Because of FEI's reliance on monthly metering to determine UPCpeak, the number of data points 3 4 reflecting recent consumption is limited to a maximum of 24 points over the most recent two 5 years. This relatively small number of values can create variations in the year-to-year results 6 that is not necessarily reflective of changes in consumption patterns, but is more reflective of the 7 small sample set available. Averaging the values of consecutive annual results is an effective 8 means of smoothing these variations due to the limited samples, while also retaining the 9 capability to detect trends in the data. As such, FEI does not consider the current UPCpeak 10 methodology to produce overestimates or underestimates. Rather, it is an appropriate and 11 reliable approach that results in a stable and representative UPC_{peak} values that can be used for 12 capacity planning purposes.

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- 15 16 In response to BCUC IR 5.2, FEI states:
- Over time, customer activities such as improvements in energy efficiency,
 changing end-use applications, and possibly fuel switching will impact UPCpeak.
 However, FEI emphasizes that the scope and scale of these activities are
 currently unknown. There remains uncertainty in the directional impacts on
 UPCpeak of some efficiency technologies like smart learning thermostats or on
 demand hot water heaters...
- 23 In an environment where UPCpeak is increasing, the planning process identifies, 24 year over year, the likely advance in timing of project requirements. The forecast 25 method provides sufficient notice to initiate project planning and execution, such 26 that projects can be installed to meet the identified capacity deficit. The risk to 27 FEI and its ratepayers of potentially large-scale peak day outages or projects 28 being more costly (due to insufficient planning or execution time) is managed through the traditional method. In an environment where UPCpeak is decreasing, 29 30 the planning method again identifies, year over year, any deferral in project need, 31 so reprioritization or re-evaluation of the scope of projects can be undertaken. 32 The traditional planning method in this way mitigates the risk to FEI and its 33 ratepayers of investing in capacity projects before the need is present.
- 34 In response to BCUC IR 5.2.1, FEI states:
- UPCpeak is likely to be decreased through energy efficiency measures on existing premises such as increased adoption of high-efficiency appliances, window replacement programs, home insulation programs, and other measures that reduce the instantaneous energy usage, yet provide a similar level of customer comfort. Programs that switch fuel usage away from natural gas to

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alternate energy forms would similarly reduce UPCpeak. As more modern 1 2 construction of homes and businesses replace older construction, the 3 predominance of more energy efficient structures and appliances would be 4 expected to contribute to a decrease in UPCpeak. The directional impacts on 5 UPCpeak of some efficiency technologies like smart learning thermostats or on-6 demand hot water, where energy use may be more concentrated into the periods 7 of the day is less certain. New customers connecting after deciding to replace oil, 8 diesel, propane, and other higher carbon fuels in homes and businesses with 9 natural gas, although not contributing to an increase in UPCpeak, may contribute 10 additionally to growth in overall peak demand.

11By Order G-10-19 dated January 17, 2019, the BCUC approved FEI's 2019-202212Demand Side Management Expenditures Plan. On March 19, 2021, FEI filed with the13BCUC an application for updated DSM expenditures for the period covering from 2021 to142022.

- In the proceeding for the FEI 2017 Long Term Gas Resource Plan (LTGRP), in response
 to BCUC IR 29.2 FEI stated:
- 17At present the theoretical nature of the exploratory peak demand method for18DSM initiatives and for any of the end-use forecasts presented in the [201719LTGRP] Application has the following three limitations: ... 1. This approach is20new for FEI... 2. The results are based on outside data sources... 3. The process21is currently exploratory.
- 42.2 Based upon the factors FEI has identified which may affect the UPCpeak, please
 discuss whether FEI considers it more likely that UPCpeak will increase,
 decrease, or be stable in the next ten years.
 - 42.2.1 Please discuss whether FEI considers the UPCpeak values represent conservative overestimates or underestimates for the forecast period.

28 Response:

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As described in the response to BCUC IR1 5.2.1, FEI recognizes that there are certain drivers that could increase or decrease UPC_{peak}. Aside from FEI's adjustment to the system design temperature in 2017, the historical record does not show significant variation in residential UPC_{peak}. Commercial UPC_{peak} values have slightly increased and show periods of slight upwards and downwards trends. As such, FEI has no basis to conclude that the UPC_{peak} would increase or decrease materially in the next 10 years.

In terms of identifying potential future capacity upgrades so that projects are properly identified and planned well in advance of the need driver by sustained forecast increases, planning on the basis that the UPC_{peak} values remain stable is reasonable. This approach reflects the lack of trending in the historical values, and FEI does not consider this method to favour either an overestimate or underestimate of UPC_{peak}.



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- 1 2 3 4 42.3 Please confirm, or explain otherwise, that smart learning thermostats and on-5
 - demand hot water heaters represent a small proportion of FEI's overall portfolio of Demand Side Management (DSM) measures comprising the 2019-2022 DSM Plan.
 - 42.3.1 If confirmed, please explain why the uncertainty over the impact upon peak demand of these measures is relevant or material to the consideration to the value of the UPCpeak

13 Response:

14 FEI confirms that smart learning thermostats and on-demand water heaters currently make up a 15 small proportion of FEI's overall DSM portfolio. The inclusion of these technologies was 16 intended to illustrate two examples of DSM measures that could potentially impact peak gas use 17 in counterintuitive ways, rather than being a complete list of DSM measures that are increasing 18 peak demand. Without the ability to measure gas use over short duration intervals and smaller 19 volume increments at or beyond the customer meter, FEI cannot be certain if and/or how much 20 each of the measures installed through its DSM program funding is impacting peak demand 21 across its system. FEI considers the impact of all future DSM measures to be relevant to future 22 UPC_{peak}; however, FEI is uncertain of the net impact and is not yet capable of measuring the 23 direct impact. As such, FEI is unable to speculate on UPC_{peak} changes over time in the peak 24 demand forecast due to these measures.

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- 42.3.2 Please explain whether the uncertainties regarding the peak demand 29 impacts of smart learning thermostats and on-demand hot water 30 heaters relates primarily to peak hour consumption, peak day 31 consumption, or both.
- 32 33 **Response:**

34 By themselves, smart learning thermostats and on-demand water heaters would be expected to 35 have a short duration impact on demand over an hour or two. However, the uncertainties regarding peak demand impacts of all other DSM measures in the portfolio could relate to peak 36 37 hour and/or peak day demand.

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42.4 Please provide an update of any further work FEI has undertaken since the filing of the 2017 LTGRP with respect to understanding the impacts of its DSM programs upon peak demand.

5 **Response:**

FEI has continued to monitor developments within the gas utility industry that are exploring the
potential to utilize DSM to defer infrastructure. FEI is also commissioning a report on these
industry developments to include in the 2022 LTGRP to assist in response to the following
BCUC directive included in the decision on the 2017 LTGRP:¹

...the Panel directs FEI to provide an update of its analysis of opportunities for
 DSM to be used to cost-effectively replace or defer infrastructure investments in
 its next LTGRP.

FEI has filed a CPCN for Advanced Metering Infrastructure (AMI) to enable improved energy use data that may be able to help enhance DSM programming and evaluation. FEI acknowledges that this could also help to assess the ability for DSM to defer infrastructure investment.

FEI's examination of the potential for infrastructure deferral in the 2017 LTGRP showed that there was no opportunity and insufficient time to defer the OCU Project with any degree of certainty through DSM activities.² FEI's assessment of the need for and timing of the OCU Project contained in this Application confirms this finding. For this reason, FEI has not altered or advanced the timing of reporting on these efforts earlier than the 2022 LTGRP.

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- 42.4.1 Please provide an explanation of FEI's current understanding of the relationship between estimated energy savings from its current and planned portfolio of DSM measures, and estimated peak day demand savings.
- 30 **Response:**

The relationship between annual energy savings and peak demand day savings resulting from FEI's current DSM portfolio continues to be uncertain. FEI's analysis of peak demand versus the capacity of the Interior Transmission System indicates that the savings on peak day demand from the DSM portfolio that are reflected in current customer consumption used to calculate UPC_{peak} are currently insufficient to defer the need for the OCU Project.

¹ Page 17 of the BCUC Decision and Order G-39-19 (and numbered as Directive 4 in the summary of directives table on page 30).

² 2017 LTGRP Proceeding, Exhibit B-11: Expert Witness Report of Michael Sloan and John Dikeos, ICF: Rebuttal to Evidence of James Grevatt on 2017 FortisBC LTGRP Testimony October 11, 2018.

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4		42.4.2	Please discuss whether directionally, FEI considers peak demand
5			savings from DSM are likely to be proportionally similar, greater or less
6			than energy savings from DSM, when considering the savings as a
7			percentage of gross demand.
8	_		
9	<u>Response:</u>		
10	Please refer t	the resp	conse to BCUC IR2 42.4.1.
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13			· · · · · · · · · · · · · · · · · · ·
14	42.5	Please	produce a table that shows FEI's cumulative energy savings (actual or
15		forecast	ed) resulting from its 2019 to 2022 DSM Plan, as a percentage of overall
16		forecast	ed gross energy demand in this period.
1/	D		
18	<u> Kesponse:</u>		

For the purpose of the analysis requested in BCUC IR2 42.5, 42.5.1 and 42.5.1.1, FEI has used the forecast demand and energy savings from the 2017 LTGRP and the FEI 2019-2022 DSM

21 Expenditure Plan as these values provide a consistent comparison throughout all years of the

22 requested analysis.

Year	Forecast Cumulative Annual Energy Savings (GJ)*	Forecast Gross Annual Energy Demand (GJ)**	Savings as a percentage of Gross Energy Demand
2019	875,933	192,899,700	0.5
2020	1,796,901	193,249,740	0.9
2021	2,892,538	193,684,523	1.5
2022	4,067,599	194,132,108	2.1

- 23 <u>Notes:</u>
- * Values shown are estimated (forecast) annual energy savings as shown in the FEI 2019 to 2022 DSM
 Expenditures Plan. Cumulative values for 2020 and 2021 were not presented in the DSM Plan and
 have been estimated here to account for those savings that do not persist through all years of the
 Plan. Therefore these values are slightly less than the sum of the annual savings for the prior years as
 shown in the DSM Plan.
- ** Values shown are from the Annual Demand forecast presented in the 2017 LTGRP, Appendix B,
 Reference Case Demand forecast.
- 31

32 The requested values are also shown broken out into residential, commercial and industrial 33 customers in the following tables:



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Residential Customers					
Cumulative Annual GJ Gross Annual Savings as a per Year Savings* Energy Demand (GJ)** of Gross Energy					
2019	238,946	74,868,580	0.3		
2020	516,585	74,974,925	0.7		
2021	817,476	75,130,739	1.1		
2022	1,146,336	75,253,932	1.5		
	Cor	nmercial Customers			
Year	Cumulative Annual GJ Savings*	Gross Annual Energy Demand (GJ)**	Savings as a percentage of Gross Energy Demand		
2019	280,314	48,867,851	0.6		
2020	566,402	49,232,628	1.2		
2021	967,052	49,599,812	1.9		
2022	1,418,592	50,012,508	2.8		
	Industrial Cu	istomers (other rate class	es)		
Cumulative Annual GJ Gross Annual Savings as a percent Year Savings* Energy Demand (GJ)** of Gross Energy Dem					
2019	280,651	68,571,223	0.4		
2020	561,302	68,451,830	0.8		
2021	878,257	68,365,249	1.3		
2022	1.195.212	68.278.428	1.8		

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- 42.5.1 Please produce a revised peak demand forecast which assumes the UPCpeak is reduced by the same proportion as outlined in the previous question. For years beyond 2022, please assume the same annual incremental DSM savings as in 2022. Please include a table with data points.

10 Response:

11 The peak savings calculation derived in the response to BCUC IR2 42.5 would result in an 12 annual peak reduction by 2022 of 2.1 percent, which is greater than the rate of growth in peak demand each year determined by FEI's peak demand forecast modelling. 13

14 FEI has no data that demonstrate that a relationship between annual energy savings and peak 15 demand reduction across its portfolio is one-to-one as the suggested method assumes. As 16 described in the responses to BCUC IR1 5.2.1 cited in the preamble, FEI describes why UPC_{peak} might increase or decrease in the forecast period, but currently sees no evidence in 17 18 current peak demand values that DSM is presently influencing peak demand. As discussed in



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the response to BCUC IR1 5.3, FEI's historical UPC_{peak} values exhibit slight increases and decreases between 2009 and 2019, but there is no indication of a directional trend. As such, FEI believes the premise of directly applying annual DSM energy reductions to peak demand is incorrect for the reasons listed below:

- The need for the OCU Project to address growing peak demand is imminent and the solution takes significant time and effort to execute. FEI has seen growth in peak demand in recent years and has no evidence to support the assumption that peak demand would respond to DSM in the same way as annual demand or in a timeframe that could defer the need for the Project.
- As described in the response to BCUC IR1 4.2.1, the 2017 LTGRP peak demand forecasts (the traditional and theoretical end use method) all under-predicted customer additions and the resulting ITS peak demand. However, FEI's traditional peak demand forecast method was closer than any other theoretical method presented and much better than any method that attempted to apply DSM reductions to peak demand.
- Annual demand has similarly exceeded the 2017 LTGRP forecast because of higher actual customer additions. Without the capacity buffer in place provided by the OCU Project, a similar unanticipated increase in customer additions above forecast projections could easily overwhelm any assumptions of peak demand DSM savings and put FEI customers at risk of a capacity shortfall.
- The relationship between annual energy savings and peak demand reduction is likely to
 be different among different sectors and rate classes.
- FEI does not forecast a change in industrial peak demand, either through expansion at existing customer facilities or through an increase in customer accounts. As a result, applying annual savings to peak demand in the manner suggested to this customer class will not accurately forecast the peak demand for these customers.
- When determining the system capacity, the location of peak demand on the system is
 highly relevant. The assumption that all customers across the system are experiencing
 the same savings in peak demand is not supported by evidence.
- Not all of the measures in the DSM portfolio persist throughout the analysis period for the OCU Project. While this has been considered in the cumulative annual energy savings estimate provided in the response to BCUC IR2 42.5, it is an issue that increases the uncertainty of the relationship between annual energy savings and peak demand reduction.
- The gross annual energy demand forecast provided in the response to BCUC IR2 42.5
 includes forecast gas demand for transportation use, while there are currently no DSM
 programs offered by FEI to that customer rate class. FEI does not believe that removing
 that demand from the suggested analysis would improve the validity of the results.
- The annual savings forecast in the 2019-2022 DSM expenditure application only
 includes those savings that FEI can claim according to industry best practice and
 provincial regulation. The actual savings that occur when old equipment is replaced may



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be greater than that reported by FEI. If peak savings are directly proportional to annual savings as the request suggests, it would be fair to assume these unreported savings should be included in the calculation and peak savings would be even greater. Such a relationship is not demonstrated in FEI's analysis of historical peak demand data.

As the DSM portfolio evolves, the relationship between annual energy savings and peak
 demand reduction is likely to change as equipment technologies advance and programs
 are adjusted to meet customer needs.

8 Notwithstanding the explanation above, in order to be responsive FEI provides the figure and 9 table below. FEI has applied the year-over-year estimated annual savings presented in the 10 tables in the response to BCUC IR2 42.5 to current and forecast residential and commercial 11 accounts, at various proportions, as described in the figure legend. FEI did not apply any 12 savings to Industrial peak demand for the reason described above. The forecasts presented 13 continue to show the need for the OCU Project as proposed in 2023/2024, but also show that 14 the capacity would be sufficient to support peak demand for an indefinite period into the future if 15 the hypothetical peak demand reduction was sustained

15 the hypothetical peak demand reduction was sustained.



ITS Forecasted Peak Demand Comparison



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	ITS Forecast Peak Demand Comparison			
Year	Updated Application	DSM - 100% Res	DSM - 50% (Res & Comm)	DSM - 25% (Res & Comm)
	TJ/d	TJ/d	TJ/d	TJ/d
2019	321	321	321	321
2020	327	326	326	326
2021	333	330	330	331
2022	338	333	333	335
2023	344	336	335	340
2024	350	339	338	344
2025	353	340	339	346
2026	357	341	339	348
2027	360	341	339	350
2028	363	342	340	351
2029	367	342	340	353
2030	370	343	340	355
2031	373	343	340	356
2032	376	344	340	358
2033	379	344	340	359
2034	382	344	340	360
2035	385	345	340	361
2036	388	345	339	362
2037	390	345	339	363
2038	393	345	338	364
2039	395	345	337	365

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42.5.1.1 To the extent FEI is able to, please also provide a sensitivity analysis which shows the impact upon peak demand of a conservative upper or lower estimate of peak demand capacity savings.

9 Response:

10 FEI's method of forecasting peak demand for the Okanagan region is appropriate given the 11 historical acceptance of the methodology which is driven by the requirement to serve firm 12 demand during extreme cold weather. As well, given the current uncertainties of the impact of 13 DSM on peak demand, an estimate of 2.1 percent peak demand reduction is a very high value 14 to apply to an estimated reduction, and not a conservative value. For this reason, FEI has 15 provided a range of forecasts showing the sensitivity of the forecast to various assumed DSM 16 savings on peak demand in the response to BCUC IR2 42.5.1. FEI considers its current peak



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demand forecast to be an appropriate lower bound estimate of the impact of DSM on peak
 demand. In contrast, FEI has no data indicating an appropriate upper bound estimate of the
 peak demand reduction resulting from DSM measures.

42.5.1.2 Please discuss whether directionally, FEI anticipates that its annual incremental DSM energy savings are likely to increase, decrease, or stabilize after 2022.

11 Response:

12 At this time, FEI is not able to predict the direction of its annual incremental DSM energy 13 savings beyond 2022. FEI's Conservation Potential Review study will be completed later this 14 year. The results from this study will feed into the analysis of DSM potential in the 2022 LTGRP 15 and the development of FEI's next DSM Plan. Once the LTGRP analysis is complete and the 16 DSM Plan is developed, FEI will know whether it anticipates that its annual incremental DSM 17 energy savings are likely to increase, decrease, or stabilize after 2022. FEI's 2022 LTGRP is 18 expected to be filed in March of 2022 and its next DSM Plan is expected to be filed in Q2 2022. 19 As discussed in the response to BCUC IR2 42.5.1, FEI has no evidence that DSM energy 20 savings on annual demand could impact the need or timing for the OCU Project. If FEI begins 21 to observe benefits of DSM programs on peak demand, FEI would use that data to inform its 22 ongoing analysis of system capacity requirements further into the future.

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42.6 Please discuss FEI's assessment of the future impact of the carbon tax upon gas demand. Please include any recent projections FEI has made in this regard.

28

29 **Response:**

30 Carbon tax has the effect of increasing the cost of natural gas to consumers. Studies on the 31 price elasticity of natural gas are limited and have found that natural gas demand is relatively 32 inelastic, meaning that changes in price do not have a large or lasting impact on demand. It is 33 likely that at very high prices (or very high carbon tax), natural gas and other energy 34 commodities will become more elastic, but little is known about this relationship or at what price 35 natural gas demand will begin to become more elastic. Other factors such as the price of 36 alternative fuels, the capital costs incurred for switching fuels, and energy and climate policy 37 also combine to make the relationship between energy costs and demand complicated.

The 2017 LTGRP applied a range of carbon prices, natural gas prices, government policy and other factors to the annual demand forecast scenarios it examined. FEI's 2017 LTGRP reference case demand forecast was based on the best available information at the time. Short-



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- 1 term demand forecasts undertaken since that time intrinsically include the impacts of changes to
- 2 carbon tax, energy price and energy policy that have occurred since the 2017 LTGRP to the
- 3 extent that they have begun to influence energy demand to date. FEI will examine an updated
- 4 range of carbon prices, natural gas commodity prices, energy and climate policy and other
- 5 factors in its 2022 LTGRP.



4	42.0	Deference	
I	43.0	Reference:	PROJECT NEED
2			Exhibit B-2, BCUC IR 5.3, 8.2.1, 8.4
3			Exhibit B-9, BCSEA IR 3.10
4			Exhibit B-6, RCIA IR 5.1
5			Climate Projections for the Okanagan Region (February 2020), p. 24
6			Design Degree Day
7		In response t	o BCUC IR 5.3, FEI states:
8		There	are no dramatic trends evident in the UPCpeak values over time. The
9		UPCp	eak for RS1 customers drops slightly over the period and mostly in the

- 10 period from 2017 (primarily due to the DDD [Design Degree Day] change)...
- 11 FEI provides the following table which shows UPCpeak for residential and
- 12 commercial customers by rate schedule for the last 10 years for customers
- 13 served by the ITS.

Veer	I. I	TS UPC _{peak} (GJ/Hi	7)	
Year	RS 1	RS 2	RS 3	
2009	0.0487	0.1763	1.8831	
2010	0.0479	0.1758	1.8749	
2011	0.0470	0.1739	1.8718	
2012	0.0475	0.1857	1.9181	
2013	0.0485	0.1975	1.9629	
2014	0.0494	0.2113	2.0586	
2015	0.0499	0.2155	2.1111	
2016	0.0502	0.2190	2.2240	
2017	0.0452	0.1946	2.0447	
2018	0.0449	0.1937	2.0176	
2019	0.0448	0.1918	1.9723	
ITS - Historical Rate Schedule 1 UPC _{peak}				

ITS Historical UPCpeak (GJ/Hr)

- 14
- 15 With respect to the calculation of the DDD, in response to BCUC IR 8.2.1 FEI states:
- FEI has two main objectives that are met by using a 60 year data set. The first is to determine a sufficiently infrequent weather event to design the gas system to ensure reliability and security of supply can be met under the associated high demand forecast to occur during such an event. The second is that the design event is a stable and reproducible target for designing the system and doesn't change from year to year...
- FEI also states:

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- Using a data set of values to calculate the likely extreme temperature in a future 2 20 year period is possible. However, the result may vary significantly when it is 3 recalculated in subsequent years, particularly if the data set drops a winter of 4 very cold temperatures and replaces it with a very warm year. A variation such as 5 that just described would have less impact on the statistical result if the data set 6 is larger and there is less influence from year to year changes
- 7 To provide consistency, FEI does not currently recalculate the DDD more than 8 once per decade. Using a smaller sample of 20 years would require FEI to 9 recalculate and change the DDD much more frequently. Given the volatility of 10 extreme weather, FEI considers that a 60 year data set reflects trends in weather 11 in a more stable fashion.
- In response to BC Sustainable Energy Association (BCSEA) IR 3.10, FEI states: 12
- 13 The ITS spans four weather zones, each with its own design temperatures 14 related to an index weather station whose weather history determines the local 15 system design temperature...
- 16 For peak demand forecasting of the ITS, FEI assumes all four regions are at their 17 design temperature coincidentally. Consequently, all customers across the ITS 18 would be consuming their design day peak demand coincidentally.
- 19 43.1 Given that FEI updates its customer forecast and UPCpeak annually, please 20 explain why FEI does not also recalculate the DDD value annually (or, with a 21 frequency greater than once per decade).

23 Response:

1

24 The DDD values used for FEI load forecasting purposes are more useful when they relate to 25 climate extremes, rather than weather. Weather reflects short-term conditions of the 26 atmosphere, while climate is the average daily weather for an extended period of time at a 27 certain location.³ Given that weather can vary considerably from year to year, updating DDD 28 values annually (or on a frequency shorter than every decade) to incorporate very recent 29 changes would result in instability in FEI's forecasts. This is because changes in one period 30 may be reversed in the next recalculation due to annual or short-term variations. FEI uses a 10 31 year period because it sufficiently captures climate trends that may be occurring, without being 32 overly affected by short-term variations.

33

22

34

https://oceanservice.noaa.gov/facts/weather_climate.html



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43.2 Based upon the historical UPCpeak values by customer class, please confirm, or explain otherwise, that the update to the DDD calculation in 2018 had a significant impact on the UPCpeak.

5 **Response:**

The update to FEI's DDD calculation occurred and was applied to determining the UPC_{peak} from 6 7 2017 onward. FEI confirms that the reduction in design temperature in the regions served by 8 the ITS resulted in a corresponding reduction in UPC_{peak} from previous years in those areas. 9 This adjustment had an impact of reducing UPC_{peak} in the rate schedules between 2016 and 10 2017 by approximately 5 percent. The impact of the adjusted DDD in 2017 can be seen in the 11 dip in the peak demand shown in 2017 of approximately 4 TJ/day from the 2016 values shown 12 in Figure 3-6 of the Updated Application. The reduction in peak demand recovered quickly the 13 following year as net customer additions exceeded forecasts in 2017 and 2018.

- 14
- 15

16 17

- 43.2.1 Please outline when FEI last recalculated the DDD prior to 2017, and the impact of the update.
- 18 19

20 **Response:**

For the Interior regions served by the ITS, the DDD values prior to those calculated in 2017 were last adopted in November 1992 and used from 1993 through 2016. The following table shows the changes in DDD values over time:

24

Region	Prior to 1993	1993-2016	Current
Thompson	48	49	46.7
Central and North Okanagan	45	45	43.9
South Okanagan	41	40	39.1
West Kootenays	43	40	39.7

25

In the 1993 update, the most significant DDD change occurred in the West Kootenays; in contrast, the DDD values for major load centres in the Thompson and Okanagan regions remained relatively stable. As such, the 1993 update in DDD values had little overall impact on ITS peak demand.

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43.2.2 Please discuss the extent to which step changes in UPCpeak conflicts with the objective that a "design event is a stable and reproducible target for designing the system."

5 **Response:**

FEI does not see a conflict with the approach of changing the system design temperatures (and correspondingly inducing a step change in the UPC_{peak}) only periodically. This process provides a static design temperature to measure system capacity and customer consumption against for a number of years before resetting for changes in climate which occur more slowly.

10
11
12
13 43.3 Please recalculate the DDD values using the most recent 40 year and 20 year datasets, and compare to the DDD value produced by a 60 year dataset. If available, please also include data from 2018 onwards in the analysis.
16
17 <u>Response:</u>
18 The table below provides the comparison for the design degree day values with a 1 in 20 year return period using a dataset of 60 years.

return period using a dataset of 60 years, 40 years, and 20 years of weather history. Data from
2018 onward is included in the 20 year and 40 year datasets. The inclusion of recent data in
the 60 year dataset reduced the calculated DDD from the existing DDD values by 0.1 to 0.3°C in

- the regions. FEI has presented the current DDD values below as a reference when comparing
- 23 to the 20 or 40 year datasets.
- 24

Design Degree Day 20 year return period with Various Historical Datasets

Weather Area	Zone Name	Existing DDD 60 Year Dataset	DDD 40 Year Dataset	DDD 20 Year Dataset
YLW	Kelowna	43.9	42.8	42.6
YKA	Kamloops	46.7	43.4	42.6
YYF	Penticton	39.1	37.5	35.7
YCG	Castlegar	39.7	36.2	35.9

25 26

27

28 29 43.3.1 Based upon this analysis, please reproduce peak demand forecasts for the ITS. Please include a table with data points.



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1 Response:

2 The requested information is provided below. When considering a 20 or 40 year historical 3 dataset, the resulting effect is between a 1.1°C and 1.3°C reduction in the system design day 4 temperature for Kelowna. The resulting impact on the peak demand forecast is similar. In the 5 short term, the analysis using the revised peak demand forecast still indicates that without short-6 term mitigation measures, the pressures at the Kelowna #1 and Polson Gate Stations would fall 7 to FEI's minimum design values or below by the winter of 2023/2024. As such, there would be 8 no change to the OCU Project in-service date by using weather datasets that cover shorter 9 periods. FEI's analysis also shows that the need for additional compression or other capacity 10 upgrades along the Southern Crossing Pipeline could be deferred from 2029 to 2030 with a 40 11 year dataset and to 2031 with a 20 year dataset. As well, the capacity provided by the OCU 12 Project may continue to meet the peak demand requirements for several years beyond the 20

13 year forecast period for both revised forecasts.



ITS Peak Demand using 60, 40, & 20 Year Dataset for a Design Degree Day with a 1 in 20 Year Return Period



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Year	60 Year Dataset	40 Year Dataset	20 Year Dataset
	TJ/d	TJ/d	TJ/d
2019	321	309	306
2020	327	315	312
2021	333	321	317
2022	338	326	323
2023	344	332	328
2024	350	338	334
2025	353	341	337
2026	357	344	341
2027	360	347	344
2028	363	351	347
2029	367	354	350
2030	370	357	353
2031	373	360	356
2032	376	363	359
2033	379	366	362
2034	382	369	365
2035	385	371	368
2036	388	374	370
2037	390	377	373
2038	393	379	375
2039	395	381	377

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43.3.2 Please discuss the advantages and disadvantages of using a 40 year or 20 year dataset compared to a 60 year dataset.

8 Response:

9 As discussed in the response to BCUC IR1 8.2, FEI uses the Gumbel Method of Moments 10 extreme value analysis with a 1 in 20 year return period to derive design day temperatures. 11 Using a 20 or 40 year data set provides data representing more recent weather and, if the 12 climate is changing rapidly, this may have the advantage of incorporating that change. 13 However, using a 20 or 40 year data set also provides less data on the variability and range of 14 extreme weather events that have occurred in the region over a longer period. Reducing the 15 inclusion of these temperature variations is undesirable when the intent is to design the system 16 to withstand rare and extreme weather events. As such, a 60 year data set, which includes data



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spanning three return periods, is a reasonable basis for determining the extreme temperature
 likely to occur only once in 20 years.

3 4			
5 6 7	43.4	Please weathei	explain why the peak demand forecasting methodology assumes that all r zones coincidentally reach the DDD on the same day.
8 9		43.4.1	Please discuss the extent to which FEI considers this assumption is supported by historical data of extreme cold events.
10 11 12		43.4.2	Please discuss whether this assumption results in a peak demand forecast on a system-wide basis that is statistically likely to occur more or less frequently than once in every 20 years.
13 14 15 16 17		43.4.3	Please discuss whether FEI considers it is feasible to adjust the peak demand forecasting methodology to account for any differences between the actual system-wide coldest days (as observed across all weather zones on a given day), and the coincident DDD FEI assumes to occur across all weather zones.
18 19 20 21			43.4.3.1 To the extent FEI is able to, please quantify the impact of any adjustments on the peak demand, or alternatively please describe qualitatively.

22 Response:

The four weather zones that represent the regions served by the ITS are located in the Southern Interior and share similar climates and weather patterns. While they have locally varying weather for much of the winter, it is expected that extreme weather events affecting all regions will occur at least once each year. As described in *The Weather of British Columbia*:⁴

27 Arctic Outbreaks

28 During winter, a strong area of high pressure forms in the very cold air over 29 Alaska, the Yukon and the northern end of the Mackenzie River Valley. This cold arctic air moves southeastwards into the Prairies but can also spread over 30 northern and central British Columbia. Most often, the arctic air pushes 31 32 southward into the Central Interior before coming to rest. At the same time, arctic 33 air also flows through the mountain passes from Alberta and fills the Rocky 34 Mountain Trench. At least once or twice each year, the advance of arctic air is so 35 strong that it spreads into the Southern Interior.

⁴ NAV CANADA (2001), The Weather of British Columbia, pp. 67-68. Retrieved from: <u>https://www.navcanada.ca/en/lawm-bc-en.pdf</u>.



Outflow

If the cold air deepens sufficiently over the interior of British Columbia, it can flow
through the coastal mountain passes down the coastal inlets, and cascade out
over the coastal waters far enough to cover the Queen Charlottes and Vancouver
Island. This condition of cold air spilling through the coastal inlets is referred to as
"outflow" and it can persist for days.

7 The resulting outcome is commonly observed in the ITS regions each winter: that the coldest 8 days in each region occur coincidentally, or very nearly so, within a 24 hour period. The 9 following table shows the dates where the coldest and second coldest days of the winter 10 occurred in each region for each of the last five winters.

Based on this historical evidence, FEI has assumed that: a weather extreme resulting in a design degree day in one weather zone is likely to occur coincidentally in all ITS regions driven

13 by such Arctic Outbreak conditions, that the coincidence does not reduce the frequency of the

14 event, and that adjusting for extreme conditions occurring on only a portion of the system is not

15 feasible or representative of the weather history of the region served by the ITS.

	Zone		2010 1/	vvincer	2017-10	winter	2010-15	willer	2019-20	wintee	2020-21
		Temp (°C)	Date	Temp (°C)	Date	Temp (°C)	Date	Temp (°C)	Date	Temp (°C)	Date
	Thompson	-19.6/-19.6	Jan 11/Jan 12	-16.9/-16.1	Dec 24/Jan 1	-17.7/-16.1	Feb 5/Feb 10	-21.3/-21.2	Jan 15/Jan 14	-16.4/-15.8	Feb 11/Feb 12
	North/CentralOkanagan	-17.8/-17.8	Jan 11/Jan 12	-13.6/-13.3	Feb 21/Dec 24	-15.8/-14.3	Feb 5/Feb 10	-18.9/-18.2	Jan 14/Jan 13	-14.2/-14.1	Feb 12/Feb 11
	South Okanagan	-14.4/-13.3	Jan 13/ Jan 12	-11.8/-12.3	Dec 24/Feb 20	-12.4/-11.8	Feb 4/Feb 5	-14.2/-14	Jan 15/Jan 14	-12.4/-11.5	Feb 11/Feb 12
	West Kootenay	-12.3/-12.3	Jan 11/Jan 5	-12/-11.2	Feb 19/Feb 23*	-10.9/-10.7	Feb 7/Feb 6	-12.1/-11	Jan 14/jan15	-11.8/-10.5	Feb 12/Feb 9**
16				*1	Dec 24 - 5th coldest d	ау				**	'Feb 11 - 3rd coldest (
17											
18											
19											
20	43.	.5 Plea	ise provid	e a sumr	nary of m	ethodolog	gies FEI is	s aware o	of, which a	are used	by
21		othe	r gas utili	ties to fo	recast rar	e extrem	e cold eve	ents. Plea	ase briefly	outline t	he
22		pros	and cons	s of differe	ent metho	dologies.					
23						-					
24	Response	<u>):</u>									
25	FEI is awa	are of diff	erent met	hodologi	es used b	y other u	tilities in (Canada a	nd the Ur	nited Stat	es
~~	<i>t t</i>										- 1-

Table of Coldest and Second Coldest day for Regions Served by the ITS

26 27 utility uniquely addresses their own specific requirements and each methodology is complex 28 and takes expertise to fully comprehend its implications on the utility's system design. Different 29 methodologies also need to be viewed in the context of other design parameters that utilities 30 use to define system capacity (e.g., minimum allowable pressures, maximum gas flow 31 velocities) and also how customers might be impacted by capacity shortfalls. FEI does not have 32 sufficient knowledge of each utility's requirements or all the design constraint parameters that 33 comprise each method in order to evaluate the pros and cons when compared to FEI 34 methodology. Notwithstanding this, FEI provides some general observations below.

35 The methodologies used by other utilities fall under one of the following two categories:



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- Utilities that use either a coldest recorded daily temperature within a specific historic period; or
- 3 2. Utilities that, like FEI, employ a statistical method using coldest day occurrences each
 4 year for a specific historical period and with a specified return period.

5 FEI is aware of one western Canadian utility that uses a 1 in 50 coldest recorded daily average 6 temperature and refreshes their information periodically, most recently in 2017 using data from 7 1967 to 2016. One Eastern Canadian utility uses the coldest recorded day in the entire available 8 weather history, including data as far back as 1953 in some of their weather regions. One 9 California utility considers 90 years of weather history to determine the coldest event. One 10 Eastern US utility has used an average of the coldest three days occurring in the available 11 weather history and has not changed their design value since 1994. If FEI were using any of 12 these methods, the design temperatures used for the ITS would be more extreme than the 13 currently calculated design degree day (DDD) temperatures.

Many utilities use a statistical method similar to FEI. One Eastern Canadian utility uses a 1 in 20 year return period similar to FEI, but uses a weather history starting in 1971 and refreshes their design temperature every year. One Canadian utility uses a Monte Carlo analysis to determine their return periods in some areas and considers 1 in 5, 1 in 10 and 1 in 20 year return periods for various purposes. FEI is aware of another California utility that uses a T distribution statistical method to assess and design for a 1 in 35 year return period.

To FEI's knowledge, most utilities are using statistical methods with return periods ranging from 1 in 10 years to 1 in 35 years. FEI believes that using a statistical method, along with a sufficiently broad weather history as input, produces better results. This approach enables a mathematically sound and consistent means of quantifying the likelihood of an extreme occurrence, and moderates any overly extreme values by selecting an appropriate return period.

FEI's return period of 1 in 20 years produces an extreme value that has a five percent chance of occurring in any given year. FEI's consideration of 60 years of weather history provides sufficient input data to represent the range of extreme occurrences. FEI's return period is in the middle range of return periods used by other utilities of which FEI is aware. FEI considers its methodology of combining these elements, while not as conservative as methods used by some utilities, to be generally in the middle ground of methods used by other utilities and is appropriate and sufficient for the needs of FEI's customers.

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In response to Residential Consumer Intervener Association (RCIA) IR 5.1, FEI
 produces the following table which shows the sensitivity of energy consumption per day
 to the Degree Day:



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	Thompson			North Okanagan and Central Okanagan			South Okanagan		
UPC Year	Residential	ial Commercial		Residential	Commercial		Residential	Commercial	
	Rate 1	Rate 2	Rate 3	Rate 1	Rate 2	Rate 3	Rate 1	Rate 2	Rate 3
2015	0.019	0.094	0.703	0.019	0.087	0.830	0.019	0.081	0.754
2016	0.018	0.090	0.748	0.019	0.084	0.826	0.018	0.078	0.873
2017	0.018	0.089	0.753	0.019	0.083	0.837	0.018	0.078	0.893
2018	0.018	0.093	0.692	0.018	0.083	0.785	0.019	0.084	0.837
2019	0.018	0.087	0.687	0.018	0.080	0.727	0.019	0.077	0.812
2020	0.018	0.089	0.735	0.018	0.081	0.732	0.018	0.077	0.833

Temperature sensitivity used to determine UPCpeak

- '
- 2

43.6 Please express the temperature sensitivity as a percentage of the total UPCpeak by customer class.

3 4

5 **Response:**

6 The following table expresses the temperature sensitivity values in the referenced table as a

7 percentage of UPC_{peak}.

* Above are overage heat load value in GJ/d/DD

% Change in UPC _{peak} per Degree Day									
	Thompson			North Okanagan and Central Okanagan			South Okanagan		
Year	Residential	Comm	nercial	Residential	Comm	ercial	Residential	Comm	nercial
	Rate 1	Rate 2	Rate 3	Rate 1	Rate 2	Rate 3	Rate 1	Rate 2	Rate 3
2015	2.04%	2.04%	2.04%	2.22%	2.22%	2.22%	2.50%	2.50%	2.50%
2016	2.04%	2.04%	2.04%	2.22%	2.22%	2.22%	2.50%	2.50%	2.50%
2017	2.14%	2.14%	2.14%	2.28%	2.28%	2.28%	2.56%	2.56%	2.56%
2018	2.14%	2.14%	2.14%	2.28%	2.28%	2.28%	2.56%	2.56%	2.56%
2019	2.14%	2.14%	2.14%	2.28%	2.28%	2.28%	2.56%	2.56%	2.56%
2020	2.14%	2.14%	2.14%	2.28%	2.28%	2.28%	2.56%	2.56%	2.56%

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43.7 Please discuss whether FEI assumes the sensitivity of energy consumption per day to the Degree Day is a linear relationship.

15 **Response:**

16 Yes. FEI prepares the data for determining each customer's UPC_{peak} assuming a linear 17 relationship.

- 19
- 20
- 21 In response to BCUC IR 8.4, FEI states:
- FEI's peak demand forecast does not directly consider the potential impact of climate change on the DDD. FEI is not aware of a reliable method to forecast

¹



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 future changes in extreme weather either in severity or frequency (especially in the cold temperatures which set FEI's peak demand).
 Page 26 of the Climate Projections for the Okanagan Region (February 2020) report⁵

Page 26 of the Climate Projections for the Okanagan Region (February 2020) report⁵ provides the following projections for "coldest night":

Coldest Night

About this Indicator

Coldest night refers to the coldest nighttime low temperature of the year (or in a particular season), on average. This measure illustrates how extreme temperature changes are projected to unfold over time.

Projections:

- In the past, the coldest winter night for the Okanagan region was about -25°C. By the 2050s, the coldest night is expected to warm by 6°C to -19°C, and by the 2080s, temperatures are projected to warm by 10°C to -15°C. While the coldest night is projected to warm in all seasons, the coldest night in winter is projected to warm more rapidly than other seasons.
- Valley bottoms follow a similar trend, though historically coldest winter nights have been approximately 3°C to 5°C warmer than the Regional District average.

TABLE 7: CHANGE IN COLDEST NIGHTS

			Deat (90)	2050s Ch	ange (°C)	2080s Ch	ange (°C)	
			Past(*6)	Average	(Range)	Average	(Range)	
	Minter	Whole Regional District	-25.4	5.9	(3 to 9)	10.1	(8 to 14)	
DDNO	winter	Valley Bottom Only	-21.9	6.0	(4 to 9)	10.3	(8 to 14)	
RUNO	Automa	Whole Regional District	-16.0	5.5	(4 to 7)	8.1	(6 to 10)	
	Autumn	Valley Bottom Only	-11.7	5.5	(4 to 7)	8.1	(6 to 10)	
	Winter	Whole Regional District	-24.6	6.1	(4 to 10)	10.3	(8 to 15)	
8000	witter	Valley Bottom Only	-18.8	6.1	(4 to 10)	10.3	(8 to 15)	
RDCO	Autumn	Whole Regional District	-15.8	5.4	(4 to 7)	8.0	(6 to 10)	
		Valley Bottom Only	-10.1	5.2	(4 to 6)	7.8	(6 to 9)	
	Winter	Whole Regional District	-24.5	6.1	(4 to 10)	10.3	(8 to 14)	
0000	winter	Valley Bottom Only	-18.9	6.1	(4 to 10)	10.3	(9 to 15)	
RDUS	Autumo	Whole Regional District	-16.5	5.0	(3 to 6)	7.4	(5 to 9)	
	Autumn	Autumn	Valley Bottom Only	-10.6	5.1	(4 to 7)	7.6	(5 to 9)

TABLE NOTES

43.8

Past refers to the time period from 1971 to 2000.

2050 Change refers to the projected increase in temperature ("C) by the 2050s from the past baseline.

2080 Change refers to the projected increase in temperature (°C) by the 2080s from the past baseline.

5

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- 9 10
- 11
- applicable indicator for forecasting future changes to the DDD.
 - 43.8.1 Please describe the impact upon the peak demand forecast if the coldest night indicator were to be applied to forecasts of the DDD.

Please discuss whether FEI considers the "coldest night" indicator to be an

⁵ <u>http://www.rdno.ca/docs/200303_OK_ClimateReport_Final.pdf</u>



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1 Response:

2 FEI does not consider the "coldest night" indicator to be directly applicable. The report referenced in the preamble does not contain sufficient detail for FEI to understand the 3 4 underlying methodology and determine whether the indicator is relevant to potential DDD 5 changes in the future. For example, on page 26 of the report the description of the Coldest 6 Night Indicator states: "Coldest night refers to the coldest nighttime low temperature of the year 7 (or in a particular season), on average." [emphasis added]. FEI's calculated DDD is a result of 8 an extreme value analysis (EVA) that examines historical occurrences and predicts a probable 9 extreme low temperature occurrence for a specified return period based on an established 10 statistical method. For FEI load forecasting purposes, this is a 1 in 20 year return period. FEI 11 designs its system based on the EVA's calculated extreme value and not an average of coldest 12 occurrences, and so it does not appear that the methods are comparable or compatible. 13 Additionally, FEI's DDD values and the resulting demand on a peak day are based on 14 temperatures throughout the day. The report does not indicate if the method assumes the daily 15 highs warm equally with the overnight lows which may or may not move directly with the daily 16 low or daily average.

17 More specifically, the report describes how a warming trend may result in occurrences of future 18 natural hazards such as increased wildfires, higher streamflows, or impacts on agriculture that 19 would be relevant and appropriate to Regional District planning. FEI's objective when 20 determining the DDD for the gas transmission and distribution system is to plan for and meet 21 FEI's customer needs when extreme low temperatures occur. Applying a hypothetical and 22 speculative long-term warming factor to reduce current estimates of extreme cold temperature 23 occurrences could have a negative impact on FEI's customers and would not be considered 24 prudent planning. Such an approach could have significant impacts on FEI's ability to maintain 25 reliable energy supply.

26 Notwithstanding the above, for the purposes of responding to this IR, FEI provides the figure 27 below. The figure illustrates the impact on the peak demand forecast if the coldest night 28 indicator's decline of 6°C through the 2050s were applied proportionally to FEI's design 29 temperatures for the ITS. The impact is small in the short term but grows through the forecast. 30 The forecast would lessen the extent of short-term mitigations required before 2023, but would 31 still result in the station inlet pressure at the Polson and Kelowna #1 Gate Stations dropping 32 below FEI's minimum requirements. Therefore, the OCU Project continues to be required prior 33 to the winter of 2023/2024. The potential warming in extreme low temperatures through the 34 forecast period would extend the Project's capability to meet peak demand requirements further 35 into the future. Such a forecast would move the need for additional compression or other 36 upgrades to the Southern Crossing Pipeline from 2029 to 2032; as such, the OCU Project would 37 provide sufficient capacity to support peak demand growth in ITS for several years beyond the 38 forecast period.



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ITS Peak Demand Forecast Comparison - Fixed versus Declining DDD



1	44.0	Reference	PROJECT NEED
2			Exhibit B-2, BCUC IR 5.5, 5.6, 5.7
3			Energystepcode.ca website
4			Demand Assumptions for New Customers
5		In respons	se to BCUC IR 5.5, FEI states:
6 7 8 9 10 11 12		FE and ne for add dir cus	I's gross customer additions have a correlation to new building construction d for forecasting gross customer additions, FEI assumes that a percentage of <i>w</i> buildings will be new gas customers. However, FEI's customer account ecast and the forecast used to determine the peak demand is a net customer ditions forecast, therefore FEI does not assume net customer accounts are ectly correlated with new buildings. Net customer additions are impacted by stomers that leave the system for a variety of reasons.
13		In respons	se to BCUC IR 5.7, FEI states:
14 15 16 17 18		FE ne lar po gro	I has not observed any measurable impact (i.e., decrease in peak demand) for w customers due to the adoption of the BC Energy Step Code by the three ger municipalities identified in the response to BCUC IR1 5.6. Rather, the pulation of the Okanagan region has continued to increase and this population owth has led to a corresponding increase in customer demand.
19 20		44.1 Ple ne	ease explain what assumption FEI makes with respect to the percentage of w buildings that will be new gas customers.
21 22 23 24	Respo	44 <u>onse:</u>	1.1 Please discuss whether FEI has observed any trends in recent years with respect to the percentage of new buildings connecting to gas.
25 26 27	FEI pe new c and 8	eriodically c ustomer att 5 percent w	onducts a market capture analysis comparing new housing completions to FEI achments. Over the last three years, the capture rate has ranged between 81 vith no clear trend over time. A variety of factors affect capture rate including

28 but not limited to housing type, bylaws and codes/regulations, and the builder's and customer's 29 desire for natural gas. FEI does not have data on the exact proportion of total households that 30 are supplied with natural gas in BC. Regardless, capture rate is not used as an input to the 31 peak demand forecast.

32 33

- 34 35 44.2 Please explain what assumption FEI makes for customers leaving the system in
- 36 its peak demand forecasts, and the basis for such assumptions.
- 37



1 **Response:**

2 FEI uses net customer additions in the base year of the forecast and applies the growth rates as 3 described in Section 3.3.1.2 of the Updated Application to the net customer additions in the 4 base year to calculate the net customer additions in each year of the forecast period for 5 residential, and small and large commercial customers. As a result, the growth in customers and 6 therefore in peak demand produced by the method is a "net" value and accounts for some 7 customers leaving the system each year. The forecast method assumes that the proportion of 8 customers added and removed from the system each forecast year remains the same as in the 9 base year of the forecast. For large industrial customers, FEI does not forecast any account 10 additions or reductions; rather, FEI assumes the industrial customer numbers, locations, and 11 consumption patterns remain unchanged.

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- 44.3 Please discuss the differences in growth rates between FEI's net customer additions forecast, and the gross customer growth rates derived from BC Stats, Conference Board of Canada (CBOC) and the three-year average method for commercial customer additions.
- 18 19

20 Response:

21 FEI interprets this question as a request to apply the BC Stats growth rates, CBOC growth rates 22 and commercial growth rates to the gross customer counts, and to then discuss the differences 23 between the growth rates from that result with the growth rates from the FEI net customer 24 additions forecast.

25 There would be no difference in the growth rates if the customer forecast method was applied to 26 gross customer additions and then compared to the results from the net customer additions 27 forecast.

28 As explained in the response to BCUC IR2 45.1, the residential prior year-end actual customer 29 count is used as the starting point for both the residential and commercial customer forecasts. 30 The residential customer counts are multiplied by the CBOC growth rates while the three-year 31 average commercial additions are added to the commercial year-end totals by rate class. The 32 BC Stats forecast is used to proportion the customer forecasts to the local health areas (LHAs) 33 and then to the municipalities within the LHAs. As a result, applying the same growth rates to 34 the gross customer additions would result in a forecast with the same growth rate as the net 35 customer additions forecast.

36 For example, if there were 100 net residential customer additions at year-end and the growth 37 rate was 1 percent, then the first year of the forecast would show 101 customers. If there were 200 gross customer additions then applying the 1 percent growth rate would result in 2 38 39 customer additions. The customer additions are different (1 versus 2) but the growth rate is 40 identical.



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- FEI notes that its forecast method is conservative because the growth rates are only applied to the net customer additions totals. The net customer additions are the result of gross customer additions less the number of customers that leave the system for a variety of reasons. If the method were applied to the gross customer additions the residential and commercial forecasts would both be higher.
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- 9 In response to BCUC IR 5.6, FEI states: "The BC Energy Step Code was implemented 10 in 2019 in the City of Kelowna and the City of Penticton, and in the City of Vernon in 11 2020. FEI is not aware of any other mandatory buildings requirements adopted by these 12 municipalities."
- 13 In response to BCUC IR 5.7, FEI states:

14 FEI has not observed any measurable impact (i.e., decrease in peak demand) for

- new customers due to the adoption of the BC Energy Step Code by the three
 larger municipalities identified in the response to BCUC IR1 5.6... FEI also notes
 that industrial customers are not impacted by the implementation of the BC
 Energy Step Code, as it is applicable only to new residential and commercial
 construction.
- The Energy Step Code website⁶ outlines the following steps and corresponding energy
 efficiency thresholds:



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- 44.4 Please discuss the extent to which FEI considers the energy efficiency thresholds, outlined in the steps beyond Step 1, are likely to correspond to changes in the UPCpeak of new customers who connect to gas. Please also discuss any uncertainties.
- 26 27

⁶ <u>https://energystepcode.ca/how-it-works/</u>



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1 Response:

2 FEI has not observed a quantifiable impact on customers' peak load in the area since the 3 adoption of the BC Energy Step Code in large municipalities in the Okanagan area including the 4 Cities of Kelowna, Penticton and Vernon. As discussed in the response to BCUC IR1 5.2.1, 5 some factors could reduce customer consumption on an annual basis, but depending on the means of achieving that efficiency, could drive peak demand up or down. FEI presently has no 6 7 basis to determine this effect and is therefore uncertain as to the net direction or magnitude of 8 change in UPC_{peak} of new customers overall as a result of the BC Energy Step Code.

9 10 11 12 44.5 Please discuss the extent to which FEI considers the implementation of the steps 13 beyond Step 1 of the BC Energy Step Code will affect the percentage of new 14 customers connecting to gas. Please include a specific discussion on the impact 15 of net zero ready new construction in 2032 upon new gas connections.

17 **Response:**

18 Customer choices relating to the use of gas are impacted by many factors, including the BC 19 Energy Step Code. The BC Energy Step Code is designed to advance building energy 20 performance, requiring building envelopes and energy systems to become increasingly efficient 21 over time. FEI acknowledges that this may make it more difficult to connect customers to gas in 22 the higher steps of the code, but is unable to predict the impact on the percentage of new 23 customers connecting to gas given the number of factors influencing customer choices and the 24 emergence of new high efficiency gas technologies such as gas heat pumps.

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- 44.6 Please discuss whether FEI makes any assumptions regarding the replacement of existing buildings with new buildings in its peak demand forecast.

31 Response:

32 FEI's net customer additions forecast reflects the change in the account numbers when it is 33 refreshed each year (i.e., if the customer in the building reflects a net new increase, a 34 replacement, or a reduction in accounts). From a UPC_{peak} perspective, the assumption is that 35 the new building/customer peak is represented by the current average customer in the area with 36 the same rate schedule and will change to reflect actual consumption in future forecasts once a 37 consumption history for the customer is established.

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- 44.7 For municipalities that have implemented the BC Energy Step Code, please outline any dates where different steps will be applicable within the municipality.

5 **Response:**

- 6 The three cities cited in the preamble have identified the following timelines for implementing the7 BC Energy Step Code:
- City of Kelowna: currently requires Step 1 for new single family dwellings and townhouses, with Step 3 to be effective by June 1, 2021.
- City of Penticton: currently requires Step 1 for new single family dwellings and townhouses.
- City of Vernon: started consulting on the BC Step code; city council planning to adopt
 Step 1 by fall 2020, Step 2 by fall 2021, and Step 3 by spring 2022 for single family
 dwellings and townhouses.
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- 44.7.1 Please
 - 7.1 Please discuss the extent to which the timing and nature of the implementation of different steps represent reasonably forecastable changes that can be accounted for in demand forecasting.

20 21

22 <u>Response:</u>

At this point in time, FEI does not have sufficient data to forecast the impact that the implementation of the different steps referenced above may have on its demand forecast. As the steps are implemented, customers' gas usage patterns may change in a measureable way, providing FEI with firm data to support adjusting its demand forecast. Without such data, FEI has no basis on which to modify its forecasting based on the potential reduction in gas demand which may result from the Step Code.

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44.7.2 Please explain the impact upon the peak demand forecast if assumptions were included to adjust the UPCpeak for new customers in these municipalities in line with the steps in the BC Energy Step Code.

36 **Response:**

As discussed in the response to BCUC IR2 44.4, FEI presently is uncertain as to the net direction or magnitude of any change in UPC_{peak} for new customers overall as a result of the BC Energy Step Code changes. Notwithstanding this, to illustrate the highest range of impact of the



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energy efficiency thresholds, if FEI were to apply the 20 percent reduction to all new residential 1 2 customers attaching throughout the forecast period, FEI's peak demand for the region served by 3 the OCU Project would be reduced by approximately 8 TJ/day in 2039. This would correspond 4 to a system peak demand equivalent to that originally forecast to occur in 2035. If FEI were to 5 apply a 40 percent reduction to all new residential customers attaching throughout the forecast 6 period, FEI's peak demand would be reduced by approximately 16 TJ/day in 2039. This would 7 correspond to a system peak demand equivalent to that originally forecast to occur in 2033. 8 Neither scenario would defer the need for the OCU Project which is required prior to the winter 9 of 2023/2024.

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- 44.8 Please confirm, or explain otherwise, that FEI's peak demand forecast assumes
 no growth in industrial customers in the forecast period, and therefore the nonapplicability of the BC Energy Step Code to industrial buildings has no bearing
 upon the peak demand forecast.
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18 **Response:**

19 Confirmed. FEI assumes no growth or decline in industrial customer accounts or peak 20 consumption in the forecast period.



1	45.0	Refere	ence:	PROJECT NEED		
2				Exhibit B-1-2, p. 23		
3				Exhibit B-2, BCUC IR 6.2, 6.5.1		
4				Customer Additions		
5		00.00	ao	f Exhibit P. 1.2. EEL states:		
5		On pag	ye zo u	TEXHIDIL D-1-2, FEI States.		
6			To ma	intain consistency with FEI's rate setting forecast, FEI "trues up" each year		
7 8			of the For re	sidential customers, the rate-setting forecast uses the single family/multi-		
9			family	growth rates from the Conference Board of Canada (CBOC) forecast. The		
10			CBOC	forecast is applied province-wide and does not provide the regional		
11			granul	arity of the BC Stats/LHA method. The commercial rate-setting forecast		
12			uses a	three-year average of customer additions.		
13		In res	ponse	to BCUC IR 6.2, FEI provides a comparison of the residential and		
14		comm	ercial c	ustomer forecasts as filed in the Application with the forecast developed		
15		using	only the	BC Stats nousehold formations growth rates. FEI also states:		
16			FEI no	otes that HHF [household formation] forecast is a way to disaggregate the		
17			region	al customer additions forecasts developed by the CBOC and three year		
10 19			averag	in those municipalities. The ITS spans both the Inland and Columbia		
20			region	s and the disaggregation of growth further allows for combining the		
21			munici	palities that are connected to the ITS.		
22		With re	espect t	o commercial customers, in response to BCUC IR 6.5.1 FEI states:		
23			a. The	re was no apparent cause for the customer increase in 2018. b. Based on		
24			Grubb	s Outlier test the 2018 value of 117 customer additions was an outlier.		
25		45.1	Please	e discuss whether FEI considers HHF forecast to be a more accurate		
26			repres	entation of growth in customer accounts in the ITS than the CBOC		
27			toreca	st.		
20 29	Respo	onse:				
30	EEL d	oes not	consid	ler the BC Stats Household Formation forecast to be any more or less		
31	accurate than the CBOC forecast. The two forecasts are not interchangeable but instead are					
32	used i	n tande	m to de	velop the long-term customer forecast.		

33 The CBOC provides a forecast by single and multi-family housing type. As the housing market 34 continues to transform toward multi-family dwellings, it is important to account for these trends in the forecast. The HHF forecast does not provide a similar breakdown by housing type and 35 therefore cannot be used alone or as an alternative to the CBOC forecast. Instead, the HHF 36 37 forecast provides the regional granularity required by FEI. The HHF forecast is used to distribute


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- 1 customer additions over the different local health areas and then to the municipalities served by
- 2 FEI. The CBOC forecast does not contain this level of regional granularity and cannot be 3 considered as an alternative to the HHF forecast.

The following figures show how the CBOC and HHF forecasts work together to provide the final result used by FEI in forecasting customer growth. The charts shown are for just the Columbia region (rather than the entire ITS) because the number of local health areas and municipalities is smaller, making it easier to see how these two forecasts support each other.

8 The first figure shows the Columbia regional residential customer forecast and is derived using 9 only the CBOC growth rates for single and multi-family dwellings. In this figure, the single and

- 10 multi-family dwelling forecasts have been aggregated into the single FEI Rate Schedule 1
- 11 forecast. The red bars are the regional totals and cannot be further assigned to local health





- 14 The second chart shows the same forecast, but distributed across the four local health areas
- 15 located in the Columbia region based on the HHF forecast. This figure demonstrates that the
- 16 HHF forecast is used for proportioning only, and does not alter the overall regional forecast.







2 Finally, the forecast is further distributed to the municipal level by applying the respective LHA

3 growth rates to each member municipality. Again, the overall regional forecast is not altered by

4 this "drill down" approach, but this does provide FEI with the municipal resolution needed for

5 system planning purposes.



FORTIS BC

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45.2 Please discuss whether FEI considers the presence of outlier data from in the calculation of the commercial customer additions forecast results in an overestimate of growth rates for commercial customer accounts.

8 **Response:**

9 For the long-term RS 3 (commercial) forecast, FEI identified the presence of outlier data and 10 noted that the customer totals were growing exponentially and were not consistent with growth 11 rates observed in other rate schedules. As a result, FEI made the forecast adjustment at the 12 end of the five year forecast period specifically to avoid an overestimation of the long term 13 growth rate for RS 3 customers. FEI notes that this adjustment was applied to RS 3 only, and 14 was not applied to the other commercial customer classes (RS 2 or RS 23).

For the five year short-term portion of the forecast, FEI considers it appropriate to use the most recent actual data without modification, because actual trends may be occurring in the data. The exponential growth effect is less significant in the earlier portion of the forecast.

18 In the response to BCUC IR1 6.5.1 FEI provided the following figure. FEI notes that the first 19 orange data point is 2018 and as such should have been colored blue, as it is an actual value.

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BCUC IR 1 6.5.1





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- 1 For clarity, in the figure below FEI has adjusted the chart above so that 2018 is now more
- 2 correctly shown as an actual (blue) value. This change does not affect the forecast but more
- 3 clearly illustrates the actual increase observed in RS 3 customers from 2017 to 2018.
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RS 3 Customer Forecast

45.3 Please show the impact upon the peak demand forecast of using only the BC Stats household formations growth rates for residential customers only, commercial customers only, and for both residential and commercial customers. Please include a table with data points.

14 Response:

The figure and table below show the change to the peak demand forecast if the adjustment (true-up) to the CBOC forecast or the three-year average commercial additions was not made for residential and commercial customers and only HHF growth rates were applied as requested to the various rate schedules. All three scenarios considered require short-term mitigations before the winter of 2023/2024 in order to support peak demand and indicate that the OCU Project is required prior to the winter of 2023/2024 as proposed in the Updated Application.

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	ITS Forecast Peak Demand Comparison						
Year	Updated Application	Scenario 1 HHF Residential Only	Scenario 2 HHF Commercial Only	Scenario 3 HHF Residential & Commercial			
	TJ/d	TJ/d	TJ/d	TJ/d			
2019	321	321	321	321			
2020	327	326	325	324			
2021	333	330	328	327			
2022	338	335	332	329			
2023	344	341	335	332			
2024	350	346	339	335			
2025	353	349	342	338			
2026	357	352	345	341			
2027	360	355	348	344			
2028	363	359	352	347			
2029	367	362	355	350			
2030	370	365	358	353			
2031	373	368	361	356			



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	ITS Forecast Peak Demand Comparison				
Year	Updated Application	Scenario 1 HHF Residential Only	Scenario 2 HHF Commercial Only	Scenario 3 HHF Residential & Commercial	
	TJ/d	TJ/d	TJ/d	TJ/d	
2032	376	372	363	359	
2033	379	375	366	362	
2034	382	378	369	365	
2035	385	381	372	368	
2036	388	385	374	371	
2037	390	388	376	374	
2038	393	391	379	377	
2039	395	394	381	380	

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45.3.1 Please discuss any limitations of such an approach.

6 Response:

7 As described in the response to BCUC IR2 45.3, FEI considers that information from the CBOC 8 and BC Stats forecasts is relevant and complementary and shows how both work together to 9 provide the most reasonable customer account forecast. The CBOC growth rates provide 10 information about the single to multi-family housing transformation and is most relevant to the 11 growth rate of FEI's net residential customer additions. The CBOC forecast covers the province 12 as a whole, but lacks information on the distribution of growth among communities within 13 regions, as provided by the BC Stats HHF forecast. As such, FEI considers that the forecasts 14 cannot be used alone (i.e., one as an alternative to the other) as this would disregard necessary 15 information used to produce the most reasonable forecast.



1	46.0	Refere	nce: I	PROJECT NEED
2			I	Exhibit B-2, BCUC IR 2.3, 2.5
3				nlet Pressure at Gate Stations
4		In respo	onse to	BCUC IR 2.3, FEI states:
5 6 7 8 9 10 11			The pre are influ to the I ⁻ station t Gate S Compre Pressur	ssures observed on the ITS at the Kelowna #1 and Polson Gate Stations enced (lowered) to some extent by any peak demand load that is added IS and that is not upstream of a pressure control station or compressor hat is actively controlling pressure. In the case of Kelowna #1 and Polson tations, this region would extend from the discharge of the Savona ssor Station in the northwest, to the outlet of the current Ellis Creek e Control Station in Penticton
12 13 14 15 16 17 18 19 20 21			Load or Oliver t influenc pressurd does fac future c (as disc localized Polson gate sta	In the ITS outside of this area, primarily south of Ellis Creek and east of hrough the west and central Kootenays, does not currently directly e pressure at the Kelowna #1 or Polson Gate Stations because of the e reduction at Ellis Creek to 750 psig. However, the ITS load in this area ctor into the future capacity requirements to serve the Okanagan, such as ompression upgrade requirements at the Kitchener Compressor Station cussed further in the response to BCUC IR1 12.1). Peak demand in d areas of the ITS is more influential on the pressure at Kelowna #1 and Gate Stations the closer those localized areas are to either of the two tions because the gas is flowing a longer distance.
22 23 24		46.1	Please peak de influenti	discuss whether FEI's peak demand forecast adjusts for the effect of mand located closer to Kelowna #1 and Polson Gate Stations being most al on the pressure at the two gate stations.
25 26			46.1.1	If not, please discuss whether FEI's hydraulic model is capable of modelling this effect.
27 28				46.1.1.1 If feasible, please show the impact upon the peak demand forecast. Please include a table with data points.
29 30 31 32				46.1.1.2 If not feasible, please discuss the qualitative impact, in terms of direction and magnitude, upon the peak demand forecast and the anticipated timing of the need for the Project.
33 34 35 36	Respo Yes. I demai and tir	onse: Jndersta nd is the ming for e	nding th objectiv capacity	ne effect of the location and magnitude of the current and future peak ve of FEI's system capacity planning process for determining the scope upgrades. FEI uses the information from the BC Stats HHF forecast that

provides growth rates by community to distribute the customer accounts and the associatedfuture peak demand along the ITS. Communities that are growing at a greater rate as reflected

39 in the HHF forecast will see a higher proportion of the future peak demand applied to the gate



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stations serving those communities. FEI loads the hydraulic model of the ITS reflecting this 1 2 variation in the future distribution of customer peak demand along the ITS. The hydraulic model 3 allows FEI to confirm what influence the relative growth rates of each community will have on 4 inlet pressure at the local gate stations, and in what year and at what location(s) or gate stations 5 the forecast demand will drive the pressure low enough to indicate the capacity had been 6 reached. Appendix L of the Updated Application indicates how the increase in peak load varies 7 from community to community, year over year, along the ITS throughout the forecast period. It 8 also shows that the growth rates and forecast increases in demand in the Central Okanagan 9 supplied by Kelowna #1 Gate Station are higher than many other regions along the system. 10 When applied to the hydraulic model, these results indicate that, even with short-term mitigation, 11 the pressures at the Kelowna #1 and Polson Gate Stations drop too low to support peak 12 demand by the winter of 2023/2024. Based on this analysis, FEI draws the capacity line as 13 shown in Figure 4-1 of the Updated Application to intersect the peak demand forecast in that 14 year.

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18 In response to BCUC IR 2.5, FEI states:

19 Figure 1 below shows the station inlet pressure of major ITS gate stations from 20 2019 to 2024 under forecast peak day conditions in the absence of the OCU 21 Project. Figure 2 shows the minor improvement that would result from increasing 22 the Savona tap pressure from 600 psig to 650 psig in 2022 to offset the pressure 23 decay for a period of time. Beyond 2024, the hydraulic model no longer 24 converges, which indicates that the system would effectively collapse to zero 25 pressure under the sustained peak day load... The rate of pressure decay 26 illustrates the limited timeframe FEI has to implement mitigation measures before 27 a critical point is reached. The pressure decay becomes more pronounced each year as the decay is nonlinear, and hence accelerates as the pressure declines. 28

29 FEI provides the following figures in its response:



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- 46.2 Please clarify whether Figure 1 and 2 above include the impact of all other short term mitigation measures (besides illustrating the impact of the change in pressure at the Savona Tap).
 - 46.2.1 If yes, please explain whether Figure 1 and/or 2 indicate that additional capacity may be needed earlier than winter 2023/24, due to the inlet pressure falling below the minimum.
 - 46.2.2 If not, please reproduce the figures with the other short term mitigation measures included.

12 Response:

13 Confirmed. Figures 1 and 2 include the effect of short-term mitigation measures so FEI has not 14 provided modified figures. Figures 1 and 2 indicate the need to address capacity when the



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pressures fall below 350 psig (i.e. prior to winter of 2023/2024). FEI's short-term mitigation 1 2 measures are intended to maximize the delivery capabilities of the existing ITS assets to 3 address the forecast capacity shortfall. However, short-term mitigation measures are not solely 4 intended to increase station inlet pressures. Some of the mitigation measures, such as shifting 5 load away from the Kelowna #1 or Polson Gate Stations by redirecting flow to other stations, 6 would reduce the magnitude of the pressure decline. However, this also requires connections in 7 the distribution system between stations. These mitigations are unable to completely address 8 the pressure decline shown in Figure 1. Increasing the tap pressure at Savona to 650 psig is 9 another measure that directly improves downstream pressures for a period of time.

10 Other short-term mitigation measures do not improve inlet pressures at the station, but are intended to manage the impact of pressures falling well below 350 psig at these locations. 11 12 These would include adjusting downstream intermediate pressure (IP) system pressures to 13 maintain a larger working pressure differential across the Kelowna #1 and Polson Gate Stations 14 where those IP systems have some capacity to accept the lower pressure, upgrading 15 downstream IP to DP stations to also accept lower inlet pressure, and installing and operating 16 station bypasses manually to address the very low pressure expected if a peak day occurs 17 before the OCU Project is completed. Please also refer to the response to RCIA IR1 7.6 for a 18 more detailed discussion about the measures to address pressures below 350 psig at these 19 stations.



1 Β. SHORT TERM MITIGATION MEASURES

2	47.0	Reference:	SHORT TERM MITIGATION MEASURES
3			Exhibit B-2, BCUC IR 10.1, 10.2
4			Exhibit B-6, RCIA IR 6.3, 6.5
5			Savona Minimum Tap Pressure
6		In response t	o BCUC IR 10.1, FEI states:
7		An or	ngoing minimum pressure increase was not represented in the short-term
8		mitiga	tion measures which formed the basis for Figure 4-1 as FEI cannot depend
9		on the	e additional 50 psig of pressure at Savona. FEI has a verbal understanding
10		that E	Enbridge will attempt to maintain a minimum 650 pisg pressure at the
11		custo	dy transfer point at Savona; however, no firm contractual obligation exists
12		FEI ca	annot guarantee that this measure will be available over the long-term.

In response to BCUC IR 10.2, FEI provides the following figure illustrating the impact of 13 the short term mitigation measures: 14



15 16

In response to RCIA IR 6.3, FEI states:

17 This working agreement is not a firm contractual obligation on Enbridge. This is a 18 temporary verbal understanding extended by Enbridge, to cover for rare, shortterm occurrences. It will require operational accommodations, including 19 20 additional planning, coordination and system configuration changes, to allow 21 Enbridge to provide higher pressure of 4480 kPag (650 psig) on an exceptional 22 and "best efforts" basis. These operational accommodations are at the sole FORTIS BC^{**}

1 discretion of Enbridge and are not sustainable for frequent or prolonged 2 operations.

3 In response to RCIA IR 6.5, FEI states:

FEI has not had discussions with Enbridge about contractually increasing delivery pressure at Savona to 4480 kPa (650 psig) on peak days for an extended timeframe because of the potential capital impact on the Enbridge system and associated toll increases for all shippers including FEI, which could involve a complete revamp of the tariffs.

9 47.1 Please further describe the causes of the potential capital impact on the Enbridge
10 system of increasing the minimum delivery pressure at Savona.

12 **Response:**

11

FEI is not fully aware of Enbridge's system design and is therefore unable to provide a detailed description. But in general terms, pipeline systems are designed and built to meet contractual obligations such as delivery pressures and flow rates. Any changes to these obligations such as increasing delivery pressure and/or flow rate would require additional infrastructure. This added infrastructure over time gets reflected in Enbridge tolls to all shippers, including FEI. Further, in general other T-South shippers may not be supportive of paying for increased costs in their tolls based on something FEI needs.

As an example, under design conditions Enbridge can meet the contractual 3340 kPa (500 psig) pressure at the Savona custody transfer point without compressing the delivered gas at this location. In order to deliver at an increased pressure of 4480 kPa (650 psig), the gas would have to be compressed which requires incremental compression horsepower. This would require additional compressor units to be installed at this location, resulting in an impact to transportation tolls.

Note that an increase in Enbridge delivery pressure at Savona is only a temporary measure for one year. Beyond that point, the system bottleneck switches from Enbridge pressure to a FEI pipeline capacity restriction, which would require additional system reinforcement, such as that proposed by the OCU Project.

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- 47.2 Please confirm, or explain otherwise, that if the minimum pressure increase to
 650 psig at Savona were included in the forecast, the need for the Project could
 be delayed by one year.
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Response: 1

2 Confirmed. The pressure curves in Figures 1 and 2 included with the response to BCUC IR1 3 2.5 show that the critical pressure decline can be offset for one year by increasing the tap 4 pressure at Savona to 650 psig.

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Please discuss the feasibility and potential costs of a contractual 47.2.1 increase in delivery pressure in the winter of 2022/2023 only.

11 Response:

12 FEI does not consider a short-term contractual increase on the Enbridge system to be feasible.

13 First, the likely contractual commitments required for higher delivery pressure for even a single

14 winter season would bind FEI to hold additional capacity on the Enbridge system. Further,

15 additional transportation capacity would also likely need to be contracted for a term significantly

16 longer than just one winter season to secure more supply to Savona.

17 In terms of the potential cost associated with a contractual increase in delivery pressure, FEI 18 cannot speculate on this as such costs are dependent on Enbridge. In order to reliably supply a 19 higher pressure at Savona under design conditions, Enbridge would likely be required to 20 complete system upgrades. A study of potential costs would be required, which is likely to 21 involve a lengthy and complex process. Approval by the Canada Energy Regulator (CER) 22 would also be required of any new facilities, which would likely involve a lengthy review process, 23 including other shippers on the Enbridge system who would not benefit from the contractual 24 pressure increase at Savona. It is quite likely that the process for determining a viable project 25 by Enbridge, a review by the CER, and the eventual construction of new facilities would require 26 more time than what is available before the winter of 2022/23.

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- 29 30 47.3 Please discuss in general terms the frequency or circumstances whereby 31 delivery pressure at Savona typically falls below 650 psig in the absence of any
- 33

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34 Response:

35 The following graph summarizes five years of historical pressure readings at Savona:

verbal understanding.

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The recorded pressure at Savona varies depending on whether Enbridge is delivering gas on the suction or discharge side of the compressor station. Typically FEI receives gas on the suction side of Enbridge's compressor station at Savona, which results in low delivery pressures and is the operational configuration expected for cold weather.

However, during periods of warmer weather and lower demand, Enbridge can and does deliver
gas to FEI from the discharge side of the compressor station, and this results in higher pressure
readings. Therefore it is important to note that the infrequent occurrence of pressures lower than
650 psig at Savona does not reflect the likelihood of low pressures during cold weather (i.e. high
demand) periods.

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47.4 Please provide further explanation of what is meant by "rare, short term occurrences" covered by the verbal understanding with Enbridge.

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17 Response:

18 It is forecast that for the year 2022/23, higher Enbridge delivery pressure of 4480 kPag (650 19 psig) at Savona is needed only for a Peak Day situation. By definition a Peak Day is a one-in-20 twenty-years event, representing the coldest temperature and highest demand based on 21 historical data, and has a 5 percent chance of occurring in any given year.



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- 1 However, the frequency of a higher pressure assistance will increase in future years due to
- 2 system demand growth, if the proposed system improvement is not installed in time.



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1 48.0 Reference: SHORT TERM MITIGATION MEASURES

Exhibit B-2, BCUC IR 11.1

CNG and LNG Trucking

4 In response to BCUC IR 11.1, FEI states:

5 A detailed cost/benefit analysis was not completed as FEI does not consider 6 CNG [compressed natural gas] and/or LNG [liquefied natural gas] 7 supplementation to be a practical or appropriate means of addressing the 8 forecast ongoing capacity shortfall on the ITS in order to defer the OCU Project...

- 9 As CNG/LNG trucking is not a viable long-term solution, and does not provide 10 any lasting capacity benefit to FEI's system, FEI determined that deferral of the 11 Project and implementation of CNG/LNG would inevitably result in higher overall 12 costs to the customer. The costs associated with CNG/LNG trucking would 13 include both an upfront cost to install necessary infrastructure, complete the 14 necessary site upgrades, and purchase/rent required equipment, as well as operational and contractor costs which would escalate each year with increasing 15 16 demand.
- 17 48.1 For CNG/LNG Trucking, please provide a high-level estimate of:
 - The costs to install infrastructure, complete necessary site upgrades, and purchase/rent required equipment;
- the operation
 - the operational costs in the first year of implementation; and
 - the incremental operational costs (if different from the above) associated with peak demand increases that are forecasted to occur each year.
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24 <u>Response:</u>

Please refer to the response to BCUC IR1 11.1 for a detailed explanation of the challenges associated with CNG/LNG trucking. That response detailed FEI's rationale for asserting that CNG/LNG trucking is not a viable solution to mitigate the upcoming capacity shortfall, and that attempting to defer the Project using CNG/LNG introduces unnecessary cost and risk. In addition to the challenges discussed in the responses to BCUC IR1 11.1 to 11.4.1, the following issues have been identified:

- Additional GHG emissions associated with the trucks, compressors, and gas heating
 (due to the significant pressure drop during reinjection);
- Uncertainty regarding permitting (requires industrial zoning in Kelowna and would likely
 require public consultation) which may be rejected or delayed;
- Challenges with land acquisition (may be difficult or impossible to acquire sufficient land in the timeframe required); and
- Lengthy and uncertain construction timeline (due to extensive civil modifications, etc.).



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FEI has not completed a detailed analysis of the costs which would be associated with 1 2 implementing CNG supplementation in this specific instance, but has previously produced 3 estimates for purchasing and operating its own CNG injection equipment for other uses on its 4 system. These costs have been scaled to represent FEI's best approximation of costs 5 associated with implementing CNG supplementation in the Kelowna region beginning in the winter of 2023/2024. A high-level summary of the costs is provided below for the years 2023 to 6 7 2028. Costs would continue to rise as demand on the system, and consequently the CNG/LNG requirement, increases over time. These costs are based on the following assumptions: 8

- 9 The CNG tanker filling point is at Oliver;
- The CNG injection point is near Kelowna;
- The Savona delivery pressure from Enbridge is 600 psig;
- Each CNG tanker has a capacity of 350 GJ per truck;
- Trucks are purchased rather than rented due to the uncertainty surrounding rental/lease contracts;
- The majority of civil work to be completed in year 1 to accommodate compression upgrades in subsequent years;
- Loading and offloading sites are manned by FEI operations personnel; and
- A 15 percent contingency is included in all estimates.

	# of Trucks/Peak Day	Capital Costs (\$millions)	O&M Costs (\$millions)	Total Year Cost (\$millions)	Total Cumulative Costs (\$millions)
Year 1 (2023/2024)	16	26.1	1.3	27.4	27.4
Year 2 (2024/2025)	36	8.5	3.3	11.7	39.1
Year 3 (2025/2026)	45	5.7	4.6	10.3	49.4
Year 4 (2026/2027)	54	3.3	6.7	10.0	59.5
Year 5 (2027/2028)	63	3.3	9.3	12.6	72.0



1	C.	DESCRIPTION AND EVALUATION OF ALTERNATIVES
	-	

2	49.0	Reference:	DESCRIPTION AND EVALUATION OF ALTERNATIVES
3 4 5			Exhibit B-2, BCUC IR 12.1; FEI Tilbury LNG Storage Expansion Project (TLSE)Certificate for Public Convenience and Necessity (CPCN) proceeding, Exhibit B-4, Slide 45
6			ITS Gas Supply Strategy
7		In response t	o BCUC IR 12.1, FEI states:
8 9 10		FEI's to so Koote	current and medium-term strategy for Interior customers will be to continue urce incremental supply when required at the AECO/NIT and/or East may marketplace instead of sourcing more Station 2 supply
11 12		FEI's of su	long term gas supply strategy will continue to focus on improving diversity oply, as well as gas supply resiliency, while providing secure and cost-
13 14		effect	ive supply to FEI's customersThe OCU Project also aligns with FEI's long
15		Expar	nsion Project CPCN Application. For examplewith the OCU Project, there
16		will b	e sufficient capacity to support peak demand until 2029/2030. After that
17		period	d, compressor station upgrades to the SCP would be required based off the
18 10		currei Howo	torecast and if the Tilbury LNG Storage Expansion is not approved.
20		these	compressor station upgrades for capacity related reasons from 2030 to
21		beyor	ad 2040, thereby potentially deferring approximately \$20 to \$30 million of
22		capita	I costs. This could be achieved because the additional LNG storage and
23		gasifi	cation capabilities at Tilbury would enable FEI to backfill supply into the
24		Lowe	Mainland on extremely cold winter days, while diverting AECO/NIT and
25		East	Kootenay supply to the BC Interior. This may also involve reducing flows
26		<u>into V</u>	Vestcoast at Kingsvale to provide supply into the OCU Project capacity at
27		<u>Oliver</u>	<u>.</u> [emphasis added]
28		Slide 45 fro	m FEI's Workshop Presentation submitted as part of the Tilbury ING

28 Slide 45 from FEI's Workshop Presentation, submitted as part of the Tilbury LNG 29 Storage Expansion (TLSE) Project CPCN proceeding, illustrates potential system flows 30 with the TLSE Project approved. Slide 45 is reproduced below:





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49.1 Please explain whether the reduction of gas flow into Westcoast at Kingsvale, described in the preamble and in the figure above, results in a reduction in diversity of supply for FEI customers within the Lower Mainland

6 **Response:**

7 There will be no reduction in diversity of supply for FEI customers within the Lower Mainland as8 a result or the OCU Project.

9 For clarity, the figure above was part of a larger presentation package, and was a single 10 scenario assumption that was used to demonstrate the benefits of the Tilbury LNG Storage 11 Expansion (TLSE) in combination with the Interior Transmission System. The slide was not 12 intended to illustrate FEI's approach to diversity of supply to the Lower Mainland, which is a 13 broader concept involving other resources and factors. Rather, the figure and underlined text 14 cited in the preamble were intended to illustrate the increased gas supply options that would be 15 available to FEI during peak day events if the TLSE Project were constructed along with the 16 OCU Project.

These peak day events occur rarely as they correspond to periods of extreme low temperatures. During these short, high-demand periods, FEI could draw on the storage capacity of the TLSE Project to directly supply customers in the Lower Mainland who would otherwise receive gas supply via the Southern Crossing Pipeline. Under this scenario, gas supplied from the Alberta AECO/NIT market could be used during these short duration periods to supply customers in the Okanagan region who currently are supplied from the Westcoast supply at Savona.

As such, the scenario illustrated in the figure depicts a gas supply benefit to FEI customers
 within the Lower Mainland as they would have access to additional storage provided by the
 TLSE Project during cold periods.

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49.1.1 Please clarify whether the OCU Project as currently proposed results in an increased reliance on supply from Station 2 Hub for FEI customers in the Lower Mainland.

5 **Response:**

The OCU Project will not result in an increased reliance on supply from Station 2 Hub for FEI customers in the Lower Mainland. Rather, the OCU Project will optimize the capacity of the Southern Crossing Pipeline and include more supply from southern Alberta in FEI's gas supply portfolio. This is consistent with FEI's strategy to increasingly diversify its gas supply resources,

10 including the East to West path on Southern Crossing to the Okanagan and Lower Mainland.

For clarity, in most operating scenarios in the winter, FEI can and will physically flow up to 105
 MMcf/d East to West from Oliver to Kingsvale, and up to 170 MMcf/d into the Okanagan.

As discussed in the response to BCUC IR2 49.1, the figure and underlined text cited in the preamble are intended to illustrate the increased gas supply options available to FEI during peak day events if the TLSE Project were constructed along with the OCU Project. These peak day events occur rarely as they correspond to periods of extreme low temperatures.

- 17 The net effect of these changes in gas flows results in a reduction in the reliance on the Station
- 18 2 Hub for FEI gas supply to Lower Mainland customers during peak periods not an increase.
- 20 21 22 49.1.2 Please clarify the impact the OCU Project will have on resiliency of 23 supply to FEI customers in the Lower Mainland. 24 25 **Response:** 26 The OCU Project will have no impact on the resiliency of supply to FEI customers in the Lower 27 Mainland. 28 Rather, the linkages between the OCU and TLSE Projects described in the responses to BCUC 29 IR1 12.1 and BCUC IR2 49.1 are intended to demonstrate how the two projects combined will 30 result in increased gas supply diversity for customers both in the Lower Mainland and in the 31 region served by FEI's Interior Transmission System. 32 33 34 35 49.2 Please compare the impact of each OCU Project Alternative on the resiliency of supply to FEI Lower Mainland customers. 36 37



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1 Response:

The impact on the resiliency of supply to FEI customers in the Lower Mainland is expected to be the same for each of the OCU Project alternatives. As discussed in Section 4 of the Updated Application, the primary objective of the three feasible alternatives is to increase the capacity in the Interior region (specifically the central and north Okanagan regions) to meet growing peak demand requirements. Each alternative would have similar overall system-wide gas flows, and so there is no material difference in resiliency to FEI Lower Mainland customers among the alternatives.

9 Please also refer to the response to BCUC IR2 49.1.2 regarding resiliency to the Lower

- 10 Mainland customers.
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1 50.0 Reference: DESCRIPTION AND EVALUATION OF ALTERNATIVES

2 3

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Exhibit B-2, BCUC IR 18.1; Exhibit B-1-2 (Updated Application), Section 3.3, p. 20

Alternative 3 – OLI PEN 406 Extension

- 5 In response to BCUC IR 18.1, FEI states:
- 6 To provide sufficient capacity to exceed the 20-year forecast, the point for 7 supplying gas into the VER PEN 323 pipeline at 750 psig needed to be 28 kilometres north of the current location. The length of the proposed pipeline 8 9 cannot be shortened without advancing the time that a future capacity constraint 10 would occur in the current 20-year forecast period. This is because a shorter 11 pipeline would leave a longer length of the smaller existing VER PEN 323 12 pipeline carrying the peak gas demand, resulting in a higher pressure loss and advancing the time when the low pressure constraint appears. 13
- 14 On page 20 of the Updated Application, FEI provides the Figure 3-8 illustrating both the 15 current capacity and the capacity of the ITS following completion of the OCU Project.
- 50.1 Please provide a graph similar to Figure 3-8 illustrating the ITS capacity
 constraint that would occur if the length of the proposed pipeline was shortened
 by (i) 25 percent, (ii) 50 percent.

20 Response:

19

The figure below provides the capacity of the OLI PEN 406 Extension if the proposed pipeline was shortened by 25 percent or by 50 percent as suggested. The figure illustrates that a 50 percent or greater reduction in proposed pipeline length would not meet forecast peak demand beyond 2024, even with an upgrade to compression. A 25 percent reduction in length would not meet forecast peak demand beyond 2028 with no compression, and even with the addition of future compression, this pipeline would not meet forecast peak demand beyond 2030.



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ITS Capacity with Reduced OCU Project Lengths



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9.2 Please discuss the feasibility of completing the proposed pipeline in phases (i.e. southern portion completed initially and northern portion later) to address capacity needs on the ITS as they develop.

9 Response:

10 As illustrated in the figure provided in the response to BCUC IR2 50.1, installing an extension 11 that is 25 percent shorter would only meet capacity requirements until 2028 before requiring an 12 upgrade, and with additional compression or other capacity upgrades, until 2030. Although, it 13 may be technically feasible to complete the Project in two phases, it would not meet FEI's 14 Project objectives to maintain long-term safe, reliable, and cost-effective service to its 15 customers based on forecast peak demand. By including the last 25 percent (approximately 7 16 kilometres) in the Project, FEI is able to extend the timeline for anticipated capacity constraint 17 from 7 years to 17 years. The last 7 kilometres of pipeline will therefore add an additional 10 18 years of capacity benefit. If deferred, the remaining 7 kilometres would need to be constructed 19 and placed in service within 7 years after completion of the southern portion. Constructing the



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- 1 OCU Project in this piecemeal manner would ultimately be more costly, less efficient, and more
- 2 impactful on the stakeholders and Indigenous groups.



3

1 51.0 Reference: DESCRIPTION AND EVALUATION OF ALTERNATIVES

Exhibit B-2, BCUC IR 19.1; Exhibit B-4, CEC IR 10.1 & 10.4.

Alternative 4 – 508 mm Loop from Savona

4 In response to BCUC IR 19.1, FEI states:

5 The diameter of the new pipe was fixed at NPS 20 to match the existing pipe size 6 between the Enbridge Compressor facilities and tap location at Savona and the 7 suction of FEI's Savona Compressor Station (approximately 4 kilometres to the 8 east). The length of NPS 20 looping identified met the 20-year requirements of 9 previous peak demand forecasts. As explained in the response to BCUC IR1 10 13.1, this alternative would require additional enhancement by 2031 to meet 11 updated peak demand forecasts. [emphasis added]

FEI's response to BCUC IR 13.1 provides a graph which compares various ITS capacity
 expansion projects to the ITS forecast peak demand, reproduced below.



14

- 15 51.1 Please clarify the differences between the "previous peak demand forecasts" and
 16 the "updated peak demand forecasts."
- 17

18 **Response:**

By "previous peak demand forecasts" FEI is referring to forecasts that were prepared prior to 2019 such as those used for the 2017 LTGRP. The "updated peak demand forecast" is 21 referring to the 2019 peak demand forecast that was used for the Updated Application.

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25 51.1.1 Please clarify which of these peak demand forecasts is represented in the graph provided in response to BCUC IR 13.1.



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2 Response:

FEI used the 2019 peak demand forecast to prepare the figure included in the response toBCUC IR1 13.1.

5 6

7

- 8 In response to the Commercial Energy Consumers Association of British Columbia 9 (CEC) IR 10.1, FEI states:
- 10FEI expects both a significantly higher cost, as well as almost a doubling of11installed pipeline length for Alternative 4 (as shown in Table 4-2 of the12Application) without providing any additional capacity benefit as compared to the13preferred Alternative 3. As such, FEI expects this would have led to Alternative 414not being the preferred option, even if it was buildable within the limited15timeframe. [emphasis added]
- 1651.2Please reconcile the underlined statement above with the information illustrated17in the graph provided in response to BCUC IR 13.1, which shows the capacity18gain from Alternative 4 to be greater than the capacity gain from Alternative 3.

20 **Response:**

19

The underlined sentence in the preamble is not in conflict with the graph provided in the response to BCUC IR1 13.1.

23 When comparing Alternatives 3 and 4, the longevity and expandability of each solution must be 24 considered. In order to meet FEI's forecast capacity needs to the end of the planning period 25 (2039), Alternative 4 would also require a future significant and costly pipeline extension to 26 provide the required capacity. In contrast, Alternative 3 would be able to meet the capacity 27 needs at the end of the period while only requiring a future compressor upgrade at a single 28 existing site. This compressor upgrade for Alternative 3 would be much less costly than the 29 pipeline expansion required for Alternative 4. On this basis, the total cost of Alternative 4 would 30 be significantly higher than Alternative 3, without providing any additional capacity benefit.

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 34 In response to CEC IR 10.4 regarding the detriments of Alternative 4, FEI states:
 35 Alternative 4 is nearly twice as long as the preferred alternative without providing
 - additional capacity benefit. Additionally, there would be a much higher cost
 associated with Alternative 4 when compared with any of Alternatives 1, 2, or 3.

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1	Alternative 4 would also require an EA, which is expected to add a minimum of
2	three years to the Project schedule as well as schedule uncertainty, making it
3	impossible to complete in the required timeframe and therefore not meeting the
4	Project's objectives. Finally, Alternative 4 increases the percentage of gas
5	flowing into the ITS from the Enbridge T-South system, increasing FEI's reliance
6	on T-South as its primary source of supply.

- 51.3 Please provide the length of NPS 20 pipeline extension required in order for the capacity benefit of Alternative 4 to match the capacity benefit of Alternative 3 as illustrated in the graph above.
- 9 10

8

11 <u>Response:</u>

A total pipeline length of approximately 112 km would be required for Alternative 4 to match the capacity provided by Alternative 3 (an additional extension of approximately 44 km). This extension would likely be required by 2031 as stated in the response to BCUC IR1 13.2.

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18 51.3.1 Please explain whether this length of NPS 20 pipeline extension would require an EA.
20

21 Response:

FEI assumes this question relates to the additional NPS 20 pipeline extension which would be required later in the forecast period to meet the 20-year forecast, not to the original Alternative 4 pipeline installation (which would require an EA due to its length of approximately 70 km).

Over 40 km of additional NPS 20 pipeline extension would be required to meet the 20-year forecast, a length which would likely require an EA as per Table 8 of the Reviewable Projects Regulation under the *Environmental Assessment Act*. A pipeline project of over 40 km at a 20 inch diameter will require an EA unless a sufficient portion of the length is within or adjacent to an existing right-of-way such as an existing pipeline right-of-way or a transmission powerline right-of-way.

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51.3.2 If an EA is not required, please discuss any revisions to the assessment of Alternative 4 based on the established evaluation criteria.
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37 Response:

38 Please refer to the response to BCUC IR2 51.3.1.

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51.4 Please explain whether FEI considered a combination of Alternatives in order to meet the Project objectives (e.g. some pipeline extension from Savona compressor station & some pipeline extension of OLI PEN 406). Please discuss the pros and cons of this approach.

Response:

FEI did not consider this approach. Constructing new pipeline in two locations increases the complexity of the environmental, archaeological, Indigenous, and public impacts. By analyzing the two proposed pipeline locations separately, FEI was able to determine which alternative represents a more efficient and effective method of increasing gas flow to the major load centres in the Okanagan. The OLI PEN 406 Extension can provide adequate capacity while only requiring half the total pipeline length as compared to a pipeline extension constructed from the Savona Compressor Station. In contrast, a combined approach would be more expensive, more difficult from a logistics and scheduling perspective, and would have greater impact on communities and Indigenous groups, with no offsetting benefits.



1 D. PROJECT DESCRIPTION

2	52.0	Reference:	PROJECT DESCRIPTION
3 4			Exhibit B-2, BCUC IR 24.1.2; Exhibit B-4, CEC IR 26.2; Exhibit B-1 (Application), Section 4.1 & 4.1.1, p. 25, Section 5.6, p. 67
5			Project Delivery Method
6		In response to	BCUC IR 24.1.2, FEI states:
7 8 9 10 11		A DBE time a constr metho after d	delivery method is suitable for the OCU Project because there is sufficient available to complete the engineering design, then bid and award the uction contract and meet the schedule. The DBB [design-bid-build] delivery d also provides FEI the ability to tender the construction work package esign risks are mitigated and addressed in the design package.
12		In response to	CEC IR 26.2, FEI states:
13 14 15 16 17		FEI se Delive DBB I schede tender	elected the PDM [project delivery method] by utilizing the in-house Project ry Method Selection Framework developed in collaboration with EYA PDM was selected for the OCU Project primarily because the Project ule allows for sufficient time to complete the design to 100 percent prior to ing for the construction contract and achieve schedule and cost certainty.
18 19 20		Further, in rea PDM if there competitive a	sponse to CEC IR 26.5, FEI states that "FEI would not choose a different was additional time available. The DBBPDM is typically the most and commonly used method for pipeline projects."
21		On page 25 o	f the Application, FEI states:
22 23 24 25 26 27 28 29 30		FEI ha mainta Howey 2023/2 Short- utilizat allowir increa offset	as determined that short-term mitigation measures may be required to in sufficient capacity for the winters of 2021/2022 and 2022/2023. ver, these interim measures are not viable to support projected demand in 2024, and a longer-term solution must be implemented prior to this point term mitigation measures include options such as maximizing the ion of the currently available capacity within the system by temporarily ng lower station inlet pressures where existing stations are capable; sed pressure monitoring; minor station upgrades; and CNG injection to peak demand where feasible.
31 32		In Table 5-11 states that Ma	on page 67 of the Application, FEI provides its Project schedule which inline Construction is expected to be completed by July 2023.

3352.1Please discuss whether FEI considers the projected capacity shortfall in342023/2024 as a project schedule constraint which would impact the selection of a35PDM.

37 Response:

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FEI considered the projected capacity shortfall in 2023/24 as a schedule constraint while analyzing the various PDMs. Because there is sufficient time available to complete the engineering design and then bid and award the construction contract, while still meeting the



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schedule, the Design-Bid-Build (DBB) delivery method is suitable for the reasons discussed in BCUC IR1 24.1.2. That is, the DBB delivery method provides FEI with the ability to mitigate the design risks by completing the design, tendering the work to mitigate the cost risks through competitive bidding, and still meet the schedule constraint.

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52.2 Please discuss whether any other PDM's considered by FEI within its selection framework would reduce the overall Project schedule.

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11 Response:

Other PDMs, such as Design-Build (DB) could have been used to reduce the overall Project schedule. While a DB PDM can provide earlier cost and schedule certainty, contractors include higher amounts for contingency within their bid price to account for the design and constructionrelated risks and unknowns due to the need to commit to a price early, as compared to DBB.

As discussed in the response to CEC IR1 26.2, FEI's internal Project Delivery Method Selection Framework identifies timeliness/schedule as one of many criteria used in the selection process. For the OCU Project, a DBB PDM was selected primarily because short-term mitigations are available and provide sufficient time to fully complete the design prior to tendering the work. This allows mitigation of designs risks as much as possible prior to tendering for the construction contract to better achieve the Project schedule at a competitive price.

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52.2.1 Please explain whether any other PDM's considered by FEI would reduce overall Project schedule to a duration whereby short-term mitigation measures are not required.

29 **Response:**

While other PDMs could have been used to shorten the overall Project schedule duration, they would not reduce it sufficiently to the point in which the short-term mitigation measures could be avoided. That is, it is not likely that an alternate PDM could reduce the schedule by as much as 1 to 2 years to offset the need for short-term mitigation.



1	53.0	Refere	nce: PROJECT DESCRIPTION
2			Exhibit B-9, BCSEA IR 17.1.
3			In-line inspection capabilities
4		In resp	onse to BCSEA IR 17.1, FEI states:
5 6 7 8 9			Pipelines that are installed more recently, including the OLI PEN 406 Pipeline and Extension, have low susceptibility to cracking and are not prioritized for incremental mitigation, although they are capable of running crack detection electro-magnetic acoustic transducer (EMAT) tools if determined to be necessary in future.
10 11 12 13		53.1	Please confirm whether the extension to the OLI PEN 406 pipeline as currently proposed within the OCU Project Application will be designed to be able to run EMAT tools.
14	Respo	onse:	
15	Confir	med. Th	e OLI PEN 406 Extension will be designed to run EMAT tools.
16			



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1 54.0 Reference: PROJECT DESCRIPTION

Exhibit B-2, BCUC IR 26.1, IR 26.4

Penticton Creek Crossing

- 4 In response to BCUC IR 26.1, FEI states:
- 5 While FEI indicated in the Updated Application that an HDD [horizontal 6 directional drilling] is the preferred option across Penticton Creek, that may 7 change during detailed design. If the open trench option proves more feasible 8 than the HDD during detailed design, FEI may proceed with an open trench cut 9 as the preferred option, with the HDD as the contingency plan.
- 10 In response to BCUC IR 26.4, FEI provides the following figure showing the proposed 11 route alignments for HDD and open trench crossings of Penticton Creek.



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- 54.1 Please explain whether FEI is seeking approval of a CPCN to construct and operate the OCU Project based on the HDD crossing or based on either potential crossing method described in the preamble.
- 15 16

17 <u>Response:</u>

FEI is seeking approval of a CPCN to construct and operate the OCU Project based on either the HDD crossing or the open trench method. Given that a crossing of Penticton Creek is required to complete the Project, FEI will proceed with the crossing method that provides the least amount of risk to the Project, and which otherwise best accomplishes the Project goals.



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Further, the remainder of the route (which represents approximately 95 percent of the new
 pipeline construction) is well defined and established in the Updated Application.

During the development phase of the Project, FEI engaged an engineering firm specializing in HDD design and a contracting company specializing in constructing HDD crossings, to complete a preliminary design under Penticton Creek and to determine the feasibility of constructing the HDD. Using this information, input from the FEED engineering firm, and internal expertise, FEI concluded that an HDD crossing is the preferred method to cross under Penticton Creek.

8 FEI has since engaged another engineering firm, Innovative Pipeline Projects Ltd (IPPL), to 9 complete the detailed design work. FEI tasked IPPL to review the information obtained during 10 the FEED stage and to solicit further input from industry experts to compare the HDD option 11 against the open trench method. IPPL is scheduled to have this assignment completed by the 12 end of Q2 2021.

13 In the event that a material change to the proposed route alignment, outside the bounds of the 14 Penticton Creek crossing, is necessary (i.e., a portion of the pipeline cannot be constructed in the approved corridor), FEI will file an application for approval from the BCUC to modify the 15 16 route at least 90 days before construction is proposed to commence. To support the material 17 change to the route alignment, FEI's application will include the justification, cost, schedule, and 18 risks including associated consultation, technical and environmental considerations. This 19 approach will provide the BCUC an opportunity to assess the revised Project route, and is 20 consistent with the BCUC's direction to FEI in its Decision and Order C-11-15 granting a CPCN 21 for FEI's Lower Mainland Intermediate Pressure System Upgrade (LMIPSU) projects.

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54.1.1 If only the HDD crossing, please explain whether a change in crossing method would require or trigger a new CPCN or other review and approval by the BCUC.

29 **Response:**

- 30 Please refer to the response to BCUC IR2 54.1.
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54.1.2 If either potential crossing method, please explain how the BCUC is to evaluate the public convenience and necessity of the OCU Project and the associated consultation, environmental and technical considerations when the crossing method has not yet been finalized.



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1	Response:		
2 3	Please refer to the response to BCUC IR2 54.1.		
4 5 6 7 8 9	<u>Response:</u>	54.1.3 Pl de fir	ease explain, with rationale, at which stage in the detailed esign phase the route for the Penticton Creek crossing will be nalized.
10 11 12	The method a included within BCUC IR2 54	and potential route for n the 60 percent desig .1.	crossing Penticton Creek needs to be confirmed and will be gn completion milestone. Please also refer to the response to
13 14			
15 16 17 18 19 20	54.2	Should information preferred crossing proceeding, please provided to the BCU	be acquired which leads FEI to change or finalize its route prior to the close of the evidentiary record in this confirm, or otherwise explain, that such information will be C.
21	<u>Response:</u>		
22	Confirmed.		



1	55.0	Refere	ence:	PROJECT DESCRIPTION
2				Exhibit B-1-2 (Updated Application), Section 3.3.2, pp. 24–25
3				ITS Capacity
4		On pag	ge 24 of	the Updated Application, FEI states:
5 6 7 8 9 10 11			The ca defined the bou delivery on thes and cor system	pacity of the ITS to support forecast peak demand in the Okanagan is by assumptions FEI makes about minimum supply pressure available at indaries of the system, and assumptions about the minimum acceptable or pressure at critical points along the system under peak demand. Based be assumptions on supply pressures, FEI models the capacity of the pipe mpression facilities, considering the effect of local capacity constraints and line pack, to meet the minimum delivery pressure at these critical points.
12 13 14 15		55.1	Please Creek a for the a	discuss the assumptions for the supply pressure at the inlet to the Ellis and the SN9-3 Control Stations under peak demand and provide a basis assumptions.
16	<u>Respo</u>	onse:		
17 18	The r descri	equeste bed in th	d assur ne respo	nptions and operating conditions under peak demand conditions are nse to BCSEA IR1 11.1.
19 20				
21 22 23 24		55.2	Please minimu having	explain whether the OCU Project must be designed to operate at the m supply pressure available at the OLI PEN 406 Extension, while still sufficient capacity to meet forecast peak demand.
25 26 27			55.2.1	If yes, please provide the forecasted minimum supply pressure at the inlet pressure to the OLI PEN 406 Extension over the 20 year-planning period.
28 29 30	Respo	onse:	55.2.2	If not, why not?
28 29 30	<u>Respo</u>	onse:	55.2.2	II NOL, WHY NOL?

31 There is no established minimum supply pressure required at the inlet to the OLI PEN 406 32 Extension. The OCU Project will deliver gas to the inlet of the proposed Chute Lake Control 33 Station at a pressure exceeding 5171 kPag so that the station can deliver into the VER PEN 34 323 pipeline at that location at the full MOP (5171 kPag), while also having sufficient pressure to 35 allow the OLI PEN Extension to be extended further north if required in the future. The supply 36 to the OLI PEN 406 Extension is the existing OLI PEN 406 (SONG) pipeline that originates in Oliver. The supply pressure at Oliver is 7825 kPag, the current MOP of the OLI PEN 406 37 38 (SONG) pipeline. That pipeline is in turn supplied by the Southern Crossing pipeline with an



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- 1 MOP of 9928 kPag. With a supply pressure of 7825 kPag or greater into the OLI PEN 406
- 2 (SONG) pipeline at Oliver, the OCU Project will have sufficient capacity to deliver gas at 5171
- 3 kPag into the VER PEN 323 at the Chute Lake Control Station beyond the end of the forecast
- 4 period.
- 5 The table below provides the expected pressure into the Chute Lake Control Station at the north
- 6 end of the OLI PEN 406 Extension with or without compressor upgrades at Kitchener or other
- 7 upgrades on the Southern Crossing Pipeline occur in 2029 to maintain pressure at Oliver.

Year	Inlet Pressure to Chute Lake with Kitchener Upgrades (kPag)	Inlet Pressure to Chute Lake without Kitchener Upgrades (kPag)
2023	6502	6502
2024	6447	6447
2025	6412	6412
2026	6385	6385
2027	6350	6350
2028	6302	6302
2029	6281	6143
2030	6247	5978
2031	6219	5819
2032	6185	5661
2033	6157	5502
2034	6123	5343
2035	6095	5192
2036	6060	5054
2037	6033	4957
2038	6005	4854
2039	5971	N/A

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On page 25 of the Updated Application, FEI states:

13The most significant constraint on maintaining minimum pressure into the north14and central Okanagan is the pressure limitation to 5171 kPag (750 psig) between15Ellis Creek Control Station in Penticton and the SN9-3 Control Station south of16Kelowna. The OCU Project will address this constraint by providing the ability to17supply gas into the NPS 12 Savona to Penticton mainline at the maximum 5171
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- 1kPa at a point more than 28 kilometres closer to the major load centres on the2ITS in the Central Okanagan.
 - 55.3 Please confirm, or otherwise explain, that the OCU Project will have the ability to supply gas into the NPS 12 Savona to Penticton mainline at a pressure of 5171 kPag under peak demand conditions without additional compression capacity.

7 <u>Response:</u>

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8 Confirmed, but only until the winter of 2036/37. If additional compression capacity is not 9 addressed, or alternatively by offsetting gas supply to Kingsvale with FEI's proposed Tilbury 10 LNG Storage Expansion as described in the response to BCUC IR1 12.1, the OCU Project 11 could continue to inject gas into the NPS 12 Savona Nelson mainline (VER PEN 323) but would 12 drop below 5171 kPag at the Chute Lake Control Station by the winter of 2036/2037 during 13 peak demand conditions. Please also refer to the table provided in the response to BCUC IR2 14 55.2.

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	1	56.0	Ref	erence:	PROJECT DESCRIPTION	
	2				Exhibit B-1-2, Section 4.3.3, p. 41; Exhibit B-2, BCUC I	R 30.1–30.6;
	3				Order G-130-18, BCUC Decision to the BC Hydro Wan	eta 2017
	4				Transaction Application (Waneta Decision), p. 72	
	5				Pipeline Deactivation	

6 On page 41 of the Updated Application, FEI provides the following map of Alternative 3:



Figure 4-5: Overview Map of Alternative 3

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Source: Google Earth overlaid with FEI Transmission Pipeline Data (Image taken 10/5/2020)

9

56.1 Please identify the location of the 1,200 m section of the OLI PEN 406 to be deactivated on the map provided in the preamble.

10

11 Response:

The segment of the OLI PEN 406 pipeline which will be deactivated is indicated on the map below, which shows a close-up view of the Penticton region shown in Figure 4-5. The red markers indicate the endpoints of the segment: the south tie-in of the proposed OLI PEN 406

15 Extension, and the north endpoint of the existing OLI PEN 406 pipeline.



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56.2 Please explain in detail why the 1,200 m section of the OLI PEN 406 is no longer needed and will be deactivated upon completion of the Project.

8 Response:

9 This section of the OLI PEN 406 pipeline was previously required to connect the OLI PEN 406 10 pipeline to the VER PEN 323 pipeline at the Ellis Creek Pressure Control Station, thus allowing 11 gas supplied from Oliver to flow north to Kelowna via the VER PEN 323 pipeline. After 12 construction of the new OLI PEN 406 extension, gas will instead flow north through the OLI PEN 13 406 Extension and into the VER PEN 323 pipeline at the Chute Lake Pressure Control Station.

Following completion of the OCU Project, under most operating conditions, little gas would continue to flow north via the VER PEN 323 pipeline from the Ellis Creek Pressure Control Station (SN-10), and therefore the 1,200 metre segment would provide little hydraulic benefit to the system.

Further, should this segment remain in service, it would require a new ILI tool launcher and receiver to be installed, estimated to be \$436 thousand in capital costs based on the cost



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estimates for the new Chute Lake Pressure Control Station, in order to allow ILI inspections of 1 2 this portion of the OLI PEN 406 pipeline. This would increase both the capital cost of the 3 Project, as well as result in future ongoing costs associated with completing ILI inspections of 4 this segment. FEI does not consider these additional costs to be offset by sufficient operational 5 benefits associated with keeping the segment in service; therefore, FEI determined that the 6 segment should be deactivated.

7 Notwithstanding this, FEI considers that deactivating the segment, rather than abandoning it, is 8 prudent given the potential future benefit of the pipeline. This benefit—the ability to reactivate 9 the segment if required—is described in the response to BCUC IR2 56.4.

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- 11
- 12 13 In response to BCUC IR 30.1, FEI explains that the costs associated with the section of 14 pipeline will not be removed from rate base after deactivation and provides the following 15 rationale:
- 16 ...FEI requires the ability to reactivate this pipeline section as part of future 17 integrity management activities. The value to FEI of the right-of-way and pipeline 18 is significant as it provides flexibility for integrity management activities for no 19 incremental cost.
- 20 The BCUC in its Decision and Order G-246-20, dated October 5, 2020 on BC 21 Hydro's F2020 to F2021 Revenue Requirements Application approved for 22 inclusion in BC Hydro's rate base the costs of the West End Vancouver Purchase 23 ...which was to advance two substation construction projects. In reaching its 24 decision, ... the BCUC Panel referenced a previous BCUC decision regarding the Waneta Dam transaction.⁹ 25
- 26 In the Waneta Decision, the BCUC, identified two exceptions to the Used and 27 Useful principle set out above, namely that assets which are not currently 28 physical (sic) used and useful in utility service may still be "Used and Useful", 29 and therefore included in rate base, if they are "expected to be used in the 30 reasonably foreseeable future", or if a portion of the asset is needed now, and 31 the remainder "may not be needed for guite some time."
- 32 In response to BCUC IR 30.5, FEI states:
- 33 FEI is currently developing the Interior Transmission System (ITS) Transmission 34 Integrity Management Capabilities (TIMC) project application to identify and 35 address cracking threats on the ITS pipelines and intends to file it in 2022. One 36 of the pipelines of potential concern is the VER PEN 323, including the section 37 between the Ellis Creek Pressure Control Station and the proposed Chute Lake 38 Pressure Control Station.

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1Should the BCUC approve the ITS TIMC project, and if cracking is found in the2VER PEN 323 section which would require significant rehabilitation or3replacement, FEI may choose to reactivate the 1,200 m section of the OLI PEN4406 to provide additional redundancy and resiliency to the Penticton and5Summerland systems.

- 6 In response to BCUC IR 30.6, FEI states, "At this time, FEI has no reason to believe it 7 would abandon the deactivated pipeline in the future."
- 8 9

56.3 Please describe the reasons why FEI considers that the VER PEN 323 is a potential concern with respect to cracking threats.

10

11 Response:

As part of FEI's integrity management activities, including its development of the Transmission Integrity Management Capabilities (TIMC) projects, FEI has evaluated the susceptibility of its transmission pipelines to cracking threats. Cracking threats include both stress corrosion cracking (SCC) and other cracking threats such as seam weld cracking, and affect the strength of a pipeline by effectively reducing the wall thickness of the pipeline. The VER PEN 323 pipeline is susceptible to both SCC and other cracking threats.

- 18 SCC occurs on transmission pipelines as a result of the combination of three factors:
- Susceptible metallic material: All pipeline steels are considered susceptible materials, although it is expected that susceptibility amongst steels will vary depending on when they were manufactured (e.g., pre-1980s steel is expected to be more susceptible.). The VER PEN 323 pipeline is steel with an original installation year of 1957, and is comprised of a susceptible metallic material.
- Tensile stress: This may include residual or applied stresses. Tensile stress is often referenced as a percentage of the specified minimum yield strength (SMYS) of a pipe, which is the minimum stress that will cause a pipe to permanently deform. The VER PEN 323 pipeline maximum operating stress due to internal pressure is 56% of SMYS, contributing to the susceptibility of the VER PEN 323 pipeline to SCC.
- 29 3. **Suitable environment**: A suitable environment may be present if:
- Ouncoated steel, resulting from coating damage or where coating has disbonded and come away from the pipe, is exposed to the surrounding soil. SCC can occur in the range of soil types and terrain/drainage conditions found in FEI's operating territory, including for the VER PEN 323 pipeline.
- Other conditions for corrosion exist, such as cathodic protection (CP) shielding or
 where there are inadequate levels of CP. CP shielding can occur due to
 disbonded coatings, large rocks, or foreign structures preventing the CP current
 from reaching the pipeline, and which in turn contributes to a corrosive
 environment where corrosion and/or SCC may initiate and grow. The VER PEN
 323 pipeline contains coatings such as asphalt and polymer tape that can shield
 CP, contributing to susceptibility of the VER PEN 323 pipeline to SCC.
- 41



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- Seam weld cracking is related to the way that the pipe has been manufactured. The VER PEN 1
- 2 323 pipeline was manufactured by a process referred to as electric resistance welding (ERW),

3 and is therefore susceptible to the following potential imperfections:

- 4 Lack of fusion;
- 5 Inclusions: and/or
 - Hook cracks.

8 These imperfections, if occurring in conjunction with mechanical damage, such as dents, or 9 other time-dependent integrity threats such as metal-loss corrosion, could grow to failure under 10 normal operating conditions.

11 For all the reasons described above, FEI considers that the VER PEN 323 pipeline is a potential 12 concern with respect to cracking threats.

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- 56.3.1 What is the probability that cracking could be found in the VER PEN
- 323 section in which may require FEI to reactivate the 1,200 m section of the OLI PEN 406?

20 Response:

FEI's decision to reactivate the 1,200 m section of the OLI PEN 406 would be dependent on 21 22 such factors as:

- 23 The specific location and magnitude of an integrity concern, such as cracking, on the • 24 VER PEN 323 pipeline; and
- FEI's assessment of redundancy and resiliency to the Penticton and Summerland 25 26 systems.

27

28 Due to the variables and factors associated with cracking threats, it is not feasible at this time to 29 determine a probability of occurrence. However, in consideration of the relative effort to 30 reactivate an existing pipeline versus constructing a new pipeline, FEI considers it prudent to 31 retain the capability for future operational flexibility in this region.

32 33 34 35 If this section of the OLI PEN 406 pipeline is not reactivated following the ITS 56.4 36 TIMC project, please discuss whether this section of pipeline would continue to 37 used and useful.

FORTIS BC^{**}

1 2 3 4	56.4.1	If yes, what are the potential future events which may trigger this section of the OLI PEN 406 pipeline to be required for future use? If applicable, please provide the likely timeframe of any such event(s) or outcome of such an event.
4		outcome of such an event.

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56.4.2 If no, please discuss whether FEI would then apply to have this section removed from rate base.

8 <u>Response:</u>

9 This response also addresses the following IRs: BCUC IR2 56.5, 56.7, 56.9, 56.9.1, 56.10, and 56.13.

11 FEI summarizes its position regarding this 1.2 km section of the OLI PEN 406 pipeline as 12 follows:

 The 1.2 km section of the pipeline is used and useful now and will continue to be used and useful even after the proposed deactivation;

The proposed deactivation of the 1.2 km section of the pipeline is the least cost option
 when compared to the alternatives of either continuing active service through the
 pipeline or abandonment; and

- The costs incurred by FEI for constructing the pipeline and acquiring the right of way in
 the mid 1990s were prudently incurred. In all of the alternatives, FEI's approved
 regulatory treatment for the remaining net book value of the 1.2 km section of the
 pipeline results in its continuing to remain in rate base.
- 22 FEI provides further explanation for each of these points below.

23 **1. The Pipeline Segment Is Used and Useful**

The 1.2 km section of the pipeline will not stop being used and useful following deactivation. Rather, as its purpose changes, there is a corresponding change in how it is being used and useful, i.e. from actively flowing gas to providing resiliency and redundancy for the South Okanagan area by being readily available upon reactivation. This continues to be the case even if it is not reactivated. This is because it will continue to provide redundancy and operational flexibility for future events that might require temporary or permanent reactivation, including:

- Damage to the OLI PEN 406 Extension or the VER PEN 323⁷ lines, such as due to third party contact or landslide that would require significant time to complete repairs; or
- Load growth beyond the projected forecasts in the Penticton, Summerland, and
 Peachland areas.

⁷ This pipeline is 65 years old.



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- 1 The deactivated pipeline also has value in preserving the existing right-of-way which provides 2 economic benefits of avoided costs of new right-of-way in the event, as described above, that
- 3 FEI needs to be able to flow gas in this corridor in the future for service to customers.

For the reasons described above, the 1.2 km section of the pipeline will continue to be used and useful. Although there are a number of situations that could arise in the future that could affect that determination, it is not possible (nor is it necessary) to set out in advance a date at which the pipeline would be removed from plant in service. Further, even in the possible future scenario where the asset is removed from plant in service (i.e. is no longer used and useful), the remaining net book value would only be removed from rate base when fully depreciated. This is discussed under item 3 below.

- 11 **2.** Deactivation Is the Least Cost Option
- 12 FEI considers there to be three options available for the 1.2 km section of the OLI PEN 406 13 pipeline:
- Continue to use the 1.2 km section of pipeline with gas actively flowing, along with incurring an estimated capital cost of \$436 thousand for a new ILI tool launcher/receiver as described in BCUC IR2 56.2 to support continued integrity management pipeline inspections;
- Deactivate the 1.2 km section of the pipeline as proposed in the Application with an
 estimated capital cost of \$75.5 thousand (See BCUC IR2 56.11); and
- Abandon-in-place the 1.2 km section of the pipeline with an estimated cost of removal of \$202 thousand (see BCUC IR2 56.11)⁸.
- The following table summarizes the costs associated with the three options, including the future
- costs if that segment of pipeline is required in the future, which is applicable to options 2 and 3.

Particulars	1) Continued Use of Pipeline	2) Deactivation ^(a)	3) Abandon-in- Place ^(b)
Capital Cost (\$000s)	436	75.5	202
Future Costs if pipeline is required (\$000s)	N/A	Temporary: 75.5 Permanent: 511.5	New pipeline and ROW: 10,000
Retirement Asset Value (\$000s)	N/A	N/A	670

- 24 <u>Notes:</u>
- (a) Option 2 Deactivation: If the 1.2 km section of the pipeline is required again in the future, FEI
 estimates the cost of reactivation will be similar to deactivation, which is \$75.5 thousand. If this
 section of the pipeline is required to be reactivated permanently, then the costs would be the cost to
 reactivate (\$75.5 thousand) plus \$436 thousand for a new ILI tool launcher/receiver.
- (b) Option 3 Abandon-in-Place: Abandonment would effectively eliminate the ability to reuse the existing
 pipeline. The cost to construct a replacement pipeline would be approximately \$10 million inclusive of

⁸ FEI's approved treatment of removal costs is to charge them to FEI's Net Salvage Deferral Account.

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1a new ROW. The estimate is based on factoring the OLI PEN 406 Extension estimate (i.e. \$2712million for approximately 30 km scaled to approximately \$10 million for 1.2 km).

3

It can be seen from the table above that the proposed deactivation is the least cost option with the lowest impact to FEI's ratepayers. The table above also highlights the fact that the deactivation option provides significant economic benefits to ratepayers by preserving the ROW and therefore potentially avoiding the costs of \$10 million that would be required for a new pipeline and ROW when compared to the abandonment option.

9 3. Regulatory Treatment

In each of the three options set out above, FEI's approved regulatory treatment would keep the
 remaining net book value of the pipeline segment in rate base, although if the pipeline was
 abandoned, the assets would be removed from plant in service.

- Option 1 Continued Use in Service: The asset continues in plant in service and continues to be depreciated at the approved depreciation rates for the asset class.
- Option 2 Deactivation: The asset continues in plant in service and continues to be depreciated at the approved depreciation rates for the asset class.
- Option 3 Abandon-in-place: This option results in a plant retirement. The current approved accounting treatment for retirement in group asset accounting is to credit the gross asset value to plant-in-service with an equal debit entry to accumulated depreciation. The means the NBV of the asset remains in rate base which will continue to attract a rate base return, while the resulting unrecovered depreciation from the asset retirement is recovered through changes in depreciation rates through future depreciation studies, wherein the depreciation rates are subject to BCUC approval.

As can be seen above, FEI already has an approved regulatory treatment for each of the options, and all of the options maintain the net book value of the asset in rate base. This results in both the return on and return of the prudently incurred asset cost being fully recovered over time. There is no scenario where a different regulatory treatment is required, such as the suggested non-rate base account (since the asset remains in rate base) or transferring to plant held for future use (since the asset continues to be used and useful).

FEI also notes that the suggested removal of net asset costs from rate base (i.e. transfer to nonrate base account) could incent utilities to incur abandonment costs and to retire the asset because it would result in full asset recovery. This would not be the best outcome from customers in situations where there is a lower cost alternative such as deactivation.

In summary, the cost to deactivate the 1.2 km section of the OLI PEN 406 pipeline and reactivate it when required is the least cost option when compared against keeping the pipeline in active service or building a new line as well as other emergency measures in the event of a failure on the OLI PEN 406 Extension or the VER PEN 323 lines. This 1.2 km section of the pipeline will continue to be used and useful for service to customers by providing redundancy



1	and preserving the ROW. FEI's approved regulatory treatment is to have these assets continue
2	in rate base to ensure the recovery of the prudently incurred costs, regardless of the option.

3 4			
5 6 7 8 9 10	<u>Response:</u>	56.4.3	Should FEI be required to report on the status of usage of this section of the OLI PEN 406 pipeline in each of its subsequent Annual Review processes before the BCUC? Please discuss.
11 12 13	This section deactivation w MRP and the	of pipe is currently will not occur until 2 associated annual	y actively used to move gas in the South Okanagan, and any 2023 or 2024, which is close to the end of the current term of the review reporting.
14 15 16 17 18 19	Subsequent t relatively low response to E short section required. In the in the future.	to deactivation, given net book value of BCUC IR1 30.2), F of the OLI PEN the alternative, FEI	en that there would be no change in status to report on (and the this asset at approximately \$670 thousand, as provided in the EI does not consider that periodic reporting on the status of this 406 pipeline would be helpful to the BCUC, nor should it be could report to the BCUC if the pipeline section were reactivated
20 21			
22 23 24 25 26 27	56.5	In FEI's view, wh this section of the to be "Used and future"?	at is the reasonable time limit, or other set of circumstances, for pipeline to remain in rate base before it is considered no longer Useful" nor "expected to be used in the reasonably foreseeable
28	<u>Response:</u>		
29	Please refer t	o FEI's response i	n BCUC IR2 56.4.
30			
31 32			
33 34 35 36	56.6	Please explain reasonably simila deactivated.	how the cited examples of previous BCUC decisions are ar to the section of the OLI PEN 406 pipeline that is to be
37	<u>Response:</u>		



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In the Waneta Decision the BCUC found that assets may be used and useful if "... a portion of 1 2 the asset is needed now, and the remainder 'may not be needed for guite some time." This is 3 relevant to the OCU Project in that, of the approximately 37 km of the OLI PEN 406 pipeline, 4 only 1.2 km will be deactivated while the other 36 km will remain in service. The timing of when 5 the 1.2 km pipe would be reactivated is not known, but the conditions under which it would be 6 reactivated are known. In the example related to the costs for the BC Hydro lands, those land 7 costs were approved and considered prudent for the construction of the necessary substations. 8 Similarly, the costs associated with OLI PEN 406 pipeline have been embedded and approved 9 in FEI's Rate Base since the mid 1990s (i.e. were prudently incurred). 10 11 12 In the Waneta Decision,⁹ the Panel considered other factors to be persuasive that the 13

- 14 assets should be included in rate base, including the following:
- 15The business case shows that there are economic benefits to ratepayers in every16scenario during the period that the assets will not be providing utility service.
- Following deactivation, please discuss any expected positive impacts or
 economic benefits to ratepayers of the 1,200 m section of the OLI PEN 406.

20 **Response:**

- 21 Please refer to FEI's response in BCUC IR2 56.4.
- 22

19

- 23
- 24
- In response to BCUC IR 30.2, FEI provides the net book value of \$670,000 for the
 section of the pipeline to be deactivated.
- 27 56.8 What is the date in which the net book value of \$670,000 was calculated at?

29 **Response:**

30 The net book value of \$670 thousand is as of December 31, 2023.

31

- 32
 - 32
- 33
- 3456.9In a scenario where the BCUC disallows the continuation of rate base treatment35for the section of the OLI PEN 406 pipeline that is to be deactivated, please

⁹ Order G-130-18, BCUC Decision to the BC Hydro Waneta 2017 Transaction Application, p. 72.

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1 2		discuss what FEI considers to be an appropriate amount to transfer to a non-rate base account, such as:						
3		a)	the net book value (NBV) amount of \$670,000;					
4		b)	the NBV to be calculated at the date of deactivation; or					
5 6		c)	the NBV to be calculated at the date of the final or proceeding.	decision on this				
7		Please	discuss why.					
8 9	Response							
10	If the PCU	<u>-</u> Ciworo to d	determine that the not back value about the transferred to	o non roto haca				
10 11 12 13 14 15 16	account fo that should section of Project is o proceeding asset from	r subseque l be transfe the pipelin complete. i is comple rate base s	ent recovery from ratepayers of this prudently incurred of erred would be the NBV at the date of deactivation. De ne is expected to occur in 2023 or 2024, after construct This section of pipeline will still be in service and opera- ted, so it would not be appropriate to prematurely remove solely based on the date of the final decision of this procee	activation of this tion of the OCU ational when this the NBV of this eding.				
17 18	Please also treatment of	o refer to th of this segn	ne response to BCUC IR2 56.4 for a discussion of why con nent of pipe is aligned with FEI's approved regulatory treat	tinued rate base ment.				
19 20								
21 22 23 24 25		56.9.1	Following deactivation, please discuss whether this se would be more appropriately categorized as Plant held not, why not?	ection of pipeline for future use. If				
26	<u>Response</u>	<u>:</u>						
27	Please refe	er to FEI's r	response in BCUC IR2 56.4.					
28 29								
30 31 32 33 34 35	56.	10 Please sectior deactiv base ir	e explain whether FEI considers it may be reasonable for a of pipeline to a non-rate base asset account during vated, and FEI can reapply to the BCUC to have it move a the future when/if it becomes reactivated. Why or why no	FEI to move this g the time it is d back into rate t?				
36	<u>Response</u>	<u>:</u>						
37	Please refe	er to FEI's r	response in BCUC IR2 56.4.					



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- 1 2
 - In response to BCUC IR 30.3, FEI states:

5 The deactivation costs for the 1,200 m section of the existing OLI PEN 406 are 6 approximately \$80 thousand. This will include removing a section of pipe at the 7 tie-in location, welding a cap onto the deactivated section, installing a blind at the 8 inlet to the Ellis Creek Pressure Control Station, purging the line, and filling it with 9 a low pressure blanket of nitrogen.

- 10Annual ongoing maintenance costs of the deactivated section of the existing OLI11PEN 406 are approximately \$3.5 thousand per year.
- 12 In response to BCUC IR 30.4, FEI states:
- 13 The scope of work for abandonment would follow FEI abandonment 14 specifications and is consistent with industry standard practice. At the tie-in 15 location, a four metre section of pipe would be removed and a cap welded onto 16 the abandoned section. At the Ellis Creek Pressure Control Station, a section of 17 the OLI PEN 406 pipe would be removed from the road edge to the station 18 facilities and a cap welded onto the abandoned section. Between the two isolated 19 ends, FEI would excavate every 200 metres, segment the pipe, and install a cap 20 on each side. Each segmented section would be grout filled to prevent pipe 21 collapse (since cathodic protection would be discontinued it is expected that the 22 pipe would corrode away over time). The site would be restored consistent with 23 preexisting conditions. For the 1,200 metre section of the existing OLI PEN 406 24 line, approximately five sites would require excavation. FEI has estimated the 25 costs associated with abandonment of the section of pipe to be approximately 26 \$200 thousand.
- 56.11 Please provide breakdowns of the cost estimates for both deactivation and
 abandonment of the section of OLI PEN 406 pipeline by activity.

30 **Response:**

- Please refer to Tables 1 and 2 below for the breakdown of the cost estimates for both
 deactivation and abandonment, respectively, of the section of OLI PEN 406 pipeline.
- 33

Table 1:	Deactivation	Activities
----------	--------------	------------

Activity	Breakdown	Estimate
Purge line to complete deactivation	 Install fittings for purging activities at the south tie-in location and Ellis Creek Pressure Control Station Perform purging activities 	\$6,200
Isolation at south tie-in location	Remove section of OLI PEN 406 pipeline	\$14,800



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Activity	Breakdown	Estimate
	Prepare pipe end for weldInstall and weld cap	
Isolation at Ellis Creek Pressure Control Station	Remove pipe appurtenancesPrepare pipe end for installation of blind flangeInstall blind flange	\$24,800
Nitrogen blanket	 Install gauges and fittings for nitrogen blanket monitoring Complete final deactivation activities 	\$29,700
TOTAL		\$75,500

Table 2: Abandonment Activities

Activity	Breakdown	Estimate			
Purge line to complete abandonment	 Install fittings for purging activities at south tie-in location and Ellis Creek Pressure Control Station Perform purging activities 	\$6,200			
Isolation at south tie-in location	 Isolation at south tie-in location Remove section of OLI PEN 406 pipeline Prepare pipe end for weld Install and weld cap 				
Isolation at Ellis Creek Pressure Control Station	 Remove inlet section of OLI PEN 406 to Ellis Creek Pressure Control Station Prepare pipe end for weld Install and weld cap Restore site to preexisting conditions 	\$29,700			
Segment and cap pipe at five locations	 Remove section of OLI PEN 406 pipeline Prepare both ends of pipe for weld Install and weld caps 	\$70,700 ¹⁰			
Final abandonment and grout filling	 Complete final abandonment activities Grout fill abandoned sections of pipe Restore sites to preexisting conditions 	\$80,600			
TOTAL		\$202,000			

- 56.12 Please provide a table illustrating the carrying costs (including return on equity) associated with the section of the 1,200 m OLI PEN 406 pipeline, assuming this asset is to remain in rate base over two years, five years, or ten years.
 - 56.12.1 Please provide the NBV of the carrying costs on each of the above 3 scenarios, and compare to current estimated cost for the alternatives of deactivation and abandonment.

¹⁰ Excluding grouting costs.



1 Response:

FEI notes that the costs of deactivation are only incurred in the situation where the pipeline segment remains used and useful and therefore in rate base, and that the costs of abandonment are only incurred if the pipeline segment is removed from service (although the NBV would remain in rate base due to FEI's approved group asset accounting). As a result, FEI has interpreted this question as comparing the carrying costs of:

- The \$670 thousand of NBV as at January 1, 2024 plus \$80 thousand in deactivation costs; to
- 9 2. The \$670 thousand of NBV as at January 1, 2024 plus \$200 thousand in abandonment costs.
- 11 Since the difference between these two scenarios is \$120 thousand, FEI has calculated the net
- 12 present value (NPV¹¹) of the carrying costs (return on debt and equity) on \$120 thousand over
- 13 two, five and ten year time frames:

NPV of Carrying Costs (Return on debt and equity)	\$000s
Two Years	\$14
Five Years	\$32
Ten Years	\$57

14

- 56.13 Please explain whether there are any other economic differences between
 deactivating and abandoning the section of pipeline, which have not yet been
 identified from the above information requests.
- 1956.13.1If yes, please provide details of the other economic differences between20deactivating and abandoning the section of pipeline.
- 21
- 22 Response:
- 23 Please refer to the response to BCUC IR2 56.4.
- 24

¹¹ FEI has assumed the BCUC intended to refer to the NPV and not the NBV in this question.



1 E. PROJECT COST ESTIMATE

2 57.0 Reference: PROJECT COST ESTIMATE

Exhibit B-2, BCUC IR 32.2–32.3

Negative Project Management Costs

5 In response to BCUC IR 32.2, FEI states: "FEI's portion of the cost estimate was then 6 reviewed and totaled with the construction cost estimate, contingency, and escalation to 7 form the Project Class 3 estimate."

8 9

3

4

57.1 Please confirm, or explain otherwise, that Validation Estimating LLC performed the review of FEI's portion of the cost estimate.

10

11 Response:

12 Validation Estimating LLC did not complete an independent review of FEI's portion of the cost 13 estimate. The owner's cost estimate is developed based on a project-specific organization 14 developed by the FEI project management team and internal subject matter experts. Given the 15 project- and organizational-specific nature of this work, an external review was not considered 16 necessary. The Project organization chart was developed and resources allocated to reflect the 17 Project scope and complexity. The resources include full time project management and project 18 control resources. On site resources include construction management, quality assurance, site 19 inspection, safety and environmental management resources, among others, to provide 20 continuous monitoring and control of construction activities to assure compliance to FEI's 21 requirements. The cost estimate was developed by FEI's project management team and 22 reviewed and verified through multiple internal reviews. Validation Estimating LLC completed a 23 risk analysis for the project using the Class 3 Project cost estimate as the basis for the analysis. 24 The Class 3 Project cost estimate includes all FEI's costs as well as the construction costs 25 estimated by the FEED engineer.

- 26
- 27
- ---

In response to BCUC IR 32.3, FEI provides a breakdown of the Project Development
costs of \$6.2 million by line item and year incurred. The following is a BCUC staff extract
from the breakdown provided:

		Pro)'s		
	Particulars	2018	2019	2020	Total
2					
3	Project Services - Project Management	-	(503)	708	205

Table 1: Project Development Cost Breakdown

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Further, in response to BCUC IR 32.3, FEI provides the following explanation of Project
 Management costs, "Costs associated with Project Management activities, including cost
 and schedule oversight, project controls."

4

57.2 Please explain the negative Project Management costs of \$503,000 in 2019.

5

6 **Response:**

FEI clarifies that the breakdown of Project Development costs provided in the response to BCUC IR1 32.2 inadvertently had the incorrect allocation of costs for 2019 which resulted in the negative value of \$503 thousand in Project Management costs for 2019. Please refer to the table below for the revised Project Development cost breakdown with the correct cost allocation for 2019. FEI notes the total Project Development cost for 2019 remains the same at \$951

12 thousand and there is no change to the overall total of \$6.23 million.

		Project	Dev	velopmen	t - (Capitalize	d \$	000's
Particulars		2018		2019		2020		Total
Engineering Design	\$	8	\$	658	\$	2,061	\$	2,727
Engineering Survey		-		22		111		133
Engineering Estimate Validation		-		-		319		319
Engineering Geotechnical		-		11		903		914
Project Services - Project Management		-		191		708		899
Project Services - Communications		-		10		118		128
Project Services - Community Relations		-		13		119		132
Project Services - Enviromental/Archaeology		-		-		112		112
Project Services - Indigenous Relations		-		24		78		102
Project Services - Legal		-		-		158		158
Project Services - Operations Support		-		3		-		3
Project Services - Procurement		-		6		81		87
Project Services - Property Services		-		-		421		421
Project Services - Regulatory / Permitting		-		13		83		96
Total	\$	8	\$	951	\$	5,271	\$	6,230



1	F.	ENVIRONMENT AND ARCHAEOLOGY

2	58.0	Refere	nce:	ENVIRONMENT AND ARCHAEOLOGY
3				Exhibit B-2, BCUC IR 36.1
4				Permitting Risks
5		FEI stat	tes in	response to IR 36.1 that:
6 7 8			the ga specif Manu	as line design for the OCU Project does not meet some of the criteria ried within the MoTI [Ministry of Transport & Infrastructure] Utility Policy al as follows:
9 10 11			1.	approximately 550 metres of the proposed alignment falls inside, or within 30 metres of and parallel to the MoTI Saliken Drive right of way (ROW), near the City of Penticton;
12 13			2.	the crossing of Saliken Drive is proposed to be completed using an uncased open trench method;
14 15			3.	the crossing of Chute Lake Road is currently designed to cross the MoTI ROW at an angle less than 70 degrees; and
16 17			4.	the crossing of Chute Lake Road is proposed to be completed using an uncased open trench method.
18 19 20			The s variar respo	econd meeting was held to discuss the specific details of and the need for nces. FEI submitted the variance application in January 2021 and expects a nse from the MoTI in March 2021.
21 22 23		58.1	Pleas impac	e provide an update of the discussions with the MoTI, and discuss any ts on project timing or cost if applicable.
24	Resp	onse:		

FEI has not yet received a response from MoTI indicating its position with respect to the variance request. On April 6, 2021, MoTI notified FEI that the application had progressed through its district review process and was forwarded to MoTI's Chief Engineer for review and approval on March 25. FEI expects a response soon.



3

1 59.0 Reference: ENVIRONMENT AND ARCHAEOLOGY

Exhibit B-1-2, Section 7.2.3, p. 103; Appendix F, Table 6.3, p. 45

Permitting

4 FEI states on page 103 of the Updated Application that all required environmental 5 permits and approvals for the Project will be identified and applied for during the detailed 6 engineering phase of the Project.

- A list of anticipated permits and approvals along with the estimated timeframe forissuance is provided in Table 6.3 of Appendix F.
- 9 59.1 Please clarify what level of project definition is required in order to finalize 10 timelines for permits.

11

12 Response:

The minimum level of definition required to be able to finalize FEI's timelines for permittinginclude the following:

- 15 1. A defined centreline of the route and associated right of way;
- 16 2. Identified access routes and temporary work spaces (TWS); and

17 3. A list of requirements needed to make the TWS usable.

This level of definition will continue to mature throughout the detailed engineering phase of theProject.

Permit timelines are also dependent on the workload and/or backlog of the applicable regulatory agency at the time of submission of the permit. In addition, depending on the permit, there are consultation requirements that must be met by regulating agencies, which can also influence the

- 23 permitting timeline.
- 24
- 25
- 26
- 27 28

59.2 Please update Table 6.3 of Appendix F based on the latest available information.

29 Response:

30 Based on the latest information available, there are no updates to Table 6.3 of Appendix F.



1	60.0	Refere	ence:	PROJECT SCHEDULE
2				Exhibit B-1-2, Table 5-11, p. 77
3				Project Schedule and Milestones
4 5		Under Comm	the Pe unities	rmitting activity, Table 5-11 of the Updated Application shows Indigenous Consultation is scheduled from June 2019 to December 2023.
6 7 8 9		60.1	Please or del consul	e elaborate on situations where FEI would consider it necessary to pause ay the project schedule to address concerns raised from Indigenous tation.
10	Respo	onse:		
11 12 13 14 15	The B Indige is com engag mitiga	COGC's nous gr nmitted ement te or ave	s consu oups, a to supp with In oid such	Itation process contemplates that where specific concerns are identified by dditional time may be required to complete the consultation process. ¹² FEI forting the BCOGC's process and to addressing concerns raised through digenous groups including considering potential impacts, and ways to mimpacts.
16 17 18	If throu or neo identif	ugh the cessary ied in Se	permitt to paus ection 3	ing processes and engagement with Indigenous groups, it would be useful se or delay the schedule, FEI may consider such actions. However, as of the Updated Application, there is a need for the Project to progress in a

- 19 timely manner to prevent disruptions in service. It was with this in mind that FEI commenced
- 20 engagement with Indigenous groups early in the planning process on June 28, 2019.

At this point, FEI has paused certain elements of the Project for 30 days to set the stage for further engagement with the PIB. However, at this time, FEI does not see the need to pause or delay the Project schedule further as it is still in the process of engaging with the Indigenous groups and developing mitigation strategies to address concerns raised.

¹² OGAAM-Chapter-6.3.pdf (bcogc.ca)



3

1 61.0 Reference: ENVIRONMENT AND ARCHAEOLOGY

Exhibit B-1-2, Section 7.1, p. 98; Exhibit B-2, BCUC IR 35.1

Environment and Archeology

FEI states on page 98 of the Updated Application that draft versions of both the Environmental Overview Assessment (EOA) and Archaeological Overview Assessment (AOA) were provided to Indigenous communities who requested drafts for their review and comment. At the time of writing, FEI had not received any comments; however, any comments that are received will be incorporated during the detailed engineering phase of the Project.

- 10 In response to BCUC IR 35.1, FEI states:
- 11The Penticton Indian Band reviewed the EOA report and provided comments12while Westbank First Nation deferred comment on the EOA to the Penticton13Indian Band. Comments provided by the Penticton Indian Band did not materially14change the EOA and therefore will be addressed during the environmental field15program and in the Project Environmental Management Plan.
- 16 A confidential AOA was facilitated by the Penticton Indian Band, and conducted 17 by the Syilx Traditional Ecological Knowledge Keepers (TEKK) – a group of 18 individuals from communities across the Syilx traditional territory. The 19 recommendations of this AOA will be addressed during the Archaeological 20 Impact Assessment.
- 61.1 Please provide more information on the specific environmental or archeological
 issues or concerns raised by the Penticton Indian Band, and FEI's responses to
 these concerns to date. Include supporting materials where available,
 confidentially if necessary.

26 **Response:**

25

FEI prepared AOA and EOA reports, and provided a draft copy to the PIB for comment on April 16, 2020. At this time, FEI is waiting for comments from the PIB on the AOA. However, FEI received comments from the PIB in regard to the EOA that seek to highlight potential:

- 30 Impacts to Syilx wildlife during construction activities;
- Long-term impacts to Syilx *tmix^w* (animal ecology);
- Long-term impacts to Syilx *tmix^w* (plant ecology);
- 4.3.3 Long-term impacts to soil;
- Impacts from pipeline failure;
- Impacts to *cecwixa* (watercourse);
- Impacts to $qaqxw = \hat{l}x$ (fish), and



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1 • Impacts from release of contamination.

As discussed in the response to PIB IR1 31.1, FEI plans to address the potential impacts identified by the PIB during the detailed engineering and design phase of the Project which will include further environmental assessments and creation of the Project Environmental Management Plan. FEI will invite the PIB to participate onsite during construction activities, review Project plans, complete pre-construction baseline studies (as per the Capacity Funding Agreement), prepare mitigation plans and participate in post-construction monitoring.



62.0

2

1 G. CONSULTATION AND ENGAGEMENT

Reference:

3 Exhibit C5-2; p. 2 4 Exhibit B-1-2, pp. 83, 117, 119-120, 123 5 First Nations engagement and consultation 6 On page 2 of Exhibit C-5-2, the Penticton Indian Band (PIB) states: 7 PIB disputes FEI's claims in its application that "there are no known outstanding 8 issues or concerns with regard to the Project, which cannot be addressed 9 through planned future engagement." (Exhibit B-1 at p.107). From PIB's 10 perspective, engagement with PIB remains at its early stages as PIB has not yet had an opportunity to complete its assessment of OCU Project impacts on PIB's 11 12 rights and title.

CONSULTATION AND ENGAGEMENT

- Further the OCU Project proposes to transfer property rights to a third party, being FEI. This transfer without PIB's consent, which has not been given, is a meaningful diminution amounting to a *prima facie* infringement of PIB's aboriginal title (*Tsilhqot'in Nation v. British Columbia*, 2014 SCC 44 (CanLII), [2014] 2 SCR 257).
- 18 On page 83 of the Updated Application FEI states that the Project will impact Crown land 19 and in some areas will require additional ROW on Crown land. These Crown land 20 requirements will be developed as part of the BCOGC pipeline application during the 21 detailed design stage.
- 22 On page 117 of the Updated Application, FEI states, "FEI recognizes that the potential 23 impacts of the Project on the title, rights, and interests of affected Indigenous groups 24 must be identified and avoided or mitigated as appropriate."
- 25 On page 119 of the Updated Application, FEI states:
- 26 Due to the Project's proximity to the PIB area of responsibility within the Syilx 27 nation, discussions with the PIB Natural Resources Department began very early 28 in the planning stage. At the recommendation of PIB Natural Resources 29 Department leads, a meeting was scheduled with the Traditional Ecological 30 Knowledge Keepers (TEKK) to further discuss the project scope, proposed 31 routing, and timelines.
- 32 On page 120 of the Application FEI states that (as shown in Appendix I-4) meetings with 33 TEKK were held regularly and a capacity funding agreement was developed in 34 collaboration between FEI and PIB. The intent of the agreement was to support PIB's 35 capacity to engage with FEI, complete an assessment of the Project's impacts on Syilx 36 interests, and communicate with their community members.



3C [™]	FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: May 13, 2021
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On page 123 of the Updated Application FEI refers to an agreement it has developed in collaboration with the PIB to identify and mitigate issues raised. Under the agreement with PIB, an interim report on its findings along the route was received on October 30, 2020, as per the agreement. FEI is currently working on a similar agreement with WFN."

- 5 Table 8-3 outlines FEI's key engagement activities with Indigenous Groups, with 6 complete engagement logs included in Appendix I-4 of the Updated Application.
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62.1 Please provide an updated version of Table 8-4 or Appendix I-4 to capture any activities since the filing of the Application.

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Response:

- 11 FEI has updated Appendix I-4 (Indigenous Engagement Log) below to include engagement
- 12 activities since filing the Updated Application. The updates are organized by Indigenous group.

	Engagement	Indigenous	External	FEI	
Date	Туре	Community	Representative	Representative	Summary
20-Oct-20	Email	Penticton Indian band	Natural Resources Department (NR) Project Manager NR Director	Community Relations Manager (CR Manager)	Follow up documents sent to PIB from October 20, 2020 meeting including Pipeline Construction Specifications and Conducting Pipeline Patrols.
21-Oct-20	Email	Penticton Indian Band	Policy and Planning (PP) Director	Community and Indigenous Relations Manager (CIR Manager)	FEI offered to meet to discuss the potential for locating temporary project sites on PIB lands. Agreed to meet Tuesday, October 27, 2020.
23-Oct-20	Email	Penticton Indian Band	NR Director NR Manager	Indigenous Relations Manager (IR Manager) CR Manager	Draft Borehole AIA report sent for Review by communities.
23-Oct-20	Email	Penticton Indian Band	NR Director NR Manager	CR Manager CIR Manager IR Manager	PIB said that they reviewed the Geotechnical AIA report and it is compliant with the provincial AIA standards; that the contractor has done a good job in that respect.
23-Oct-20	Email	Penticton Indian band	NR Director NR Manager	CR Manager CIR Manager IR Manager	PIB sent their interim Use and Occupancy Mapping (UOMS) report.
29-Oct-20	Conference Call	Penticton Indian Band	NR Director NR Manager	CR Manager CIR Manager IR Manager	Bi-Weekly progress update meeting. Discussed: high-level quantitative and qualitative aspects of PIB's Cultural Heritage Resource Assessment report and potential to mitigate impacts; construction methods including proposed timelines; next steps including PIB TEKK studies and report writing.
19-Nov-20	Conference Call	Penticton Indian Band	NR Director NR Manager	CR Manager CIR Manager IR Manager	Bi-Weekly progress update meeting. Discussed PIB's TEKK reports' progress, and meeting with Chief and Council. PIB said that they would present a briefing note to Chief and Council at the December 15, 2020 Chief and Council meeting and determine if FEI needs to come in to present the project. PIB offered to write a Letter of Support for the Heritage Conservation Act, Archeology Branch, 12.2 Permit Application. PIB Requested updated maps of the project. Provided update that the CPCN application had been filed.
27-Nov-20	Email	Penticton Indian Band	NR Director NR Manager	CR Manager CIR Manager IR Manager	FEI sent PIB follow up maps from the November 19 meeting.
1-Dec-20	Email	Penticton Indian Band	NR Director	CR Manager CIR Manager IR Manager	PIB requested a project schedule from FEI.



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	Engagement	Indigenous	External	FEI	
Date	Туре	Community	Representative	Representative	Summary
2-Dec-20	Email	Penticton Indian	NR Director	CR Manager	FEI sent PIB a link to the BCUC Application and the page number
		Band		CIR Manager	The project schedule can be found on.
				IN Manager	meeting
3-Dec-20	Virtual	Penticton Indian	NR Director	CR Manager	Bi-Weekly Meeting between EFL and PIB Discussed Invoicing
5-Dec-20	Meeting	Band	NR Manager	CIR Manager	Process: previous meeting minutes: future planning for
	meeting	Bunu	Svilx Traditional	IR Manager	meetings to discuss project reroutes; mitigations; the PIB
			Ecological	in manager	department's planned address to Chief and Council on
			Knowledge		December 15, 2020 on the Project; safety plan & training
			Keepers (TEKK)		requirements; and capacity funding agreement work items.
					PIB requested Preliminary Field Reconnaissance documentation
					from Golder (FEI consultant), and any information on how they
					review process. PIR offered to write a letter of support for the
					Arch permit application, EEI said they would get back to PIB on
					takeaways.
4-Dec-20	Email	Penticton Indian	NR Director	CR Manager	PIB said that they would no longer be able to present the
		Band		CIR Manager	briefing to Chief and Council at the December 15, 2020 Chief
				IR Manager	and Council meeting, and that the January 5, 2021 Chief and
					Council meeting is also postponed.
					PIB said that the next available spot to present to Chief and
					Council would be at the January 19, 2021 Chief and Council
					meeting and that they would work to get FEI on the agenda and
					let FEI know.
4-Dec-20	Email	Penticton Indian	NR Director	CR Manager	FEI followed up on the November 19 conference call and
		Band		CIR Manager	confirmed that a Letter of Support from PIB for the Heritage
				IR Manager	Conservation Act, Archeology Branch, 12.2 permit application
7-Doc-20	Empil	Ponticton Indian	NP Director	CP Managor	Would be great.
7-Dec-20	Lillali	Band	NR Director	CIR Manager	Golder send the permit/application number EEI responded
		bullu		IR Manager	that once Golder submits the application, they would receive
					the application number and share with PIB.
15-Dec-20	Email	Penticton Indian	NR Director	IR Manager	FEI wrote an email advising that the HCA Permit Application was
		Band		CIR Manager	submitted and provided the Application number.
15-Dec-20	Virtual	Penticton Indian	NR Manager	IR Manager	PIB representative facilitated TEKK Members and FEI meeting.
	Meeting	Band	NR Director	CIR Manager	PIB thanked FEI for the Amazon Fire Tablets provided to TEKK
			IENN		Project reroutes. PIB community led project and field study
					timelines for the UOMS and TEKK final reports (Due January 1
					and February 1, 2021, respectively), PIB's interest in water and
					water bodies, and water crossings.
					FEI agreed to prepare a presentation on the watercourse
					crossing techniques used for pipelines and this project.
					FEI, PIB, TEKK agreed to another meeting in early January.
					FEI and PIB/TEKK agreed to form a subcommittee to discuss
					water issues, concerns and mitigations on a crossing by crossing
					basis.
18-Dec-20	Email	Penticton Indian	NR Manager	IR Manager	PIB said that the meeting with Syilx TEKK was a success, and
		Band	NR Director	CIR Manager	that they would be going to do field assessments of the re-
					routes on Monday, December 21, 2020.
					FEI followed up on December 17, 2020 meeting with a
					recommended cecwixa (water) mitigations sub-committee
					group structure format to discuss impacts with Syilx TEKK and
					PIB. Follow up emails made agreement on the number of
					representatives from each organization who would form the
					committee.



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	Engagement	Indigenous	External	FEI	
Date	Туре	Community	Representative	Representative	Summary
21-Dec-20	Email	Penticton Indian Band	NR Director	IR Manager CIR Manager	FEI sent a PowerPoint overview presentation in followed up on a PIB request for presentation for PIB. The presentation was for use in developing a briefing note for Chief and Council, as well as the presentation that FEI could speak to at the FEI/PIB Chief and Council presentation meeting to be scheduled in January
5-Jan-21	Email	Penticton Indian Band	NR Manager NR Director	IR Manager CIR Manager	FEI followed up on December 15, 2020 meeting with a cecwixa (water) crossings table, asking if the list was comprehensive according to PIB's knowledge.
8-Jan-21	Email	Penticton Indian Band	NR Manager	IR Manager CIR Manager	FEI sent a letter clarifying health and safety field crew requirements.
12-Jan-21	Phone	Penticton Indian Band	NR Manager NR Director	IR Manager CIR Manager	FEI requested to meet with Chief and Council to introduce the project (PIB said timing is still TBD), and discussed planning for technical PIB/TEKK report reviews, and planning for next meeting. PIB confirmed receipt of the PowerPoint presentation from FEI, PIB said that the Final UOMS Report needs to be signed off on by Chief and Council and the next meeting is January 19 prior to being provided to FEI.
12-Jan-21	Email	Penticton Indian Band	NR Manager NR Director	IR Manager CIR Manager	FEI provided further notice to PIB of application to the British Columbia Utilities Commission for a Certificate of Public Convenience and Necessity filed on November 16, 2020. FEI provided information on how PIB could register as an interested party, including contact information, website address, and timeline. FEI also notified PIB of the Heritage and Conservation Act
					Section 12.2 permit application made on December 15, 2020.
13-Jan-21	Email	Penticton Indian Band	NR Manager	IR Manager CIR Manager	FEI sent email requesting availability and updates for: 1) dates that would work for the Syilx TEKK recurring meeting, bi-weekly 2) dates that would work for Syilx TEKK Cecwixa (water) Impact Mitigations Sub-committee meeting and 3) update on the Syilx TEKK field studies and TEKK reports.
14-Jan-21	Phone	Penticton Indian Band	NR Manager	IR Manager CIR Manager	PIB identified Syilx TEKK members who would be part of the Cecwixa Impact Mitigations Sub-committee; TEKK/PIB community led field studies upcoming on January 18 and winter prints studies ongoing; the PIB Final UOMS Report requires final sign off from chief and council, which will happen January 19; PIB TEKK final report is well underway and reroute studies are upcoming; PIB and TEKK agreed to reconvene on Friday, January 22 for two meetings: 1) a broad TEKK meeting Friday morning with all TEKK members, and 2) separate TEKK Cecwixa Mitigations Sub-committee meeting in the afternoon.
22-Jan-21	Email, Text	Penticton Indian Band	NR Manager	IR Manager CIR Manager	Text Messages and Email communication. PIB said that the email servers were all being transferred over to a new system, and all emails and calendars were lost. The January 22 scheduled meetings with the broad Syilx TEKK members and the TEKK Cecwixa Impact Mitigations Sub-committee meeting both need to be cancelled and rescheduled for next week. Agreed to schedule meetings on January 27 & 28, 2021 for broader TEKK meeting, and Cecwixa Impact Mitigations Sub-committee meeting, respectively.
26-Jan-21	Phone	Penticton Indian Band	NR Manager	IR Manager CIR Manager	PIB confirmed that the January 27, 2021 meeting with PIB and the Syilx TEKK ; discussed the agenda for the meeting - that FEI's presentation about watercourse crossing techniques would be useful and that the cecwixa (watercourse crossings) table would be a good way to organize each crossing and have a mitigation conversation about each one.
27-Jan-21	Phone	Penticton Indian	NR Manager	IR Manager	PIB cancelled the Syilx TEKK meeting and the Syilx cecwixa
		Band		CIR Manager	mitigations meeting.



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Data	Engagement	Indigenous	External	FEI	C
27-Jap 21	Phone	Ponticton Indian	NR Director	IP Manager	Summary
27-3411-21	Filone	Band		CIR Manager	 PIB said that the new Collect and Council was briefed on the OCO project, and staff recommended to Chief and Council that FEI present the project directly to elected officials. Chief and Council advised they would make a decision on FEI presenting the project at the February 2 meeting and respond to FEI. FEI stated they are willing to present at anytime. PIB advised FEI that the new Council is getting up to speed on the project. PIB requested the needs assessment for the project and FEI sent a link to BCUC application, which includes the needs assessment.
					PIB advised that Chief and Council created a Committee to work with FEI on the project; Committee includes Chief, two council members and two staff members.
					PIB requested the link and letter regarding the intervener application process be re-sent; FEI provided.
					PIB agreed to continue ongoing bi-weekly meetings for OCU and that they would provide an update once Council approval and direction are confirmed - should be known by Feb 2.
27-Jan-21	Email	Penticton Indian Band	NR Director	IR Manager CIR Manager	FEI sent a follow up email to the phone conversation that same day including resending the January 11, 2021 letter with information on how to register as an intervener on the project, and the link to the BCUC CPCN application. The email also asked for confirmation that the Thursday, February 4 meeting would happen, and requested the timing to present the OCU project to Chief and Council.
3-Feb-21	Email	Penticton Indian Band	NR Director	IR Manager CIR Manager	FEI provided updated shape files for the project to PIB and asked for confirmation that the bi-weekly February 4 meeting was to proceed.
8-Feb-21	Email	Penticton Indian Band	NR Director	IR Manager CIR Manager	FEI sent email with link to the Pre-Construction Site Assessment Report (Habitat Assessment) for project area geotechnical work, for community review and comment.
8-Feb-21	Email	Penticton Indian Band	NR Director	IR Manager CIR Manager	FEI sent an email confirming understanding of PIB intervener status on the BCUC CPCN application and confirmed FEI's desire to continue to engage with PIB; FEI requested a meeting with Chief and Council
9-Feb-21	Email	Penticton Indian Band	NR Director	IR Manager CIR Manager	FEI sent the Preliminary Field Reconnaissance Arch report for review and comment.
12-Feb-21	Virtual Meeting	Penticton Indian Band	NR Director	IR Manager CIR Manager	FEI requested clarity on the 'community engagement' section of the capacity funding agreement, when presentation to Chief and Council can be arranged, and how FEI and PIB will work together moving forward. PIB advised that the community engagement section of the CFA is to be led by PIB, and FEI brought in when requested. All meetings with Syilx TEKK constitute community engagement, both the engagements with and without FEI.
					PIB confirmed internal PIB meeting being held later in the day (February 12, 2021), and would have clarity on when FEI could present the project to Chief and Council, and have a discussion about the project.
					would work with FEI moving forward on the OCU project.



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Data	Engagement	Indigenous	External	FEI	Summary.
16-Feb-21	Text	Penticton Indian	NR Director	IR Manager	FEI requested an update from PIB on the preferred engagement
	Message	Band		CIR Manager	approach, the potential for a Chief and Council meeting date,
					time and agenda, and offered to have a conversation. PIB said
					that the committee discussed the approach and they expect to
17-Feb-21	Text	Penticton Indian	NR Director	IR Manager	FEI followed up with PIB to confirm the regularly scheduled bi-
17 100 21	Message	Band	Nit Director	CIR Manager	weekly meeting on February 18, 2021 at 8am. PIB advised the
					meeting would need to be delayed until Council confirms
					direction on the PIB process. FEI requested an estimate on the
					timing of that process being finalized. No response was
23-Feb-21	Text	Penticton Indian	NR Director	IR Manager	FEI followed up with PIB for an update regarding the preferred
	Message	Band		CIR Manager	engagement approach, a potential Chief and Council meeting
25 5 k 24	T . 1	Desting a locitor		10.14	date, time and agenda. No response was received.
25-Feb-21	l ext Message	Penticton Indian Band	NR Director	IR Manager	FEI followed up with PIB to confirm availability on Feb 25 or 26, 2021 to discuss next stens. PIB confirmed meeting for February
	Wiessuge	bana		Circinalager	26, 2021 and they would call FEI on that date.
26-Feb-21	Phone Call	Penticton Indian	NR Director	IR Manager	PIB provided an update:
		Band		CIR Manager	-PIB Chief, Council, Legal have reviewed all PIB TEKK reports and
					data collection.
					finalized reports and to update on future structure of
					engagement. The preferred meeting date for PIB is March 10,
					2021.
					- PIB Internal meeting to be held on March 4. PIB agreed to
					- OCU PIB Committee: Chief, 2 Councillors, Legal Counsel,
					Director Natural Resources, Director Policy and Planning.
1-Mar-21	Email	Penticton Indian	NR Director	IR Manager	FEI followed up on February 21, 2021 phone conversation:
		Band		CIR Manager	- confirmed FEI available to attend March 10, 2021 meeting;
					- requested PIB provide the Final UOMS Report and Final TEKK)
					Report to FEI for review in advance of the meeting.
2-Mar-21	Email	Penticton Indian	NR Director	IR Manager	FEI provided Pre-Construction Site Assessment (PCSA)
		banu		Circinianagei	the beginning of February, focussing on the HDD of Penticton
					Creek Only) and Environmental Management Plan (EMP) for
					review and comment.
3-Mar-21	Email	Penticton Indian Band	NR Director	IR Manager	FEI followed up with PIB to confirm:
		bund		Circinalager	- availability to attend regularly scheduled bi-weekly meeting on
					March 4, 2021 at 8am.
					- PIB waiting for confirmation of March 10, 2021 meeting; and
					- PIB unable to attend regularly scheduled bi-weekly meeting.
4-Mar-21	Phone Call	Penticton Indian	PP Director	IR Manager	PIB requested FEI's Attendance list for the March 10 meeting
5-Mar-21	Email	Band Penticton Indian	NR Director	IR Manager	FEI followed up on the March 4 phone conversation with an
5 10101 21	Lindi	Band	PP Director	CIR Manager	email listing the FEI participants anticipated to attend the
					March 10 meeting.
					FFI as succeeded DID attendance as acting a second such final
					community led study reports (TEKK and UOMS reports).
					PIB responded with list of PIB participants confirmed for the
16.Mar 21	Letter	Pentiston Indian	NR Managor	IR Managor	March 10 meeting.
10-10101-21	Letter	Band	NR Director	CIR Manager	Permit Application was submitted to the BCOGC.
29-Mar-21	Letter	Penticton Indian	NR Manager	IR Manager	FEI provided a notification letter of the application to be
		Band	NR Director	CIR Manager	submitted to the BCOGC for the upcoming Penticton Creek
	<u> </u>				crossing.



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	Engagement	Indigenous	External	FEI	
Date	Туре	Community	Representative	Representative	Summary
7-Apr-21	Letter	Penticton Indian	PP Director	IR Manager	PIB responded to FEI's March 29, 2021 notification letter. PIB
		Band		CIR Manager	advised they require free, prior and informed consent, including
					consultation and accommodation of concerns before FEI
7-Apr-21	Lottor	Ponticton Indian	PP Director	IP Managor	Submits regulatory applications.
7-Api-21	Letter	Band	PP Director	CIR Manager	advised they require free prior and informed consent including
		bana		Circinanager	consultation and accommodation of concerns before FFI
					submits regulatory applications.
23-Oct-20	Email	Westbank First	Archaeology	IR Manager	Draft Borehole AIA report sent for Review; Follow up sent
		Nation	Supervisor (AS)	CIR Manager	November 2, 2020 to confirm receipt.
			Archaeology		
			Project		
			Coordinator		
26.0.1.20	Dharas Call	March and Elizab	(APC)	ID Manager	
26-Oct-20	Phone Call	Nation	AS	CIP Manager	Reviewed Capacity Agreement and discussed AIA work on
		Nation	Director	City Manager	
			Intergovernme		
			ntal Affairs		
20-Nov-20	Phone Call	Westbank First	APC	IR Manager	WFN confirmed receipt of AIA report sent October 23, 2020 and
		Nation		CIR Manager	November 2, 2020. Discussed the opportunity for WFN to
					review and comment on the report. WFN said they would
					review and get back to FEI.
26-Nov-20	Email	Westbank First	AS	IR Manager	FEI sent latest, marked up version of the Capacity Funding
3-Dec-20	Email	Westbank First	AFC		Agreement.
5-Det-20	Linaii	Nation	APC	CIR Manager	latest version of the Canacity Funding Agreement, originally
		Nation	/ C	entimanager	sent November 26, 2020.
4-Dec-20	Email	Westbank First	AS	IR Manager	WFN said they are reviewing the Capacity Funding Agreement.
		Nation	APC	CIR Manager	
8-Jan-21	Phone Call	Westbank First	AS	IR Manager	WFN said that the Capacity Funding Agreement is being
12 100 21	Freedil	Nation	A.C.	CIR Manager	reviewed and should be sent to FEI soon.
12-Jdfi-21	Email	Nation			Commission for a Certificate of Public Convenience and
		Nation	AIC	Circinanager	Necessity on November 16, 2020, EEI provided information on
					how the group could register as an interested party, including
					contact information, website address, and timeline.
					FEI also notified group of the Heritage and Conservation Act
					Section 12.2 permit application made on December 15, 2020.
					The letter provided contact information for FEI where any
					comments, questions or concerns could be directed.
15-Jan-21	Phone	Westbank First	APC	IR Manager	WFN said that the Capacity Funding Agreement is being
		Nation		CIR Manager	reviewed and should be sent to FEI soon.
20-Jan-21	Email	Westbank First	APC	IR Manager	WFN sent markup of capacity funding agreement.
		Nation		CIR Manager	
4-Feb-21	Email	Westbank First	APC	IR Manager	WFN and FEI agreed to, signed and finalized the Capacity
		Nation		CIR Manager	Funding Agreement. The Agreement outlines the relationship,
					on the project
8-Feb-21	Email	Westbank First	AS	IR Manager	FEI sent email with link to the Pre Construction Site Assessment
		Nation	APC	CIR Manager	Report (Habitat Assessment) for project area geotechnical work,
					for community review and comment.
9-Feb-21	Email	Westbank First	AS	IR Manager	FEI sent the Preliminary Field Reconnaissance Arch report for
		Nation	APC	CIR Manager	review and comment.
					WEN confirmed receipt of the Dre Construction Site Account
					and the Preliminary Field Reconnaissance Arch report with FE
					and that they would respond in a week



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Data	Engagement	Indigenous	External	FEI	Summary
2-Mar 21	Empil	Wostbank Eirst			EEL cont the Dro Construction Site Assessment (DCCA)
2-11141-21	Email	Nation	APC	CIR Manager	Environmental Report (site specific version of the PCSA sent at the beginning of February, focussing on the HDD of Penticton Creek Only) and the Environmental Management Plan (EMP) for review and comment.
15-Mar-21	Email	Westbank First Nation	AS APC	IR Manager CIR Manager	FEI advised that an Investigative use Permit application was submitted to the BCOGC
29-Mar-21	Email	Westbank First Nation		IR Manager CIR Manager	FEI sent a notification letter of the upcoming Penticton Creek crossing OGC application. FEI asked for the contact name who received the referrals@wfn.ca email address and who regulatory letters should be addressed to moving forward.
30-Apr-21	E-Mail	Westbank First Nation	AS APC	IR Manager CIR Manager	WFN sent a letter of conditional consent for the OCU Project. The condition is that Archaeology work is conducted and WFN receives a minimum of three weeks notification to schedule WFN field works.
12-Jan-21	Email	Lower Similkameen Indian Band	Title and Rights Team Lead	IR Manager CIR Manager	 FEI notified group of application to the British Columbia Utilities Commission for a Certificate of Public Convenience and Necessity on November 16, 2020. FEI provided information on how the group could register as an interested party, including contact information, website address, and timeline. FEI also notified group of the Heritage and Conservation Act Section 12.2 permit application made on December 15, 2020. The letter provided contact information for FEI where any comments, questions or concerns could be directed.
4-May-21	Email	Lower Similkameen Indian Band (LSIB); British Columbia Oil and Gas Commission	Title and Rights Team Lead; First Nations Liaison Assistant	IR Manager CIR Manager	The BCOGC notified FEI that LSIB had provided their position on the Project to the BCOGC. LSIB reviewed the shape files and note that the work is primarily within the PIB's area of responsibility, and that the LSIB supports any comments and request brought forth from PIB.
12-Jan-21	Email	Nooaitch Indian Band		IR Manager CIR Manager	 FEI notified group of application to the British Columbia Utilities Commission for a Certificate of Public Convenience and Necessity on November 16, 2020. FEI provided information on how the group could register as an interested party, including contact information, website address, and timeline. FEI also notified group of the Heritage and Conservation Act Section 12.2 permit application made on December 15, 2020. The letter provided contact information for FEI where any comments, questions or concerns could be directed.
12-Jan-21	Email	Okanagan Nation Alliance		IR Manager CIR Manager	 FEI notified group of application to the British Columbia Utilities Commission for a Certificate of Public Convenience and Necessity on November 16, 2020. FEI provided information on how the group could register as an interested party, including contact information, website address, and timeline. FEI also notified group of the Heritage and Conservation Act Section 12.2 permit application made on December 15, 2020. The letter provided contact information for FEI where any comments, questions or concerns could be directed.



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Date 1	agement Indigeno Type Commu	ous External nity Representative	FEI Representative	Summary
12-Jan-21 Ema	il Upper Nicc	d	IR Manager CIR Manager	 FEI notified group of application to the British Columbia Utilities Commission for a Certificate of Public Convenience and Necessity on November 16, 2020. FEI provided information on how the group could register as an interested party, including contact information, website address, and timeline. FEI also notified group of the Heritage and Conservation Act Section 12.2 permit application made on December 15, 2020. The letter provided contact information for FEI where any comments, questions or concerns could be directed.

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62.2 Please detail the steps taken by FEI to date to identify, avoid or mitigate the potential impacts of the Project on the PIB's asserted rights and title.

7 <u>Response:</u>

8 As shown in the response to BCUC IR2 62.1, FEI began engaging with the PIB early in the 9 Project's lifecycle to begin dialogue with the community. This engagement included providing 10 Project overviews, presentation of potential routes, and construction methodologies being 11 contemplated by FEI. The intent of this dialogue was to allow the PIB-through its engagement 12 and facilitation of the Syilx Traditional Ecological Knowledge Keepers (TEKK)-to determine 13 what type of involvement they wanted to have going forward in the Project's development. Early 14 engagement included meetings at the community hall with the PIB and the TEKK, TEKK field 15 assessments, and meetings to discuss the preliminary field assessments. FEI provided 16 capacity funding to the PIB in 2019 for these early engagement activities.

17 Since the beginning of engagement, FEI has held regular meetings with the PIB and Syilx 18 TEKK. FEI and the PIB entered into a capacity funding agreement in June 2020, to provide 19 additional funding for PIB's engagement with the Project. The funding enabled the PIB to 20 undertake four PIB/TEKK community-led studies that would feed into the development of four 21 associated reports, all developed and undertaken by the PIB, but funded by FEI. The four 22 reports were:

- Archeological Overview Assessment (AOA-PIB),
- Use and Occupancy Mapping (UOMS),
- Cultural Heritage Resources Assessment (CHRA), and
 - The Traditional Ecological Knowledge Keepers (TEKK) reports.
- 26 27

The funding was provided for the PIB to also assess potential impacts, for PIB/TEKK and the community to meet with FEI to develop mitigation measures, quarterly updates for Chief and Council, PIB's internal discussions regarding the Project, a liaison with the PIB to support coordination of activities, and review and comments on key Project documents.



 FortisBC Energy Inc. (FEI or the Company)
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- 1 The key Project documents that the PIB is funded to review include:
 - FEI's Archeological Overview Assessment (AOA-FEI),
- FEI's Archeological Impact Assessment (AIA),
- Environmental Overview Assessment (EOA-FEI),
- Pre Construction Site Assessment/Habitat Assessment (PCSA/HA),
- 6 Construction Management Plan (CMP), and
- 7 Environmental Management Plan (EMP).

8

2

FEI has already provided the PIB with the company-led AOA-FEI and EOA-FEI, and the Pre 9 10 Construction Site Assessments (one for the full project scope and one for the Penticton Creek 11 Crossing specifically). Additionally, in regards to an early application for the Penticton Creek 12 Crossing (which has proceeded in advance of the main application), FEI has provided the 13 Archeology Impact Assessment (AIA), and Environmental Management Plan (EMP) for PIB 14 review. The full scope AIA and EMP and Construction Management Plan (CMP) reports will be 15 provided to the PIB once they are available for distribution. To date, the PIB provided comments on the EOA and limited comments to the Penticton Creek Crossing Archaeology 16 17 Impact Assessment documents. The comments from the PIB in regards to the EAO are further 18 described in the response to BCUC IR2 61.1.

19 PIB/TEKK stated they were interested in water—cecwixa—during the engagement meetings 20 and discussions. FEI and PIB/TEKK agreed to set up a sub-committee consisting of TEKK 21 members, the PIB, and FEI representatives, to work through the specific interest in cecwixa. 22 FEI prepared a table of the cecwixa crossings, with the intention of reviewing each crossing with 23 the sub-committee to discuss the mitigations and/or avoidance options for each. Additionally, 24 FEI has prepared a presentation of the crossing techniques available to present to the PIB and 25 FEI has sought to meet with the PIB since the fall of 2020 to continue discussions TEKK. 26 regarding its comments, concerns, and to develop mitigation measures. FEI is awaiting two PIB 27 reports identified in the capacity funding agreement to better understand concerns. These 28 meetings and reports will support future discussions, with the goal of developing a schedule for 29 further engagement in collaboration with the PIB.

FEI remains committed to meeting with the cecwixa sub-committee, presenting the cecwixa
 crossings techniques presentation, and having discussions about PIB/TEKK interests in water
 and potential mitigations, and will meet when PIB/TEKK is ready.

Finally, FEI remains committed to meet with PIB/TEKK to discuss any other areas of interest
 and continues to request meetings with the PIB. FEI will seek to discuss these topics with the
 PIB directly, and through the BCOGC process.

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FORTIS BC

BC™	FortisBC Energy Inc. (FEI or the Company) Application for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)	Submission Date: May 13, 2021
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1 2

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62.3 Please provide further explanation for FEI's submission that "there are no known outstanding issues or concerns with regard to the Project, which cannot be addressed through planned future engagement", given the current stage of project development.

6 **Response:**

7 At the time of filing the CPCN Application, in FEI's view, there were no known outstanding 8 issues or concerns that could not be addressed through further engagement. FEI continues to 9 engage with Indigenous groups and seeks to discuss any issues or concerns and to look for 10 ways to mitigate potential impacts. Specific to the Penticton Indian Band, as noted in the 11 response to BCUC IR2 62.2, FEI has requested to meet with PIB to discuss issues and 12 mitigation and has requested the remaining reports contemplated in the capacity funding 13 agreement to help understand its interests. Through further engagement, FEI will work with the 14 PIB to address any issues or concerns that may arise.

- 15
- 16
- 17
 18 62.4 Please discuss how FEI determines that consultation has been sufficient or
 19 appropriate for a specific stage of project development.
- 20

21 **Response:**

22 FEI is committed to ongoing, meaningful engagement and to working with Indigenous groups 23 regarding the Project. As part of the BCUC process, FEI provides its overall view as to the 24 sufficiency of the engagement process to date, in the context of the decision being sought from 25 the BCUC. In FEI's view, Section 8 of the Updated Application and the responses to BCUC IR2 26 62.1 and 62.2 demonstrate an adequate level of engagement appropriate for this stage of the 27 Project planning and development, and for the BCUC regulatory review process. Further, the 28 Updated Application and responses lay out the plan for further engagement through the 29 remainder of the Project development and execution.

Additionally, Crown consultation with Indigenous groups will be part of the ongoing regulatoryprocess, which includes the BCOGC permitting process.

32

- 33
- 34
- 35 62.5 Please provide a copy of the interim report provided to FEI by the PIB, and any 36 other related materials. These can be provided confidentially if necessary.
- 37
- 38

Response:



- FEI requested PIB's approval to share a copy of the interim report with the BCUC. PIB has advised that FEI's request is making its way through PIB's decision-making process and that a response is not available at this time. PIB has advised that an answer will be provided shortly
- 4 and until then asks that no reports be filed with the BCUC.
- 5 In light of PIB's response and given that the PIB is expecting to respond shortly, FEI respectfully 6 suggests that it file a copy of the requested information if approval from the PIB is received.
- 7
- 8 9
- FEI described the BCOGC gas pipeline application process on page 83 of the UpdatedApplication:
- 12 The construction and operation of the Project are governed by the Oil and Gas 13 Activities Act. The Project will require a new pipeline application which FEI plans 14 to file in Q3 of 2021. A pipeline application involves considerable technical 15 scrutiny by the BCOGC. Public and Indigenous consultation, ROW acquisition, 16 land acquisitions, land or access rights, archaeological requirements, design 17 reviews, and environmental permits/approvals for work in and around fish bearing streams are all components of the pipeline application. Each component 18 19 must receive BCOGC approval prior to the start of construction. Since the 20 proposed pipeline will generally follow existing pipeline and power line routes, the 21 current schedule assumes a 5-month approval period from the time of filing.
- 22The Project will impact Crown land and in some areas will require additional23ROW on Crown land. These Crown land requirements will be developed as part24of the BCOGC pipeline application during the detailed design stage. [*emphasis*25added]
- 26 62.6 Please discuss the consultation requirements which are required to be met:
- 27
- prior to the submission of the application with the BCOGC; and
- 28

prior to BCOGC approval.

- 29
- 30 **Response:**

The BCOGC is the Crown agency responsible for Indigenous consultation. The BCOGC's Oil and Gas Activity Application Manual¹³ includes guidance for proponents regarding engagement, including encouraging early and frequent engagement and providing documentation for the BCOGC review process. FEI has heeded this advice and has engaged early and will continue to engage as often as it can. Evidence of FEI's engagement is found in the responses to BCUC IR2 62.1 and 62.2, as well as in Section 8 of the Updated Application.

¹³ OGAAM-Chapter-6.3.pdf (bcogc.ca)



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In addition to the engagement that FEI has and will be undertaking, during the BCOGC led 1 2 permitting and consultation process that will occur prior to construction, more detailed Project 3 information will be provided to Indigenous groups for review and comment including up-to-date 4 mapping and environmental management plans. The BCOGC also acknowledges that "[w]here 5 concerns are identified by the First Nation, there may be additional time required to complete the consultation process. The [BCOGC] will discuss those concerns and potential solutions with 6 7 the First Nation. In some cases, this may include facilitating meetings between the First Nation 8 and applicant to discuss concerns and proposed accommodation measures."14

¹⁴ OGAAM-Chapter-6.3.pdf (bcogc.ca)



1	63.0	Reference:	CONSULTATION AND ENGAGEMENT		
2 3			CPCN Guidelines, pp. 5-6; Exhibit B-1-2, p. 107, Table 8-4, pp. 123– 124		
4		Pages 5 to 6 of the CPCN Guidelines outline the following requirements:			
5 6 7		(i) Ide includ identif	(i) Identification of the First Nations potentially affected by the application or filing, including the feasible project alternatives; and the information considered to identify these First Nations.		
8		For each pote	entially affected First Nation, summarize the consultation to date, including:		
9 10 11		(ii) Ide been Identif	entification of any group, body, specific band or specific person(s) that have consulting on behalf of the First Nation in connection with the application. Ty the specific member bands represented by any group or body.		
12		(iii) A	chronology of meetings, other communications and actions.		
13 14 15		(iv) Ar such a sent to	ny relevant, non-confidential written documentation regarding consultation, as notes or minutes of meetings or phone calls, or letters received from or to the First Nation.		
16		(v) lde	entification of specific issues or concerns raised by the First Nation.		
17 18 19		(vi) De were a action	escription of how the specific issues or concerns raised by the First Nation avoided, mitigated or otherwise accommodated, or explain why no further is required to address an issue or concern.		
20 21		(vii) C the co	opies of any documents which confirm that the First Nation is satisfied with insultation to date.		
22 23 24		(viii) l applic outsta	Evidence that the First Nation has been notified of the filing of the ation with the Commission and has been informed on how to raise anding concerns with the Commission.		
25 26 27		(ix) Th with th from th	ne applicant's overall view as to the sufficiency of the consultation process ne First Nation to date, in the context of the decision which is being sought he Commission.		
28 29		(x) A subse	statement of what future consultation with First Nations is contemplated quent to the preparation of the CPCN application.		
30 31 32 33		FEI states or concerns rais to work with the preferred	n page 107 of the Updated Application that it has tracked the issues and ed throughout this consultation and engagement, and that FEI will continue Indigenous groups and stakeholders to address any outstanding items on alternative.		


1 2 FortisBC Energy Inc. (FEI or the Company)Submission Date:
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Table 8-4 of the Updated Application summarises 2 key issues arising from engagement with Indigenous Groups:

Table 8-4: Summary of Engagement with Indigenous Groups

Issue	Description of Issue	FEI's Response
Potential Environmental Impacts	Some Indigenous groups expressed concerns about the impacts to plants, animals and the importance of preserving ancestral remains in regards to the implementation of the route.	Both groups discussed how to incorporate traditional plants and medicines during corridor restoration, to rebuild cultural picking areas and ensure animals return to the area. We also discussed ideas around how to preserve ancestral remains and keep trespassers away from areas of significant importance. FEI discussed potential restoration solutions to their concerns such as the E-Community Garden project to grow local plants at the En'owkin Center. Next steps are to continue discussions on how these actions could be achieved.

3

Issue	Description of Issue	FEI's Response
Engagement Opportunities	Some communities raised interest around their involvement with the Project and the review of the AIA, AOA, and EOA documents.	These areas of interests were all included in the capacity funding agreements, as work plan items. FEI has also ensured that there is either a PIB or WFN monitor onsite for all geotechnical investigations.

4

5

6 7 63.1 Please provide any additional underlying relevant, non-confidential written documentation related to the specific issues or concerns raised by any Indigenous groups.

8

18

19

9 Response:

Attachment 63.1 includes two relevant, non-confidential written letters from the Penticton Indian
Band to the BC Oil and Gas Commission:

- April 7, 2021 Penticton Indian Band Letter in response to FEI's March 29, 2021 notification letter to the PIB informing of the intention to apply to the BCOGC a construction permit for the Penticton Creek Crossing segment of the Project. Letters Filed:
- 16a. Filename "Letter Penticton Creek OGC Permit Application Notification OCU17Project Penticton IB March 29, 2021.pdf
 - b. Filename "B2021 04 07 LT L. Wilson to BCOGC re Consultation Process (00659937-2xC6E53).pdf
- April 7, 2021 Penticton Indian Band Letter in response to FEI's March 16, 2021
 notification letter to the PIB informing of the application to the BCOGC for an
 Investigative Use Permit to conduct early engineering and construction works along the
 Project route. Letters Filed:

E FO	RTIS BC	FortisBC Energy Inc. (FEI or the Company)SubmissionApplication for a CPCN for the Okanagan Capacity Upgrade (OCU) Project (Application)May 13, 2	
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1 2		 a. Filename "Letter – IUP OGC Permit Application Notification Penticton IB March 2021.pdf 	OCU Project
3 4		 Filename "2021 04 07 LT Lisa Wilson to FEI re Application to the IUP (00655872-4xC6E53).pdf 	BCOGC for an
5 6	These lett responses	ers are in the context of the overall engagement process underway, as to BCUC IR2 62.1 and BCUC IR2 62.2.	s outlined in the
7 8 9			
10 11 12 13	63	.2 Please describe how these specific issues or concerns were or c mitigated or otherwise accommodated, or explain why no fu required to address an issue or concern.	can be avoided, irther action is
14	<u>Response</u>	<u>e:</u>	
15	The letters referenced in the response to BCUC IR2 63.1 raise the following issues:		
16 17 18	• Th site tra	e Project transecting kłsəlxʷikň. kłsəlxʷikň is an area with archaeolog es and used for hunting, fishing, food and medicine gathering nsmitting cultural knowledge and practices.	gical and grave g, ceremonies,
19 20	• Po the	tential for impacts to lands, waters, terrestrial and aquatic resources, a exercise of PIB's asserted rights and title.	and wildlife and
21 22	• Th like	e PIB is currently reviewing the Project and seeking additional informate those resolved before permit applications proceed.	ation and would
23 24 25 26 27 28	FEI contin reports fro community expected proposed avoid thes	ues to seek meetings with the PIB to discuss these issues and is await om the PIB to support these discussions. The reports will include y-led studies and data gathering completed to date. More specifically, to provide a level of detail that will allow FEI to understand the impact alignment and work activities, and further, form a discussion on how se impacts.	ting outstanding the results of the reports are s of the current v to mitigate or



1	64.0	Reference	CONSULTATION
2			Exhibit B-1-2, Table 5-11, p. 77; Exhibit B-2, BCUC IR 39.2.1
3			Expropriation timing
4 5		Table 5-11 2021.	of the Updated Application shows a Land acquisition milestone of November
6		FEI states i	n response to BCUC 39.2.1:
7 8		FEI' lanc	s objective is to reach mutually acceptable negotiated agreements with lowners. Should an agreement not be reached and result in the potential for
9		Proj	ect construction delays, FEI will take steps to expropriate the required land
10		righ	ts. Should FEI need to proceed with expropriation in a particular situation, FEI
11		WOU	Id make an application under Section 6 of the Gas Utility Act or section 34(3)
12		of tl	ne Oil and Gas Activities Act as appropriate for approval to expropriate the
13		nec	essary land. Should FEI have to undertake expropriation, costs are not
14		exp	ected to vary beyond those in the estimate.
15 16		64.1 Plea acq	ase confirm if the November 2021 milestone represents the conclusion of land uisition, including expropriation. If not, please clarify.

17

18 **Response:**

19 The November 2021 milestone reference in the preamble represents the conclusion of FEI's 20 negotiated land rights acquisition activities for the Project. For any properties where a 21 negotiated agreement is not obtained by that time, FEI anticipates that it will proceed to 22 expropriate those properties following approval of this Application, or the issuance of a BCOGC 23 permit.

- 24
- 25
- 26
- 64.2 Please provide examples of other recent FEI applications which required right of
 way expropriations, including a discussion of how long these processes took;
 how costs varied beyond initial project budget estimates; and any impacts on
 project scheduling.
- 31

32 Response:

FEI has not been required to expropriate land rights with respect to any recent CPCN applications, including the Inland Gas Upgrades project which is currently underway. The OCU Project is unique due to the amount of new right-of-way to be acquired. Information on expropriation costs and process was determined through consultation with legal counsel, and considered in both the Project cost estimate and schedule.



	FortisBC Energy Inc. (FEI or the Company)	Submission Date:
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FEI considers land acquisition timelines within the overall Project schedule. Allowances are made for uncertainties arising from land acquisition activities. If FEI is unable to negotiate an acceptable agreement, FEI would rely on acquisition through expropriation as the last resort. As a legal process, expropriation timelines can be uncertain, and alternative scenarios are considered with regards to potential impacts on scheduling. For example, FEI may consider phasing work away from an expropriation property until access is granted.

Attachment 63.1



Penticton Indian Band

R.R. #2, Site 80, Comp. 19 Penticton BC V2A 6J7 (250) 493 0048

April 7, 2021

BY EMAIL - Jayms Morrison (FEI) JAYMS.MORRISON@FORTISBC.COM

FortisBC Energy Inc. 1975 Springfield Road Kelowna, BC V1Y 7V7

Attention: Jayms Morrison, Indigenous Relations Manager

Dear Mr. Morrison:

Re: FortisBC Energy Inc. (FEI) Natural Gas Okanagan Capacity Upgrade (OCU) Project BCOGC Penticton Creek Permit Application

This letter responds to your letter of March 29, 2021 advising Penticton Indian Band (PIB) that FEI is in the process of applying to the BCOGC for a "Penticton Creek Permit Application" ("**Penticton Creek Application**").

Inadequate Information Provided

FEI's letter states the permit application is "for approval to construct approximately 1.6km of the southern portion of the 30km gas line route and secure necessary permits and approvals required for completion of this portion of the project." It is unclear from your letter the nature of the activity specifically being sought for approval and if it includes permitting for the actual Penticton Creek crossing.

PIB is unable to identify the nature of concerns with the proposed Application without adequate detailed information about FEI's proposed Application. In our view, this renders FEI's notice defective.

We acknowledge the comment that the BCOGC will also be providing additional information during their consultation on the "applications". We will have to wait for the information from the BCOGC to determine if notice of the Penticton Creek Application is sufficient and whether adequate information has been provided to understand the potential nature and scope of the Application.

Significant Concerns about Proposed Penticton Creek Crossing

We do take this opportunity however to identify our significant concerns with development activity in close proximity to Penticton Creek, including the potential Penticton Creek Crossing proposed as part of the OCU Project, currently before the British Columbia Utilities Commission.

PIB's use and occupancy information shows Penticton Creek and its surrounding area is valued and historically and currently used by PIB for the exercise of our rights and title including for: governance and management of the lands and resources within our area of responsibility fishing; travel and related activities, including the transmission of knowledge; and harvesting, including for sensitive medicinal plants. The Creek crossing comes in close proximity to important ceremonial areas and a historical *syilx* village site. Potential archeological sites have been identified in close proximity to the creek crossing. Accordingly, PIB has significant concerns with the potential significant and permanent impacts of the OCU Project, including the proposed Penticton Creek crossing on the exercise of *syilx* rights and title by PIB.

Application to BCOGC is Highly Premature

For the reasons set out below, we object to the Penticton Creek Application and any related permitting by the BCOGC for the OCU Project at this time.

The OCU Project is not yet approved and is currently before the BCUC with respect to a
decision on FEI's application for a certificate of public convenience and necessity.
Accordingly, the first important decision as to whether the OCU Project should proceed in
light of its costs and benefits, including with respect to syilx rights and title exercised by PIB
remains outstanding.

The BCOGC is unable to and should not assess the Penticton Creek Application until it knows that the OCU Project as proposed by FEI should proceed at all, or if alternatives, including with respect the important issue of the Penticton Creek crossing will be required.

Further, advancing the permitting process in advance of the BCUC's process raises concerns about fairness. Not only should PIB not be forced to dedicate resources to BCOGC applications before it actually knows if or on what conditions an OCU Project will advance, but fairness concerns also arise with premature permits increasing regulatory momentum in FEI's favour.

- Engagement with PIB remains outstanding and consultation with the BCOGC has not yet commenced. Accordingly, Fortis has not completed the required information exchange and engagement with PIB on the OCU Project to allow any OCU Project related permits to be issued. The review of the OCU Project is currently underway, including gathering of important information necessary to assess any OCU Project applications. Such information gathering is necessary before mitigation discussions can begin. Accordingly, there is no reasonable assessment of the Penticton Creek Application impacts on *syilx* rights or title exercised by PIB or any meaningful engagement on mitigation options.
- Based on the information reviewed so far within the BCUC process, necessary environmental and archeological assessments are incomplete.

FEI's archeological impact assessment as well as PIB's review of such assessment remains incomplete. PIB's own Cultural Heritage Resource Assessment indicates a high potential for archeological resources within the Permit area.

The environmental information provided in the BCUC materials is very limited and high level, with little to no environmental assessment, including no details of potential effects and mitigation options regarding directional drilling. PIB's review of FEI's *DRAFT REPORT Okanagan* Capacity *Upgrade Project: Penticton Creek Horizontal Directional Drilling: Environmental Management Plan* is underway and subsequent discussions with FEI are outstanding. PIB remains willing to engage in fulsome discussions with FEI about proposed OCU Project activities and proposed mitigation measures. However, until such discussions are satisfactorily concluded, we ask that FEI not proceed with any BCOGC permitting activities for the OCU Project. Please contact us to schedule such discussions.

Your letter references completed environmental and archeological reports for our review. However, we do not believe we have received copies.

Contact Information on Future Correspondence

Please also ensure that all future correspondence with respect to the IUP application and other related OCU Project activities are directed to me, and Tarlan Razzaghi of Mandell Pinder (Tarlan @mandellpinder.com), our legal counsel on the regulatory proceedings related to the OCU Project.

We look forward to hearing confirmation that FEI will not be proceeding with the IUP applications at this time and will engage fully with PIB on our concerns and interests.

Yours truly,

PENTICTON INDIAN BAND

Lisa Wilson, Director Policy and Planning

cc: Sandy O'Flaherty, BCOGC - sandy.oflagerty@bcogc.ca PIB Project Team: attn Chief Gabriel and Brenda Gaertner Department of Fisheries and Oceans - ReferralsPacific@dfo-mpo.gc.ca



Penticton Indian Band

R.R. #2, Site 80, Comp. 19 Penticton BC V2A 6J7 (250) 493 0048

April 7, 2021

BY EMAIL - Jayms Morrison (FEI) JAYMS.MORRISON@FORTISBC.COM

FortisBC Energy Inc. 1975 Springfield Road Kelowna, BC V1Y 7V7

Attention: Jayms Morrison Indigenous Relations Manager

Dear Mr. Morrison:

Re: IUP OGC Permit Application Notification FortisBC Energy Inc. (FEI) Natural Gas Okanagan Capacity Upgrade (OCU) Project

This letter responds to your letter of March 16, 2021 advising Penticton Indian Band (PIB) of FEI's March 12, 2021 application to the British Columbia Oil and Gas Commission (BCOGC) for an Investigative Use Permit (IUP).

Crown Consultation and Accommodation is Required on the IUP

We are in receipt of the BCOGC's letter of March 24, 2021 providing notice of the IUP application. The BCOGC's letter states that based on its preliminary assessment, the IUP is expected to have moderate impacts to PIB's rights and interests and that it is responsible for Crown consultation and accommodation. By copy of this letter to the BCOGC we are providing immediate notification of our opposition to these permits without adequate consultation and accommodation of our concerns.

We are in the process of reviewing the BCOGC's information, including a copy of the Permit Application. We intend to make detailed comments of our concerns to the BCOGC on its preliminary assessment by the April 22, 2021 deadline. We will also seek opportunities to consult with the BCOGC directly with its assessment of the IUP activities. Based on our assessment, we will provide our proposed process for meaningful consultation.

What follows are our preliminary concerns with the IUP activities based on and in response to the limited information contained in FEI's letter of March 16, 2021.

PIB's Comments in Response to Letter of March 16, 2021

For the reasons set out below, we object to FEI's statements in its letter of March 16, 2021 that the impacts of the IUP activities will be minimized and mitigated. For the same reasons, PIB remains opposed to the IUP application:

- We are particularly concerned that FEI has made conclusions about the expected impacts of the IUP work without any discussions with PIB. As you are aware, Fortis has not completed the required information exchange and engagement with PIB on the OCU Project to allow further investigative work to proceed on the ground. The review of the OCU Project is currently underway, including gathering of important information necessary to assess any IUP applications. For example, there are significant archeological and current PIB use and occupation sites throughout the proposed new pipeline. This information must be properly considered before any IUP OGC Permit Applications proceed;
- No specific information about the IUP activity has been provided by FEI, nor did FEI provide a copy of the Permit Application. This information, including timing, duration and specific location and number of boreholes is crucial in seeking PIB's free prior and informed consent. No inquiries have been made as to PIB's concerns and requested mitigation measures;
- PIB's assessments for the OCU Project indicate the proposed new pipeline, including
 presumably the permit areas of these IUP sites, transects k+səlx^wik¹, k+səlx^wik¹, is a critically
 important area for PIB members. This area was actively used and occupied by our ancestors,
 as clearly evidenced by the grave sites, and many archaeological findings all along the
 proposed route. It is also actively used and occupied by PIB members for several and related
 important activities hunting, fishing, food and medicine gathering, ceremonies,
 transmitting cultural knowledge and practices to our current and future generations. We
 understand FEI first became aware of the sacred nature of the general Project area as a
 result of previous substation development activities in the area. We are in the process of
 completing reports that will provide more information to Fortis regarding PIBs' continued
 use and occupation of k+səlx^wikⁿ;
- No commitment has been made by FEI to adhere to PIB's protocols and practices regarding investigative work in our Territory in known archaeological and current use and occupation areas;
- FEI's archeological impact assessment as well as PIB's review of such assessment remains incomplete. PIB's own Cultural Heritage Resource Assessment indicates a high potential for archeological resources within the Permit area. PIB and FEI have not yet had opportunity to consider and discuss whether avoidance or other mitigations are possible.

PIB remains willing to engage in fulsome discussions with FEI about proposed OCU Project activities and proposed mitigation measures, including the IUP work. However, until such discussions are satisfactorily concluded, we ask that FEI not proceed with its IUP activities. Please contact us to schedule such discussions.

Contact Information on Future Correspondence

Please also ensure that all future correspondence with respect to the IUP application and other related OCU Project activities are directed to me, and Tarlan Razzaghi of Mandell Pinder (Tarlan @mandellpinder.com), our legal counsel on the regulatory proceedings related to the OCU Project.

We look forward to hearing confirmation that FEI will not be proceeding with the IUP applications at this time and will engage fully with PIB on our concerns and interests.

Yours truly,

PENTICTON INDIAN BAND

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Lisa Wilson, Director Policy and Planning

cc: Sandy O'Flaherty, BCOGC - sandy.oflagerty@bcogc.ca PIB Project Team: attn Chief Gabriel and Brenda Gaertner