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September 7, 2023

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

Attention: Peter Helland, Director

Dear Peter Helland:

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 Residential Consumer Intervener Association (RCIA) 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 RCIA IR No. 3.

FEI requests that a portion of the response to RCIA IR1 26.1, which is redacted in the public version, be filed on a confidential basis pursuant to Section 18 of the BCUC's Rules of Practice and Procedure regarding confidential documents as set out in Order G-72-23. The confidential information contains the commercially sensitive information of a counterparty to a contract, and FEI is contractually obligated to keep this information confidential. FEI notes that the counterparty has specifically denied FEI's request for permission to publicly disclose the information in the response to RCIA IR1 26.1. It is FEI's understanding that, if disclosed, this information could prejudice the competitive market position of the counterparty. The confidential information should remain confidential until the BCUC orders otherwise as the information is commercially sensitive to a third party and FEI's contractual obligation to keep the information confidential does not have an end date. A confidential version of the responses has been provided to the BCUC and Interveners who have signed a Confidentiality Declaration and Undertaking in this proceeding.

For convenience and efficiency, if FEI has provided an internet address for referenced reports instead of attaching the documents to its IR responses, FEI intends for the referenced documents to form part of its IR responses and the evidentiary record in this proceeding.

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

26. Reference: Exhibit B-18 Rebuttal Evidence p.2

ILI Vendor Reporting Timelines

On page 2 of the Rebuttal Evidence, FEI states:

> 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.

26.1 Please provide excerpts of the pilot EMAT ILI contracts and any other EMAT ILI contracts FEI has entered which show the reporting timeline obligations, for all preliminary, interim, and final reporting.

Response:

A portion of this response is being filed confidentially pursuant to Section 18 of the BCUC's Rules of Practice and Procedure regarding confidential documents as set out in Order G-72-23, because it contains the commercially sensitive information of a counterparty to a contract, and FEI is contractually obligated to keep this information confidential. FEI notes that the counterparty has specifically denied FEI's request for permission to publicly disclose the information in this IR response. It is FEI's understanding that, if disclosed, this information could prejudice the competitive market position of the counterparty. The confidential information should remain confidential until the BCUC orders otherwise as the information is commercially sensitive to a third party and FEI's contractual obligation to keep the information confidential does not have an end date. A confidential version of this response is being filed with the BCUC under separate cover and can be made available to registered parties who have signed a form of Confidentiality Declaration and Undertaking in this proceeding.

In the tables below, FEI provides the requested reporting timeline obligations set out in contracts for: (1) the EMAT ILI pilot project (LIV PAT 457 and CPH BUR 508); and (2) the only contracted CTS TIMC Project EMAT ILI run to date (Huntingdon-Roebuck 1067).

Table T1: LIV PAT 457

Table 2: CPH BUR 508

Table 3: Huntingdon-Roebuck 1067

This contract also states that:

Please note that FEI and EMAT ILI vendors do not always use the same terminology to describe the deliverables provided as part of the above reporting timeline obligations. For clarity, FEI provides a summary of each report type below.

Table 4: Summary of Vendor Reports

Vendor(s) Terminology for Reports	Description of Report
[redacted] (commonly referred to as a field report)	This report provides an assessment of the tool's performance, including its passage through the inspected pipeline segment and any initial indications of tool issues that could impact run success or data completeness (e.g., sensor malfunction or battery failure). This report supports discussions between FEI and the vendor to determine whether to de-mobilize the EMAT ILI tool from the site.

Vendor(s) Terminology for Reports	Description of Report
[redacted] (commonly referred to as a data completeness report)	This report provides an initial assessment of the expected data completeness from the ILI tool run, including impacts due to tool overspeed and the corresponding potential for blind spots (i.e., whether the collected data is degraded). This report supports discussions between FEI and the ILI vendor to determine whether the vendor should proceed with analyzing the collected EMAT ILI data.
Preliminary Report	FEI's use of the term "preliminary report" in its evidence does not align with the term used by vendors in the contracts reproduced above. As discussed below, FEI references to a "preliminary" or "initial" report is instead referring to the first version of the vendor's final report. While FEI's understanding is that the vendor will report on identified cracking with the potential to result in a significantly reduced factor of safety for pipeline failure, the vendor only does so on a best efforts basis and any findings are provided without the vendor having completed its analysis of the EMAT ILI data collected. Therefore, FEI cannot rely on this report to provide a complete, or necessarily reliable, view of features on its pipeline. There is nonetheless value to receiving results of this kind on a best-efforts basis. In particular, if a vendor were to report features that could be susceptible to failure, FEI would consider appropriate mitigating action such as an immediate pressure reduction and integrity digs.
Final Report	The first version of a vendor's final report is provided to FEI after the vendor has completed its review of the data collected by the EMAT ILI tool. FEI refers to this version of the report as a "preliminary" or "initial" report, because FEI must then undertake its own initial analysis and assessment of vendor-provided information. As explained in its Rebuttal Evidence, FEI expects this analysis to take 30 to 60 days (1 to 2 months). FEI's analysis, including the results of initial validation digs conducted in both the short- and long-term (i.e., field verification),[1] are incorporated into the vendor's final report, at which point FEI considers it to be a "final" rather than "preliminary" or "initial" report. This is because the report is now informed by greater quantities of information and analysis and, therefore, can inform FEI's decision-making with a higher degree of confidence.

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[1] FEI recognized the potential for such digs in Table 5-7 of the Application: "Integrity Digs for validation and repair will start shortly after the EMAT ILI run, and may continue up to three years after the run."

26.2 Please provide evidence that industry adoption of EMAT ILI is causing delays to reporting timelines.

Response:

FEI's statement that industry adoption of EMAT ILI tools continues to increase and that vendor capacity is becoming increasingly constrained is based on the following:

1. **Increased Industry Adoption of EMAT ILI:** Publicly available data published by the US Department of Transportation, Pipeline and Hazardous Materials Safety Administration demonstrates increased adoption of EMAT ILI tools.[2] FEI has provided the number of gas transmission miles inspected by EMAT ILI tools (or ILI crack tools) in Table 1 and Figure 1 below for the period from 2010 to 2022 period.

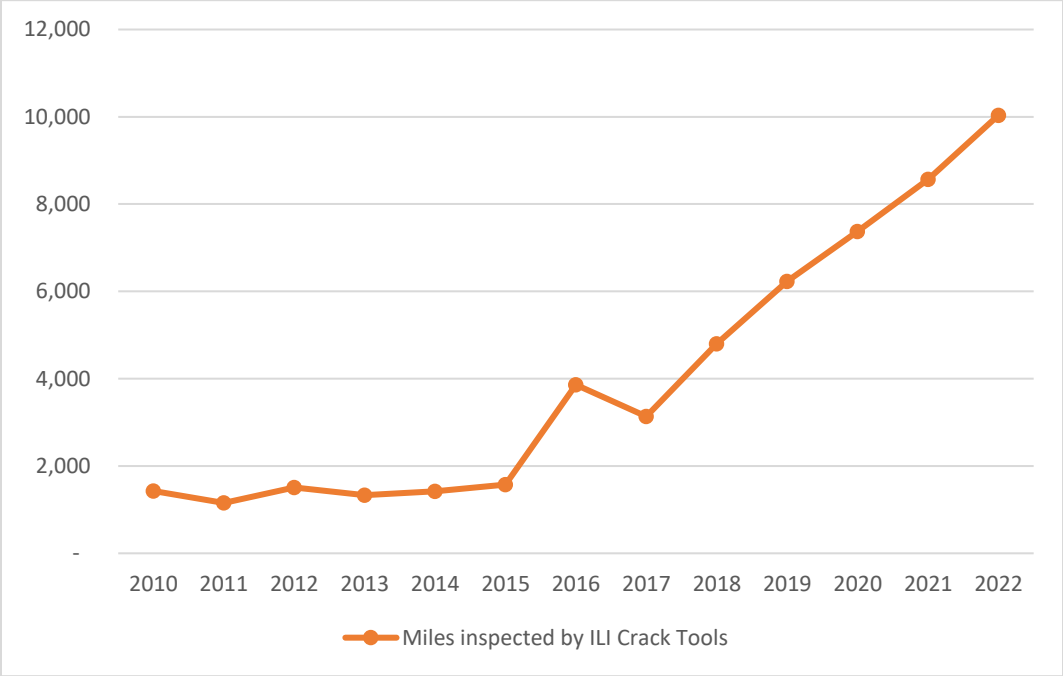
2. **Vendor Capacity is Becoming Increasingly Constrained:** FEI's understanding of vendor capacity is based on discussions with ILI vendors and other operators. Further, FEI's contract for the Huntingdon-Roebuck 1067 EMAT inspection, which FEI discusses in the response to RCIA IR3 26.1, does not include specific vendor reporting timelines (which were provided in past proposals, including those for the EMAT ILI pilot project) and supports FEI's understanding that capacity constraints are impacting the timelines vendors are able to commit to.

Table 1: Gas Transmission Miles Inspected by ILI Crack Tool - HCA and Non-HCA, US PHMSA-Regulated

Year	Gas Transmission Miles
2010	1,429
2011	1,154
2012	1,510
2013	1,331
2014	1,422
2015	1,576
2016	3,862
2017	3,133
2018	4,799
2019	6,227
2020	7,370
2021	8,569
2022	10,036

[2] Data is available by clicking on the link "GT IM Assessment" under the sub-heading "Gas Transmission Integrity Management Reporting" at: https://www.phmsa.dot.gov/pipeline/gas-transmission-integrity-management/gt-im-performance-measures.

Figure 1: Gas Transmission Miles Inspected by ILI Crack Tool - HCA and Non-HCA, US PHMSA-Regulated



26.3 Please provide support for FEI's assertion that vendor reporting timeframes "could be longer than up to 180 days".

Response:

FEI's statement that vendor reporting timeframes could be longer than up to 180 days is based on FEI's discussions with ILI vendors and other operators. For example, one of FEI's EMAT ILI vendors has indicated that available timeslots for data evaluation start in 2024, despite tool availability at various times throughout 2023. Thus, any run date before July 2023 would have a reporting timeframe longer than 180 days after the tool run.

27. Reference: Exhibit B-18 Rebuttal Evidence p.7

Pressure Reduction on YAH OLI 610

On page 7 of the Rebuttal Evidence, FEI states:

> The use of the existing control valve would restrict pressure on YAH OLI 610 pipeline, unnecessarily reducing the capacity of this pipeline and, ultimately, limiting FEI's ability to deliver its maximum load of 105 MMSCFD to the CTS via the Kingsvale to Oliver 323 pipeline. FEI relies upon the maximum load of 105 MMSCFD as part of the total supply required for the CTS and other communities between Kingsvale and Huntingdon (particularly during winter), as well as to respond to unexpected circumstances in off-peak seasons (e.g., minor supply reductions on the T-South system upstream of Kingsvale). If a pressure reduction were to occur on the YAH OLI 610 pipeline during Winter 2030/31, following the EMAT ILI tool run on the YAH TRA 323 pipeline, FEI would only be able to supply a maximum of 68 MMSCFD to the CTS on a Design Degree Day (i.e., a reduction of 37 MMSCFD in capacity).

27.1 Please confirm whether the ITS is capable of delivering 105 MMSCFD to Kingsvale between April and October with YAH OLI 610 and YAH TRA 323 at 80% of their established operating pressure.

Response:

Confirmed. If the inlet to the YAH TRA 323 and YAH OLI 610 pipelines were set to 80 percent of the established operating pressure of the YAH TRA 323, the YAH OLI 610 pipeline would be capable of delivering 105 MMSCFD to Kingsvale between April and October, when temperatures are warmer than -4°C. However, FEI notes that due to the reduced inlet pressure to the YAH OLI 610 pipeline, it would need to operate the Kitchener Compressor Stations more frequently and with higher horsepower utilization to achieve this delivery. As indicated in A12 of FEI's Rebuttal Evidence, operating these gas-fired compressors more frequently would result in higher O&M costs (comprised of fuel costs and carbon taxes).

27.2 Please confirm whether 105 MMSCFD is required to be supplied to Kingsvale between April and October as part of the gas supply plan.

Response:

The ability to deliver 105 MMSCFD at Kingsvale year-round is part of FEI's Annual Contracting Plan. While the primary purpose of the supply of 105 MMSCFD at Kingsvale is to meet the winter loads on the CTS and Vancouver Island Transmission System (which is fed by the CTS), this

supply also creates flexibility and gives FEI options to meet gas loads required between April and October. For example, Enbridge typically performs maintenance activities on its system during warmer months which can result in parts of Enbridge's T-South system being operated at reduced capacity. Enbridge's T-South System is fed from gas processing plants in northern BC, and spans from these plants to Huntingdon, where gas is fed to the CTS. As such, the ability to deliver gas into the T-South system much further south at Kingsvale provides FEI additional flexibility to meet FEI's gas needs depending on Enbridge's operating conditions.

28. Reference: Exhibit B-18 Rebuttal Evidence p.8

Winter Integrity Digs

On page 8 of the Rebuttal Evidence, FEI states:

> If FEI is required to expose the YAH TRA 323 pipeline for any reason, including to complete integrity digs and/or pipeline repairs resulting from any ILI run, it is standard procedure to temporarily reduce the operating pressure of the pipeline to perform the work safely. Since a pressure reduction also limits pressure on the YAH OLI 610 pipeline, FEI's flexibility to perform work on the YAH TRA 323 pipeline is limited at times by the need for capacity on the YAH OLI 610 pipeline. Having independent pressure control on each line will allow for more flexibility in timing to complete integrity work and improve FEI's ongoing capabilities to collect and respond to integrity data, as well as its ability to resource.

28.1 Please confirm whether FEI has performed integrity digs on the YAH TRA 323 pipeline in the November to March period in the past five years. For the purposes of this request, a dig means the pipeline is exposed during the period November to March (as opposed to a dig occurring in October but the pipeline was re-covered before the end of October while other aspects of the dig are concluded).

28.1.1 If confirmed, please identify the number of digs, the year, and explain why the dig was performed in the winter as compared to waiting until after the winter period.

Response:

Not confirmed. FEI has not performed integrity digs on the YAH TRA 323 pipeline in the November to March period in the past five years.

28.2 Please confirm whether FEI has performed integrity digs on the ITS pipelines in the November to March period in the past five years, using the same definition of a dig as in the prior IR.

28.2.1 If confirmed, please identify the number of digs, the year, and explain why the dig was performed in the winter as compared to waiting until after the winter period.

Response:

Using the same definition of a dig as in RCIA IR3 28.1, FEI confirms that it has performed two integrity digs in the November to March period in the past five years.

Pipeline	Girth Weld	Date of Integrity Dig	Description of Integrity Dig
PEN OLI 273	7840	1-Nov-2018	This integrity dig was performed to repair a metal loss feature reported by a 2018 MFL-A ILI tool run. This feature required excavation in 2018, as opposed to waiting until spring/summer 2019, as this feature met FEI's criterion for repair. Based on the dig findings, FEI confirmed the requirement for the repair and completed it. This particular section of pipeline is looped by the OLI PEN 406 pipeline, and therefore FEI can typically (if weather conditions allow) schedule digs later in the year on the PEN OLI 273 pipeline without impacting its capability to meet customer load.
PEN OLI 273	7820	7-Nov-2018	This integrity dig was performed to assess a metal loss feature reported by the same 2018 MFL-A ILI tool run referred to above. As this dig was approximately 30 m from the dig referred to above, FEI completed the two digs with the same resources to reduce costs and landowner disruption. This particular section of pipeline is looped by the OLI PEN 406 pipeline, and therefore FEI can typically (if weather conditions allow) schedule digs later in the year on the PEN OLI 273 pipeline without impacting its capability to meet customer load.

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29. Reference: Exhibit B-18 Rebuttal Evidence p.16

Heavy Wall Segment at Cherry Creek Crossing

On page 16 of the Rebuttal Evidence, FEI states:

> If severe cracking is identified on the SAV VER 323 pipeline, FEI expects to address the blind spot because it would otherwise be unable to demonstrate that the pipeline in its entirety is safe for operation. Due to the time constraints to complete integrity digs and repairs and restore pressure in this segment of the pipeline, FEI also expects that its only available option would be to expose the impacted pipeline to determine if there is cracking on the segment, and then repair and recoat it so that it could be operated without a pressure reduction. This work would be a significant and impactful undertaking, as the pipeline crosses under the Trans-Canada Highway.

29.1 Please explain whether exposure and recoating is a feasible alternative to addressing a blind spot for the section of pipeline under the Trans- Canada Highway.

Response:

Please refer to the response to BCOAPO IR3 15.1.

29.2 Please explain whether the cost of installing new pipe under Trans- Canada Highway is approximately the same as installing new pipe under Cherry Creek to replace the heavy wall segment. If these options are not approximately the same cost, please indicate which option is expected to be more expensive and explain why.

Response:

As the speed excursion observed with the MFL-C tool impacted more pipe than just the Trans-Canada Highway crossing, FEI interprets RCIA's question as asking FEI to explain whether the cost of installing a new pipe under the Trans-Canada Highway and performing PLE on the remainder of impacted pipe is approximately the same as installing new pipe under Cherry Creek to replace the heavy wall segment.

As provided in the response to BCOAPO IR3 15.1, the estimated range of costs for a PLE option with replacement of the Trans-Canada Highway crossing is $1.7 to $6.8 million, whereas the proposed proactive replacement of the Cherry Creek crossing (Event 1) is $2.4 to $3.4 million.

The base cost estimate of PLE with replacement of the Trans-Canada Highway crossing is more expensive primarily due performing work on a longer length of pipeline (193 metres) as compared to the proactive Cherry Creek heavy-wall replacement (60-80 metres). The cost estimate range variability is influenced by limited information of geotechnical and in-situ conditions, permitting requirements and construction risk.

30. Reference: Exhibit B-18 Rebuttal Evidence p.17; Exhibit C2-6 REL Evidence p.20

Cost of Exposure and Recoating

On page 17 of the Rebuttal Evidence, FEI states:

> As shown in the images below, at Event 29, the MFL-C tool travelled above the typical optimal velocity range (1-3 m/s) for a significant length following the two 2.5 metre segments of heavy-wall pipe, including a section shortly after the second heavy-wall pipe segment where the tool traveled above the typical maximum velocity for data collection (7 m/s), which is well in excess of the typical maximum velocity for EMAT data collection (5 m/s).

In Ryall Engineering Limited's evidence, REL states:

> FEI provided speed traces of prior MFL-C ILIs. These traces show a peak velocity of 7 m/s on SAV VER 323 (identified as Event 1), with velocity above 5 m/s for approximately 200 m; on KIN PRI 323, peak velocity at Event 29 was 7.5 m/s, with velocity above 5 m/s for approximately 110 m while peak velocity was 9 m/s at Event 31, with velocity above 5 m/s for approximately 200 m.32 According to FEI, these speed traces show that the EMAT ILI will operate above its optimal velocity range downstream of the heavy-wall segments, assuming the EMAT ILI tools behave the same as the MFL-C ILI tool.

30.1 Please confirm whether FEI has developed cost estimates for pipeline exposure and recoating of the segments downstream of Events 29 and 31.

30.1.1 If confirmed, please provide the cost of exposure and recoating of the 110 m of pipeline downstream of the heavy wall segment at Event 29.

30.1.2 If confirmed, please provide the cost of exposure and recoating of the 200 m of pipeline downstream of the heavy wall segment at Event 31.

Response:

Please refer to the response to BCOAPO IR3 15.1.

31. Reference: Exhibit B-18 Rebuttal Evidence p.21; Exhibit B-1 Application pp.84,89, Appendix D p.7

Applicability of CTS Pilot EMAT ILIs to ITS

On page 21 of the Rebuttal Evidence, FEI states:

> Third, REL's reliance on how the EMAT ILI tool performed with speed control on part of the pilot project on the CPH BUR 508 is not necessarily indicative of how a tool will perform on the SAV VER 323 and KIN PRI 323 pipelines. While FEI determined that the proactive replacement of these three heavy wall segments was warranted in part based on the results of the pilot project, as explained in A16 above, the particular severity and length of speed excursions that occurred when running MFL-C tools on these pipelines differentiated them from other areas on the ITS where speed excursions have occurred –resulting in a high confidence that data will be lost. Further, ILI tools behave differently between smaller diameters (e.g., NPS 12) and larger diameters (e.g., NPS 20). This is because smaller diameter tools are longer and, therefore, are subject to increased tool friction. In addition, as explained in the responses to CEC IR1 7.2 and RCIA IR1 12.6, the CTS and ITS have fundamentally different characteristics which contribute to differences in tool behavior, which may also lead to different tool performance.

On page 84 of the Application, FEI states:

> As detailed in Appendix D, FEI has undertaken a pilot project in which FEI altered two segments of pipeline in its CTS and successfully ran EMAT ILI tools. This pilot project demonstrates the feasibility of EMAT ILI for FEI's systems and explains how the pilot project informed the scope of the ITS TIMC Project (see p. 5-7 of Appendix D).

On page 89 of the Application, FEI states:

> There are a total of 3 segments on the above-noted two pipelines where alterations are required to replace heavy wall portions of pipe to reduce speed excursions. FEI identified the locations based on a detailed review of historical ILI reports, as-built information, discussions with ILI vendors regarding the pipelines identified in and learnings from the pilot EMAT ILI runs (as further explained in Appendix D).

On page 7 of Appendix D, FEI states:

> Based on observations of EMAT ILI tool behaviour during the pilot project, FEI was able to refine the evaluation criteria used to analyse historical MFL tool data to anticipate EMAT tool behaviour. This allowed FEI to identify and select heavy wall segments with a high probability of causing EMAT tool speed excursions and

include them in the ITS TIMC Project, while also deferring replacement of other heavy wall segments until after reviewing data collected during the first run.

31.1 As FEI appears to now be discounting the applicability of the CTS pilot EMAT ILI project to the ITS EMAT ILIs, please explain how FEI is confident that only three heavy-wall segments out of the 62 identified in Appendix D require removal on the ITS, given the fundamentally different ILI tool characteristics between NPS 20 and NPS 12 pipeline tools which contribute to differences in tool behavior.

Response:

FEI clarifies that the 62 speed excursion events identified in Appendix D to the Application do not include the three events where FEI has proposed to proactively replace heavy-wall segments.

First, contrary to the premise of RCIA's question, FEI is not discounting the applicability of the EMAT ILI pilot project on the CTS to its ITS EMAT ILIs. Rather, FEI has used the results of the pilot project and, in particular, the observation that the same features cause speed excursions in both the MFL-C and EMAT ILI tools, to scope the pipeline alterations proposed in the ITS TIMC Application.

Second, FEI's evidence is not that it is "confident that only three heavy-wall segments…require removal on the ITS", but rather, that given the severity and length of the speed excursions observed at these locations during a previous MFL-C tool run, it has a high confidence that EMAT tool speed excursions will occur at these locations, resulting in unusable data. As such, FEI considers that these three heavy-wall segments warrant proactive removal.

As explained in the response to RCIA IR1 11.2, FEI cannot determine, with the same high confidence, what magnitude of speed excursion will occur at the other 62 locations where previous MFL ILI tool runs exhibited speed excursions. FEI therefore considered it prudent to wait until after the EMAT ILI to determine if mitigation is required. However, if the EMAT tool exhibits a speed excursion during the baseline run at one of these locations, FEI may need to replace the heavy wall piping causing the speed excursion. FEI intends to evaluate the method that will be applied to mitigate cracking threats at these locations on a case-by-case basis to determine the most cost-effective solution.

Ultimately, the scope of the ITS TIMC Project strikes a reasonable balance between proactive asset preparation prior to EMAT tool runs and the potential for requiring reactive work. This balanced approach provides FEI with a reasonable approach for mitigating the risk of pipeline failure due to cracking (e.g., earlier mitigation, through the preferred method) while also mitigating the potential for impacts to customers such as supply interruption and higher costs.

31.2 Considering "smaller diameter tools are longer and, therefore, are subject to increased tool friction" and "the CTS and ITS have fundamentally different characteristics which contribute to differences in tool behavior", please explain why FEI did not conduct a pilot EMAT ILI on an ITS pipeline.

Response:

FEI did not conduct a pilot EMAT ILI on an ITS pipeline for the reasons below.

First, FEI selected pipelines for the pilot project that could be modified to run EMAT ILI tools on a timeline suitable for informing the TIMC projects. For example, FEI anticipated that system-level modifications, such as installation of pipeline loops would be required to allow for necessary flow velocity control and to meet capacity requirements in the event of extended pressure reduced scenarios.[3] Undertaking the envisioned modifications (i.e., pipeline loops), on the ITS would have resulted in undue delays to the TIMC projects.

Second, FEI sought to run commercialized EMAT ILI tools as part of the pilot project. In particular, speed control was not commercialized for pipeline diameters on the ITS at the time of the pilot project, whereas they were available for pipeline diameters on the CTS. As explained in the response to RCIA IR2 18.1, FEI expects EMAT tools for NPS 12 pipelines with speed control to be available by 2026, when the first ITS EMAT ILI runs are scheduled to begin.

Ultimately, FEI confirms that it collected valuable information from the pilot project on the CTS that is applicable to the ITS. For example, FEI confirmed that its prior experience with MFL-C tools provides a reliable indicator of where tool speed changes and that speed excursions will occur during an EMAT ILI tool run. This finding is equally applicable to the CTS and ITS. In fact, due to the expected increased drag forces on smaller diameter ILI tools (due to their longer length), tool speed changes and speed excursions could be an even greater concern in the ITS than it was for the CTS.

[3] Per Section 12.4.1.1 of the 2019 FEI Annual Review of Rates Application.

32. Reference: Exhibit B-18 Rebuttal Evidence pp.15,23; Exhibit B-1
Application Appendix D p.7
Degraded Data Specification

On page 23 of the Rebuttal Evidence, FEI states:

> **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.

On page 15 of the Rebuttal Evidence, FEI states:

> As shown in the images below, the MFL-C tool run at this location travelled above the typical optimal velocity range (1-3 m/s) for a significant length following the heavy-wall Cherry Creek crossing pipe, including a section shortly after heavy-wall crossing where the tool traveled above the typical maximum velocity for data collection (7 m/s).

On page 15 of the Rebuttal Evidence, FEI provides a speed trace for an MFL-C tool in the area of Event 1 that shows the tool speed downstream of the deferred event was in excess of 3 m/s for a distance of at least 330 m, with the trace truncated while the tool was in still in excess of 3 m/s.

On page 7 of Appendix D to the Application, FEI states:

> Table 1 below lists the number of instances where previous MFL ILI tool runs exhibited speed excursions, the length of heavy wall pipe that caused them, and the length of pipe where the quality of data was affected as a result of speed excursions, organized by pipeline. The three speed excursion events driving the three pipeline alterations that are part of the ITS TIMC Project scope are not included in Table 1.

Table 1: Pipeline Alterations Deferred as a Result of the EMAT ILI Pilot Project

Pipeline ID	Approximate length of pipeline (km)	Number of speed excursion events	Approximate length of heavy wall pipeline causing speed excursions (m)	Approximate length of pipe affected by speed excursions[2] (m)
SAV VER 323	143	8	382	383
VER PEN 323	99	3	317	103
GRF TRA 273	60	9	852	640
OLI GRF 273	95	5	70	218
PEN OLI 273	30	3	47	391
KIN PRI 323	67	21	330	817
PRI OLI 323	95	9	257	221
YAH TRA 323	163	4	81	94
Total	**752**	**62**	**2,336**	**2,867**

32.1 Please explain why FEI has confidence that the EMAT tools from vendors without degraded data specifications will be able to provide valid data downstream of other deferred events, such as those listed in Table 1 of Appendix D and specifically the deferred event downstream of Event 1, where the tool speed is expected to be in excess of 3 m/s.

Response:

FEI clarifies that its ITS TIMC EMAT ILI vendor(s) have not been selected at this stage of planning. As such, at this time, FEI cannot be certain whether a degraded data specification will be available when EMAT ILI runs are undertaken. Vendor selection will consider inputs such as:

- The technical capabilities of the vendor and their tools, including tool detection and sizing specifications, speed control capabilities, and availability of a degraded data specification; and
- FEI's preference to limit its exposure to sole-sourcing risk.

FEI is not confident that the EMAT tools from vendors, with or without a degraded data specification, will be able to provide usable data downstream of events where previous MFL ILI tool runs exhibited speed excursions, such as those listed in Table 1 of Appendix D to the Application. Rather, FEI has proposed a reasonable approach that balances the risk-mitigation benefits of proactive asset preparation prior to EMAT tool runs and the potential for requiring reactive work.

With respect to the deferred event downstream of Event 1, where the prior MFL-C tool run incurred a speed excursion in excess of 3 m/s, FEI has previously identified that variability in data degradation can occur between ILI runs.[4] The proactive replacement of the Cherry Creek heavy-

[4] CEC IR1 24.3.

wall crossing is expected to decrease the speed at which the EMAT ILI tool enters Event 1, which may provide lower speeds for the deferred event downstream of Event 1.[5]

[5] BCUC IR2 20.8.