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Via Electronic Filing

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Attention: Patrick Wruck, Commission Secretary

Dear Sirs/Mesdames:

Re: FortisBC Energy Inc. (“FEI”) Application for a Certificate of Public Convenience and Necessity for the Okanagan Capacity Upgrade Project – Additional Submission on Panel IR No. 2 Responses

In accordance with the regulatory timetable in the above-noted proceeding, we enclose for filing the Additional Submission on Panel IR No. 2 Responses of FEI dated October 25, 2023.

Yours truly,

FASKEN MARTINEAU DuMOULIN LLP

[Original signed by]

Tariq Ahmed

TVA/vde
Enclosure

cc (email only) Registered Interveners



British Columbia Utilities Commission

FortisBC Energy Inc.

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

**Additional Submission of FortisBC Energy Inc.
on Panel IR No. 2 Responses**

October 25, 2023

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PART ONE: INTRODUCTION

1. FEI provides these additional submissions in relation to the matters raised by the BCUC Panel in its second round of information requests (“Panel IRs”).¹ FEI’s responses to the Panel IRs further demonstrate that the case for the OCU Project is compelling. In particular, as set out below:

- (a) There is an imminent need for the OCU Project to serve peak demand growth in the Okanagan, and potential impacts of code changes cannot be relied upon to significantly reduce peak demand.
- (b) While FEI has provided information on the cost of relying on Compressed Natural Gas (“CNG”) shipments to 2030, the evidence demonstrates that the approach is neither feasible nor prudent. Logistical and reliability issues would jeopardize customer service during cold winter periods, when losing space and water heating would have the most significant consequences for customers.
- (c) The proposed OCU Project is superior to other alternatives, even in hypothetical lower demand scenarios. LNG trucking has even greater reliability challenges than CNG trucking, and a piecemeal approach to pipeline construction would not provide cost savings in proportion to the loss of capacity relative to the proposed OCU Project.

¹ Exhibit B-46. Abbreviations used in FEI’s Final Submission dated August 14, 2023, are also used in this Additional Submission.

**PART TWO: POTENTIAL IMPACTS OF CODE CHANGES MAY RESULT IN
LITTLE TO NO CHANGE IN PEAK DEMAND**

2. There is an imminent need for the OCU Project to serve peak demand growth in the Okanagan, and potential impacts of code changes cannot be relied upon to significantly reduce peak demand. As discussed below, impacts of changes to peak demand from potential code changes may be minimal.

A. THERE IS AN IMMEDIATE NEED FOR ADDITIONAL PEAK CAPACITY

3. The analysis provided by FEI in response to BCUC Panel IR2 2.1 indicates that regardless of changes to assumptions made regarding long-term peak demand in the ITS, there continues to be growth in peak demand and a requirement for increased capacity to service customers.

4. FEI's most recent 2023 peak demand forecast, which FEI prepared using the same methodology as prior peak demand forecasts, indicates that peak demand is greater than that shown in the Supplementary Filing Forecast.² It also shows a higher rate of growth than the Supplementary Filing Forecast due in large part to a high rate of growth in residential accounts supported by the most recent CBOC Housing Starts Forecast.³

B. INCREMENTAL CHANGES TO BC BUILDING CODE MAY NOT IMPACT PEAK DEMAND

5. FEI submits that the BCUC's decision regarding the OCU Project should not be based on the expectation that the BC Building Code (the "BCBC") will necessarily reduce capacity requirements in the Okanagan.

(a) The BCBC Targets Annual Demand, Not Peak Demand

6. First, it is fundamentally important to recognize that the driver for the OCU Project is peak demand, whereas the requirement for new construction to be more energy efficient is targeting annual consumption. The BCBC does not specify that the efficiency requirement be based on design day or design hour peak energy performance.⁴ FEI explained in responses to the Panel IRs

² Exhibit B-46, BCUC Panel IR2 2.1.

³ Exhibit B-46, BCUC Panel IR2 2.1.

⁴ Exhibit B-46, BCUC Panel IR2 2.1.

that the required incremental reduction in annual demand associated with the BCBC does not necessarily translate to a proportional reduction in peak demand.

7. The evidence is that, while some measures such as building envelope improvements may lower the peak demand requirements for some buildings, other measures may have the opposite effect. For instance, on-demand hot water and smart thermostats may actually have the impact of concentrating peak into a shorter time period and potentially *increasing* peak demand for those uses.⁵ The timing and impact of the BCBC requirements on ITS peak demand is, at best, unclear.⁶

(b) Customer Growth Continues Despite the BCBC

8. Second, the BCBC does not preclude new customer attachments. There is a clear trend in historic customer attachments and growth in peak demand, and continued growth (albeit at a slower rate than historically) is evident in the Supplementary Filing Forecast.⁷

C. ZERO CARBON STEP CODE IMPACT VARIABLE AND DEPENDENT ON THE USE OF RNG

9. Similar to the BCBC, FEI submits that the BCUC's decision regarding the OCU Project should not be based on the expectation that the ZCSC will necessarily reduce capacity requirements in the Okanagan.

(a) The ZCSC Remains Voluntary, with No Municipal Uptake in the Interior Region

10. FEI anticipates that the ZCSC will have little impact on new customer peak demand to the extent that the ZCSC remains voluntary for municipalities to 2030.⁸ None of the municipalities in the ITS Region have adopted the ZCSC at this time.

⁵ Exhibit B-46, BCUC Panel IR2 2.1; Exhibit B-2, BCUC IR1 5.2 and 5.2.1; Exhibit B-14, BCUC IR2 42.1.1, 42.3.1, 42.3.2.

⁶ Exhibit B-46, BCUC Panel IR2 2.1; Exhibit B-2, BCUC IR1 5.2 and 5.2.1; Exhibit B-14, BCUC IR2 42.1.1, 42.3.1, 42.3.2. FEI's actual peak use data is at an insufficient level of granularity to evaluate the impact of building efficiency improvements on peak period demand trends and customer actions during such periods.

⁷ Exhibit B-46, BCUC Panel IR2 2.1.

⁸ Exhibit B-46, BCUC Panel IR2 2.3.

(b) Municipal Adoption of the ZCSC May or May Not Significantly Affect Peak Demand

11. In cases where the ZCSC is made mandatory through either municipal by-law adoption or through the BCBC implementation in 2030, the impact of the ZCSC on new customer peak demand will depend on whether renewable natural gas (“RNG”) is a recognized pathway for meeting the ZCSC requirements and remains cost competitive relative to electricity heating solutions.⁹ If RNG is a viable and competitive space and water heating energy option for new gas customers, then FEI anticipates that the gas system will continue to serve peak demand requirements for these customers at similar peak demand levels to today.¹⁰

12. FEI has provided a persuasive explanation for why, even if RNG is not viable or affordable for space and water heating for new customers, it expects:

(a) There will likely be no or minimal impacts to peak demand for the first two levels of the ZCSC (EL-1 and EL-2).¹¹

(b) For the third level, EL-3, dual fuel systems (electric and gas) may be an alternative to all-electric systems due to their resiliency benefits, such that individual new customer changes to peak demand will be fairly minor.¹²

13. It is only at the fourth level, EL-4, where FEI anticipates that growth in peak demand will begin to flatten to a greater extent than in the current forecast for peak demand in the region served by the proposed OCU Project. The full extent of such flattening in peak demand is not entirely known as the use of conventional natural gas for some ancillary uses such as cooking and clothes drying may be permitted if EL-4 becomes mandatory in its current form.¹³ The electricity system could only reliably serve material new load from fuel switching if expected electricity system constraints were addressed with new electric system infrastructure.¹⁴

⁹ Exhibit B-46, BCUC Panel IR2 2.3.

¹⁰ Exhibit B-46, BCUC Panel IR2 2.3, IR2 2.4 and 2.4.1.

¹¹ Exhibit B-46, BCUC Panel IR2 2.2 and 2.3.

¹² Exhibit B-46, BCUC Panel IR2 2.3.

¹³ Exhibit B-46, BCUC Panel IR2 2.3.

¹⁴ Exhibit B-46, BCUC Panel IR2 2.2.

D. FEI'S SUPPLEMENTARY FILING FORECAST REMAINS APPROPRIATE FOR ASSESSING PROJECT NEED

14. FEI's Supplementary Filing Forecast remains appropriate for addressing Project need for the OCU Project. The regions within the ITS have shown growth trends and with the historic peak demand already exceeding the capacity of the ITS. In fact, FEI's most recent 2023 peak demand forecast indicates that peak demand is greater than that shown in the Supplementary Filing Forecast. Both the Supplementary Filing Forecast and the 2023 peak demand forecast already embed trends inherent in energy use and slower growth rates.¹⁵

15. While the BCBC and ZCSC will ultimately impact energy use, their impacts on peak demand – the driver for the OCU Project – are far less clear than for annual use. As discussed above, the policies have not yet begun to influence peak gas demand, some elements of the BCBC may make load “peakier”, and there remain avenues under ZCSC and the BCBC whereby FEI can continue to add customers. Expanding the electric system to support increased peak winter heating demand that is currently served by gas infrastructure is challenging and will take time.¹⁶ FEI respectfully submits that infrastructure that is demonstrably needed to serve customers today should not be delayed on the basis of such speculative impacts on future peak demand.

¹⁵ Exhibit B-46, BCUC Panel IR2 2.2; Exhibit B-36, BCUC Supplementary IR1 1.1.

¹⁶ Exhibit B-46, BCUC Panel IR2 2.2; Exhibit B-36, BCUC Supplementary IR1 1.1.

PART THREE: RELYING ON CNG IS NEITHER FEASIBLE NOR PRUDENT

16. The BCUC Panel IRs sought a cost estimate for relying on Compressed Natural Gas (“CNG”) shipments to 2030, in lieu of the OCU Project. While FEI has provided a CNG cost estimate, the evidence demonstrates that relying on CNG is neither feasible nor prudent.

17. First, there are logistical issues that impose practical limitations on the volumes that can be provided. FEI explained in the response to BCUC IR1 11.1¹⁷ and BCUC IR2 48.1¹⁸ that the peak load will exceed the practical limit on the number of trucks / peak day by Year 3 (2028/29).¹⁹

18. At those levels, space and personnel requirements at the compression and decompression sites become strained.²⁰ In addition, FEI’s operations personnel are already under significant demands during peak winter conditions in the affected region, including managing short-term mitigation measures in multiple communities and managing emergency situations. FEI would likely be required to rely heavily on contractors or on temporary personnel to manage the additional workload, which introduces additional risk of human error.²¹

19. Second, permitting and land acquisition issues would create schedule risk for a CNG project. Even without those issues, FEI estimates that it would take three years to develop, design, procure and install CNG injection facilities.²²

20. Third, FEI has identified reliability and safety issues.²³ Pipelines are a more reliable method of natural gas transportation than CNG/LNG trucking. Trucking introduces the risk of service disruptions due to heavy traffic or accidents, driver error, road closures due to severe winter weather, and/or truck breakdowns.²⁴

¹⁷ Exhibit B-2.

¹⁸ Exhibit B-14. FEI expects it would require 28 trucks/peak day in Year 3 (2028/29), whereas FEI would likely start to be affected by logistical constraints at only 16 trucks / peak day.

¹⁹ Exhibit B-46, BCUC Panel IR2 3.1.2.

²⁰ Exhibit B-2, BCUC IR1 11.1.

²¹ Exhibit B-2, BCUC IR1 11.1.

²² Exhibit B-14, BCUC IR2 48.1; Exhibit B-46, BCUC Panel IR2 3.1.3.

²³ Exhibit B-2, BCUC IR1 11.1.

²⁴ Exhibit B-2, BCUC IR1 11.1.

21. There is tangible evidence that snowfall and ice will pose a safety and reliability concern for CNG trucking. For example, snow accumulation has been present during the design days in the previous two winters. Government issued warnings against non-essential travel in December 2022 coincided with near design day temperatures.²⁵

22. Relying on CNG injection would put customer service at risk during cold winter periods, when losing gas service would have the most significant implications for customers.

²⁵ Exhibit B-46, BCUC Panel IR2 3.4.

PART FOUR: FEI IS PURSUING THE BEST ALTERNATIVE

23. The BCUC Panel IRs inquire further about the potential alternatives in addition to CNG injection to meet forecast ITS demand until 2030. As FEI explained in response to BCUC Panel IR2 3.2, and in Part Two above, FEI does not consider it prudent to only plan to meet forecast ITS peak demand until 2030. However, FEI examined two alternatives to meet short-term demand below what has been forecast. Both of these alternatives are less desirable than the proposed OCU Project.

A. REDUCED ALTERNATIVE 3 PIPELINE LENGTH IS NOT ADVISABLE

24. FEI explained in response to BCUC Panel IR2 3.2 why reducing the Alternative 3 pipeline length is not advisable. In particular, FEI has every expectation based on peak demand forecasts that another project would be required shortly after the initial short segment was completed. A piecemeal approach to constructing the pipeline may have limited costs saving, and any potential savings would be eroded, or overtaken, by the cost premium that would be expected from further extensions and the requirement to re-site, relocate or reconstruct the pressure control station at the tie-in location.²⁶

B. LNG TRUCKING IS AN INFERIOR OPTION WITH SIGNIFICANT FEASIBILITY AND RELIABILITY CHALLENGES

25. FEI explained in its responses to BCUC IR1 11.1 and 11.4²⁷ the risks and challenges associated with trucking LNG from the Tilbury LNG Facility to the Okanagan in winter. As described above, “virtual pipelines” require consistent, uninterrupted deliveries of significant volumes of LNG, and are not a reliable long-term peak resource. Among other considerations, trucks would be required to travel much further (from FEI’s Tilbury LNG Facility in Delta) and would be required to travel through the Coquihalla Highway passes.²⁸ The Coquihalla Highway passes are inhospitable in winter and subject to periodic closures.²⁹ According to the Ministry of Transportation and Infrastructure, the Coquihalla Highway has closed entirely due to avalanche

²⁶ Exhibit B-46, BCUC Panel IR2 3.2.

²⁷ Exhibit B-2.

²⁸ Exhibit B-2, BCUC IR1 11.4.

²⁹ Exhibit B-46, BCUC Panel IR2 3.2.

risk nearly once per year since its construction. Vehicle incidents such as collisions and accidents due to weather conditions cause highway closures even more frequently.³⁰ As these closures typically occur during the coldest days of the year, when LNG supplementation would be required, there is a high probability that a road closure or accident would prevent LNG trucks from reliably reaching the injection point in Kelowna or Vernon. The resulting capacity shortfall could lead to a loss of supply to customers during the coldest days of the year when demand is at its highest and reliable gas service is most critical.³¹

C. A THEORETICAL REDUCTION TO PEAK DEMAND DOES NOT RESOLVE CHALLENGES WITH ALTERNATIVES

26. FEI has examined and discussed a variety of alternatives to the proposed OCU Project throughout the proceeding.³² The challenges and drawbacks to these alternatives still exist in the case of peak demand that is vastly below what is forecast in the Supplementary Filing Forecast. As such, FEI considers the only alternative to meet the hypothetical reduced demand to be Alternative 3 with a reduced length pipeline.³³ FEI explained in its Final Submission why proposals to reduce the pipeline length should be rejected,³⁴ including on the basis that there would tend to be a significant decrease in capacity with a limited reduction in Project cost.

³⁰ Exhibit B-2, BCUC IR1 11.4.

³¹ Exhibit B-2, BCUC IR1 11.4.

³² Exhibit B-46, BCUC Panel IR2 3.3; Exhibit B-36, BCUC Supplementary IR1 1.1.

³³ Exhibit B-46, BCUC Panel IR2 3.3.

³⁴ FEI Final Submission, para. 83. See also FEI Reply Submission, paras. 24-26; Exhibit B-36, BCUC Supplementary IR1 13.2.

PART FIVE: CONCLUSION

27. FEI's responses to the Panel IRs demonstrate that the case for the OCU Project is compelling. The BCUC should find that the OCU Project is in the public interest. It should grant a CPCN and the associated deferral account on the terms set out in the Updated Application and Supplementary Filing.

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

Dated:

October 25, 2023

[original signed by Tariq Ahmed]

Tariq Ahmed

Counsel for FortisBC Energy Inc.