Sarah Walsh
Director, Regulatory Affairs

Gas Regulatory Affairs Correspondence
Email: gas.regulatory.affairs@fortisbc.com

Electric Regulatory Affairs Correspondence
Email: electricity.regulatory.affairs@fortisbc.com

FortisBC
16705 Fraser Highway
Surrey, B.C. V4N 0E8
Tel: (778) 578-3861
Cell: (604) 230-7874
Fax: (604) 576-7074
www.fortisbc.com

September 7, 2023

Commercial Energy Consumers Association of British Columbia
c/o Owen Bird Law Corporation
Vancouver Centre II
2900 – 733 Seymour Street
Vancouver, BC
V6B 0S6

Attention: Christopher P. Weafer

Dear Christopher Weafer:

Re: FortisBC Energy Inc. (FEI)

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

Response to the Commercial Energy Consumers Association of British Columbia (CEC) Information Request (IR) No. 3

On September 20, 2022, FEI filed the Application referenced above. In accordance with the further regulatory timetable established in British Columbia Utilities Commission Order G-115-23, FEI respectfully submits the attached response to CEC IR No. 3.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC ENERGY INC.

Original signed:

Sarah Walsh

Attachments

cc (email only): Commission Secretary
Registered Interveners

1. Reference: Exhibit B-18, Q5

> A5: No, FEI cannot rely on the fact that vendors will inform it of instances of severe cracking "soon after" completing an ILI run. As part of undertaking the CTS TIMC pilot project, vendors provided results on a "best efforts" basis, but FEI did not have certainty regarding when the vendor would provide results. In particular, the identification and sizing of cracking features identified through an EMAT ILI run (unlike other tools) generally requires more human intervention and interpretation before results are provided.
>
> Based on information provided by vendors, which aligns with informal information from FEI's peer transmission pipeline operating companies, FEI currently assumes a vendor reporting timeframe of up to 180 days (6 months) for EMAT ILI runs on the CTS. However, this reporting timeframe may change as industry adoption of EMAT ILI tools continues to increase. Vendor capacity to perform post-inspection data interpretation, analysis and reporting is already becoming increasingly constrained by current available resources. Therefore, by the time of the first EMAT ILI runs on the ITS, vendor reporting timeframes could be longer than up to 180 days.

1.1. Please explain whether or not there are any options available for FEI to request and/or pay for earlier reporting.

1.1.1. If yes, please provide estimates of how quickly FEI could arrange for reporting, and the costs that would be incurred in order to receive such enhanced service.

Response:

FEI has based its reporting timeframe estimates for the ITS TIMC Project on its discussions with vendors and other operators, and has not yet initiated negotiation of ILI contracts pertaining to its ITS TIMC-related EMAT inspections. However, to date, FEI has not identified or been offered any options to request and/or pay for certainty on earlier reporting timeframes.

Please also refer to the responses to RCIA IR3 26.1 and 26.3 which provide further information regarding FEI's estimated vendor reporting timelines.

2. Reference: Exhibit B-18, Q6

> **Q6: On page 10 of its evidence, REL states that: "FEI does not need to address every feature found by the EMAT ILI prior to the winter peak, only the most severe features which necessitate the pressure reduction." Is this correct?**
>
> A6: No, REL's statement is not entirely correct in that the severity of the crack features in relation to others (e.g., whether they are the "most severe") is not relevant. Rather, FEI will need to address all features that require a pressure reduction, which is determined by the severity of each of the crack features (i.e., failure potential). FEI cannot know in advance of running the ILI tool how many features will need to be addressed and whether it will be only a small subset of the overall features, which REL appears to imply.

2.1. How would FEI propose to address the situation in the absence of running the ILI tool?

Response:

The process described in the preamble requires knowledge of actual crack features, which can only be obtained in a practical and cost-effective manner by running an EMAT ILI tool. As such, absent running an EMAT ILI tool, FEI would not be able to address cracking features prior to the winter peak.

Prior to running the EMAT ILI tool, FEI will continue to use its existing integrity management practices, which do not identify all types of cracking on the ITS (as discussed in Section 3.2.5 of the Application). The proposed scope and schedule for the ITS TIMC Project provide FEI with the capabilities to deliver baseline runs and post-EMAT activities over a reasonable planning horizon, reflecting the time-dependent nature of cracking threats.

2.1.1. Please explain if FEI has found the alternative options to be suitable in the past, and why they are not suitable at this time.

Response:

As explained in Section 3 of the Application, integrity management practices continually improve as the industry learns more about the threats to pipelines and, in particular, industry practice is moving towards active monitoring and mitigating cracking threats on larger diameter pipelines using EMAT ILI. Periodic inspection with EMAT ILI, followed by targeted integrity digs and repairs, provides confidence for preventing pipeline rupture failures due crack and crack-like features. As a prudent operator, FEI has identified the need to enhance its crack management practices on the eight identified ITS pipelines and developed the ITS Project, which seeks to respond to the

risk of pipeline failure due to cracking and keep pace with evolving industry practices for managing cracking risks.

Please refer to the response to BCUC IR1 5.3 which further discusses the timeline considerations by FEI with respect to the Project.

3. Reference: Exhibit B-18, Q7

Q7: In the response to CEC-RCIA IR1 1.4, REL states that it "does not expect that FEI needs one month to examine the ILI vendor's initial reporting to determine whether the independent pressure reducing equipment needs to be installed." Is REL's conclusion correct?

A7: No. FEI estimates that it will take approximately 30 to 60 days (1 to 2 months) for FEI to complete its initial review of the vendor's initial report and identify potentially injurious cracking on the pipeline requiring a pressure reduction.

During the 30-60 days of the initial review process, FEI conducts the following activities:

1) FEI validates the accuracy of EMAT ILI tool reporting, including assessing reported cracks and the findings of initial integrity digs.

2) FEI reviews crack-like features for their failure potential, including by completing integrity digs and analyzing findings.

3) FEI evaluates whether identified cracking interacts with other ILI tool findings (e.g., corrosion).

Through this initial review process, FEI could identify cracking requiring a pressure reduction that was not previously identified by the vendor.

3.1. Could FEI reasonably speed up the interpretation to 1 month by applying more staffing hours or adding external expertise? Please explain why or why not.

3.1.1. If yes, please provide the cost of such activities.

Response:

No. FEI's timeline estimates are reasonable and already presume increased staffing hours and adding external expertise, recognizing that the associated skillsets fall within a limited resource pool that is in high demand.

4. Reference: Exhibit B-18, Q13

> **Q13: On page 12 of its evidence, REL calculates that FEI could save $1.97 million or 3 percent of the Project's cost (excluding contingency) by removing the PRS at the Yahk Station from the Project scope. Are REL's calculations correct?**
>
> A13: REL's calculations are based on FEI's responses to RCIA IR2 23.2 and 23.3 which identify construction costs and salvage costs of $1.363 million and $0.607 million, respectively, totaling the approximate $1.97 million. These potential savings would be reduced by the incremental cost of approximately $67 thousand associated with a second mobilization and demobilization of crews to Yahk Station to install the PRS.
>
> While engineering costs would not be materially impacted, there may be incremental additional costs for field review visits and record collection that would not be efficiently completed with the ILI barrel modifications. FEI also notes that, by not installing the PRS, REL is recommending that FEI spend approximately $1.81 million to procure and fabricate the PRS with no added benefit to the system. This contrasts with the proposed PRS, which will provide the multiple benefits discussed in Answer A12.

4.1. Please elaborate on FEI's statement that by not installing the PRS, REL is recommending that FEI spend approximately $1.81 million with no added benefit to the system.

4.1.1. In what ways could FEI avoid spending $1.81 million that has no added benefit to the system?

Response:

The total estimated capital cost for the proposed PRS at the Yahk Station is shown in the table below (Item 1), including the engineering, procurement, fabrication, assembly, testing and installation of the PRS and associated piping. If, as REL suggests, FEI were to proceed with the engineering, procurement, fabrication, assembly and testing of the PRS and associated piping, but, ultimately, does not install the PRS (i.e., because no cracking requiring a pressure reduction is identified), then there would be approximately $1.81 million spent on these activities that would have no added benefit to the system. In other words, in order to have the PRS on hand and ready to install as proposed by REL, FEI cannot avoid spending this approximately $1.81 million.

Table 1: Estimated Capital Cost for Proposed PRS at the Yahk Station

Item		Value ($000s)	Reference
1	Total estimated capital cost for Yahk Station PRS	3,782	RCIA IR1 16.2
2	Saved construction costs for install	(1,363)	RCIA IR2 23.2
3	Salvage cost of materials	(607)	RCIA IR2 23.3
4	Remaining cost with no benefit	1,812	

In contrast, by installing this PRS, and regardless of whether FEI identifies cracking requiring a pressure reduction, the cost of these activities would provide value to FEI's system and customers as the benefits outlined in A12 of the Rebuttal Evidence would be realized.

5. Reference: Exhibit B-18, Q17

> **Q17: On page 21, REL states that FEI expects to use NPS 12 EMAT ILI tools with speed control when it inspects SAV VER 323 in 2026 and KIN PRI 323 in 2032. Can FEI be certain that it will use EMAT ILI with speed control when it inspects these pipelines?**
>
> A17: No. As explained in the response to RCIA IR1 18.1, FEI expects EMAT tools for NPS 12 pipelines with speed control to be *available* by 2026. However, FEI cannot be certain that it will use EMAT ILI with speed control when it inspects these pipelines. FEI's past practice has been to work with multiple vendors to undertake ILI runs on the ITS. As FEI is only aware of one vendor that is developing a speed control unit for NPS 12 EMAT ILI tools, FEI cannot commit to using EMAT tools with speed control for these runs. Moreover, FEI designs its system in a manner that enables it to adopt technology from multiple vendors and considers this approach to be prudent and in the best interest of its customers.

5.1. Please confirm that FEI has a fulsome awareness of the industry when it states that it is not aware of any other vendors developing speed control, and please provide the evidence supporting FEI's view of the degree of its fulsome understanding of the industry.

Response:

Confirmed. FEI obtains its awareness of the industry, including the development of speed control by ILI vendors, by regularly participating in industry activities (e.g., conferences, vendor and operator meetings). FEI summarizes its participation in these activities in the table below.

Table 1: FEI Participation in Industry Activities

Activity	Description	Frequency and Duration of Activity	Recent and/or Planned Attendance
ASME International Pipeline Conference (IPC) and Exposition	• ILI vendor and transmission pipeline operator technical presentations • ILI Vendor and other integrity service provider technical/marketing booths in exhibition hall • Informal ad-hoc discussions with ILI vendors and transmission pipeline operators	Every 2 years, approximately 4 days per occurrence	• September 28-30, 2020 (virtual) • September 26-30, 2022 (in-person) • September 23-27, 2024 (planned)
Clarion Pipeline Pigging and Integrity Management (PPIM) Conference	• ILI vendor and transmission pipeline operator technical presentations • ILI Vendor and other integrity service provider technical/marketing booths in exhibition hall • Informal ad-hoc discussions with ILI vendors and transmission pipeline operators	Annual, approximately 3 days per occurrence	• February 18-20, 2020 (in-person) • February 24-25, 2021 (virtual) • February 2-4, 2022 (in-person) • February 8-10, 2023 (in-person) • February 14-16 (planned)

Activity	Description	Frequency and Duration of Activity	Recent and/or Planned Attendance
Banff Pipeline Workshop	• Technical presentation and panel discussions • Informal ad-hoc discussions with ILI vendors and transmission pipeline operators	Every 2 years, approximately 3 days per occurrence	• April 8-11, 2019 (in-person) • April 6-15, 2021 (virtual) • April 3-6, 2023 (in-person)
CSA Z662 Operations & System Integrity Technical Subcommittee	• Standards development sessions with industry subject matter experts, facilitated by CSA Group • Informal ad-hoc discussions with pipeline operators	2 times per year, approximately 2 days per occurrence	• November 15-16, 2022 (in-person) • May 11-12, 2023 (in-person) • September 26-27, 2023 (planned)
Corrosion and Crack Operators Forum	• Informal gathering of Canadian transmission pipeline operators (some of which have US operations) • Informal technical presentations and discussions with pipeline operators, e.g.: ○ Industry best practices ○ Successes and lessons learned	Approximately quarterly, 0.5 day per occurrence	• December 14, 2022 (virtual) • April 6, 2023 (virtual) • June 14, 2023 (virtual) • September 13, 2023 (virtual)
ILI User Group	• Informal gathering of Canadian transmission pipeline operators (some of which have US operations) • Informal technical presentations and discussions with pipeline operators, e.g., ○ Industry best practices • A presentation by a selected ILI vendor is typically included as part of the agenda	Approximately quarterly, approximately 1 day per occurrence	• November 28, 2022 (virtual) • June 22, 2023 (in-person) • October 10, 2023 (planned)
Other Ongoing Meetings with ILI Vendors and Pipeline Operators	• Technical discussions and exploration of future company direction, etc. • Informal technical presentations and discussions between FEI, ILI vendor(s), and occasionally other pipeline operators, e.g.: ○ Review of services used to date and opportunities for improvement by each party ○ Review of services offered, but not utilized by FEI ○ Technology development	Ad-hoc, for approximately 0.5 day per occurrence	• November 30, 2022 (Vendor #1, meeting at vendor office) • December 1, 2022 (Vendor #2, meeting at vendor office) • March 2, 2023 (Vendor #2, meeting at FEI office) • June 7, 2023 (Vendor #1, meeting at vendor office) • September 14, 2023 (Vendor #1, meeting at vendor office with other operators) • October 10, 2023 (Vendor #3, planned)

1
2

3

5.2. Please explain why designing its system in a manner that enables it to adopt technology from multiple vendors is relevant to getting the benefits from EMAT tools with speed control if that is available from one of FEI's vendors.

Response:

FEI has identified a number of disadvantages associated with designing its system to only enable EMAT inspections with vendor tools using speed control. These disadvantages could prevent FEI from fully and/or effectively achieving the benefits associated with running EMAT tools over the operating lifecycle of the assets. In particular:

- Prioritizing a vendor solely based on the speed control capabilities of its EMAT ILI tools would limit FEI's ability to consider their other technical capabilities (e.g., detection and sizing capabilities, capabilities to provide a degraded data specification) when awarding work.
- Limiting the overall number of vendors capable of undertaking EMAT ILI runs would create other sole-sourcing risks, such as increased run costs and scheduling limitations. Maintaining a choice of vendors provides protection to these risks.

5.3. Please explain whether or not a one-year deferral to 2027 would more likely enable the use of speed control.

5.3.1. If yes, please describe the costs and benefits of making such a deferral.

Response:

FEI does not expect that a one-year deferral of EMAT ILI to 2027 would increase the likelihood of running tools with speed control as compared to the proposed 2026 timeline for the reasons below.

First, as explained in the response to RCIA IR2 18.4, FEI expects to run speed control wherever available given the associated benefits. However, as tools of this kind will be commercially available only for NPS 12 pipelines by 2026 and, even then, will be available only from a single vendor, FEI cannot plan runs based on the availability of speed control for each run. Further, FEI does not have a timeline for the availability of tools with speed control for NPS 10 pipelines, which comprise three of the eight ITS pipelines within the Project scope.

Second, as explained in the response to CEC IR3 5.2, speed control is also only one factor that FEI considers when selecting its EMAT ILI vendors. Examples of other factors include the vendor's other technical capabilities (e.g., detection and sizing capabilities, capabilities to provide a degraded data specification, etc.) and project-related considerations such as schedule.

In any event, as discussed in the response to BCUC IR1 1.2.1, FEI is planning to have its baseline EMAT ILI runs on the SAV VER 323 and VER PEN 323 pipelines completed by 2026 to ensure it can meet capacity needs in the event that a pressure reduction through the winter is required due to cracking.

6. Reference: Exhibit B-18, Q22

Q22: On page 18, REL states that FEI should ensure its ILI vendors provide a degraded data specification. Please explain whether this is feasible.

A22: This is not feasible as not all vendors provide a degraded data specification. At the time of filing this Rebuttal Evidence, only one of FEI's current vendors offers a degraded data specification for EMAT ILI tools. There are also a number of disadvantages if FEI were to ensure all of its vendors can provide a degraded data specification:

- First, as not all vendors have tools in all of the sizes necessary for the CTS TIMC and ITS TIMC pipelines, FEI would have a more limited pool of potential vendors to select to conduct these runs. At this time, this would necessitate sole-sourcing to a single vendor.
- Second, prioritizing whether a vendor provides a degraded data specification would limit FEI's ability to consider their other technical capabilities (e.g., detection and sizing capabilities, speed control capabilities, etc.) when awarding work.
- Third, limiting the number of vendors that could undertake EMAT ILI runs would create other sole-sourcing risks, including increased run costs, scheduling limitations, etc.

6.1. Please provide FEI's understanding of the ability for FEI's vendors to develop a 'degraded data' alternative in terms of timelines, cost and difficulty.

Response:

FEI's understands that providing a "degraded data" alternative (specification) for EMAT ILI is resource intensive, time-consuming, costly and difficult. As such, vendors do not commonly offer degraded data specifications.

While FEI is not an ILI tool vendor, based on its understanding of ILI tools and discussions with ILI vendors, developing a degraded data specification is complex and could involve modifications to the ILI tool sensors (e.g., increased number/density of sensors), modifications to electronics (e.g., increased scanning frequency for sensors), significant testing, calibration, as well as changes to other aspects of the EMAT ILI tool vendors' services, such as post-ILI analysis procedures. Providing a "degraded data" specification may also create additional and undesirable business risks for ILI vendors, for example, such as if a specification were not met or not consistently met.

6.2. Has FEI requested that its vendors develop this option? Please explain why or why not.

Response:

Yes, FEI has requested that its vendors develop degraded data specifications, where possible. FEI considers that such specifications will assist in achieving full coverage for crack mitigation of its pipelines.

6.3. Please discuss whether or not FEI could have a vendor running its EMAT ILI, that comes from the common specifications pool of vendors, while at the same time having a sole sourced vendor do a run using their specific new capabilities that other vendors do not have, provided that FEI assessed that the new capability would have a significant potential additional risk identification and reduction value.

Response:

FEI's current practice for assessing and adopting new capabilities from new ILI vendors aligns with the approach put forward by the CEC in the question above. To illustrate this, FEI provides a recent example:

1. FEI became aware of a new ILI vendor offering new ILI capabilities while participating in an industry awareness activity discussed in the response to CEC IR3 6.1.
2. FEI arranged direct meetings with the new ILI vendor.
3. FEI determined that the capabilities offered by the new ILI vendor could benefit its integrity management decision-making and, in particular, the following capabilities were not previously available to FEI at the time of the assessment:
    - Lower friction tools in smaller diameters which could help mitigation the potential for speed excursions; and
    - Transverse cracking assessment capabilities.
4. FEI learned of the following successful experiences of other Canadian transmission pipeline operators through these industry awareness activities:
    - The vendor had good first-run success history with FEI's peer transmission pipeline operators;
    - The vendor had good technical performance relative to their technical specifications in runs undertaken by FEI's peer transmission operators; and

- The vendor's tools were becoming more commonly used in both Canadian and US pipelines.

5. FEI planned and implemented an ILI tool run using a currently adopted ILI vendor as well as a second ILI tool run in the same pipeline with the new ILI vendor offering new capabilities.

6. FEI's experience aligned with those of other operators. As such, FEI expects that it will leverage the new ILI vendor's capabilities in future ILI tool runs.