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July 5, 2021

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

Attention: Mr. Peter Helland, Director

Dear Mr. Helland:

Re: FortisBC Energy Inc. (FEI)

Project No. 1599152

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

Response to the Residential Consumer Intervener Association (RCIA) Information Request (IR) No. 3

On November 16, 2020, FEI filed the Application referenced above. In accordance with the British Columbia Utilities Commission Order G-166-21 setting out the Regulatory Timetable for the review of the Application, FEI respectfully submits the attached response to RCIA IR No. 3.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Commission Secretary
Registered Parties

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A. Project Need and Justification

39. Reference: FEI Response to BCUC IR2 41.2 (Exhibit B-14); FEI Response to RCIA IR2 (Exhibit B-19)

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

39.1 If load growth in 2020, 2021, and 2022 falls below the forecast supporting the OCU, pushing the need back to 2024/25, is FEI able to make any changes to the project execution that will reduce the overall capital cost? If so, what are these changes?

Response:

As discussed in the response to BCUC IR3 65.1, the Project in-service date has been planned based on current load projections. There is no statistically valid trend in FEI's peak load forecast that would suggest that load growth will "[fall] below the forecast supporting the OCU" in 2020, 2021, and 2022, nor will it be possible to identify and verify such a trend during the review of the OCU Project Application. As such, FEI is planning for the Project to be in service prior to the winter of 2023/24.

In any event, delaying the Project completion date by one year would not reduce the overall capital cost, as FEI would not change the execution strategy. FEI has planned the Project to take place during optimal construction windows, which reduces risks to the environment, Project cost, and Project schedule. Delaying the Project completion for one year would increase the overall Project costs because of the effort associated with extending the Project by one year and the financing costs incurred for an additional year, which are not currently accounted for within the Project estimate.

40. Reference: FEI Response to BCUC IR2 55.2 (Exhibit B-14); FEI Response to RCIA IR2 32.2 (Exhibit B-19)

In BCUC IR2 55.2, FEI shows a table of inlet pressures at the Chute Lake station with and without upgrades at the Kitchener compressor station.

In RCIA IR2 32.2, FEI explains that if TC Energy delivers gas at the minimum contractual pressure of 750 psig, then a compressor upgrade in the East Kootenay region is not required before the end of the forecast period.

40.1 Is FEI still contemplating compression upgrades in the East Kootenay region within the 20-year forecast period, or will it pursue TC Energy to deliver at the contract pressure?

Response:

FEI is engaged in ongoing discussions with TC Energy about contractual delivery pressure. FEI would only contemplate pursuing compression upgrades if the option was more beneficial to FEI's operations and more cost-effective for its customers than pursuing delivery at contracted delivery pressure. FEI will continue to monitor the options available to maintain the required ITS capacity throughout the forecast period. Future projects such as FEI's proposed Tilbury LNG Storage Expansion project, with its ability to offset gas supply requirements along the Southern Crossing Pipeline, and/or shifts in the forecasted demand may adjust FEI's plans for additional capacity increases on the ITS. FEI will determine the optimal course of action, which could in some scenarios include compression upgrades, when and if this need arises.

41. Reference: FEI Response to BCUC IR2 56.4 (Exhibit B-14)

"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."

41.1 Explain whether, following a period of deactivation that may span years, FEI's processes would require an inline or robotic inspection of this segment prior to reactivation.

Response:

In accordance with CSA Z662:19, Clause 10.15.2.1, "Prior to reactivating piping, the operating company shall conduct an engineering assessment (see Clause 10.1.1) to determine whether the piping would be suitable for its intended service." The engineering assessment requires consideration of the condition of the piping, including types of imperfections, dimension and dimensional uncertainty as well as the potential presence and significance of undetected imperfections.

Assessment of the piping and identification of imperfections could be conducted through an inline or robotic inspection (collectively, ILI). FEI would consider the timing and results of the most recent ILI of the segment of pipe, in conjunction with other factors such as its corrosion control confirmation activities during the deactivation period, to determine what incremental activities, if any, would be required for its engineering assessment prior to reactivation of the pipeline segment.

41.1.1. If an inline or robotic inspection is required, comment on the availability of this segment to be "readily available" in order to provide resiliency or redundancy.

Response:

Once FEI completes the engineering assessment and reactivates the segment of the OLI PEN 406, it would be readily available to provide resiliency and redundancy. The time to complete an engineering assessment could range from several weeks to several months, depending on the availability of required data (including ILI data) to determine the pipeline's suitability for its intended service.

41.2 It appears that gas flows north out of Ellis Creek/SN9-3, not south and west from this point. If VER PEN 323 between Ellis Creek and Chute Lake needs to be taken out of service, explain why gas would need to flow from OLI PEN 406 west on the 1.2km deactivated segment to VER PEN 323 and on to OLI PEN 273 to support the Summerland and Peachland areas.

Response:

FEI has the capability to direct gas flow at Ellis Creek Control Station north towards SN9-3 and south and west towards SN11 by adjusting SN10-2 and SN10-3 valves.

FEI's ITS is interconnected such that there are a variety of possibilities of how gas can be directed around the system to support operational work. FEI is not reliant on maintaining prevailing flow in a particular direction in the pipelines in and around Penticton for much of the year. FEI foresees opportunities where a reactivation of the interconnection may become a cost-effective solution to address future operational issues or pressure reductions resulting from integrity or other operational reasons.

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

41.3 If the 1.2 km section of OLI PEN 406 is abandoned, explain why it is necessary that FEI relinquishes its easement along the right of way for this section.

41.3.1. What other steps could FEI take to maintain its easement and right of way in the event that this section of pipeline is abandoned?

Response:

FEI holds statutory rights of way pursuant to section 218 of the *Land Title Act*. Under this statutory right of way agreement it is not necessary for FEI to relinquish its rights if it deactivates or abandons assets. Accordingly, FEI believes it does not need to take additional steps to maintain its statutory right of way.

FEI is proposing to deactivate this segment for operational reasons as set out in the response to BCUC IR2 56.4 and not for the purpose of maintaining land rights.

42. Reference: FEI Response to RCIA IR2 28 (Exhibit B-19)

"Industrial demand can be sustained at high rates for daily periods, and can also occur at any time during the day. FEI also has no ability or physical means to directly control or curtail firm industrial demand. Therefore, FEI assumes that, on a peak day, industrial customer demand is sustained at the customer's highest rates throughout the day."

42.1 Please provide any data that demonstrate that industrial customers maintain their individual highest demand for consecutive 24 hour periods coincident with system peak days (or near-peak days).

Response:

For clarity, FEI was not implying that "industrial customers maintain their individual highest demand for consecutive 24 hour periods coincident with system peak days (or near-peak days)." Rather, FEI has stated that industrial customer peak demands are unpredictable and can occur at any time – including while other temperature-sensitive load classes are also experiencing peak demand. FEI also has no means to control or manage the peak demand of firm industrial customers proactively. Hence, for capacity planning purposes, FEI models industrial customer peak demand as a constant high value, such that regardless of the time of other peak loads, these customer peaks are coincident and the ITS maintains capacity sufficient to meet this peak demand.

The table below is an example of recent industrial customer hourly data recorded in 2020 for ten industrial customers supplied by the ITS. The data is from a range of temperature conditions including the coldest day in 2020 (January 14) as well as non-peak operation. The highest hourly value of the day in each instance is represented as a percentage of the maximum peak hour flow FEI uses for the customer and is presented in column four in the table. The percentages listed for each hour of the day are also relative to the maximum peak hour flow that FEI uses in determining peak demand. While there are intermittent periods where the hourly flow drops, the low consumption periods are not sustained and the hourly rate of consumption is generally consistent. Additionally, the occurrence of the highest hourly demand each day is not consistent for any individual customer or for the group of industrial customers in general. The table below also highlights the occurrences of the high hourly flow each day to show the unpredictable nature of the consumption. This demonstrates that industrial customer peak demand can occur at any time of the day and can occur throughout the day. Hence, it is plausible that these peaks may be coincident with the temperature-driven peak demand of other rate classes.

Customer	Date	Kelowna Average Daily Temperature	Percent of Peak Demand	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Customer 1	1/14/2020	-18.9	98%	91%	91%	93%	63%	87%	91%	95%	97%	93%	98%	91%	86%	72%	88%	56%	81%	89%	85%	74%	91%	78%	87%	81%	92%
Customer 1	1/15/2020	-16.8	96%	66%	94%	80%	74%	87%	96%	75%	86%	89%	89%	66%	88%	87%	84%	85%	73%	66%	89%	80%	78%	77%	78%	81%	79%
Customer 1	2/4/2020	-6.5	90%	82%	89%	88%	81%	85%	80%	85%	72%	72%	66%	67%	68%	69%	81%	84%	66%	65%	90%	86%	85%	88%	84%	86%	84%
Customer 1	11/26/2020	2.1	92%	79%	82%	85%	81%	87%	90%	89%	85%	89%	82%	84%	81%	90%	92%	80%	69%	70%	43%	71%	74%	76%	80%	80%	75%
Customer 1	12/11/2020	0.5	92%	80%	75%	86%	88%	87%	92%	86%	87%	86%	79%	82%	85%	79%	80%	89%	87%	84%	81%	82%	86%	79%	85%	82%	81%
Customer 2	1/14/2020	-18.9	100%	91%	100%	91%	100%	91%	91%	100%	91%	100%	82%	100%	100%	91%	100%	91%	91%	91%	100%	91%	100%	91%	100%	100%	91%
Customer 2	1/15/2020	-16.8	100%	100%	100%	100%	91%	100%	100%	91%	91%	100%	100%	91%	91%	100%	91%	91%	91%	100%	91%	91%	100%	91%	91%	91%	100%
Customer 2	1/16/2020	-12.3	91%	91%	91%	82%	82%	91%	73%	91%	91%	91%	82%	91%	91%	82%	91%	82%	82%	91%	82%	82%	82%	91%	82%	82%	91%
Customer 2	1/30/2020	1.5	91%	82%	91%	91%	91%	91%	91%	91%	91%	82%	91%	91%	91%	82%	82%	91%	82%	91%	82%	91%	82%	91%	82%	82%	91%
Customer 2	2/5/2020	-2.7	91%	91%	91%	82%	91%	91%	91%	91%	82%	91%	82%	91%	91%	91%	82%	91%	91%	91%	91%	82%	91%	91%	91%	91%	82%
Customer 3	2/13/2020	0.5	91%	91%	85%	87%	87%	91%	87%	85%	85%	89%	85%	85%	84%	85%	80%	82%	80%	82%	78%	80%	76%	78%	73%	67%	64%
Customer 3	2/24/2020	1.8	85%	84%	85%	82%	85%	85%	85%	82%	85%	84%	80%	71%	76%	69%	69%	58%	55%	53%	58%	73%	73%	69%	65%	64%	62%
Customer 3	3/14/2020	-4.2	89%	89%	87%	84%	85%	84%	89%	84%	85%	87%	89%	78%	85%	87%	87%	85%	85%	84%	85%	82%	76%	75%	71%	65%	60%
Customer 3	11/27/2020	4.2	87%	87%	84%	84%	80%	85%	85%	84%	75%	82%	85%	82%	80%	84%	84%	82%	78%	84%	84%	80%	76%	78%	78%	71%	65%
Customer 4	2/19/2020	-2.5	90%	86%	83%	58%	72%	88%	86%	84%	84%	84%	84%	83%	84%	90%	84%	84%	86%	86%	77%	84%	69%	55%	55%	55%	63%
Customer 4	3/20/2020	5.0	90%	90%	88%	84%	88%	84%	84%	86%	81%	76%	65%	72%	77%	83%	90%	88%	88%	90%	83%	86%	90%	90%	88%	88%	90%
Customer 4	4/21/2020	12.4	95%	62%	76%	88%	90%	90%	90%	90%	93%	95%	93%	86%	86%	88%	91%	88%	90%	90%	90%	90%	91%	90%	90%	88%	63%
Customer 4	4/26/2020	10.2	91%	90%	88%	90%	86%	91%	91%	88%	83%	79%	84%	88%	88%	88%	88%	88%	86%	77%	90%	84%	90%	90%	84%	86%	88%
Customer 4	5/15/2020	16.1	93%	93%	93%	91%	84%	86%	91%	91%	88%	86%	84%	84%	86%	84%	84%	83%	83%	84%	84%	83%	84%	84%	83%	83%	84%
Customer 5	4/12/2020	3.8	57%	57%	53%	56%	53%	55%	52%	54%	57%	54%	54%	55%	51%	55%	55%	52%	57%	52%	53%	57%	52%	57%	52%	50%	50%
Customer 5	6/5/2020	12.4	56%	50%	53%	52%	56%	51%	55%	52%	52%	51%	55%	55%	52%	50%	53%	53%	50%	52%	49%	50%	53%	51%	50%	53%	54%
Customer 5	12/10/2020	1.4	62%	53%	60%	56%	56%	56%	59%	57%	54%	50%	57%	54%	62%	57%	61%	58%	55%	51%	55%	51%	51%	56%	55%	46%	46%
Customer 6	1/18/2020	-6.3	62%	41%	45%	48%	55%	59%	55%	59%	59%	52%	59%	62%	55%	59%	59%	62%	59%	59%	59%	59%	59%	59%	59%	62%	59%
Customer 6	1/19/2020	-1.5	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	59%	48%	48%	48%	52%	52%	52%	55%	52%	52%	52%	55%	52%	45%	41%
Customer 6	10/20/2020	6.0	59%	52%	48%	45%	52%	59%	55%	55%	55%	55%	55%	55%	59%	52%	59%	52%	59%	52%	52%	55%	52%	52%	48%	52%	52%
Customer 6	10/26/2020	-1.6	59%	52%	52%	48%	48%	48%	55%	52%	48%	52%	55%	55%	55%	52%	52%	55%	55%	52%	55%	52%	59%	59%	59%	59%	55%
Customer 6	12/2/2020	-1.7	59%	59%	55%	59%	59%	55%	59%	55%	59%	55%	55%	59%	59%	59%	28%	28%	48%	52%	48%	38%	52%	48%	52%	52%	52%
Customer 7	1/17/2020	-7.7	70%	52%	59%	67%	56%	56%	59%	63%	67%	63%	63%	63%	59%	63%	59%	56%	67%	67%	70%	67%	56%	52%	52%	48%	56%
Customer 7	1/18/2020	-6.3	70%	56%	48%	48%	56%	59%	70%	59%	59%	63%	63%	67%	70%	67%	59%	56%	56%	52%	52%	52%	56%	52%	59%	52%	52%
Customer 8	2/23/2020	1.7	85%	65%	62%	61%	61%	60%	75%	73%	74%	69%	73%	66%	69%	67%	65%	68%	64%	66%	77%	85%	80%	77%	77%	74%	75%
Customer 9	1/7/2020	0.1	84%	66%	69%	66%	74%	39%	34%	56%	71%	74%	74%	65%	76%	69%	58%	73%	76%	76%	82%	84%	82%	79%	81%	77%	71%
Customer 10	12/10/2020	1.4	60%	58%	58%	60%	58%	58%	60%	58%	60%	58%	58%	58%	60%	58%	58%	60%	58%	60%	58%	60%	58%	56%	56%	51%	53%
Customer 10	12/22/2020	-4.8	60%	58%	60%	58%	58%	60%	60%	58%	60%	58%	60%	58%	60%	58%	60%	58%	60%	60%	60%	60%	58%	60%	60%	60%	60%
Customer 10	12/27/2020	-0.2	60%	60%	58%	47%	51%	58%	51%	51%	40%	36%	36%	53%	58%	58%	60%	58%	58%	60%	58%	60%	58%	60%	58%	60%	58%

42.1.1. If unable to provide data for system peak or near-peak days, provide any data that show how often individual industrial customer demand remains at the highest level for 24 hours or longer periods at any time throughout the year.

Response:

Please refer to the response to RCIA IR3 42.1.

43. Reference: FEI Response to RCIA IR2 29.1 (Exhibit B-19); FEI Response to BCUC IR2 45.1 (Exhibit B-14)

In BCUC IR2 45.1, FEI explains how it proportions the CBOC growth in customers using the LHA growth forecast.

In RCIA IR2 29.1, FEI explains why it is not correct to state that its forecasting methodology implicitly assumes that the proportion of new households electing gas service is not the same as the existing proportion of households who take gas service.

43.1 Explain why, in rows 28 and 29, FEI does not "true-up" the denominators with the CBOC forecast increase in new households. For example, row 28 is calculated as:

$$\frac{\text{New Gas Customers Trued-up by CBOC forecast}}{\text{New Households from LHA forecast}} = \frac{4.5}{12} = 38\%$$

The denominator "12" is not trued up by multiplying by 47%, unlike the numerator.

Response:

In RCIA IR1 3.1, FEI was asked to compare the proportion of new and existing gas customers to residential households. The value "12" on row 8 represents residential households and does not require any further adjustment.

The value "12" is the forecast of new households formed in LHA #1 based on the starting value of 1,000 households and the household formation growth rate of 1.2 percent. There is no need to proportion or "true up" this forecast with the CBOC forecast because these are households, not gas customers. There is only one forecast of household formations and that comes from the HHF growth rates.

However, for gas customers there are two forecasts. The first is the granular LHA-based forecast using the LHA-specific growth rates, while the second is the regional CBOC-based forecast. The regional sum of the LHA-derived forecasts is compared to the CBOC regional forecast and if the two do not match then the LHA-derived forecast must be scaled/proportioned ("trued up") so that it agrees with the CBOC forecast.

The calculation shown on rows 28 and 29 was for demonstration purposes only to show that the proportion of new residential households taking gas service is not necessarily the same as the existing proportion of gas accounts to total residential households. Rows 28 and 29 (38 percent and 42 percent respectively) show that the proportion of new residential households taking gas service does not match the existing proportion of gas accounts to total residential households.

44. Reference: FEI Response to RCIA IR2 31 (Exhibit B-19)

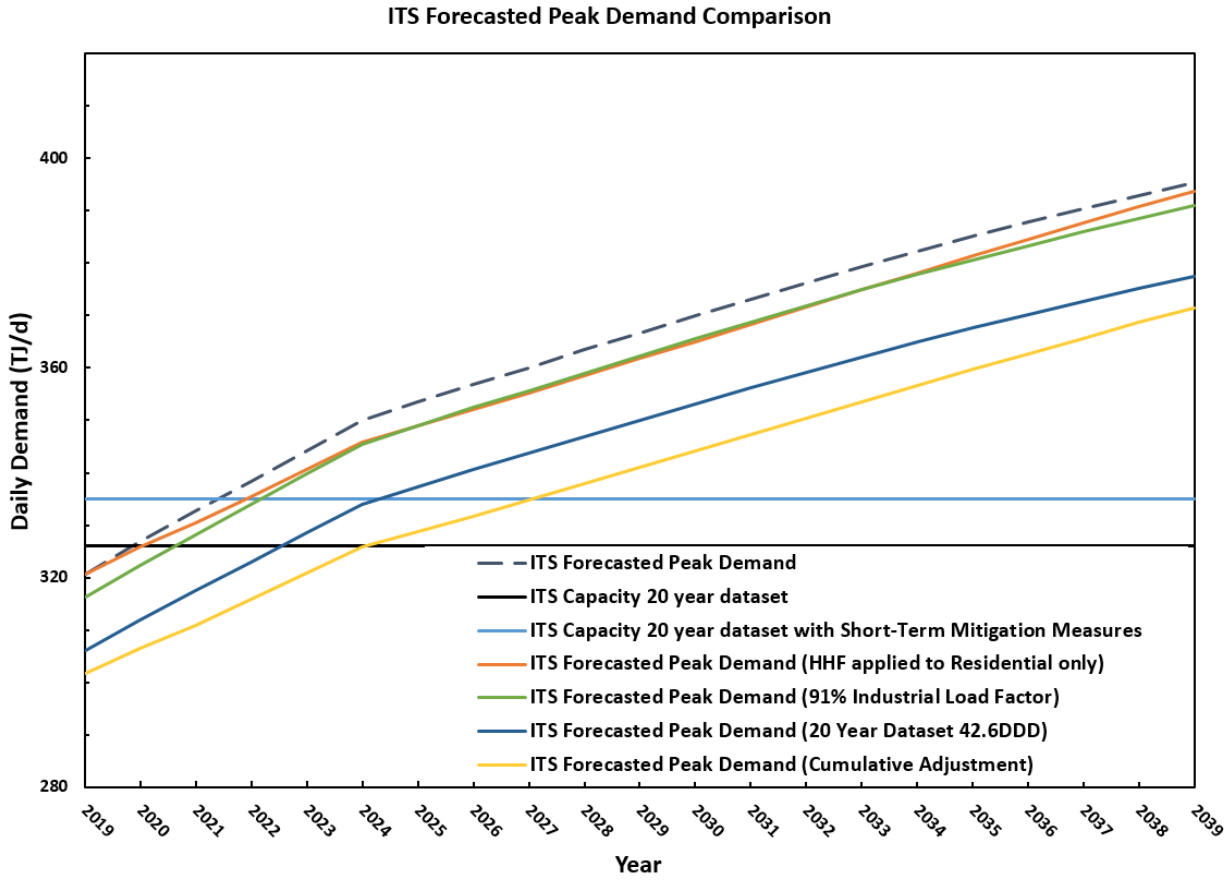
"31.1 Recalculate the forecasted ITS peak demand with the following adjustments and graphically show the peak demand forecast along with ITS capacity (similar to Figure 4-1). Show the effect of each adjustment separately.

1. Do not true-up the residential customer forecast with the CBOC forecast data and instead use the LHA forecast of housing starts.
2. Apply a load factor, such as an average of the past three years, to the industrial peak hourly demand when calculating the peak daily demand.
3. Use a more recent data set of 30 years for the design degree day calculations."

44.1 RCIA IR2 31.1 requested the three adjustments separately but neglected to also ask for the cumulative impact of the three to be shown. Please reproduce the graph in FEI's response to RCIA 31.1 showing the three adjustments separately as well as the cumulative adjustment. When reproducing the graph, please use the same scale as the original Figure 4-1. Please include the ITS capacity with short-term mitigation, as shown in Figure 4 1.

Response:

The requested revised figure is provided below. With the cumulative adjustment, and all short-term mitigation measures in place, the speculative forecast suggests that the apparent need for the OCU Project would move to 2027. The most significant influence on the timing of the apparent need derives from a warmer design temperature resulting from a smaller historical dataset. As discussed in the response to BCUC IR2 43.3.2, FEI's position is that a 60 year dataset for determining the design temperature is appropriate. Designing upgrades using shorter return periods increases the probability of experiencing weather colder than the system can support and unacceptably increases the risks of supply shortfalls to FEI's customers during extreme cold winter conditions.



44.1.1. Please comment on the impact of the three adjustments on the apparent need date for the OCU.

Response:

Please refer to the response to RCIA IR3 44.1.

B. Description and Evaluation of Alternatives

45. Reference: FEI Response to CEC IR2 56.2 (Exhibit B-18)

"Below is the current model of FEI's evaluation criteria template, which illustrates the various evaluation categories and examples of specific criteria within those categories. As the key drivers and differentiators are identified for a specific project, the corresponding criteria are adapted as appropriate for use in that evaluation."

45.1 Explain why FEI did not utilize the template categories and criteria, and instead developed a new category "Project Execution and Lifecycle Operation" and specific criterion "Schedule Risk".

Response:

Please refer to the response to CEC IR3 65.2.

46. Reference: FEI Response to PIB IR1 8.7 (Exhibit B-20), FEI Response to BCUC IR1 22.4 (Exhibit B-2)

"FEI selects and assigns weightings to its evaluation criteria in order to place emphasis on aspects of a project which drive decision making. In other words, criteria that differ noticeably between alternatives are generally more heavily weighted to help with the decision making process…Conversely, FEI did not highly weight 'Environmental, Public, and Indigenous Impacts' on the OCU Project due to the limited differentiation expected between the impacts caused by the three feasible alternatives."

"However, since all feasible alternatives which passed initial screening provided a similar capacity increase to the system, all three received the same score. Since the requirement set by the first step of the evaluation process guaranteed a sufficient capacity benefit, FEI's team agreed that any additional capacity increase is of equal value to increases in operational flexibility."

46.1 Confirm whether FEI developed or adjusted the weighting for the categories and criteria after considering the merits of each alternative, giving lower weighting to criteria where FEI had evaluated that the alternatives were similar. If not confirmed, clarify the process in the referenced quotations.

Response:

Confirmed. FEI evaluates the project and its alternatives at a broad, preliminary level when selecting evaluation criteria and weightings, such that these criteria and weightings are appropriate for the specific project. Please also refer to the response to CEC IR3 65.2 for additional information on the process.

C. Project Description

47. Reference: FEI Response RCIA IR2 35.5 (Exhibit B-19)

"FEI will not be able to perform conventional inline inspections (ILI) of the 1.2 km deactivated portion of the OLI PEN 406 if Alternative 3 is constructed as designed. FEI would need to install an ILI tool launcher near the south tie-in location or utilize non-conventional methods, such as robotic tools, to collect necessary data to perform an engineering assessment prior to reactivation."

47.1 Confirm whether the engineering assessment required prior to reactivation would necessarily require a recent inline inspection or other robotic inspection, even if the reactivation is to be temporary.

Response:

FEI is required to complete an engineering assessment regardless of the duration of reactivation. Please also refer to the response to RCIA IR3 41.1 for considerations of utilizing data from an inline inspection or other robotic inspection during the engineering assessment.

48. Reference: FEI Response to RCIA IR2 35.8 (Exhibit B-19)

"FEI abandonment specifications require buried pipelines to be emptied, purged, isolated, and left in a safe condition so that there are no risks to the public or environment. This includes grouting of large diameter (greater than 323 mm) pipelines in areas where ground subsidence would pose a safety hazard."

48.1 Confirm whether the entire 1.2 km segment is at risk of ground subsidence. If not confirmed, what portion is at risk?

Response:

The entire 1.2 km is at risk of ground subsidence. Approximately 600 metres of this 1.2 km segment would pose a safety hazard due to ground subsidence for the portion located in an industrial area, which is frequently accessed by heavy vehicle loads, such as dump trucks accessing the nearby gravel pit.

48.2 In the event that the 1.2 km segment is abandoned, and if FEI plans to fill it entirely with grout, explain why the segment must be cut and capped every 200 metres.

Response:

As discussed in the response to RCIA IR2 35.8, neither the CSA Z662:19 standard, nor the CER guidelines, provide specific guidance for the segmentation of abandoned pipelines and instead leave this to the discretion of the pipeline operator. FEI's abandonment specifications require buried pipelines to be emptied, purged, isolated, and left in a safe condition so that they present no remaining risks to the public or environment. This includes the segmentation of the abandoned buried pipeline typically every 200 metres.

As explained in the response to RCIA IR3 48.1, approximately half of the 1.2 km segment would have to be grout-filled due to the operation of heavy vehicle traffic in the proximity of the pipeline. With respect to the remaining 600 metre portion, FEI would typically segment this into three 200-metre sections. However, if in the future FEI pursued abandonment for the section of the OLI PEN 406 in question, FEI would conduct an assessment during detailed design considering the local site characteristics to confirm if there was an opportunity to reduce the portion of the 600 metre segment requiring segmentation and grout-filling.

49. Reference: FEI Response to PIB IR1 18 (Exhibit B-20)

"Should the Project not be approved, FEI would be forced to curtail firm (i.e., non-interruptible) customers on the coldest winter days in the Okanagan region when the system is experiencing its peak demand."

49.1 At what temperature (or degree day) would FEI be required to curtail firm customers (absent alternatives such as CNG) in 2023/24 if the OCU is not completed in time for the 2023/24 winter? Assume the short term mitigation measures continue.

Response:

Based on the assumption that all short-term mitigation measures continued to be applied, FEI expects that curtailment of firm customers would be required at a temperature 1.9ºC warmer than the design temperature. This would correspond to a 42DD (minus 24ºC) in the North and Central Okanagan – an event which last occurred in December 2008. The probability of this temperature occurring over the winter is calculated to be 9.5 percent and would correspond to a return period of one in 10.5 years. In other words, absent the OCU Project, there would be a one-in-ten chance in the winter seasons after 2023/24 that there would be insufficient capacity on cold winter days to meet all customer demand.

49.1.1. What is the return period for this temperature (or degree day)?

Response:

Please refer to the response to RCIA IR3 49.1.