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March 28, 2022

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, B.C.
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Attention: Mr. Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

Re: FortisBC Energy Inc. (FEI)

Project No. 1599185

Application for a Certificate of Public Convenience and Necessity (CPCN) for Approval of the Coastal Transmission System Transmission Integrity Management Capabilities Project (Application or the Project)

FEI G-63-22 – Submission on Useful Life of the CTS TIMC Project Assets

FEI writes in response to the BC Utilities Commission (BCUC) Order G-63-22 establishing a regulatory timetable for further submissions respecting the issue canvassed in BCUC Panel IR No. 1, namely, the potential for future hydrogen blending in FEI's Coastal Transmission System (CTS). Specifically, the BCUC encouraged parties to provide submissions on the impact, if any, that hydrogen blending should have on the depreciation rate and term for the Project's assets. Directive 2 of Order G-63-22 requested FEI to include the following in its submission:

In consideration of the uncertainty of the impact of hydrogen blending in FEI's CTS System, FEI is directed to include in its submission of March 28, 2022, a discussion of whether FEI should adjust the useful life of its Project assets and/or accelerating its depreciation rates in order to mitigate the risk of stranded assets, in the event that the Project assets have a substantially reduced average service life (for example, of 20 years instead of 65 years).

[...]

Parties are [...] encouraged to provide submissions on the impact, if any, that this should have on the depreciation rate and term for the project's assets.

In response to the Panel's specific request, FEI submits that potential for future hydrogen blending should not have any impact on the depreciation rate and useful life¹ of the Project assets. As discussed below, FEI submits that hydrogen blending will not have any operational impact on the Project assets and, by conducting depreciation studies every 5 years, FEI ensures that its depreciation rates are appropriate and reflect the most recent information.

FEI's submission is organized around the following points:

- FEI's plans to blend hydrogen into the CTS pipelines have no impact on the need for the CTS TIMC Project, as EMAT ILI tools are necessary to allow FEI to identify and address any cracking threats on the CTS pipelines with or without hydrogen.
- The potential for hydrogen blending will not have any impact on the depreciation rates and useful life of the CTS TIMC Project assets as the Project assets will not be impacted by hydrogen blending activities. The CTS TIMC Project assets will be designed to ensure that they are not a limiting factor with respect to future hydrogen blending.
- Both the CTS pipelines and the CTS TIMC Project assets will continue to be used and useful for the foreseeable future.
- FEI has appropriately used the current BCUC-approved depreciation methodology in its financial analysis for the CTS TIMC Project.
- The remaining service life of the CTS TIMC Project assets will be considered in future depreciation studies and, if necessary, adjusted at that time.

1. Cracking Threats Need to Be Mitigated By EMAT ILI Tools With or Without Hydrogen Blending

FEI first emphasizes that its plans to blend hydrogen into the CTS pipelines have no impact on the need for the CTS TIMC Project. As established by the evidence in this proceeding, the data collected by EMAT ILI is necessary to allow FEI to identify and address any cracking threats on the CTS pipelines. FEI has an obligation to provide safe service to its customers and the only prudent course of action is to modify the existing CTS pipelines to allow them to be inspected using EMAT ILI tools. This will allow any existing cracking issues to be identified and addressed and allow FEI to proactively manage the threat of cracking on its CTS pipelines on an ongoing basis. As cracking remains a threat with or without hydrogen blending, EMAT ILI tools will need to be used on the CTS pipelines to identify cracking threats regardless of whether hydrogen blends are introduced into the pipelines.

¹ FEI interprets "term for the project's assets" in Order G-63-22 to refer to the useful life of the assets to be installed by the CTS TIMC Project.

2. CTS TIMC Project Assets Will Not be Impacted by Hydrogen Blending Activities

The potential for hydrogen blending will not have any impact on the depreciation rates and useful life of the CTS TIMC Project assets as the Project assets will not be impacted by hydrogen blending activities. Industry experience from hydrogen blending pilot projects around the world has consistently demonstrated that steel pipelines can accommodate low hydrogen concentrations (approximately 10 percent or less) with no negative effects. FEI is confident that it can safely transport low concentrations of hydrogen in the CTS pipelines.² Given that the existing CTS pipelines will be the limiting factor for future hydrogen blending activities, FEI will ensure that all of the CTS TIMC Project assets will be able to accommodate at least this percentage of hydrogen in the gas stream with no negative effects.

The Project scope includes two groups of assets: (1) replacement of 13 segments of pipe³ and (2) alterations to 13 facilities to enable the introduction of EMAT ILI tools.⁴

- The 13 new segments of pipe will not be impacted by hydrogen blending: during the design and construction of the 13 segments of pipe, FEI will consider the potential for future use of these pipeline segments to transport increasing percentages of hydrogen.⁵ As these pipeline segments will be constructed with current construction techniques and knowledge of the potential for future hydrogen service, they will not need further modification or replacement to accommodate hydrogen blending.
- The 13 facilities modifications will not be impacted by hydrogen blending. These modifications, including the installation of EMAT ILI tool launchers and receivers,⁶ the installation of flow control capability,⁷ the installation of pressure regulation capability,⁸ and the installation of backflow prevention capability,⁹ will be needed and will continue to be used and useful as increasing blends of hydrogen are added to the system. This equipment will not need further modification or replacement to accommodate hydrogen blending.

In short, the modifications contemplated by the CTS TIMC Project will not be impacted by reasonable levels of hydrogen/methane blending.

3. CTS Pipelines Will Continue to be Used and Useful

As discussed by FEI in its responses to the BCUC Panel IRs, based on FEI's activities to study, test, and verify that hydrogen is safe to use in the existing gas system and to identify

² Exhibit B-19, FEI response to BCUC Panel IR1 1.1.

³ Exhibit B-1, Application, Figure 5-4 and p. 92.

⁴ Exhibit B-1, Application, Table 5-8.

⁵ Exhibit B-19, FEI response to BCUC Panel IR1 1.1.

⁶ Exhibit B-1, Application, pp. 97-98.

⁷ Exhibit B-1, Application, pp. 98-99. The four facilities requiring permanent piping and foundations are: Nichol Valve Station, Port Mann Valve Station, Tilbury Regulating Station, and Fraser Gate Station.

⁸ Exhibit B-1, Application, pp. 99-100.

⁹ Exhibit B-1, Application, pp. 103-104.

any changes that may be required to ensure its continued safe operation, the CTS pipelines will continue to be used and useful.¹⁰

FEI has confirmed that it is safe to have a level of hydrogen in the CTS pipelines. By 2030, FEI expects there to be minimal hydrogen in the gas flowing in the CTS pipelines. While FEI cannot know at this time what the precise percentage of hydrogen in the gas in each CTS pipeline will be in 2040 or 2050, it expects that methane (whether from conventional or renewable sources) will continue to exceed 80 percent by volume of the gas transported by the CTS pipelines for at least 20 years.

To transport high levels of hydrogen, a large scale replacement of the CTS would not be a cost-effectively feasible option.¹¹ Rather:

- FEI is investigating methods to mitigate risks of higher hydrogen blends. For example, FEI is investigating emerging industry solutions to inhibit hydrogen embrittlement, such as the presence of small quantities of oxygen.¹²
- Some existing gas system pipeline corridors would be retrofitted, upgraded, and expanded to transport an increasing share of hydrogen and (bio)methane in a progressively decarbonized gas system.
- Hydrogen may be transported by other new or repurposed infrastructure.¹³

Therefore, FEI's CTS pipelines and the alteration assets proposed as part of the CTS TIMC Project will continue to be used and useful and FEI expects the estimated service life of these assets will be unaffected by reasonable levels of hydrogen/methane blending.

4. Existing Depreciation Rates Remain Reasonable

FEI's existing depreciation rates were recently approved by the BCUC in Order G-165-20 and remain reasonable. Upon completion of the CTS TIMC Project, the associated assets will be included in FEI's existing asset classes. Under group asset accounting,¹⁴ all capital costs incurred for the same asset class (e.g., transmission mains) will be depreciated at the approved depreciation rates, which is determined based on the average service life of the entire asset class.¹⁵

While FEI understands the Panel's concern with respect to the uncertainty of the impacts of hydrogen blending, there is no evidence to indicate that a change in depreciation rates is required or, if a change was required, what a reasonable adjustment might be. The most current information is that the CTS TIMC Project assets will not be affected by hydrogen blending and that the existing CTS pipelines more generally will continue to be used and

¹⁰ Exhibit B-19, FEI response to BCUC Panel IR1 1.1.

¹¹ Exhibit B-19, FEI response to BCUC Panel IR1 1.1.

¹² Exhibit B-19, FEI response to BCUC Panel IR1 1.1.

¹³ Exhibit B-19, FEI response to BCUC Panel IR1 1.2.

¹⁴ The average service life for pipelines and the use of group asset accounting was approved by Order G-165-20.

¹⁵ Exhibit B-5, FEI response to BCUC IR1 24.2.

useful. Whether particular segments of the CTS pipelines may need upgrading or modifications in the future is not known at this time, and any attempt to adjust depreciation rates in anticipation of future unknown information would be arbitrary and speculative. There are many factors that, over time, will affect the service lives of FEI's assets. These factors are accounted for through periodic reviews of depreciation rates, as discussed below.

5. FEI will Continue to Review and Revise Depreciation Rates through Regular Depreciation Studies

The best approach to the uncertainty created by the potential for hydrogen blending in the future is to continue FEI's current practice of regularly updating its depreciation rates. FEI's practice is to file a new depreciation study approximately every five years. By revising its depreciation rates every five years, FEI adjusts its depreciation rates using actual retirement data, management expectations, and other factors. This process helps ensure that depreciation rates are not out of step with expectations for the service lives of the assets.

The last depreciation study was conducted in 2019 and filed for approval as part of FEI's 2020-2024 Multi-Year Ratemaking Plan. FEI therefore plans to conduct its next depreciation study in 2024, two years from now—and the same year that the CTS TIMC Project is scheduled for completion. At that time, FEI will take into account the most recent information in setting its depreciation rates, including information on plans for blending hydrogen into the CTS and whether that may affect the service life of its assets.

FEI submits that it is during these regular reviews of depreciation rates that the Panel's concerns can be best addressed. In these processes, FEI will file a complete and comprehensive depreciation study and will make recommendations for changes to depreciation rates as necessary, which can be examined and tested against the latest information available, including information on any consequences of hydrogen blending.

Conclusion

While there is some uncertainty around the pace of FEI's adoption and distribution of hydrogen at this early stage, this uncertainty has no impact on the need for the CTS TIMC Project today and in the future. As outlined above, FEI expects that the Project assets will not be impacted by hydrogen blending and the CTS pipelines will continue to be used and useful.¹⁶ Depreciation rates for the CTS TIMC Project assets, and indeed all CTS pipeline assets, will be reviewed and adjusted as necessary through future depreciation studies that will reflect any changes to the service life of those assets at that time.

¹⁶ Exhibit B-19, FEI response to BCUC Panel IR1 1.3.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Diane Roy

Attachments

cc (email only): Registered Parties