# Enbridge First Supplemental Interim Partial Termination Update Report October 19, 2022, to December 2, 2022

DJ# 90-5-1-1-10099

**January 16, 2023** Enbridge Consent Decree (United States v. Enbridge Energy, Limited Partnership, et al., Case 1:16-cv-914)



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#### Glossary

A listing of many of the acronyms and initialisms in this report

AGM	Above Ground Marker
AIWP	Anchor Inspection Work Plan
AIS	Automated Identification System
ALD	Alternative Leak Detection
ALJ	Administrative Law Judge
AMSTEP	Area Maritime Security Training and Exercise Program
APE	Area of Potential Effect
APP	Agricultural Protection Plan
ART	Alarm Response Team
API	American Petroleum Institute
ATC	American Transmission Company
ALIV	Autonomous Underwater Vehicle
	Automated Volume Balance
	Biota Investigation Work Plan
	Control Contro Operations
COTP	Coast Guard of the Port
COTF	Consent Decree
CCP	Corregion Crowth Pote
COR	Corrosoft Growin Rate
CUS	Community Outreach Session
	Calhodic Protection
CP CIS	Cathodic Protection Close Interval Survey
CRO	
DAS	Distributed Acoustic Sensing
DOC	Department of Commerce
DOJ	Department of Justice
DPR	Discharge Pressure Restriction
DQA	Data Quality Assessment
DQR	Data Quality Review
DSAW	Double Submerged Arc Welded
DWSMAs	Minnesota Department of Drinking Water Supply Management Areas
EA	Engineering Assessment
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EIS	Environmental Impact Statement
EMOP	Established Maximum Operating Pressure
EPA	Environmental Protection Agency
ER	Emergency Response
ESA	Endangered Species Act
ESMOC	Enbridge Straits Maritime Operations Center
eAtoN	Electronic Aids to Navigation
FCC	Federal Communications Commission
FEA	Finite Element Analysis
FHLA	Field Level Hazard Assessment
FLIR	Forward-Looking Infrared
FMP	Fen Management Plan
FdL	Fond du Lac Band of Lake Superior Chippewa
FRT	Field Response Team
FR	Future Report
FRE	Features Requiring Excavation
FWT	Fluid Withdrawal Testing
GW	Girth Weld
HCA	High Consequence Area
HDD	Horizontal Directional Drill
HIVES	Hydrologic Imagery Visualization Enterprise System



ICP	Integrated Contingency Plan
ICS	Incident Command System
ILI	In-Line Inspection
ILIMRR	In-Line Inspection Minimum Reporting Requirements
IMT	Incident Management Team
IPTUR	Interim Partial Termination Update Report
IR	Information Request
ISD	In-service Date
ITP	Independent Third Party
IVP	Intelligent Valve Placement
L3R	US Line 3 Replacement
LDA	Leak Detection Analyst
LDAM	Leak Detection Alarm Management
LDPIP	Leak Detection Project Integration Plan
LEPC	Local Emergency Planning Committee
MAOP	Maximum Allowed Operating Pressure
MBS	Material Balance System
MSCA	Mackinac Straits Corridor Authority
MSEL	Master Scenario Events List
MI	Michigan
MDEQ	Michigan Department of Environmental Quality
MN	Minnesota
MDA	Minnesota Department of Agriculture
MDNR	Minnesota Department of Natural Resources
MFL	Magnetic Flux Leakage
MnDOT	Minnesota Department of Transportation
MOP	Maximum Operating Pressure
MP	Milepost
MPCA	Minnesota Pollution Control Agency
MPUC	Minnesota Public Utilities Commission
MRR	Minimum Reporting Requirement
MSP	Most Severe Point
NA	Not Applicable
ND	North Dakota
NDDH	North Dakota Department of Health
NDE	Non-destructive Examination
NDGF	North Dakota Game and Fish
NDPSC	North Dakota Public Service Commission
NDSWC	North Dakota State Water Commission
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historical Properties
NTSB	National Transportation Safety Board
NWT	Nominal Wall Thickness
OD	Outside Diameter
OSRO	Oil Spill Response Organization
OMM	Operations & Maintenance Manual
PCSLD	Pipeline Control Systems and Leak Detection
PHMSA	Pipeline Hazardous Materials Safety Administration
Р	Paragraph
PI	Pipeline Integrity
PLM	Pipeline Maintenance
PN	Priority Notification
PO	Purchase Order

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PPR	Point Pressure Restriction
PAWSA	Ports and Waterways Safety Assessment
PT	Pressure Transmitter
PR	Pressure Restriction
PAtoN	Private Aids to Navigation
RDS	Rupture Detection System
RFBS	Rupture Flow-based Solution
RNA	Regulated Navigation Area
ROA	Record of Alarms
ROV	Remote Operated Vehicle
RPR	Rupture Pressure Ratio
SAR	Semi-Annual Report
SAW	Submerged Arc Welded
SAWP	Screw Anchor Work Plan
SCADA	Supervisory Control and Data Acquisition
SCC	Stress Crack Corrosion
SHPO	State Historic Preservation Office
SIPTUR1	First Supplemental Interim Partial Termination Update Report
SME	Subject Matter Expert
SML	Subject Matter Lead
SOA	Summary of Alarms
SOC	Security Operations Center
SoM	State of Michigan
SRAHC	Saginaw River All Hazards Committee
SRB	Sulfate Reducing Bacteria
STA	Senior Technical Advisor
TPC	Third Party Consultant
TT	Temperature Transmitter
TTX	Table Top Exercises
US	United States
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
USWM	Ultrasonic Wall Measurement
VAIS	Visual Aids to Navigation
VIR	Verification Issue Record
VCI	Vapor Corrosion Inhibitor
VSR	Verification Status Record
VMRS	Vessel Movement Reporting System
WLOA	Weekly List of Alarms
WMA	Wildlife Management Area
WQC	Water Quality Certification
WT	Wall Thickness



# Introduction

In accordance with Paragraph 204.c of the Seventh Modification, Enbridge<sup>1</sup> submits this Supplemental Interim Partial Termination Update Report (referred to herein as "SIPTUR1" or "Report") in support of Enbridge's request for Partial Termination of the Consent Decree. Paragraph 204.c of the Seventh Modification requires that, following a request for Partial Termination, Enbridge "shall submit a Supplemental Partial Termination Report every 90 days following submission of the request for Partial Termination ..." Enbridge submitted its request for Partial Termination on October 18, 2022. In accordance with Paragraph 204.c, this SIPTUR1 documents Enbridge's compliance with the Consent Decree for the 45-day reporting period from October 19, 2022, to December 2, 2022. This SIPTUR1 is being served in accordance with Section XVI of the Consent Decree (Notices), and a copy is being supplied to the Independent Third Party (also referred to herein as the "ITP").

This SIPTUR1 is organized by Paragraph and Subparagraph number of the Consent Decree. The SIPTUR1 supplements the Partial Termination Report ("PTR") that was submitted to the United States and ITP on October 18, 2022, and the IPTUR that was submitted on October 27, 2022. It does not address Enbridge's compliance with Consent Decree obligations that, in accordance with Paragraph 204.a of the Seventh Modification, are not subject to Partial Termination; Enbridge's compliance with such requirements is documented in SAR11.

In accordance with Paragraph 144, this SIPTUR1 provides information that is required to be submitted to the United States under Paragraphs 29, 31, 49, 96, and Subparagraph 110.c over the 90-day covered period. In accordance with Paragraph 144, this SIPTUR1 also discusses updates since Enbridge's submission of the IPTUR, on a Paragraph-by-Paragraph basis. Enbridge has reported specific activities encountered during this 90-day reporting period in Paragraph 144 of this Report, where there were problems encountered or anticipated in implementing the requirement (together with implemented or proposed solutions).

Enbridge is compliant with the Consent Decree requirements unless otherwise stated in the applicable section of the Report, and includes the information and analysis required by Paragraph 145. Discharge information and post-incident reports required by Paragraphs 146 and 148 also are set forth in this SIPTUR1.

Enbridge has also enclosed appendices to this SIPTUR1, which provide supporting tables, further information on Enbridge's compliance with the Consent Decree, and/or documents that are required to be submitted to the United States under Section IX. The Table of Contents identifies each of these appendices.

# **VII. Injunctive Measures**

# Section A – Original US Line 6B

21. [Original US Line 6B]

No change since the IPTUR.

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<sup>&</sup>lt;sup>1</sup> As used herein, "Enbridge" refers to the following entities: Enbridge Energy, L.P., Enbridge Pipelines (Lakehead) L.L.C., Enbridge Energy Partners, L.P., Enbridge Energy Management, L.L.C., Enbridge Energy Company, Inc., Enbridge Employee Services, Inc., Enbridge Operational Services, Inc., Enbridge Pipelines Inc., and Enbridge Employee Services Canada Inc.



# Section B – Replacement of Line 3; Evaluation of Replacement of Line 10

#### 22.a, c-d [Replacement of Line 3 in the United States]

Paragraph 22.b is not subject to Partial Termination and is therefore addressed in SAR11.

Enbridge has continued to report to the ITP the maximum pressure compared to the maximum allowable pressure on Original US Line 3 Section 1 until the final cleanout on August 29, 2022. This completes the requirements of Paragraph 22.c.

There has been no change to Enbridge's compliance with Paragraph 22.a since the IPTUR. With respect to 22.d, Enbridge's compliance is demonstrated by SAR1-SAR10 and the IPTUR. There has been no change to Enbridge's compliance with Paragraph 22.d since the IPTUR.

#### 22.e [Prohibition Regarding the Use of Original US Line 3 Following Replacement]

Original US Line 3 operated through October 1, 2021, when purging operations commenced. As reported in Subparagraph 22.d, the purge was completed on November 3, 2021. Since November 3, 2021, Original US Line 3 has not been used for any operations, including to transport oil, gas, diluent or any hazardous substances.

Additionally, the following Original US Line 3 station isolations were completed prior to or in this reporting period:

- Cass Lake Pump Station September 21, 2022
- Floodwood Pump Station October 12, 2022
- Deer River Pump Station October 18, 2022
- Donaldson Pump Station October 25, 2022
- Plummer Pump Station October 31, 2022
- Viking Pump Station November 1, 2022

#### 23 [Line 10 Replacement Evaluation]

No change since the IPTUR.

# **Section C – Hydrostatic Pressure Testing**

Since the Effective Date of the Consent Decree, Enbridge has not conducted any other hydrostatic pressure tests that were "pursuant to the CD," other than the hydrostatic pressure test of the Line 5 Dual Pipelines. With respect to Enbridge's compliance with Paragraph 26, Enbridge's compliance is demonstrated by SAR2-SAR10 and the IPTUR. There has been no change to Enbridge's compliance with Paragraph 26 since the IPTUR.



# Section D – In-Line Inspection Based Spill Prevention Program

#### (I) In-Line Inspections

#### 27 [Timely Identification and Evaluation of All Features]

Enbridge's implementation of the requirements of Subsection VII.D.(I) (Paragraphs 27 to 31) for the timely identification and evaluation of features of significance is set forth in the paragraphs that follow. Enbridge continues to implement the requirements for geometry, corrosion and axial cracking features. Circumferential cracking issues are not included in the SIPTUR1 as they are not subject to partial termination.

#### 28.a-b [Periodic In-Line Inspections and ILI Schedule]

A complete list of in-line inspection (ILI) programs conducted by Enbridge to identify features of interest for the pipelines in the Lakehead System, during the reporting period for this SIPTUR1 is provided in **Table D-1**.

Enbridge conducts ILIs on Lakehead System Pipelines using tools identified on the Enbridge Approved ILI Tool List which was submitted to the ITP. All ILIs that Enbridge believes are currently required under Paragraphs 65 and 66 of the Consent Decree for all Lakehead System Pipelines have been completed for this reporting period. Those ILIs required to detect crack features on Line 2 were addressed in the "Stipulation and Agreement Regarding Assessment and Payment of Stipulated Penalties Relating to Timeliness of Certain In-Line Inspection" which was filed with the Court on May 2, 2018 (referred to herein as the "ILI Stipulation"). This was reported on in previous SARs.

Refer to **Table IX-1** in P. 144 Problems Anticipated in Appendix 1 for circumferential cracking details and the Paragraph 144 discussion regarding cracking: [Section D] Circumferential Cracking Engineering Assessment Process – Various Paragraphs.

#### 28.c [Incomplete or Invalid ILI]

Enbridge's contracts with vendors that are retained to conduct ILIs on the Lakehead System reference the In-Line Inspection Minimum Reporting Requirements, ("ILIMRR" version 8.3, version date March 1, 2020). This was updated from the previous version which was issued to all approved ILI vendors prior to the Consent Decree Effective Date. The requirements that vendors must submit Data Quality Assessments ("DQA") according to the deadlines specified in the Consent Decree are specified in the ILIMRR. The ILIMRR is incorporated into the ILI vendors' overall contracts with Enbridge. In addition to the ILIMRR, ILI vendor contracts stipulate that all work under the contract is completed in accordance with the terms and conditions of the Consent Decree, and each ILI is contracted through Enbridge's contract Work Order Process.

In addition, Enbridge Lakehead System work order contracts, including those concerning ILIs, contained and continue to contain the following stipulating language:

"The following are specifically made part of this Work Order Contract and all work shall be performed in accordance with the following: Company's Consent Decree in United States of America v. Enbridge Energy, Limited Partnership, et al., Case No. 1:16-CV-914, available at:

#### https://www.epa.gov/sites/production/files/2017-06/documents/enbridgeentered-cd\_0.pdf.

There were no incomplete or invalid ILI runs in this reporting period.

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#### 29 [12-Month ILI Schedule]

**Table D-4** outlines changes to the 12-month Lakehead ILI schedule provided in SAR10, which covers the reporting period up to May 22, 2023.

#### 30 [ILI Schedule Modification]

ILIs have been performed by Enbridge, as shown **Table D-1**.

**Table D-4** outlines changes to the 12-month Lakehead ILI schedule provided in SAR10, which covers the reporting period up to May 22, 2023. All schedule changes associated with the ILIs are planned to be completed as per the re-inspection interval requirements in Paragraphs 65, 66 and 70 of the Consent Decree and the ILI Stipulation agreed to by EPA and Enbridge and filed with the Court on May 2, 2018. The modified schedule was communicated to the ITP and EPA during monthly technical meetings, or through email.

#### 31 [ILI Compliance with Tool Specifications]

Enbridge reviewed the vendor-provided Data Quality Assessment ("DQA") reports for each ILI performed and compared the reports against vendor tool specifications and other relevant information. There were no incomplete or invalid ILIs in this reporting period.

There were no ILIs that operated outside of the tool specifications. Tool performance details are available in the Initial ILI Reports and ILI Summary Documents.

#### (II) Review of ILI Data

#### 32.a-c [Initial ILI Reports for Crack, Corrosion and Geometric Features Received]

**Table D-7** lists valid ILI tool runs for which the Initial ILI Reports were received during this Reporting Period. All Initial ILI Reports were received in accordance with the timelines outlined in Paragraph 32.a through c.

#### 33 [Priority Features]

#### 33.a [Immediate Priority Feature Notification Requirements]

Enbridge contracts require that vendors notify Enbridge of Priority Features as specified in Subparagraphs 33.a and 33.b<sup>2</sup>.

The immediate priority feature notification requirements are documented in the ILI MRR, which forms part of all Enbridge contracts with vendors, as described above in Subparagraph 28.c.

#### 33.b [Priority Feature Definition]

Reporting criteria for what are deemed as Priority Features are outlined in the ILIMRR which is a contractual obligation for all ILI vendors (**Table D-8**). The ILI Reporting Profile Standard has been provided to the ITP for compliance verification activities and specifies the following priority notification reporting criteria, which

<sup>&</sup>lt;sup>2</sup> Enbridge has not applied Consent Decree Priority Notification requirements to circumferential cracking features and has not applied Appendix B to evaluate circumferential crack features as it is not suitable for such features.



are consistent with Appendix A of the Consent Decree and Exhibit 1 – Fifth Modification of the Consent Decree:

- 1. Features that the ILI Vendor may consider to be an immediate threat to the integrity of the pipeline.
- 2. Ovalities greater or equal than 10 percent of the outside diameter ("OD") of the pipe.
- 3. Dent or geometric features (other than ovalities) greater than or equal to 5 percent of the outside diameter ("OD") of the pipe.
- 4. Metal loss features with peak depth greater than or equal to 75 percent of the nominal wall thickness of the pipe.
- 5. Metal loss features forecasted to reach a maximum depth of greater than or equal to 75 percent of nominal wall thickness with 365 calendar days.
- 6. Metal loss features with an effective area RPR less than or equal to 0.85.
- 7. Unmatched metal loss features with a depth greater than or equal to 50 percent of the nominal wall thickness or actual wall thickness.
- 8. Crack features that meet or exceed the saturation limit of the crack detection tool.
- 9. Crack features greater than or equal to 2.5 mm/0.098 inch detected on the internal and external pipe surface at the same location.
- 10. Priority notification criteria specifically identified in a project work order. For example, the ILIMRR specifies Priority Notification Criteria for Ovalities, Wrinkles or Ovalities associated with Dents with a minimum ID less than or equal to the values shown in ILIMRR Table 5. The appropriate application of Appendix A with regards to ovality features has been incorporated into the Fifth Modification of the Consent Decree. For the purposes of this reporting period, Enbridge has applied the Priority Notification Criteria for ovalities as per the Fifth Modification requirements. Refer to Table D-8 for Enbridge's Priority Notification Criteria for Ovalities and other Deformation Features.

Upon receiving notice of any Priority Feature, Enbridge determines whether the feature was correctly identified and whether the feature was previously repaired or mitigated. After making such a determination, Enbridge then determines whether any Priority Feature is a Feature Requiring Excavation ("FRE") in accordance with Section VII.D(III) of the Consent Decree. There were no Priority Features that Enbridge determined to be FREs during this reporting period.

#### 33.c-d [Priority Feature Review and Mitigation if Required]

There were no Priority Features that Enbridge determined to be FREs during this reporting period.

#### 34, 34.a[Data Quality Review - Preliminary Review of Initial ILI Report]

Initial ILI reports that were received and reviewed during this Reporting Period are reported in **Table D-10**. This table provides a comparison of the Data Quality Review ("DQR") timeline and the requirements in Subparagraph 34.a of the Consent Decree.

#### 34.b [Evaluation of Features Requiring Excavation]

For ILI runs for which no data quality concerns were identified, Enbridge proceeded to evaluate the pipeline segments and/or features against the requirements in Subsection VII.D.(III) of the Consent Decree. Paragraph 37 of this SIPTUR1 identifies the timelines when FREs were identified and placed onto the Dig List during this SIPTUR1 reporting period.

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#### 34.c [Resolution of Identified Data Quality Issues]

Enbridge identified quality concerns during its preliminary review of some Initial ILI Reports (**Table D-11**). Enbridge completed evaluations required to resolve all identified data quality concerns. Details regarding data quality issues are reported below.

#### Line 4 CR-CS UM Corrosion (Tool Run ID 10888)

During the inspection, potential tool stoppages occurred, and a skid was tilted resulting in 5 wall thickness sensors with changes in the stand-off and reduced signal quality. This did not affect the tool's performance nor data quality, based on ILI vendor review.

#### 34.d [ILI Data Quality Evaluation Timelines]

As outlined in the CD, all ILI data quality evaluations must be completed within 180 Days after the ILI tool is removed from the pipeline at the conclusion of any ILI investigation. As outlined in **Table D-12**, Enbridge completed all data reviews within 180 days.

#### 34.e [Discrepancies between Two Successive ILI Runs]

Inspections with significant discrepancies in either feature population, severity, or type related to the previous assessment of the line segment were identified during Enbridge's preliminary review of the initial ILI Reports and are reported in **Table D-13**. Enbridge conducted investigations to evaluate the accuracy and reliability of the data discrepancies for use in integrity assessments. Details of these discrepancies are reported below.

#### Line 4 FW-WR UCM Crack (Tool Run ID 10895)

There was a change in feature density when compared to the 2017 UCM inspection. A number of crack-fields were reclassified as metal loss or surface geometry anomalies based on the 2022 UM data or were verified as being grinded. Crack-like count variations were due to an update in classification criteria since 2017, resulting in some features reclassified as inclusions. 773 features were reported as crack-field or crack-like features in 2017 but were reclassified as non-reportable features in 2022.

#### Line 5 BC-RW MFL4 Corrosion (Tool Run ID 10904)

There was a significant decrease in the metal loss feature population and an increase of manufacturing defects identified when compared to the 2017 Gemini inspection. Most of the changes are for features below 20% depth. The change in feature population can be attributed to the differing tool specifications and algorithms between the MFL4 and Gemini tools.

#### Line 5 BC-RW MFL4 Geometry (Tool Run ID 10904)

There was an increase in geometric anomalies when compared to the 2017 MFL4 inspection. Most of the changes are for geometrics features with depths less than 1% and can be attributed to differences in tool detection tolerance.

There was a change in geometry feature severity when compared to the 2017 MFL4 inspection. This can be attributed to the rebounding and re-rounding of dents due to pipe pressure fluctuations or pipe repairs since the last 2017 MFL4 inspection.



#### Line 5 MA-BC UCx Crack (Tool Run ID 10907)

There was a significant increase in the feature population when compared to the 2019 UCx inspection. The largest change in density is in the 1-2mm depth range, which is on the lower end of the detection limit and can be attributed to differences in tool detection tolerance.

#### Line 5 PE-IR UCx Crack (Tool Run ID 10909)

There was a significant increase in the feature population when compared to the 2017 CD+ inspection. The largest change in density is in the 1-2mm depth range, which is on the lower end of the detection limit and can be attributed to differences in tool detection tolerance and tool specification changes between the 2017 CD+ tool and the 2022 UCx tool.

#### Line 6A AM-GT UCx Crack (Tool Run ID 11053)

There was an increase in the feature populations when compared to the 2019 DuoCD inspection. This was primarily attributed to differences in ILI tool detection thresholds and tolerances between the UCx and DuoCD tools.

#### 34.f-g [Investigative Digs]

There were no Investigative Dig Programs issued during this reporting period.

#### (III) Identification of Features Requiring Excavation

#### 35 [Evaluation of Each Feature in Initial ILI Report for Feature Requiring Excavation]

Following each ILI tool run, Enbridge evaluated each feature identified in the Initial ILI Report to determine if the feature was an FRE.

#### 36 [Feature Requiring Excavation Definition]

With respect to crack and corrosion features, Enbridge applies three methods to identify an FRE:

- Enbridge estimates the lowest pressure at which the feature is predicted to rupture or leak (i.e., Predicted Burst Pressure) using the procedures set forth in Subsection VII.D.(IV) of the Consent Decree.
- 2. Enbridge estimates the amount of time remaining until the feature is predicted to rupture or leak (i.e., Remaining Life) using the procedures set forth in Subsection VII.D.(VI) of the Consent Decree.
- Enbridge considers other unique characteristics of a feature using the criteria set forth in Subsection VII.D.(V) of the Consent Decree. The records of these methods being applied are in the Assessment Sheets for each ILI tool run as well as Program Summary Documents and other detailed documentation which the ITP has access to.

With respect to Geometric and Intersecting or Interacting features, Enbridge applied the Fifth Modification analysis process to identify FREs and to set pressure restrictions for these features. Refer to Section IX Implementation of Fifth Modification of the Consent Decree for Geometric and Intersecting or Interacting Features for more details.



#### 37 [Deadlines for Adding Features Requiring Excavation on the Dig List]

Following each successful Consent Decree ILI tool run, Enbridge identified all crack, corrosion, and geometric features detected by the ILI tool runs that are FREs. Enbridge added such features to an electronic list of features scheduled for excavation and repair or mitigation (i.e. Dig List) in accordance with the schedule outlined in Paragraph 37 of the Consent Decree. This listing does not include features that EPA/ITP may consider FREs due to differing interpretations of Consent Decree provisions such as those relating to circumferential crack features.

All FREs identified based on their Predicted Burst Pressure or their Remaining Life were added to the Dig List within 5 days of calculating the Predicted Burst Pressure and the Remaining Life of the features in accordance with Subsection VII.D.(IV) of the Consent Decree.

All FREs identified based on interacting or intersecting criteria were added to the Dig List within 5 days of completing the preliminary review of the initial ILI reports, in all cases where the preliminary review did not identify any data quality concerns related to the feature.

**Table D-14** provides a list of the FREs that were identified during the reporting period of this SIPTUR1. ILI tool runs that did not identify any FREs are excluded from this table.

#### 37.a-e. [Sixth Modification – Re-evaluation of Certain Features Based on Updated Wall Thickness]

Paragraph 37.a-e Sixth Modification – Re-evaluation of Certain Features Based on Updated Wall Thickness is complete as reported in SAR10.

#### 38 [Establishing Excavation and Repair Deadlines for FRE's]

Enbridge has complied with the requirements of Paragraph 38, as set forth in the Subparagraphs below.

#### 38.a [Excavation and Repair Deadlines]

For each FRE placed on the Dig List, Enbridge established excavation and repair deadlines that accounted for the level of threat posed by the feature and that complied with the dig criteria deadlines specified in Subsection VII.D.(V) of the Consent Decree. If a feature met more than one dig-selection criteria, Enbridge set the excavation and repair deadline in accordance with the shortest applicable timetable set forth in Subsection VII.D.(V) of the Consent Decree.

#### 38.b [Establish Pressure Restrictions if Required]

All pressure restrictions (PRs) required for FREs are established pursuant to Subsection VII.D.(V) of the Consent Decree.

In cases where an FRE is subject to more than one PR under Subsection VII.D.(V) of the Consent Decree; Enbridge established the PR that results in the lowest operating pressure at the location of the feature.

The "Point Pressure Restriction (PPR) values" requirements were satisfied by implementing operating limits that use a combination of discharge and suction limits to manage pressures. These operating limits maintain pressures to a level that assured compliance with the PPR value at the location of the feature.

During the SAR6 reporting period, and at the request of the ITP, Enbridge started providing a monthly summary of implemented Consent Decree PPRs and the maximum pressure achieved during each month at PPR locations. During the SAR8 reporting period, Enbridge provided the ITP with access to a PowerBI report that allows the ITP to generate their own PPR reports. Consequently, Enbridge ceased providing a monthly PPR report as it was no longer required. Consent Decree PPRs include all PPRs based on

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Consent Decree requirements and does not include other PPRs set by Enbridge or other regulatory bodies. This update is provided at the Pipeline Control Systems and Leak Detection/Control Centre Operations ("PCSLD/CCO") monthly technical meetings.

#### 39.a-b [Field Measurements of Excavated Features]

During the reporting period of this SIPTUR1, Enbridge followed its processes to excavate and repair or mitigate and record field measurements for all crack and geometry features, and all corrosion features with depths greater than 10% wall thickness in accordance with Subsection VII.D.(V) of the Consent Decree. Ten percent (10%) is the general corrosion ILI tool detection depth threshold.

During excavations for FREs and any additional segments of pipeline, including investigative digs pursuant to Subparagraph 34.e of the Consent Decree, Enbridge obtained and recorded field measurements of all applicable features on the excavated segments and these were stored in OneSource as per Paragraph 77. All approved Non-destructive examination ("NDE") reports were uploaded to the Enbridge Shared Drive for ITP access.

During the reporting period of this SIPTUR1, Enbridge did not discover any pipe segments that contained a high volume of unreported features as denoted in the Consent Decree. Hence, the requirements of Subparagraph 39.a are not applicable for this SIPTUR1.

During this SIPTUR1 reporting period, the FREs repaired and planned for repair are listed in **Table D-15**.

#### 40 [Field Data Comparison to ILI Data]

There were no ILI programs with the associated Consent Decree digs completed within the reporting period for this SIPTUR1.

Within 30 Days after completing excavation of all Features Requiring Excavation identified on a pipeline based on any Initial ILI Report, Enbridge completed an analysis of field data obtained during all excavations conducted and determined whether field data indicated that the ILI tool tended to understate the actual severity of features on the excavated sections of the pipeline ("ILI tool depth bias").

Enbridge, the EPA and the ITP have discussed refinements to when excavations of FREs would be deemed "completed." Enbridge and the ITP have provided an interpretation document to provide clarity around this issue and are awaiting further comments or concurrence from the EPA on this issue.

#### 41 [ILI Electronic Records]

For each ILI investigation conducted during this reporting period, Enbridge maintained electronic records relating to ILI data, including but not limited to all 14 categories of information listed in Paragraph 41 of the Consent Decree. Enbridge procedures require that such ILI data records be maintained for at least 5 years after termination of the Consent Decree.

#### (IV) Predicted Burst Pressure/Fitness for Service

#### 42 [Predicted Burst Pressure]

Enbridge calculated the Predicted Burst Pressure of all crack<sup>3</sup> and corrosion features identified by ILI tools, in accordance with the requirements of Subsection VII.D.(IV) of the Consent Decree.

# <sup>3</sup> Enbridge has not applied Appendix B to evaluate circumferential crack features as it is not suitable for such features.

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#### 43 [Predicted Burst Pressure Definition]

Enbridge calculated the Predicted Burst Pressure of ILI features in accordance with the inputs and procedures in Appendix B of the Consent Decree<sup>3</sup>. Enbridge calculated the Predicted Burst Pressure of NDE features, as described in SAR5 Paragraph 144 [Section D] crack and corrosion Field Burst Pressure Calculations per Appendix B in the Consent Decree – Paragraph 43.

The ILI Assessment Sheets document all ILI feature Burst Pressure calculations, including the methodology and all the inputs as stated above.

#### 44.a-b [Initial Predicted Burst Pressure Calculations and Initial Remaining Life Calculations]

**Table D-17** summarizes the timelines for completing initial Predicted Burst Pressure calculations and initial Remaining Life calculations for all crack<sup>4</sup> or corrosion features identified in reports that were received within the reporting period. Refer to **Table D-7** under Paragraph 32.a-c for a list of all valid ILI runs with reports received within the reporting period.

As shown in **Table D-17**, all calculations for features were completed no later than the earlier of either: (1) eight weeks after completing data quality review with respect to the feature and/or pipeline section where the feature is located; or (2) 175 Days after the ILI tool was removed from the pipeline at the conclusion of the ILI run.

#### 45 [Retention of Electronic Records]

Enbridge maintains electronic records documenting all Predicted Burst Pressure calculations, and all Remaining Life calculations, including inputs and dates the calculations were completed with respect to features, and will continue to do so until five years after termination of the Consent Decree.

#### (V) Dig Selection Criteria

#### 46.a-d [Dig Selection Criteria]

Where Enbridge has identified features meeting dig selection criteria, it has within set timeframes, excavated, and repaired or mitigated such features in accordance with Tables 1 through 5 of the Consent Decree. A summary of each dig and the related timeframes are provided in **Table D-18**. There were no cancelled digs in this reporting period. However, Enbridge did identify a limited data quality issue related to ILIs for Line 6A AM-GT 2022 USWM. This lead to the removal of two features from the dig list that should not have originally been listed. In addition, these two digs were outside the reporting period. The feature IDs are 067 – 002415 and 178 – 000634.

During each excavation required under this Paragraph, Enbridge inspected all excavated portions of the pipeline and collected field measurements of features on excavated portions of the pipeline. Enbridge determined, based on an analysis of field measurement values of feature length and depth and other relevant field observations, whether excavated portions of the pipeline contained any additional features not previously identified on the Dig List that satisfy one or more of the dig selection criteria.

At the time of excavation, Enbridge repaired or mitigated the features based on an analysis of field measurement values for feature length and depth or other field observations, regardless of whether the feature was placed on the Dig List based on an analysis of ILI-reported values for feature length and depth.

Where applicable, Enbridge established pressure restriction requirements and imposed PPRs in accordance with Consent Decree requirements as summarized in **Table D-20**. Note that when the imposition deadline of a PPR was a weekend or United States Federal holiday, the deadline was moved to

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the following business day in accordance with the definition of Day in Paragraph 10(m) of the Consent Decree.

#### 46.e [Alternate Plans and Alternate Interim Pressure Restrictions]

Enbridge submitted four new Alternate Plan ("AP") during the reporting period. The total number of Alternate Plans and Alternate Interim Pressure Restrictions submitted since the Effective Date of the Consent Decree to the end of this SIPTUR1 reporting period are provided in **Table D-21**.

#### 46.f [Saturated Signal Crack Feature]

Enbridge did not submit any APs during the reporting period relating to an alternate timetable for excavation and repair.

#### 46.g [Alternate Plans and Alternate Interim Pressure Restrictions]

Enbridge submitted four Alternate Plans with an alternate interim pressure restriction during the reporting period with the details in **Table D-22**.

#### 46.h [Alternate Plans and Temporary Pressure Restrictions]

Alternate Interim Pressure Restrictions were imposed in accordance with the details in Table D-22.

#### 46.i. [Compliance with applicable laws and regulations]

Enbridge submitted four new Alternate Plans during the reporting period. During the implementation, Enbridge complied with applicable laws and regulations.

#### 46.j [Alternate Plans and Alternate Pressure Restrictions Implementation]

Enbridge has implemented Alternate Plans and alternate interim pressure restrictions as set forth in the applicable notification submitted pursuant to Paragraph 46.g.(2).

#### 46.k [Documentation Maintenance]

Enbridge has maintained all documentation relating to the selection and implementation of the Alternate Plans. Enbridge is prepared to make such documents available to EPA upon request, consistent with the requirements of Section X (Information Collection and Retention). Information is being retained in an internal repository in conformance with this requirement.

#### 46.I [Updates of Alternate Plans and Alternate Pressure Restrictions]

No updates were sent to the EPA during the reporting period.

#### 47 [Dig-Selection Criteria and Pressure Restriction Requirements for Crack Features]

Enbridge has set schedules for the excavation and repair or mitigation of each crack feature that meets one (or more) of the Dig Selection Criteria set forth in Table 1 of the Consent Decree, in accordance with the timeframes specified in column 2 of Table 1, and the PR requirements specified in column 3 of Table 1 of the Consent Decree. During the reporting period no crack FREs were identified and no PPRs for crack features were implemented.

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Enbridge also issued dig packages to excavate and repair or mitigate crack features that intersected or interacted with corrosion features, dents, or other Geometric features, and established appropriate pressure restrictions for such interacting features, as per Table 5 and Paragraph 59 of the Consent Decree, and associated Modifications to the Consent Decree<sup>4</sup>. For more information about these interacting features, see Paragraph 59 in this SIPTUR1.

Enbridge and the ITP have identified a difference in interpretation regarding the incorporation of circumferential cracking within the CD. Enbridge has also identified difficulties encountered, from a technical perspective, of applying the Consent Decree as written to circumferential cracking features. Enbridge, the EPA, and the ITP continue to discuss ways to resolve this challenge and this item is included in **Table IX-1** in Paragraph 144 Problems Anticipated in Appendix 1.

#### 48 [Crack Feature Mitigation Timelines]

During this reporting period, Enbridge determined the deadline for each feature repair / mitigation as the shortest deadline specified in Tables 1, 3, or 5 of the Consent Decree, and Enbridge established the lowest operating pressure at the location of the feature which is subject to more than one pressure restriction.

#### 49 [Dig Timeline Extensions]

During this reporting period, no dig deadline was extended beyond 180 days due to seasonal considerations or unusual circumstances as per CD Paragraph 49.a.

#### 50 [Corrosion Features]

Enbridge has set schedules for the excavation and repair or mitigation of each corrosion feature that meets one (or more) of the Dig Selection Criteria set forth in Table 2 of the Consent Decree, in accordance with the timeframes specified in column 2 of Table 2 for corrosion features located in any HCA, and the timeframes specified in column 3 of Table 2 for corrosion features not located within an HCA. The corrosion features that meet the above criteria are summarized in **Table D-26** and the associated PPRs are listed in **Table D-27**.

Enbridge also issued dig packages to excavate and repair or mitigate corrosion features that intersect or interact with crack features, dents, or other Geometric features, and established appropriate pressure restrictions for such interacting features, as provided in Table 5 and Paragraph 59 of the Fifth Modification of the Consent Decree.<sup>5</sup> For more information about these interacting features, see Paragraph 59 in this SIPTUR1. These features are not included in **Table D-26**.

#### 51 [Corrosion Feature Mitigation Timelines]

During this reporting period, Enbridge determined the deadline for each feature repair / mitigation as the shortest deadline specified in Tables 2, 3, or 5 of the Consent Decree, and Enbridge established the lowest operating pressure at the location of the feature which is subject to more than one pressure restriction.

#### 52 [Corrosion Feature Pressure Restrictions]

Enbridge established PRs within the timeframes identified in Paragraph 51 Table 2 of the Consent Decree and specified in Subparagraphs 52.a and 52.b (i.e., within 2 days after determining that any corrosion

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<sup>&</sup>lt;sup>4</sup> Enbridge does not interpret the CD to cover interacting or intersecting circumferential crack features.

<sup>&</sup>lt;sup>5</sup> Enbridge does not interpret the Consent Decree to cover interacting or intersecting circumferential crack features.



feature had a depth greater than 80 percent of the wall thickness of the joint where the feature is located, or within 2 days after determining that any feature had a RPR less than 1.00 or a Predicted Burst Pressure that is less than 1.39 x MOP).

**Table D-27** lists the PRs imposed due to these criteria in this reporting period of the SIPTUR1. Note that where the imposition deadline for PPRs was on a weekend or United States Federal holiday, the imposition deadlines were moved to the following business day in accordance with the Definition of Day in Paragraph 10.m of the Consent Decree.

# 53 [Dig Selection Criteria for Axial Slotting, Axial Grooving, Selective Seam Corrosion and Seam Weld Anomaly A/B Features]

During this reporting period, there were no Axial Slotting, Axial Grooving and Selective Seam Corrosion, or Weld Anomaly A/B FREs identified.

# 54 [Pressure Restrictions for Axial Slotting, Axial Grooving, Selective Seam Corrosion and Seam Weld Anomaly A/B Features]

There were no Pressure Restrictions required as a result of Axial Slotting, Axial Grooving, Selective Seam Corrosion features or Seam Weld anomaly A/B features in accordance with Table 3 of the Consent Decree.

#### 55 [Dig Selection Criteria for Dents and other Geometric Features]

Enbridge excavated and repaired or mitigated each dent that met one or more of the Dig Selection Criteria set forth in Table 4 of the Fifth Modification and established pressure restrictions for identified interacting dents as provided in Paragraph 57.<sup>7</sup> Enbridge met the timeframes specified in column 2 of Table 4 of the Consent Decree for features located within an HCA, or timeframes specified in column 3 of Table 4 in the Consent Decree for features not located within an HCA, where applicable.

#### 56 [Dent and other Geometric Feature Mitigation Timelines]

Enbridge determined the deadline of a geometry feature repair or mitigation as the shortest deadline. The same process provides that Enbridge will establish the PR resulting in the lowest operating pressure at the location of the feature that was subject to more than one pressure restriction. There were no features of this type reported during this reporting period.

#### 57 [Dent and other Geometric Feature Pressure Restrictions]

Enbridge established PRs for dents within the timeframes identified in Paragraph 57 of the Consent Decree.

#### 58 [Dig Selection Criteria for Interacting Features]

Within 30 days after receiving any Initial ILI Report, Enbridge reviewed OneSource (i.e. the integrated database specified under Paragraph 74 of this SIPTUR1) for the purpose of determining whether any feature reported by the ILI tool intersected or interacted with a feature of a different feature type that was detected during a previous ILI Tool Run but not repaired or mitigated.<sup>6</sup> Interacting features are reported in **Table D-31**.

# <sup>6</sup> Enbridge does not interpret the Consent Decree to cover interacting or intersecting circumferential crack features.

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Enbridge, the ITP, EPA and DOJ negotiated the Fifth Modification of the Consent Decree to resolve differences in interpretation in regard to this Paragraph. Consistent with the Fifth Modification, Enbridge has requested that ILI vendors report all deformations down to the tool tolerance of the geometric ILI tool.

#### 59 [Pressure Restrictions for Interacting Features]

Except when described in the discussion of Paragraph 46 above, Enbridge established the PRs within the timeframes identified in Table 5 and specified in Subparagraphs 59.a and 59.b of the Fifth Modification of the Consent Decree for each interacting feature identified during the period of this SIPTUR1. Within two days after determining that any intersecting or interacting crack, and/or corrosion feature had a Predicted Burst Pressure that is less than 1.25x Established MOP, Enbridge limits operating pressure at the location of the feature to not more than 80 percent of the Predicted Burst Pressure. PPRs for interacting features are reported in **Table D-32**.

#### (VI) Remaining Life Determinations/Re-inspection Intervals

#### 60 [Remaining Life]

Enbridge completed the Remaining Life calculation for all detected crack and corrosion features that did not meet any of the dig selection criteria. These calculations are in the ILI Assessment Sheets. As reported in Paragraph 44.a-b of this SIPTUR1, all Remaining Life calculations were completed no later than the earlier of either: (1) eight weeks after completing data quality review with respect to the feature and/or pipeline section where the feature is located; or (2) 175 Days after the ILI tool was removed from the pipeline at the conclusion of the ILI run. **Table D-33** summarizes the remaining life calculations completed during this reporting period.

#### 61 [Remaining Life Calculations]

Paragraph 61 provides instances where the remaining life does not need to be calculated for a feature. Pursuant to Paragraph 61, Enbridge does not always calculate the remaining life for repaired or mitigated crack features. Enbridge does not utilize the other exception criteria provided in Paragraph 61.

#### 62 [Operating Pressure Used when Determining the Remaining Life of Crack Features]

Enbridge monitors and records the actual operating pressures of pipeline segments for each month to be used in the crack feature Remaining Life Calculation as outlined in the Lakehead System Integrity Remediation process:

- a. In determining the number and magnitude of pressure cycles, Enbridge uses the worst cycling quarter between the most recent valid crack ILI tool run and the immediately prior valid crack ILI run. The worst cycling quarter reflects the worst combination of cycling frequency and cycling magnitude for the applicable line or line segment during the period between the successive ILI runs.
- b. Enbridge did not increase the operating pressure limit in any segment of a Lakehead System pipeline after determining the Remaining Life of unrepaired crack features in accordance with this Paragraph 62.



#### 63 [Crack Feature Remaining Life Calculations]

Enbridge used a fatigue crack growth model and a Stress Crack Corrosion ("SCC") crack growth model and determined the remaining life with the model yielding the fastest projected growth rate and the shortest Remaining Life.

The application of fatigue crack growth model and SCC growth model to yield the fastest projected growth rate and the shortest Remaining Life is illustrated in the ILI Assessment sheets which the ITP has access to for verification purposes.

Paragraph 44 of the Consent Decree discusses how all calculations were completed within the required timeframes. **Table D-34** summarizes the remaining life calculations completed during this reporting period.

#### 64 [Corrosion Growth Rate]

Enbridge used a Corrosion Growth Rate ("CGR") based on back-to-back corrosion runs (if available), or a historical CGR estimate for newly constructed pipeline or pipeline segments with no less than 0.005 inch per year. The application of a CGR based on back-to-back corrosion runs, or a historical CGR estimate for newly constructed pipeline or pipeline segments with no less than 0.005 inch per year, is illustrated in more detail in the ILI Assessment sheets which the ITP have access to for verification purposes.

#### 65 [Maximum Interval between Successive ILIs Based on Half-Life Criteria]

Other than crack inspections for Line 2, the maximum interval between successive ILIs to assess crack and corrosion features did not exceed one-half of the shortest Remaining Life of any unrepaired crack or corrosion feature in the pipeline, calculated as described in Subsection VII.D.(VI) as of the end of the reporting period for this SIPTUR1. Crack inspections for Line 2 (as per the Stipulation filed with the Court on May 2, 2018) were completed in 2020 and reported in SAR8.

#### 66 [Maximum Interval between Successive ILIs – Not to Exceed Five Years]

The maximum interval between successive ILIs does not exceed 5 years for all Lakehead pipeline segments. The 12-month ILI schedule for this reporting period was reported in SAR10 subject to the changes identified in **Table D-4**. The ILI runs completed during this reporting period are included in Paragraph 28 **Table D-1**.

# Section E – Measures to Prevent Spills in the Straits of Mackinac

Per the Seventh Modification, obligations under Paragraphs 68 and 73 of the Consent Decree are not subject to Partial Termination and are addressed in SAR11 for the current time period.

#### 67 [Applicability]

A discussion of Enbridge's implementation of the requirements of Subsection VII.E during the reporting period (Paragraphs 67, 69 to 72) related to the two Line 5, 4.09-mile, 20-inch diameter pipelines (referred to herein as the "Dual Pipelines") that cross the Straits of Mackinac ("Straits") is set forth in the following sections.



#### 69.a [Biota Investigation]

No change since the IPTUR.

#### 69.b [Biota Investigation Work Plan ("BIWP")]

No change since the IPTUR.

#### 69.c [Biota Work Plan Implementation]

No change since the IPTUR.

#### 70 [In-Line Inspections of the Dual Pipelines]

No change since the IPTUR.

#### 71 [Investigation and Repair of Axially-aligned Features]

No change since the IPTUR.

#### 72 [Pipeline Movement Investigation]

No change since the IPTUR.

# **Section F – Data Integration**

#### 74 [Feature Integration Database]

Enbridge operates and maintains the feature integration database, referred to as "OneSource," for all pipelines in the Lakehead System since August 14, 2013. OneSource integrates information about corrosion, crack and geometry features from multiple in-line investigations of the pipelines and field measurement devices. OneSource enables pipeline integrity-management personnel to identify and track any changes to any feature detected by an ILI tool on successive investigations (i.e., Tool Runs) of the pipeline. In addition, the Feature Match Macro tool uses data from OneSource and permits pipeline integrity personnel to identify and track changes to features detected by successive tool runs, including enabling personnel to evaluate features detected by different types of ILI tools that may overlap or otherwise interact.

#### 75 [Integrity Management Personnel Access to Feature Integration Database]

Enbridge integrity management personnel, including, but not limited to, personnel responsible for identifying FREs, are able to access and view OneSource from their desktop computers and laptops. Personnel are able to search for and view a schematic image of each joint of each Lakehead System pipeline. The information provided with each schematic image has not changed from the information as presented in SAR1.

A difficulty encountered when implementing this requirement is related to the ITP's access to the OneSource data. Currently, data covering all of the Enbridge-owned pipelines is included in OneSource – it is not limited only to the Lakehead System Pipelines that are subject to the terms of the Consent Decree. While this allows Enbridge to access and store the OneSource data consistently across its entire pipeline system, Enbridge is unable to provide a gateway to the ITP that is limited to OneSource data for Lakehead

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System Pipelines covered by the Consent Decree. Enbridge has demonstrated that the data required under Paragraph 75 is readily accessible to personnel responsible for identifying FREs.

#### 76 [Successive ILI Data Sets]

Enbridge's compliance with this Paragraph is fully explained in SAR1 and has not changed since that submission. As explained in SAR1, with respect to each type of ILI Tool, OneSource includes at least two successive ILI data sets for lines that have operated since the effective date of the CD – one data set from the most recently completed ILI Tool Run and another data set from the second most-recently completed ILI Tool Run.

#### 77 [Update of OneSource Database]

As per Paragraph 77.a, Enbridge completed an update of OneSource and compliance with this Paragraph was reported in SAR1. Enbridge provided a demonstration of compliance regarding Paragraph 77.a-c on October 23, 2018. Enbridge has completed the requirements for Paragraph 77.a-c.

Enbridge continues to update the OneSource database with information collected from new NDE investigations as per Subparagraph 77.d of the Consent Decree. Enbridge completed all field investigations of the Consent Decree excavations related to the particular ILI Tool Runs and uploaded the NDE reports within 60 Days into OneSource after the field excavation report was quality reviewed and approved by Enbridge. The OneSource NDE updates for this covered period are summarized in **Table F-1**.

During this reporting period, Enbridge has fully complied with Paragraph 77 by timely uploading to OneSource all NDE data for FRE digs and investigative digs that are subject to Consent Decree requirements. Although Enbridge disagrees that the CD was intended to incorporate excavations that are not governed by the CD, Enbridge agreed that NDE reports from all integrity dig excavations issued from CD ILI programs, including CD FRE, investigative digs and non-CD digs, would be uploaded into OneSource within 60 days after completing the last field investigation related to an ILI.

#### 78 [Mandatory Use of Data Integration Database to Prepare Dig List]

#### 78.a [OneSource ILI Updates]

All new ILI reports were uploaded to OneSource within 29 days after Enbridge's receipt of the Initial ILI report for this reporting period. The dates upon which the various ILI reports were received by Enbridge and uploaded to OneSource during this SIPTUR1 reporting period are listed in **Table F-2**.

#### 78.b [OneSource Interacting Features]

Enbridge completes ILI data review for the purpose of identifying any overlapping, or otherwise interacting, features that may qualify as FREs (in reference to Paragraph 35), within 180 days after the ILI tool is removed from the pipeline, as outlined in the "Lakehead System Integrity Remediation Process" Table 2, Step 7.0. The FREs resulting from this review are summarized in Paragraph 58. **Table F-3** summarizes the reviews completed during this reporting period for axial cracking, corrosion and geometry features. All interacting feature reviews were completed within 180 days after the ILI tool was removed from the pipeline.



# Section G – Leak Detection and Control Room Operations

#### (I) Assessment of Alternative Leak Detection Technologies

#### 79-80 [Create and Submit ALD Report]

No change since the IPTUR.

(II) Report on Feasibility of Installing External Leak Detection System at the Straits of Mackinac

#### 81-83 [Create and Submit ALD Mackinac Report]

No change since the IPTUR.

#### (III) Requirements for New Lakehead Pipelines and Replacement Segments

#### 84 - 91 [Applicability]

No change since the IPTUR. The requirements of these paragraphs were not triggered in the reporting period on lines subject to partial termination given no Replacement Segments or New Lakehead Pipeline projects were under design or went into service.

Line 62 and Line 93 are not subject to Partial Termination of this subsection and therefore are not included in this report. Line 61 is subject to Partial Termination of this subsection except for P90 and P91. Information for lines not included in this report is included in SAR11.

#### (IV) Leak Detection Requirements for Pipelines within the Lakehead System

No change since the IPTUR. Line 62 and Line 93 are not subject to Partial Termination of this subsection and therefore are not included in this report. Line 61 is subject to Partial Termination of this subsection, except where explicitly stated otherwise. Information for lines not included in this report is included in SAR11.

#### 92 [Operation of MBS Leak Detection System]

No change since the IPTUR. Enbridge continuously operated the combined MBS and AVB solution on all Lakehead pipelines in accordance with this Paragraph during the reporting period.

#### 93 [Temporary Suspension of MBS Leak Detection Capabilities]

Please refer to **Table G-1** for a table identifying the number of occurrences by type of instrumentation outage where MBS was temporarily suspended during the reporting period.

#### 94 [Overlapping MBS Segments]

For the events listed in **Table G-1**, leak detection capability was maintained through the use of overlapping segments, except for events where ALD was implemented, as per paragraph 95.

#### 95 [Alternative Leak Detection Requirements]

For the events listed in **Table G-1** where the first and/or last MBS segment had its leak detection capabilities suspended or lost, leak detection capability was maintained by implementing ALD.

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#### 96 [Reporting of MBS Outages]

Enbridge restored MBS as soon as practical when leak detection capability was lost or suspended and reported those outages, as required, during the reporting period.

#### 97 [Reporting Requirements]

Refer to **Table G-1** for a table identifying the number of occurrences by type where MBS was temporarily suspended and the number of outages that exceeded reporting requirements. There were no exceedances of the *Time Period to Restore* for this reporting period.

#### 98 [Tolling Requirements]

Station bypass durations for items listed in **Table G-1** included tolling, where applicable.

#### 99 [Installation of New Equipment at Remotely-Controlled Valves]

**Table G-2** outlines one excavation that triggered the requirements of Paragraph 99, and this project has installed pressure and temperature transmitters in the reporting period. As agreed with the ITP, the updated Paragraph 99 Project Logbook will be provided.

#### 100 [Requirements for Valve Excavation]

No change since the IPTUR. There were no excavations identified during the reporting period that met the defined criteria for Paragraph 100.

#### 101 [Transient-State Sensitivity Analysis]

No change since the IPTUR.

#### 102 [Rupture Detection System Alarm]

No change since the IPTUR. Enbridge continuously operated the combined RDS solution on all Lakehead pipelines in accordance with this Paragraph during the reporting period.

#### 103.a-b ["24-hour" Alarm]

No change since the IPTUR. Enbridge continuously operated the 24-hour alarm (AVB) on all Lakehead pipelines in accordance with this Paragraph during the reporting period.

#### 103.c ["24-hour" Alarm Optimization Study within one year of establishing the new 24-Hour alarm]

No change since the IPTUR. There were no AVB optimizations during the reporting period. Enbridge continuously maintained the previously defined thresholds for each Lakehead pipeline.

# 103.d-f ["24-hour" Alarm Optimization Study within one year of Initial Linefill of Line 93 or any other New Lakehead Pipeline or Replacement Segment]

No change since the IPTUR. The requirements of this paragraph were not triggered in the reporting period given no Replacement Segments or New Lakehead Pipeline projects went into service.



Line 61, Line 62, and Line 93 replacement segments are not subject to Partial Termination of P.103.d-f and are included in SAR11.

# 103.g [Compliance and exceptions of compliance to 24-hour alarm optimized threshold and reporting]

No change since the IPTUR. There were no re-optimizations during the reporting period.

#### (V) Leak Detection Requirements for Control Room

No change since the IPTUR. Consent Decree requirements under this subsection that are applicable to Line 61, Line 62, and Line 93 are not subject to Partial Termination of this subsection and are included in SAR11.

#### 104 [Applicability]

No change since the IPTUR. In order to ensure compliance with Section VII.G.V of the CD, Enbridge applies the term "alarm" or "alarms" to mean any and all alarms that are generated by the MBS and AVB leak detection systems and by the RDS.

#### 105 [Alarm Response Team]

All MBS, AVB and RDS alarms that occurred in the reporting period were addressed by the ART.

#### 106 [Remote Notification of Alarm Response Team]

No change since the IPTUR. Remote notification capabilities were in place for all Alarms that occurred in the reporting period as required by this paragraph.

#### 107 [Audible and Visual Alarms]

No change since the IPTUR. Audible and visual alarm capabilities have remained compliant with the requirements of this paragraph through the reporting period.

#### 108.a-f [Alarm Clearance Procedures]

No change since the IPTUR. Alarm Clearance procedures have been employed and adhered to throughout the reporting period.

#### 109.a-e [Unscheduled Shutdown in Response to an Alarm]

No change since the IPTUR. Unscheduled Shutdown procedures have been employed and adhered to throughout the reporting period.

# 110 a-d [Certification of Compliance with 10-Minute Rule and other Requirements of this Subsection]

Enbridge certifies its compliance with the 10-Minute Rule by providing the Lakehead Leak Alarm Report (Appendix 2) signed by the Vice-President, Pipeline Control. This report provides the weekly list of alarms ("WLOA"), Record of Alarms ("ROA"), and Summary of Alarms ("SOA"), as required by this paragraph. There were no non-compliances with the 10-Minute Rule in the reporting period.

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#### 111 [Unscheduled Shutdown Procedures in Response to Other Events]

Enbridge responded to reported emergencies following procedures that align with this paragraph for the reporting period.

#### 112 [Reporting of Events from Paragraph 111]

Information related to all incidents during this reporting period where Enbridge received information concerning a potential leak or rupture, including the information provided with each such notice, the start and end times of each respective investigation, and the conclusion and findings of each investigation, is provided in Section G **Table G-3** to this SIPTUR1: Lakehead System Pipeline Incident Reporting.

# **Section H – Spill Response and Preparedness**

#### 113 [Immediate Action to Confirmed Pipeline Leak or Rupture]

Enbridge had no confirmed leaks of one or more barrels on the Lakehead System Mainline within the reporting period. Enbridge had no confirmed pipeline leaks or ruptures of any harmful quantity that reached the waters of the United States or adjoining shorelines during this reporting period. With respect to releases, when they occur, Enbridge proceeds without delay to dispatch trained personnel to the location of the leak and takes action to prevent any migration of oil into waters of the United States, including shutting down the affected line.

During the reporting period, two releases at Lakehead System facilities (Deer River Station and Flanagan Terminal) triggered PHMSA reporting requirements. The Deer River Station release only triggered PHMSA and NRC reporting requirements due to the cost exceeding \$50,000. When applicable, releases are reported to PHMSA in accordance with either 49 C.F.R. § 195.50(b), which requires the reporting of any release of 5 gallons or more of hazardous liquid, or 49 C.F.R. § 195.50(e), which requires reporting if the initial estimated property damage, including the cost of clean-up and recovery, value of lost product, and/or damage to the property of the operator and/or others would exceed \$50,000.

The release at Flanagan Terminal met PHMSA reporting criteria because it was 50 barrels. Additional details regarding the Flanagan Terminal PHMSA-reportable release of one or more barrels from a Lakehead facility that occurred during this reporting period is provided in response to Paragraph 146. PHMSA-reportable releases from Lakehead facilities are not reportable per Paragraph 146 of the Consent Decree.

With respect to the releases, Enbridge proceeded, without delay, to dispatch trained personnel to the location of the leaks and took action to prevent any migration of oil into waters of the United States or adjoining shorelines.

#### 114 [Required Actions]

Enbridge's compliance with Paragraph 114 is demonstrated by its compliance with Paragraphs 115 to 119, as explained below.

#### 115 [Agreed Exercises]

No change since the IPTUR.



#### 116 [Field Exercises, Table-Top Exercises, and Community Outreach]

No change since the IPTUR. Enbridge did not conduct any Field and Tables Top exercises during this reporting period.

#### 116.a [Annual Field Exercise and Table-Top Exercise Requirements]

No change since the IPTUR. Enbridge did not conduct any Field and Tables Top exercises during this reporting period.

#### 116.b [Field Exercise Requirements]

No change since the IPTUR. Enbridge did not conduct any Field and Tables Top exercises during this reporting period.

#### 116.c [Table-Top Exercise Requirements]

No change since the IPTUR. Enbridge did not conduct any Field and Tables Top exercises during this reporting period.

#### 116.d [Field and Table-Top Invitees]

No change since the IPTUR. Enbridge did not send any invitations for field and tabletop exercises during this reporting period.

#### 116.e [Community Outreach Sessions]

During this reporting period, Enbridge continued to comply with Subparagraph 116.e of the Consent Decree regarding the required Community Outreach Sessions.

Enbridge conducted the following Community Outreach Sessions during this reporting period:

- Superior, WI on November 1
- Ashland, WI on November 2
- Mellen, WI on November 3
- St. Ignace, MI on November 9
- Mackinaw City, MI on November 10

All five sessions were held in person. For the Community Outreach Sessions identified above, 11,414 invitations were sent to landowners, elected officials, media, community leaders and members of area communities. The general public was invited to attend through a series of advertisements placed three weeks leading up to each event in local newspapers and online through geo-targeted digital and social media advertisements. There was a total of 261 documented attendees at these five sessions. Each Community Outreach session was conducted in an open-house format with manned booths that provided attendees with valuable information on pipeline operations, product information, safety, preventative maintenance, integrity, emergency response, public awareness, damage prevention/right-of-way, and Enbridge's involvement in the local communities. The outreach sessions were held in a come-and-go style to allow participants the flexibility to attend when they are able and so they can spend as much or as little time as they would like on specific topics. Upon arrival, each attendee received a package of information that was reviewed with them to convey the following information:

• Potential hazards of different oils transported by the Lakehead System;

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- The location of Enbridge pipelines in proximity to the communities where the sessions were conducted;
- How Enbridge's pipelines are marked;
- How the community should respond in the event of a spill;
- How the community can obtain information in the event of a spill from Enbridge and government agencies; and
- How the community can report spills to Enbridge, EPA, and the National Response Center.

Appendix 3 includes copies of the recently updated primary, state-specific handouts made available to session attendees. The handouts were updated to reflect the appropriate contact information for EPA Region 5. (The full list of available handouts provided during the community sessions was included in Appendix 4 of SAR4).

At each Community Outreach Session Enbridge solicits feedback from attendees through both printed evaluation cards and during one-on-one conversations. After each session, there is a post session debrief with the Enbridge teams to review the feedback cards, gather feedback they've received, and discuss the conversations held at the various booths. An overwhelming majority of the feedback received, whether through the cards or conversations, was positive as attendees appreciated having access to Enbridge and to the information provided at the open house event.

In Wisconsin, the conversations with local officials and landowners were positive and generally conveyed support for the projects. Questions related to products carried, eminent domain, and the possibility of the Line 5 re-route project in Wisconsin were most common.

In Michigan, conversations and questions were primarily around the products Line 5 carries, Enbridge's emergency response plans/capabilities, what Enbridge is doing to protect the Straits of Mackinac now, and the proposed tunnel project to relocate Line 5.

#### 117 [Control Point Plans]

No change since the IPTUR.

#### 118 [Response Time]

No change since the IPTUR.

#### 119 [Coordination with Governmental Planners]

Enbridge's coordination with governmental planners is described in its response to Subparagraphs 119.a to 119.k below.

#### 119.a [Planning Meeting Participation]

In accordance with Subparagraph 119.a, Enbridge attended the following Area and Sub-Area Committee planning meetings:

#### USCG Lake Michigan Area Committee Meeting, November 16, 2022

A variety of topics were discussed including but not limited to the following:

- Geographic Response Strategy (GRS)
- Review of an exercise conducted with tribal groups.

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- Presentation from EPA Region 5 and review of Cultural Resource TTX conducted in Grand Rapids, MI.
- Presentation on National Oceanic and Atmospheric Administration (NOAA) Great Lakes
- Winter Lay up of Great Lakes Fleet

#### Northwest Ohio Southeast Michigan (NOSMAC) Area Committee Meeting, November 30, 2022

A variety of topics were discussed including but not limited to the following:

- The National Oceanic and Atmospheric Administration (NOAA) will be holding in-person sessions on Science of Oil Spills. Registration details can be found on their website.
- The Saginaw River All Hazards Committee solicited for topics and presenters for their next meeting in spring 2023.
- A discussion was held about an exercise at Put-In-Bay (Lake Erie, OH).
- A discussion was held about the update of the Great Black Swamp Inland Sub-Area
- The NOSMAC intends to hold a TTX regarding an incident on the Detroit River in July 2023 and an FDE impacting the Saginaw River in August 2023.
- The committee has developed geographical response strategies for the Saginaw River and Saginaw Bay. The committee has identified 16 priority sites and 29 logistical sites.
- The US EPA provided a brief on their response efforts to the Menominee Paper warehouse fire.
- The US EPA is testing a timing and trajectory tool for oil tracking in ice conditions.
- The USCG Center of Excellence is testing sensors deployed on drones to detect oil in ice. Testing will continue through the current winter season.

#### Western Lake Superior Port Area Committee & Upper Peninsula Area Committee Meeting

A variety of topics were discussed including but not limited to the following:

- Discussion of the area contingency plan and notifications under the plan .
- Brief discussion of the Area Contingency Plan Incident Management Team requirements and the National Preparedness for Response Exercise Program (NPREP) Core Components
- Discussion on the Geographic Response Strategy
- Coast Guard will be conducting testing of Oil Response Removal Organization (OSRO) tactics and capabilities.

#### 119.b(1) and (2) [Sub-Area Activities Participation]

No change since the IPTUR. There were no field exercises or other training events during this reporting period.

#### 119.c [Response Requirements to Sub-Area or Area Committee Recommendations]

No change since the IPTUR. No Sub-Area Committee or Area Committee for the Lakehead System made written recommendations to Enbridge regarding its emergency preparedness plans and implementation and thus, Enbridge did not revise its plans or implementation under Subparagraph 119.c.



#### 119.d [Response Planning Meetings Requirements]

No change since the IPTUR. Enbridge did not receive a request to meet and discuss response planning strategies to ensure consistency with the Area Plan during this reporting period.

#### 119.e-g [Plans and Prepositioned Emergency Response Locations and Equipment]

No change since the IPTUR.

#### 119.h [Emergency Response Equipment]

No change since the IPTUR. Enbridge continues to maintain, in good working order, its prepositioned emergency response equipment and materials. No prepositioned equipment was added, subtracted or modified during this reporting period.

#### 119.i [Inland Spill Response Tactics Guide on Website]

No change since the IPTUR.

#### 119.j [Inland Spill Response Guide to EPA]

No change since the IPTUR.

#### 119.k [Electronic Submittal of Documents]

Enbridge has provided electronic copies of all documents that are required to be submitted under Paragraph 119 in accordance with the electronic submittal requirements specified under Subparagraph 119.k.

#### 120 [Incident Command System Training]

Enbridge's compliance with ICS training requirements is described in Enbridge's response to Subparagraphs 120.a to 120.c below.

#### 120.a [Incident Command System Training Requirements]

No change since the IPTUR. As no new person was assigned any of the roles above during the reporting period, no training has taken place during this reporting period.

#### 120.b [ICS Training and Incident Management Team Personnel]

No change since the IPTUR.

#### 120.c [Training Requirements and Electronic Certification Documents]

No change since the IPTUR.

# **Section I – New Remotely Controlled Valves**

#### 121-122. [Installation of 14 Remotely Controlled Valves]

No change since the IPTUR.

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#### 123. [Enbridge Computer Modeling for Valve Locations]

No change since the IPTUR.

#### 124. [Valve Design and Closure]

No change since the IPTUR.

# Section J – Independent Third Party Consent Decree Compliance Verification

Enbridge notes that the information provided below is being reported only with respect to obligations that are subject to Partial Termination. Subsection IIV.J will remain in effect with respect to all requirements that are not subject to Partial Termination.

#### 126. [ITP Access to Enbridge Lakehead System]

No change since the IPTUR.

#### 132. [Enbridge – ITP Agreement Tasks 2, 3, 4, and 5]

No change since the IPTUR.

#### 133.b [Enbridge Response to ITP Verification Report]

No change since the IPTUR.

#### 134.1 [General Requirements – ITP Annual Certification]

No change since the IPTUR.

#### 135. [Enbridge Enforcement of the Agreement]

No change since the IPTUR.

#### 136. [ITP Replacement]

No change since the IPTUR.

# **IX. – Reporting Requirements**

Enbridge notes that the information provided below is being reported only with respect to obligations that are subject to Partial Termination. Subsection IIV.J will remain in effect with respect to all requirements that are not subject to Partial Termination.

#### 144. [SAR Requirements]

This section summarizes information required by Paragraph 144 to the extent that the information is relevant to Enbridge's compliance with a requirement of the Decree and has not been reported separately

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above. Enbridge also recognizes that all of the matters listed in Paragraph 144 will not always be applicable relative to each of the Decree's requirements. Among matters listed in Paragraph 144 are the following:

- i. Completion of milestones
- ii. Problems encountered or anticipated in implementing the requirement (together with implemented or proposed solutions)
- iii. Status of permit applications
- iv. Operation and maintenance issues
- v. Reports to State Agencies
- vi. Number by types, of features repaired or mitigated during the reporting period and the number, by type, planned for future repair or mitigation
- vii. Any significant changes or issues since the previous SAR

In many cases, the matters listed above have been reported in previous sections of the Report that relate to specific Consent Decree requirements. However, Enbridge has selected the activities reported below to draw specific attention to challenges encountered during the reporting period, pursuant to Paragraph 144.

In support of transparency about interpretation issues with the Consent Decree as well as problems encountered, Enbridge included a table listing the interpretation issues (details below) as well as a bulleted list of problems encountered with a discussion for each following the list.

#### **Consent Decree Interpretation Issues**

There are a number of Consent Decree interpretation issues that the parties have resolved or that Enbridge is working to resolve with the ITP and EPA. Enbridge is proceeding using the current Enbridge interpretation in areas where the interpretation has not been agreed on by all parties. As shown in **Table IX-1**, there are no interpretation issues in this reporting period.

#### Problems Encountered or Anticipated in Implementing Consent Decree Requirements

There were no problems encountered or anticipated in implementing Consent Decree requirements for the reporting period.

#### **Reports to State Agencies**

Enbridge is currently a party to litigation involving Line 3 in Minnesota, Line 5 in Michigan and Line 5 in Wisconsin. In connection with these matters, the company periodically provides legal filings to courts or agencies in those states. Enbridge does not consider those submissions, most of which are publicly available, to be "reports" of the type covered by the Consent Decree. Similarly, Enbridge is in the process of seeking Wisconsin and federal permits relating to construction of a line replacement project on Line 5 to reroute the segment around the Bad River Reservation in Wisconsin. As well, Enbridge submitted materials to Michigan state agencies in connection with the planned replacement of the Straits Pipelines at the Straits of Mackinac. Enbridge does not consider permit applications of this type to be "reports" covered by Paragraph 144.

#### Any significant changes or issues since the previous SAR

There were no significant changes or issues since the IPTUR.

#### 145. [Non-Compliance]

There were no non-compliances identified during the SIPTUR1 reporting period; see also Table IX-2.

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#### 146. [Discharges from a Lakehead System Pipeline]

**Table IX-3** in Appendix 1 identifies one discharge from a Lakehead System facility of one or more barrels of oil that occurred during the reporting period for this SIPTUR1. Enbridge confirms that this discharge did not reach any waterbody or waters of the United States or adjoining shoreline. There were no other instances of discharge of oil during the reporting period that reached any waterbody or waters of the United States or adjoining shoreline in a quantity as may be harmful. Enbridge has committed to report all Post Incident Reports that were not previously requested and provided during the current SIPTUR1 reporting period. This report is provided in Appendix 4.

As discussed above, during this reporting period, one release occurred at a Lakehead System facility that triggered PHMSA reporting requirements that did not meet the CD reporting threshold per this paragraph, but for reporting consistency with previous SARs the information has been included in the table. When applicable, releases are reported to PHMSA in accordance with either 49 C.F.R. § 195.50(b), which requires the reporting of any release of 5 gallons or more of hazardous liquid, or 49 C.F.R. § 195.50(e), which requires reporting if the initial estimated property damage, including the cost of clean-up and recovery, value of lost product, and/or damage to the property of the operator and/or others would exceed \$50,000. With respect to the releases, when they occur, Enbridge proceeds without delay to dispatch trained personnel to the location of the leak and takes action to prevent any migration of oil into waters of the United States, including shutting down the affected line.

#### 147. [Update on Discharges from a Lakehead System Pipeline reported in IPTUR (MiniSAR)]

There is one update to the IPTUR report at a Lakehead System facility, as shown in **Table IX-4**. This discharge at a Lakehead System facility was not CD reportable, but for reporting consistency with previous SARs the information has been included in the table.

#### 148. [Copies of all Post Incident Reports in SIPTUR1]

A copy of the post incident report is provided in Appendix 4.



I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on any personal knowledge I may have and my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

FOR DEFENDANTS:

ENBRIDGE ENERGY, LIMITED PARTNERSHIP, ENBRIDGE PIPELINES (LAKEHEAD) L.L.C., ENBRIDGE ENERGY PARTNERS, L.P., ENBRIDGE ENERGY MANAGEMENT, L.L.C., ENBRIDGE ENERGY COMPANY, INC., and ENBRIDGE EMPLOYEE SERVICES, INC.,

, Vice President U.S. Operations,

Liquids Pipelines

FOR DEFENDANTS:

ENBRIDGE OPERATIONAL SERVICES, INC., ENBRIDGE PIPELINES INC., and ENBRIDGE EMPLOYEE SERVICES CANADA INC.

, Executive❤ice President and President,

Liquids Pipelines

# Appendix 1 SIPTUR1 Sections A-J and IX Tables

# **Reporting Period: October 19, 2022 to December 2, 2022**

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# **Section A**

There are no tables associated with Section A.

# **Section B**

There are no tables associated with Section B.

# **Section C**

There are no tables associated with Section C.

# **Section D**

The following 1 page is Table D-1: P. 28.a-b ILI Runs Completed During this Reporting Period.

# **Section D**

Notes for Section D tables:

- 1. Dates below are in month/day/year format.
- 2. For all dates where the deadline fell on a weekend or US holiday the date required was adjusted to the next business day per Consent Decree Definition for "Day" under IV.10.m.

		Table D-1: P. 2	8.a-b ILI Runs C	ompleted Duri	ing this Reporting P	eriod
Tool Run ID	Line	Segment	Tool Pull Threat Moni Date <sup>ODS1</sup>		Threat Monitored	Required Completion Date
10858	02		GEMINI	10/20/2022	Corrosion	11/2/2022
10858	02		GEMINI	10/20/2022	Geometry	11/2/2022
11206	64		GEMINI	12/1/2022	Corrosion	1/23/2023
11206	64		GEMINI	12/1/2022	Geometry	1/23/2023
10969	78		MFL4	11/12/2022	Corrosion	12/14/2022
10969	78		MFL4	11/12/2022	Geometry	12/14/2022

TABLE NOTE:

<sup>ODS1</sup> Pull Date: Milestone Report – Power BI Dashboard

The following 1 page is Table D-4: P. 30 Changes to Previous 12-Month ILI Schedule (May 23, 2021 to May 22, 2022).

		Та	able D-4: P. 30	Changes	to Previous 12	2-Month ILI Scl	hedule (May 23, 2022 – May 22, 2023)
Original Run ID	Revised Run ID	Line	Segment Name	ΤοοΙ	Threat Monitored	Required Completion Date	Schedule Revision Comments
10859	N/A	2		Proton	Crack	2/26/2024	Run no longer within SAR 10 12-month period due to deferral from 5/22/2023 to 6/20/2023
10915	N/A	06A		AFD	Corrosion	1/3/2023	Last metal loss ILI run completed May 2022. AFD ILI deferred to 6/1/2023.
10914	N/A	06A		AFD	Corrosion	1/3/2023	Last metal loss ILI run completed May 2022. AFD ILI deferred to 6/1/2023.
11154	N/A	10		Eclipse	Crack	5/10/2025	Corrected required completion date from 5/11/2023 to 5/10/2025 based on CD calculated remaining life and the maximum allowable interval.
11193	N/A	10	_	Eclipse	Crack	5/11/2025	Corrected required completion date from 5/12/2023 to 5/11/2025 based on CD calculated remaining life and the maximum allowable interval.

The following 1 page is Table D-7: P. 32.a-c Valid In-line Inspection Runs with Initial ILI Report Received.

	Table D-7: P. 32.a-c Valid In-line Inspection Runs with Initial ILI Report Received											
Tool Run ID <sup>1</sup>	Line	Segment	ΤοοΙ	Report Type	Report Due Date	Report Received Date <sup>ODS1</sup>	Report Received On Time?					
10888	04		DuDi UCM	Crack	11/17/2022	11/17/2022	Yes					
1 <mark>0904</mark>	05		MFL4	Corrosion	10/19/2022	10/19/2022	Yes					
10904	05		MFL4	Geometry	10/19/2022	10/19/2022	Yes					
10905	05		UCx	Crack	11/10/2022	11/10/2022	Yes					
10907	05		UCx	Crack	10/26/2022	10/26/2022	Yes					
TABLEN	NOTE:		20 C									

#### TABLE NOTE:

<sup>ODS1</sup> Report Received Date: Vendor ILI Report Email

The following 1 page is Table D-8: P. 33.b ILIMRR Version 8.3 Table 5 Inside Diameter Priority Notification Criteria for Ovalities and Other Deformation Features.

Table D-8: P.	Table D-8: P. 33.b ILIMRR Version 8.3 Table 5 Inside Diameter Priority Notification Criteria for         Ovalities and Other Deformation Features											
NPS (inch)	Actual OD (inch)	Actual OD (mm)	Min ID (inch)	Min ID (mm)								
6	6.625	168.28	5.2	131.2								
8	8.625	219.08	7.1	179.3								
10	10.75	273.05	9.1	230.3								
12	12.75	323.85	11.0	279.4								
16	16	406.4	14.3	362.0								
18	18	457.2	15.8	400.1								
20	20	508	17.9	454.7								
22	22	558.8	19.7	500.6								
24	24	609.6	21.5	546.1								
26	26	660.4	23.5	596.9								
30	30	762	27.1	687.8								
34	34	863.6	31.1	789.9								
36	36	914.4	33.0	837.0								
42	42	1066.8	38.6	981.2								
48	48	1219.2	44.4	1127.8								

The following 1 page is Table D-10: P. 34.a Preliminary Review of Initial ILI Reports.

			Table D	-10: P. 34.a Pre	liminary Revie	w of Initial ILI	Reports		
Tool Run ID	Line	Segment	ΤοοΙ	Report Received Date <sup>ODS1</sup>	Report Type	Date Preliminary Review Required	Date Preliminary Review Completed ODS2	Review Complet- ed on Time?	Data Quality Concerns? ODS3
10888	04	1	DuDi UCM	10/18/2022	Corrosion	11/17/2022	11/8/2022	Yes	Yes
10895	04		DuDi UCM	9/22/2022	Crack	10/24/2022	10/20/2022	Yes	Yes
10904	05		MFL4	10/19/2022	Corrosion	11/18/2022	11/15/2022	Yes	Yes
10904	05		MFL4	10/19/2022	Geometry	11/18/2022	11/15/2022	Yes	Yes
10907	05		UCx	10/26/2022	Crack	11/25/2022	11/21/2022	Yes	Yes
10909	05		UCx	10/17/2022	Crack	11/16/2022	11/16/2022	Yes	Yes
11053	06A		UCx	10/17/2022	Crack	11/16/2022	11/15/2022	Yes	Yes
10300	93		UCx	9/29/2022	Crack	10/31/2022	10/26/2022	Yes	No

#### TABLE NOTE:

<sup>ODS1</sup> Report Received Date: Share Drive – PI Listing Approval Confirmation Email <sup>ODS2</sup> Date Preliminary Review Complete: Share Drive – PI Listing Approval Confirmation Email

<sup>ODS3</sup> Data Quality Concerns?: Share Drive - Program Summary Document: Crack/Corrosion: Inspection Report Review and Remarks, Geometry: Back to Back Inspection Comparison

The following 1 page is Table D-11: P. 34.c ILI Reports with Reporting and/or Data Quality Issues.

			Table D-11: P. 34.	c ILI Reports w	vith Reporting and/or	Data Quality Issues	j	
Tool Run ID	Line	Segment	ΤοοΙ	Report     Initial Report       Type     Received Date		Date Preliminary Review of Initial ILI Report Required	Date Preliminary Review of Initial ILI Report Completed <sup>ODS2</sup>	Data Quality Concerns Identified and Resolved
10888	04		DuDi UCM	Corrosion	10/18/2022	11/17/2022	11/8/2022	Yes
10895	04		DuDi UCM	Crack	9/22/2022	10/22/2022	10/20/2022	Yes
10904	05		MFL4	Corrosion	10/19/2022	11/18/2022	11/15/2022	Yes
10904	05		MFL4	Geometry	10/19/2022	11/18/2022	11/15/2022	Yes
10907	05		UCx	Crack	10/26/2022	11/25/2022	11/21/2022	Yes
10909	05		UCx	Crack	10/17/2022	11/16/2022	11/16/2022	Yes
11053	06A		UCx	Crack	10/17/2022	11/16/2022	11/15/2022	Yes

#### TABLE NOTE:

<sup>1</sup>A reissue was requested from the ILI vendor to correct the data quality issue. <sup>ODS1</sup> Initial Report Received Date ODS: Share Drive – PI Listing Approval Confirmation Email <sup>ODS2</sup> Date Preliminary Review of Initial ILI Report Completed ODS: PI Listing Approval Request Email

The following 1 page is Table D-12: P. 34.d Data Quality Evaluation Timelines.

	Table D-12: P. 34.d Data Quality Evaluation Timelines												
Tool Run ID	Line	Segment	ΤοοΙ	Pull Date <sup>ODS1</sup>	Report Type	Deadline to Complete All ILI Data Quality Evaluations	Data Quality Evaluations Completed Within 180 Days?						
10888	04		DuDi UCM	7/20/2022	Corrosion	1/16/2023	Yes						
1 <mark>0895</mark>	04		DuDi UCM	5/25/2022	Crack	11/21/2022	Yes						
10904	05		MFL4	7/21/2022	Corrosion	1/17/2023	Yes						
10904	05		MFL4	7/21/2022	Geometry	1/17/2023	Yes						
10907	05		UCx	6/28/2022	Crack	12/25/2022	Yes						
10909	05		UCx	6/17/2022	Crack	12/14/2022	Yes						
11053	06A		UCx	6/18/2022	Crack	12/15/2022	Yes						
10300	93		UCx	6/1/2022	Crack	11/28/2022	Yes						

 TABLE NOTE:

 ODS1 Pull Date: Milestone Report – Power BI Dashboard

The following 1 page is Table D-13: P. 34.e Discrepancies between Two Successive ILI Runs.

	Table D-13: P. 34.e Discrepancies between Two Successive ILI Runs											
Tool Run ID	Line	Segment	ΤοοΙ	Report Type	Severity Discrepancy?	Density Discrepancy?	Feature Type Discrepancy?					
10895	04		DuDi UCM	Crack	No	Yes	No					
10904	05		MFL4	Corrosion	No	Yes	No					
10904	05		MFL4	Geometry	Yes	Yes	No					
10907	05		UCx	Crack	No	Yes	No					
10909	05		UCx	Crack	No	Yes	No					
11053	06A		UCx	Crack	No	Yes	No					

The following 1 page is Table D-14: P. 37 Deadlines for Placing Features Requiring Excavation on the Dig List.

			Та	ble D-14: P. 3	7 Deadlines f	or Placing Fo	eatures Requ	iring Excava	tion on the D	ig List			
Tool Run ID	Line	Seg- ment	ΤοοΙ	Threat Type	Pull Date <sup>oDS1</sup>	Burst Pressure Calculation Date <sup>ODS2</sup>	Remaining Life Calculation Date <sup>ODS3</sup>	Other Features Identified Date <sup>ODS4</sup>	SQuAD and QuAD Complet- ion date <sup>ODS5</sup>	Numbe r of Featur es Identifi ed	Date All Features Added to Dig List <sup>ODS6</sup>	Within 180 Days of Tool Pull Date?	Within 5 Days of Calculat ions?
10907	L00 05		UCX	Crack	6/28/2022	11/21/2022	11/21/2022	11/21/2022	11/21/2022	5	11/21/2022	Yes	Yes
10909	L00 05		UCX	Crack	6/17/2022	11/16/2022	11/16/2022	11/16/2022	11/16/2022	6	11/16/2022	Yes	Yes
10909	L00 05		UCX	Interacting	6/17/2022	11/16/2022	11/16/2022	11/16/2022	11/16/2022	4	11/16/2022	Yes	Yes
11053	L00 06A		UCX	Crack	6/18/2022	11/15/2022	11/15/2022	11/15/2022	11/15/2022	8	11/15/2022	Yes	Yes
11053	L00 06A		UCX	Interacting	6/18/2022	11/15/2022	11/15/2022	11/15/2022	11/15/2022	1	11/15/2022	Yes	Yes

#### TABLE NOTES:

<sup>ODS1</sup> Pull Date: Milestone Report – Power BI Dashboard <sup>ODS2</sup> Burst Pressure Calculation Date: Share Drive - PI Listing Approval Confirmation Email <sup>ODS3</sup> Remaining Life Calculation Date: Share Drive - PI Listing Approval Confirmation Email

<sup>ODS4</sup> Other Features Identified Date: Share Drive - PI Listing Approval Confirmation Email

<sup>ODS5</sup> SQuAD and QuAD Completion date: Share Drive - PI Listing Approval Confirmation Email

<sup>ODS6</sup> Date All Features Added to Dig List: Share Drive - Assessment Sheet – Column JB "UPLOAD TO EDIG", PI Listing (Corrosion) – Column IV "Upload to Edig"

The following 4 pages are Table D-15: P. 39.a-b FREs Repaired and Planned for Repair.

				Table D-15	: P. 39.a-b FREs Repaire	ed and Pla	nned for Rep	pair		
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair /	Crack	Corrosion	Axial Grooving	Interacting	Geometry
					Mitigation <sup>1, ODS1</sup>	Features	Features	Features	Features	Features
32161	L0005		49760	10907	FR	1	0	0	0	0
32162	L0005		84700	10907	FR	1	0	0	0	0
32164	L0005		101830	10907	FR	1	0	0	0	0
32166	L0005		137380	10907	FR	1	0	0	0	0
32167	L0005		175960	10907	FR	1	0	0	0	0
32064	L0005		16040	10909	FR	1	0	0	0	0
32065	L0005		51170	10909	FR	1	0	0	0	0
32066	L0005		59470	10909	FR	1	0	0	0	0
32067	L0005		83660	10909	FR	1	0	0	0	0
32068	L0005		119020	10909	11/18/2022	0	0	0	1	0
32069	L0005		190020	10909	FR	0	0	0	1	0
32071	L0005		197890	10909	FR	1	0	0	0	0
32072	L0005		217650	10909	FR	1	0	0	0	0
32073	L0005		223700	10909	11/17/2022	0	0	0	1	0
32074	L0005		225020	10909	FR	0	0	0	1	0
31472	L0006A		18190	10919	FR	0	1	0	0	0
31473	L0006A		73930	10919	10/27/2022	0	1	0	0	0
31474	L0006A		74040	10919	10/31/2022	0	1	0	0	0
31475	L0006A		74790	10919	FR	0	1	0	0	0
31476	L0006A		80630	10919	FR	0	1	0	0	0
31477	L0006A		92550	10919	FR	0	1	0	0	0
31478	L0006A		95950	10919	FR	0	1	0	0	0
31479	L0006A		96300	10919	FR	0	1	0	0	0
31480	L0006A		96310	10919	FR	0	1	0	0	0
31481	L0006A		127040	10919	FR	0	1	0	0	0
31482	L0006A		137980	10919	FR	0	1	0	0	0
31483	L0006A		155400	10919	FR	0	1	0	0	0
31484	L0006A		174640	10919	FR	0	1	0	0	0
31485	L0006A		256721	10919	FR	0	1	0	0	0
31486	L0006A		257540	10919	FR	0	1	0	0	0
31487	L0006A		289800	10919	FR	0	1	0	0	0
31488	L0006A		297480	10919	FR	0	1	0	0	0

				Table D-15	: P. 39.a-b FREs Repaire	and Pla	nned for Rep	pair		
Dig ID	Line	Segment G	irth Weld	Tool Run ID	Date of Repair /	Crack	Corrosion	Axial Grooving	Interacting	Geometry
					Mitigation <sup>1, ODS1</sup>	Features	Features	Features	Features	<b>Features</b>
31490	L0006A	2	98810	10919	11/19/2022	0	1	0	0	0
31491	L0006A	2	99720	10919	FR	0	1	0	0	0
31493	L0006A	3	02470	10919	FR	0	1	0	0	0
31494	L0006A	3	03050	10919	FR	0	1	0	0	0
31496	L0006A	3	09480	10919	FR	0	1	0	0	0
31498	L0006A	7	3870	10919	10/27/2022	0	1	0	0	0
31499	L0006A	8	2500	10919	FR	0	1	0	0	0
31500	L0006A	8	8260	10919	FR	0	1	0	0	0
31501	L0006A	8	8840	10919	FR	0	1	0	0	0
31502	L0006A	1	00120	10919	10/21/2022	0	1	0	0	0
31503	L0006A	1	09830	10919	11/7/2022	0	1	0	0	0
31504	L0006A	1	49930	10919	11/3/2022	0	1	0	0	0
31505	L0006A	2	24170	10919	10/22/2022	0	1	0	0	0
31506	L0006A	2	37600	10919	FR	0	1	0	0	0
31507	L0006A	2	49190	10919	FR	0	1	0	0	0
31508	L0006A	2	50670	10919	FR	0	1	0	0	0
31509	L0006A	2	73430	10919	FR	0	1	0	0	0
31510	L0006A	2	76150	10919	11/8/2022	0	1	0	0	0
31511	L0006A	2	78260	10919	11/28/2022	0	1	0	0	0
31512	L0006A	2	79820	10919	11/2/2022	0	1	0	0	0
31513	L0006A	2	80000	10919	11/1/2022	0	1	0	0	0
31514	L0006A	2	80790	10919	FR	0	1	0	0	0
31515	L0006A	2	89430	10919	FR	0	1	0	0	0
31516	L0006A	2	89630	10919	FR	0	1	0	0	0
31517	L0006A	2	92570	10919	FR	0	1	0	0	0
31518	L0006A	2	95080	10919	11/12/2022	0	1	0	0	0
31519	L0006A	2	97120	10919	FR	0	1	0	0	0
31520	L0006A	2	97910	10919	FR	0	1	0	0	0
31521	L0006A	2	99420	10919	11/21/2022	0	1	0	0	0
31522	L0006A	3	00920	10919	FR	0	1	0	0	0
31523	L0006A	3	01880	10919	FR	0	1	0	0	0
31524	L0006A	3	02160	10919	FR	0	1	0	0	0

				Table D-15	: P. 39.a-b FREs Repair	ed and Pla	nned for Re	pair		
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair /	Crack	Corrosion	Axial Grooving	Interacting	Geometry
					Mitigation <sup>1, ODS1</sup>	Features	Features	Features	Features	Features
31525	L0006A		302190	10919	FR	0	1	0	0	0
31526	L0006A		306470	10919	11/11/2022	0	1	0	0	0
31527	L0006A		310450	10919	FR	0	1	0	0	0
31528	L0006A		310810	10919	FR	0	1	0	0	0
32051	L0006A		204410	11053	FR	4	0	0	0	0
32052	L0006A		217220	11053	FR	1	0	0	0	0
32053	L0006A		233560	11053	FR	1	0	0	0	0
32054	L0006A		269560	11053	FR	1	0	0	0	0
32055	L0006A		273270	11053	11/18/2022	0	0	0	1	0
32056	L0006A		305490	11053	FR	1	0	0	0	0
31775	L0006A		100400	12046	10/27/2022	0	1	0	0	0
31776	L0006A		162030	12046	FR	0	1	0	0	0
31777	L0006A		211760	12046	10/31/2022	0	1	0	0	0
31778	L0006A		290160	12046	FR	0	1	0	0	0
31779	L0006A		291850	12046	FR	0	1	0	0	0
31780	L0006A		298040	12046	11/18/2022	0	1	0	0	0
31781	L0006A		299680	12046	FR	0	1	0	0	0
31782	L0006A		309410	12046	FR	0	1	0	0	0
31593	L0006A		45130	12061	FR	0	1	0	0	0
31594	L0006A		45390	12061	FR	0	1	0	0	0
31596	L0006A		64570	12061	FR	0	1	0	0	0
31597	L0006A		64830	12061	FR	0	1	0	0	0
31598	L0006A		101870	12061	FR	0	1	0	0	0
31599	L0006A		115000	12061	11/12/2022	0	1	0	0	0
31601	L0006A		160140	12061	10/21/2022	0	1	0	0	0
31602	L0006A		165590	12061	FR	0	1	0	0	0
31603	L0006A		169990	12061	FR	0	1	0	0	0
31604	L0006A		174660	12061	10/31/2022	0	2	0	0	0
31605	L0006A		178850	12061	FR	0	1	0	0	0
31606	L0006A		184960	12061	FR	0	1	0	0	0
31607	L0006A		185580	12061	FR	0	2	0	0	0
31608	L0006A		187800	12061	FR	0	1	0	0	0

	Table D-15: P. 39.a-b FREs Repaired and Planned for Repair											
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair / Mitigation <sup>1, ODS1</sup>	Crack Features	Corrosion Features	Axial Grooving Features	Interacting Features	Geometry Features		
31609	L0006A		187850	12061	FR	0	1	0	0	0		
31610	L0006A		188020	12061	FR	0	3	0	0	0		
31611	L0006A		189830	12061	FR	o	1	0	0	0		
31612	L0006A		190480	12061	FR	0	1	0	0	0		
31613	L0006A		196210	12061	FR	o	1	0	0	0		
31614	L0006A		200170	12061	FR	0	1	0	0	0		
31615	L0006A		216570	12061	11/1/2022	0	1	0	0	0		
31616	L0006A		220620	12061	10/19/2022	0	1	0	0	0		
31617	L0006A		221100	12061	10/25/2022	0	1	0	0	0		
31618	L0006A		222010	12061	11/2/2022	0	2	0	0	0		
31619	L0006A		225660	12061	FR	0	1	0	0	0		
31620	L0006A		225780	12061	FR	0	1	0	0	0		
31621	L0006A		225860	12061	FR	0	1	0	0	0		
31622	L0006A		230000	12061	FR	0	1	0	0	0		
31623	L0006A		247400	12061	10/28/2022	0	1	0	0	0		
	Total: 119						95	0	5	0		

#### TABLE NOTE:

<sup>1</sup> "FR" indicates that this information is outside the reporting period of this SIPTUR1 <sup>10DS</sup> Date of Repair / Mitigation: eDig Report - Power BI Dashboard, Added columns (NDE Assessed Date and Sleeve Post Repair Assessed Date) to report to track new interpretation dates for P40/77d

The following 1 page is Table D-17: P. 44.a-b Initial Predicted Burst Pressure and Initial Remaining Life Calculations.

Table D-17: P. 44.a-b Initial Predicted Burst Pressure and Initial Remaining Life Calculations												
Tool Run ID	Line	Segment	ΤοοΙ	Report Type	Pull Date <sup>ODS1</sup>	Date Preliminary Review Completed ODS2	Data Qualit y Conc erns?	Calculation Deadline (1) <sup>1</sup>	Calculation Deadline (2) <sup>1</sup>	Burst Pressure Calculation Date <sup>ODS3</sup>	Remaining Life Calculation Date ODS4	
10888	04	-	DuDi UCM	Corrosion	7/20/2022	11/8/2022	No	1/3/2023	1/11/2023	11/8/2022	11/8/2022	
10895	04		DuDi UCM	Crack	5/25/2022	10/20/2022	No	12/15/2022	11/16/2022	10/20/2022	10/20/2022	
10904	05		MFL4	Corrosion	7/21/2022	11/15/2022	No	1/10/2023	1/12/2023	11/15/2022	11/15/2022	
10904	05		MFL4	Geometry	7/21/2022	11/15/2022	No	1/10/2023	1/12/2023	11/15/2022	11/15/2022	
10907	05		UCx	Crack	6/28/2022	11/21/2022	No	1/17/2023	12/20/2022	11/21/2022	11/21/2022	
10909	05		UCx	Crack	6/17/2022	11/16/2022	No	1/11/2023	12/9/2022	11/16/2022	11/16/2022	
11053	06A		UCx	Crack	6/18/2022	11/15/2022	No	1/10/2023	12/12/2022	11/15/2022	11/15/2022	
10300	93		UCx	Crack	6/1/2022	10/26/2022	No	12/21/2022	11/23/2022	10/26/2022	10/26/2022	

#### TABLE NOTE:

<sup>1</sup> Calculation Deadline (1) – 8 weeks after completing data quality review with respect to the feature and/or pipeline section where the feature is located. Calculation Deadline (2) – 175 days after the ILI tool pull date.
 O<sup>DS1</sup> Pull Date: Milestone Report – Power BI Dashboard
 O<sup>DS2</sup> Date Preliminary Review Complete: Share Drive – PI Listing Approval Confirmation Email
 O<sup>DS3</sup> Burst Pressure Calculation Date: PI Listing Approval Confirmation Email – Share Drive Documentation
 O<sup>DS4</sup> Remaining Life Calculation Date: PI Listing Approval Confirmation Email – Share Drive Documentation

The following 3 pages are Table D-18: P. 46.a, c Identified Digs.

Table D-18: P. 46.a, c Identified Digs											
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Tech- nology	Date of Discovery / Feature Added to Dig List <sup>ODS1</sup>	Repair / Mitigation Deadline <sup>ODS2</sup>	Date of Repair / Mitigation <sup>1,</sup> ODS3			
32161	L0005		49760	10907	UTCD	11/21/2022	5/19/2023	FR			
32162	L0005		84700	10907	UTCD	11/21/2022	5/19/2023	FR			
32164	L0005		101830	10907	UTCD	11/21/2022	11/20/2023	FR			
32166	L0005		137380	10907	UTCD	11/21/2022	11/20/2023	FR			
32167	L0005		175960	10907	UTCD	11/21/2022	5/19/2023	FR			
32064	L0005		16040	10909	UTCD	11/16/2022	5/15/2023	FR			
32065	L0005		51170	10909	UTCD	11/16/2022	5/15/2023	FR			
32066	L0005		59470	10909	UTCD	11/16/2022	11/16/2023	FR			
32067	L0005		83660	10909	UTCD	11/16/2022	5/15/2023	FR			
32068	L0005		119020	10909	UTCD	11/16/2022	1/17/2023	11/18/2022			
32069	L0005		190020	10909	UTCD	11/16/2022	1/17/2023	FR			
32071	L0005		197890	10909	UTCD	11/16/2022	5/15/2023	FR			
32072	L0005		217650	10909	UTCD	11/16/2022	5/15/2023	FR			
32073	L0005		223700	10909	UTCD	11/16/2022	5/15/2023	11/17/2022			
32074	L0005		225020	10909	UTCD	11/16/2022	1/17/2023	FR			
31472	L0006A		18190	10919	UTWM	7/14/2022	7/14/2023	FR			
31473	L0006A		73930	10919	UTWM	7/14/2022	7/14/2023	10/27/2022			
31474	L0006A		74040	10919	UTWM	7/14/2022	7/14/2023	10/31/2022			
31475	L0006A		74790	10919	UTWM	7/14/2022	7/14/2023	FR			
31476	L0006A		80630	10919	UTWM	7/14/2022	7/14/2023	FR			
31477	L0006A		92550	10919	UTWM	7/14/2022	7/14/2023	FR			
31478	L0006A		95950	10919	UTWM	7/14/2022	7/14/2023	FR			
31479	L0006A		96300	10919	UTWM	7/14/2022	7/14/2023	FR			
31480	L0006A		96310	10919	UTWM	7/14/2022	7/14/2023	FR			
31481	L0006A		127040	10919	UTWM	7/14/2022	7/14/2023	FR			
31482	L0006A		137980	10919	UTWM	7/14/2022	7/14/2023	FR			
31483	L0006A		155400	10919	UTWM	7/14/2022	7/14/2023	FR			
31484	L0006A		174640	10919	UTWM	7/14/2022	7/14/2023	FR			
31485	L0006A		256721	10919	UTWM	7/14/2022	7/14/2023	FR			
31486	L0006A		257540	10919	UTWM	7/14/2022	7/14/2023	FR			
31487	L0006A		289800	10919	UTWM	7/14/2022	7/14/2023	FR			
31488	L0006A		297480	10919	UTWM	7/14/2022	7/14/2023	FR			
31490	L0006A		298810	10919	UTWM	7/14/2022	7/14/2023	11/19/2022			
31491	L0006A		299720	10919	UTWM	7/14/2022	7/14/2023	FR			
31493	L0006A		302470	10919	UTWM	7/14/2022	7/14/2023	FR			
31494	L0006A		303050	10919	UTWM	7/14/2022	7/14/2023	FR			
31496	L0006A		309480	10919	UTWM	7/14/2022	7/14/2023	FR			
31498	L0006A		73870	10919	UTWM	7/15/2022	1/10/2023	10/27/2022			
31499	L0006A		82500	10919	UTWM	7/15/2022	1/10/2023	FR			
31500	L0006A		88260	10919	UTWM	7/15/2022	1/10/2023	FR			

Table D-18: P. 46.a, c Identified Digs											
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Tech- nology	Date of Discovery / Feature Added to	Repair / Mitigation Deadline <sup>ODS2</sup>	Date of Repair / Mitigation <sup>1,</sup> ODS3			
31501	1.0006A	1	88840	10919	UTWM	7/15/2022	1/10/2023	FR			
31502	1 0006A		100120	10919	UTWM	7/15/2022	1/10/2023	10/21/2022			
31503	L0006A		109830	10919	UTWM	7/15/2022	1/10/2023	11/7/2022			
31504	L0006A		149930	10919	UTWM	7/15/2022	1/10/2023	11/3/2022			
31505	L0006A		224170	10919	UTWM	7/15/2022	1/10/2023	10/22/2022			
31506	L0006A		237600	10919	UTWM	7/15/2022	1/10/2023	FR			
31507	L0006A		249190	10919	UTWM	7/15/2022	1/10/2023	FR			
31508	L0006A		250670	10919	UTWM	7/15/2022	1/10/2023	FR			
31509	L0006A		273430	10919	UTWM	7/15/2022	1/10/2023	FR			
31510	L0006A		276150	10919	UTWM	7/15/2022	1/10/2023	11/8/2022			
31511	L0006A		278260	10919	UTWM	7/15/2022	1/10/2023	11/28/2022			
31512	L0006A		279820	10919	UTWM	7/15/2022	1/10/2023	11/2/2022			
31513	L0006A		280000	10919	UTWM	7/15/2022	1/10/2023	11/1/2022			
31514	L0006A		280790	10919	UTWM	7/15/2022	1/10/2023	FR			
31515	L0006A		289430	10919	UTWM	7/15/2022	1/10/2023	FR			
31516	L0006A		289630	10919	UTWM	7/15/2022	1/10/2023	FR			
31517	L0006A		292570	10919	UTWM	7/15/2022	1/10/2023	FR			
31518	L0006A		295080	10919	UTWM	7/15/2022	1/10/2023	11/12/2022			
31519	L0006A		297120	10919	UTWM	7/15/2022	1/10/2023	FR			
31520	L0006A		297910	10919	UTWM	7/15/2022	1/10/2023	FR			
31521	L0006A		299420	10919	UTWM	7/15/2022	1/10/2023	11/21/2022			
31522	L0006A		300920	10919	UTWM	7/15/2022	1/10/2023	FR			
31523	L0006A		301880	10919	UTWM	7/15/2022	1/10/2023	FR			
31524	L0006A		302160	10919	UTWM	7/15/2022	1/10/2023	FR			
31525	L0006A		302190	10919	UTWM	7/15/2022	1/10/2023	FR			
31526	L0006A		306470	10919	UTWM	7/15/2022	1/10/2023	11/11/2022			
31527	L0006A		310450	10919	UTWM	7/15/2022	1/10/2023	FR			
31528	L0006A		310810	10919	UTWM	7/15/2022	1/10/2023	FR			
32051	L0006A		204410	11053	UTCD	11/15/2022	5/15/2023	FR			
32052	L0006A		217220	11053	UTCD	11/15/2022	5/15/2023	FR			
32053	L0006A		233560	11053	UTCD	11/15/2022	5/15/2023	FR			
32054	L0006A		269560	11053	UTCD	11/15/2022	5/15/2023	FR			
32055	L0006A		273270	11053	UTCD	11/15/2022	1/17/2023	11/18/2022			
32056	L0006A		305490	11053	UTCD	11/15/2022	11/15/2023	FR			
31775	L0006A		100400	12046	MFL	9/21/2022	3/20/2023	10/27/2022			
31776	L0006A		162030	12046	MFL	9/21/2022	9/21/2023	FR			
31777	L0006A		211760	12046	MFL	9/21/2022	3/20/2023	10/31/2022			
31778	L0006A		290160	12046	MFL	9/21/2022	3/20/2023	FR			
31779	L0006A		291850	12046	MFL	9/21/2022	3/20/2023	FR			
31780	L0006A		298040	12046	MFL	9/21/2022	3/20/2023	11/18/2022			

Table D-18: P. 46.a, c Identified Digs										
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Tech- nology	Date of Discovery / Feature Added to Dig List <sup>ODS1</sup>	Repair / Mitigation Deadline <sup>ODS2</sup>	Date of Repair / Mitigation <sup>1,</sup> ODS3		
<mark>31781</mark>	L0006A		299680	12046	MFL	9/21/2022	3/20/2023	FR		
31782	L0006A		309410	12046	MFL	9/21/2022	3/20/2023	FR		
31593	L0006A		45130	12061	MFL	8/4/2022	8/4/2023	FR		
31594	L0006A		45390	12061	MFL	8/4/2022	8/4/2023	FR		
31596	L0006A		64570	12061	MFL	8/4/2022	8/4/2023	FR		
31597	L0006A		64830	12061	MFL	8/4/2022	8/4/2023	FR		
31598	L0006A		101870	12061	MFL	8/4/2022	1/31/2023	FR		
31599	L0006A		115000	12061	MFL	8/4/2022	1/31/2023	11/12/2022		
31601	L0006A		160140	12061	MFL	8/4/2022	1/31/2023	10/21/2022		
31602	L0006A		165590	12061	MFL	8/4/2022	8/4/2023	FR		
31603	L0006A		169990	12061	MFL	8/4/2022	8/4/2023	FR		
31604	L0006A		174660	12061	MFL	8/4/2022	1/31/2023	10/31/2022		
31605	L0006A		178850	12061	MFL	8/4/2022	8/4/2023	FR		
31606	L0006A		184960	12061	MFL	8/4/2022	1/31/2023	FR		
31607	L0006A		185580	12061	MFL	8/4/2022	8/4/2023	FR		
31608	L0006A		187800	12061	MFL	8/4/2022	1/31/2023	FR		
31609	L0006A		187850	12061	MFL	8/4/2022	1/31/2023	FR		
31610	L0006A		188020	12061	MFL	8/4/2022	1/31/2023	FR		
31611	L0006A		189830	12061	MFL	8/4/2022	8/4/2023	FR		
31612	L0006A		190480	12061	MFL	8/4/2022	8/4/2023	FR		
31613	L0006A		196210	12061	MFL	8/4/2022	8/4/2023	FR		
31614	L0006A		200170	12061	MFL	8/4/2022	8/4/2023	FR		
31615	L0006A		216570	12061	MFL	8/4/2022	8/4/2023	11/1/2022		
31616	L0006A		220620	12061	MFL	8/4/2022	8/4/2023	10/19/2022		
31617	L0006A		221100	12061	MFL	8/4/2022	8/4/2023	10/25/2022		
31618	L0006A		222010	12061	MFL	8/4/2022	8/4/2023	11/2/2022		
31619	L0006A		225660	12061	MFL	8/4/2022	8/4/2023	FR		
31620	L0006A		225780	12061	MFL	8/4/2022	8/4/2023	FR		
31621	L0006A		225860	12061	MFL	8/4/2022	8/4/2023	FR		
31622	L0006A		230000	12061	MFL	8/4/2022	8/4/2023	FR		
31623	L0006A		247400	12061	MFL	8/4/2022	1/31/2023	10/28/2022		

#### TABLE NOTES:

<sup>1</sup> "FR" indicates that this information is outside the reporting period of this SIPTUR1 <sup>ODS1</sup> Date of Discovery / Feature Added to Dig List: Share Drive - Assessment Sheet – Column JB "UPLOAD TO EDIG", PI Listing (Corrosion) - Column IV "Upload to Edig"

<sup>ODS2</sup> Repair/Mitigation Deadline: eDig Report - Power BI Dashboard

ODS3 Repair / Mitigation Deadline: eDig Report - Power BI Dashboard, Added columns (NDE Assessed Date and Sleeve Post Repair Assessed Date) to report to track new interpretation dates for P40/77d

The following 3 pages are Table D-20: P. 46.b, d PPRs.

Table D-20: P. 46.b, d PPRs											
PR ID	Line	Segment	Girth Weld	Date of Discovery ODS1	Repair / Mitigation Deadline <sup>1</sup> ODS2	PPR Imposition Date <sup>ODS3</sup>	Repair / Mitigation Date <sup>ODS4</sup>	PPR Removal Date <sup>2 ODS5</sup>			
40963	L0005		49760	11/21/2022	5/19/2023	11/22/2022	FR	FR			
40964	L0005		84700	11/21/2022	5/19/2023	11/22/2022	FR	FR			
40965	L0005		175960	11/21/2022	5/19/2023	11/22/2022	FR	FR			
36938	L0005		16040	11/16/2022	5/15/2023	11/18/2022	FR	FR			
36939	L0005		51170	11/16/2022	5/15/2023	11/18/2022	FR	FR			
36940	L0005		83660	11/16/2022	5/15/2023	11/18/2022	FR	FR			
36941 <sup>3</sup>	L0005		119020	11/16/2022	1/17/2023	11/18/2022	11/18/2022	FR			
369424	L0005		190020	11/16/2022	1/17/2023	11/18/2022	FR	FR			
36943	L0005		197890	11/16/2022	5/15/2023	11/18/2022	FR	FR			
36944	L0005		217650	11/16/2022	5/15/2023	11/18/2022	FR	FR			
369455	L0005		223700	11/16/2022	5/15/2023	11/18/2022	11/17/2022	FR			
36946 <sup>6</sup>	L0005		225020	11/16/2022	1/17/2023	11/18/2022	FR	FR			
36178	L0006A		18190	7/14/2022	7/14/2023	7/18/2022	FR	FR			
36179	L0006A		73870	7/15/2022	1/10/2023	7/18/2022	10/27/2022	FR			
36180	L0006A		73930	7/14/2022	7/14/2023	7/18/2022	10/27/2022	FR			
36181	L0006A		74040	7/14/2022	7/14/2023	7/18/2022	10/31/2022	FR			
36182	L0006A		80630	7/14/2022	7/14/2023	7/18/2022	FR	FR			
36183	L0006A		82500	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36184	L0006A		88260	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36185	L0006A		95950	7/14/2022	7/14/2023	7/18/2022	FR	FR			
36186	L0006A		96300	7/14/2022	7/14/2023	7/18/2022	FR	FR			
36187	L0006A		96310	7/14/2022	7/14/2023	7/18/2022	FR	FR			
36188	L0006A		100120	7/15/2022	1/10/2023	7/18/2022	10/21/2022	FR			
36189	L0006A	_	109830	7/15/2022	1/10/2023	7/18/2022	11/7/2022	FR			
36190	L0006A	_	149930	7/15/2022	1/10/2023	7/18/2022	11/3/2022	FR			
36191	L0006A		155400	7/14/2022	7/14/2023	7/18/2022	FR	FR			
36192	L0006A		249190	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36193	L0006A		250670	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36194	L0006A		273430	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36195	L0006A		278260	7/15/2022	1/10/2023	7/18/2022	11/28/2022	FR			
36196	L0006A		279820	7/15/2022	1/10/2023	7/18/2022	11/2/2022	FR			
36197	L0006A	_	280000	7/15/2022	1/10/2023	7/18/2022	11/1/2022	FR			
36198	L0006A		289430	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36199	L0006A		289630	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36200	L0006A		292570	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36201	L0006A		300920	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36202	L0006A		301880	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36203	L0006A		302190	7/15/2022	1/10/2023	7/18/2022	FR	FR			
36545	L0006A		162030	9/21/2022	9/21/2023	9/22/2022	FR	FR			
36546	L0006A		290160	9/21/2022	3/20/2023	9/22/2022	FR	FR			

Table D-20: P. 46.b, d PPRs											
PR ID	Line	Segment	Girth Weld	Date of Discovery ODS1	Repair / Mitigation Deadline <sup>1</sup> ODS2	PPR Imposition Date <sup>ODS3</sup>	Repair / Mitigation Date <sup>ODS4</sup>	PPR Removal Date <sup>2 ODS5</sup>			
36547	L0006A		291850	9/21/2022	3/20/2023	9/22/2022	FR	FR			
36548	L0006A		299680	9/21/2022	3/20/2023	9/22/2022	FR	FR			
36549	L0006A		309410	9/21/2022	3/20/2023	9/22/2022	FR	FR			
36921	L0006A		204410	11/15/2022	5/15/2023	11/17/2022	FR	FR			
36922	L0006A		217220	11/15/2022	5/15/2023	11/17/2022	FR	FR			
36923	L0006A		233560	11/15/2022	5/15/2023	11/17/2022	FR	FR			
36924	L0006A		269560	11/15/2022	5/15/2023	11/17/2022	FR	FR			
36925	L0006A		273270	11/15/2022	1/17/2023	11/17/2022	11/18/2022	11/17/20227			
36245	L0006A		45130	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36246	L0006A		57830	8/4/2022	8/4/2023	8/5/2022	10/3/2022	FR			
36247	L0006A		64570	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36248	L0006A		64830	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36249	L0006A		101870	8/4/2022	1/31/2023	8/5/2022	FR	FR			
36250	L0006A		123920	8/4/2022	1/31/2023	8/5/2022	10/17/2022	FR			
36251	L0006A		160140	8/4/2022	1/31/2023	8/5/2022	10/21/2022	FR			
36252	L0006A		165590	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36253	L0006A		169990	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36254	L0006A		174660	8/4/2022	1/31/2023	8/5/2022	10/31/2022	FR			
36255	L0006A		178850	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36256	L0006A		184960	8/4/2022	1/31/2023	8/5/2022	FR	FR			
36257	L0006A		185580	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36258	L0006A		187800	8/4/2022	1/31/2023	8/5/2022	FR	FR			
36259	L0006A		187850	8/4/2022	1/31/2023	8/5/2022	FR	FR			
36260	L0006A		188020	8/4/2022	1/31/2023	8/5/2022	FR	FR			
36261	L0006A		189830	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36262	L0006A		196210	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36263	L0006A		200170	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36264	L0006A		216570	8/4/2022	8/4/2023	8/5/2022	11/1/2022	FR			
36265	L0006A		220620	8/4/2022	8/4/2023	8/5/2022	10/19/2022	FR			
36266	L0006A		221100	8/4/2022	8/4/2023	8/5/2022	10/25/2022	FR			
36267	L0006A		222010	8/4/2022	8/4/2023	8/5/2022	11/2/2022	FR			
36268	L0006A		225660	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36269	L0006A		225780	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36270	L0006A		230000	8/4/2022	8/4/2023	8/5/2022	FR	FR			
36271	L0006A	+	247400	8/4/2022	1/31/2023	8/5/2022	10/28/2022	FR			

#### TABLE NOTES:

<sup>1</sup> Repair/Mitigation Deadline was specified in Tables 1 to 5 of the Consent Decree

<sup>2</sup> PPR is removed after the Feature Requiring Pressure Restriction is repaired or mitigated. This PPR Removal Date can be before the Repair / Mitigation Date which is the repair and mitigation date of the entire dig package that may include other features not requiring pressure restriction. PPR is no longer required after the Feature Requiring Pressure Restriction is repaired. <sup>3</sup> AP13

<sup>4</sup> AP14 <sup>5</sup> AP15

<sup>6</sup> AP16

<sup>7</sup> PPR was removed after NDE confirmed no crack feature is interacting with geometry feature <sup>ODS1</sup> Date of Discovery: Share Drive - Assessment Sheet – Column JB "UPLOAD TO EDIG", PI Listing (Corrosion) – Column IV "Upload to Edig" <sup>ODS2</sup> Repair/Mitigation Deadline: eDig Report - Power BI Dashboard

ODS3 PPR Imposition Date: PPR Report

<sup>ODS4</sup> Repair / Mitigation Deadline: eDig Report - Power BI Dashboard

ODS5 PPR Removal Date: PPR Report

"FR" indicates that this information is outside the reporting period of this SIPTUR1
The following 1 page is Table D-21: P. 46.e Alternate Plans and Alternate Pressure Restrictions.

Table D-21: P. 46.e Alternate Plans and Alternate Pressure R	estrictions
46.e. Alternate Plan or Alternate Interim Pressure Restrictions submitted from effective date to the end of this SIPTUR1 reporting period:	16 of maximum 40
46.e. Cumulative Excavations of Joints	16 of maximum 200
46.e. Maximum number of contiguous joints for each Alternate Plans or Alternate Interim Pressure Restriction	1 of maximum 10

The following 4 pages are Table D-22: P. 46.g Alternate Plan #.

Table D-22: P. 46.g	Alternate Plan
Alternate Plan Line	5
Alternate Plan Tool Run	2022 NDT UCx
Alternate Plan Joint	119020
46.I. (iv) Date Engineering Assessment was	Engineering Assessment Completed:
Completed OR the original feature repair/mitigation	November 17, 2022
46.I.(vii) Alternate Plan Implementation Date	11/18/2022
46.I.(iv) Alternate Plan Reporting/Notification Date	11/19/2022
Notification was within 10 days of EA completion or	Yes
10 days before Original Feature Mitigation Deadline	
Number of Features Requiring Excavation covered	1
by the Alternate Plan	

46.I(i) Alternate Plan Detailed Description:

This Alternate Plan (AP) is prepared in support of the adoption and implementation of an alternate interim pressure restriction as provided in Paragraph 46.d of the Consent Decree ("CD") and includes a completed Engineering Assessment ("EA") and timelines for implementing the repair or mitigation of an interacting crack field/dent feature on the Line 5 Superior (PE) to Iron River (IR) at joint GW119020.

The interaction has been assessed by Finite Element Analysis (FEA), resulting in a recommended alternate interim pressure restriction of 729 psi in lieu of 80% of 60 day high.

The feature is considered a Feature Requiring Excavation (FRE) under the CD and will be excavated, not to exceed a 60-day deadline of January 15, 2023.

The Alternate Plan demonstrates operational safety of the feature until the proposed deadline. Enbridge proposes that the alternate interim pressure set forward will achieve a level of safety equal to or greater than the level of safety achieved through compliance with the requirements of Section VII.D.(V) applicable to the feature.

46.I.(iii) Basis for selection of the Alternate Plan and alternate timetables

Based on an engineering assessment, the AP recommended:

a) implementation of an alternate interim pressure restriction of 729 psi in lieu of 80% of 60 day high; and,

b) maintain the 60-day CD timeline of January 15, 2023.

46.I(v) Detailed description of the analysis comparing the level of safety achieved by each such

The AP used ILI data, operational conditions, and Finite Element Analysis to determine that the alternate pressure met safety requirements until the feature was mitigated.

46.I(vii) Dates on which Enbridge completed implementation of any component of the Alternate Plan

On November 18, 2023 Enbridge implemented an alternate pressure restriction of 729 psi.

On November 19, 2023 Enbridge repaired the feature using a pressure containment sleeve.

Table D-22: P. 46.g	Alternate Plan
Alternate Plan Line	5
Alternate Plan Tool Run	2022 NDT UCx
Alternate Plan Joint	190020
46.I. (iv) Date Engineering Assessment was	Engineering Assessment Completed:
deadline	November 17, 2022
46.I.(vii) Alternate Plan Implementation Date	11/18/2022
46.I.(iv) Alternate Plan Reporting/Notification Date	11/19/2022
Notification was within 10 days of EA completion or 10 days before Original Feature Mitigation Deadline	Yes
Number of Features Requiring Excavation covered by the Alternate Plan	1

46.I(i) Alternate Plan Detailed Description:

This Alternate Plan (AP) is prepared in support of the adoption and implementation of an alternate interim pressure restriction as provided in Paragraph 46.d of the Consent Decree ("CD") and includes a completed Engineering Assessment ("EA") and timelines for implementing the repair or mitigation of an interacting crack field/dent feature on the Line 5 Superior (PE) to Iron River (IR) at joint GW190020.

The interaction has been assessed by Finite Element Analysis (FEA), resulting in a recommended alternate interim pressure restriction of 656 psi in lieu of 80% of 60 day high.

The feature is considered a Feature Requiring Excavation (FRE) under the CD and will be excavated, not to exceed a 60-day deadline of January 15, 2023.

The Alternate Plan demonstrates operational safety of the feature until the proposed deadline. Enbridge proposes that the alternate interim pressure set forward will achieve a level of safety equal to or greater than the level of safety achieved through compliance with the requirements of Section VII.D.(V) applicable to the feature.

46.I.(iii) Basis for selection of the Alternate Plan and alternate timetables

Based on an engineering assessment, the AP recommended:

a) implementation of an alternate interim pressure restriction of 656 psi in lieu of 80% of 60 day high; and,

b) maintain the 60-day CD timeline of January 15, 2023.

46.I(v) Detailed description of the analysis comparing the level of safety achieved by each such

The AP used ILI data, operational conditions, and Finite Element Analysis to determine that the alternate pressure met safety requirements until the feature was mitigated.

46.I(vii) Dates on which Enbridge completed implementation of any component of the Alternate Plan

On November 18, 2022, Enbridge implemented an alternate pressure restriction of 656 psi.

Table D-22: P. 46.g	Alternate Plan
Alternate Plan Line	5
Alternate Plan Tool Run	2022 NDT UCx
Alternate Plan Joint	223700
46.I. (iv) Date Engineering Assessment was	Engineering Assessment Completed:
Completed OR the original feature repair/mitigation deadline	November 17, 2022
46.I.(vii) Alternate Plan Implementation Date	11/18/2022
46.I.(iv) Alternate Plan Reporting/Notification Date	11/19/2022
Notification was within 10 days of EA completion or 10 days before Original Feature Mitigation Deadline	Yes
Number of Features Requiring Excavation covered	1
by the Alternate Plan	
	·

46.I(i) Alternate Plan Detailed Description:

This Alternate Plan (AP) is prepared in support of the adoption and implementation of an alternate interim pressure restriction as provided in Paragraph 46.d of the Consent Decree ("CD") and includes a completed Engineering Assessment ("EA") and timelines for implementing the repair or mitigation of an interacting crack field/dent feature on the Line 5 Superior (PE) to Iron River (IR) at joint GW119020.

The interaction has been assessed by Finite Element Analysis (FEA), resulting in a recommended alternate interim pressure restriction of 729 psi in lieu of 80% of 60 day high.

The feature is considered a Feature Requiring Excavation (FRE) under the CD and will be excavated, not to exceed a 60-day deadline of May 15, 2023.

The Alternate Plan demonstrates operational safety of the feature until the proposed deadline. Enbridge proposes that the alternate interim pressure set forward will achieve a level of safety equal to or greater than the level of safety achieved through compliance with the requirements of Section VII.D.(V) applicable to the feature.

46.I.(iii) Basis for selection of the Alternate Plan and alternate timetables

Based on an engineering assessment, the AP recommended:

a) implementation of an alternate interim pressure restriction of 729 psi in lieu of 80% of 60 day high; and,

b) maintain the 60-day CD timeline of May 15, 2023.

46.I(v) Detailed description of the analysis comparing the level of safety achieved by each such

The AP used ILI data, operational conditions, and Finite Element Analysis to determine that the alternate pressure met safety requirements until the feature was mitigated.

46.I(vii) Dates on which Enbridge completed implementation of any component of the Alternate Plan

On November 18, 2022, Enbridge implemented an alternate pressure restriction of 729 psi.

On November 18, 2022, Enbridge repaired the feature using a pressure containment sleeve.

Table D-22: P. 46.g	Alternate Plan
Alternate Plan Line	5
Alternate Plan Tool Run	2022 NDT UCx
Alternate Plan Joint	225020
46.I. (iv) Date Engineering Assessment was	Engineering Assessment Completed:
deadline	November 17, 2022
46.I.(vii) Alternate Plan Implementation Date	11/18/2022
46.I.(iv) Alternate Plan Reporting/Notification Date	11/19/2022
Notification was within 10 days of EA completion or 10 days before Original Feature Mitigation Deadline	Yes
Number of Features Requiring Excavation covered by the Alternate Plan	1

46.I(i) Alternate Plan Detailed Description:

This Alternate Plan (AP) is prepared in support of the adoption and implementation of an alternate interim pressure restriction as provided in Paragraph 46.d of the Consent Decree ("CD") and includes a completed Engineering Assessment ("EA") and timelines for implementing the repair or mitigation of an interacting crack field/dent feature on the Line 5 Superior (PE) to Iron River (IR) at joint GW225020.

The interaction has been assessed by Finite Element Analysis (FEA), resulting in a recommended alternate interim pressure restriction of 656 psi in lieu of 80% of 60 day high.

The feature is considered a Feature Requiring Excavation (FRE) under the CD and will be excavated, not to exceed a 60-day deadline of January 15, 2023.

The Alternate Plan demonstrates operational safety of the feature until the proposed deadline. Enbridge proposes that the alternate interim pressure set forward will achieve a level of safety equal to or greater than the level of safety achieved through compliance with the requirements of Section VII.D.(V) applicable to the feature.

46.I.(iii) Basis for selection of the Alternate Plan and alternate timetables

Based on an engineering assessment, the AP recommended:

a) implementation of an alternate interim pressure restriction of 656 psi in lieu of 80% of 60 day high; and,

b) maintain the 60-day CD timeline of January 15, 2023.

46.I(v) Detailed description of the analysis comparing the level of safety achieved by each such

The AP used ILI data, operational conditions, and Finite Element Analysis to determine that the alternate pressure met safety requirements until the feature was mitigated.

46.I(vii) Dates on which Enbridge completed implementation of any component of the Alternate Plan

On November 18, 2022, Enbridge implemented an alternate pressure restriction of 656 psi.

The following 3 pages are the D-26: P. 50 Corrosion Features Requiring Excavation.

Table D-26: P. 50 Corrosion Features Requiring Excavation										
Dig ID	Line	Segment	Girth Weld	Date Features Added to Dig List	Repair / Mitigation Deadline <sup>ODS1</sup>	Date of Repair / Mitigation <sup>1,</sup> ODS2				
31472	1 0006A	-	18190	7/14/2022	7/14/2023	FR				
31473	L0006A		73930	7/14/2022	7/14/2023	10/27/2022				
31474	L0006A		74040	7/14/2022	7/14/2023	10/31/2022				
31475	L0006A		74790	7/14/2022	7/14/2023	FR				
31476	L0006A		80630	7/14/2022	7/14/2023	FR				
31477	L0006A		92550	7/14/2022	7/14/2023	FR				
31478	L0006A		95950	7/14/2022	7/14/2023	FR				
31479	L0006A		96300	7/14/2022	7/14/2023	FR				
31480	L0006A		96310	7/14/2022	7/14/2023	FR				
31481	L0006A		127040	7/14/2022	7/14/2023	FR				
31482	L0006A		137980	7/14/2022	7/14/2023	FR				
31483	L0006A		155400	7/14/2022	7/14/2023	FR				
31484	L0006A		174640	7/14/2022	7/14/2023	FR				
31485	L0006A		256721	7/14/2022	7/14/2023	FR				
31486	L0006A		257540	7/14/2022	7/14/2023	FR				
31487	L0006A		289800	7/14/2022	7/14/2023	FR				
31488	L0006A		297480	7/14/2022	7/14/2023	FR				
31490	L0006A		298810	7/14/2022	7/14/2023	11/19/2022				
31491	L0006A		299720	7/14/2022	7/14/2023	FR				
31493	L0006A		302470	7/14/2022	7/14/2023	FR				
31494	L0006A		303050	7/14/2022	7/14/2023	FR				
31496	L0006A		309480	7/14/2022	7/14/2023	FR				
31498	L0006A		73870	7/15/2022	1/10/2023	10/27/2022				
31499	L0006A		82500	7/15/2022	1/10/2023	FR				
31500	L0006A		88260	7/15/2022	1/10/2023	FR				
31501	L0006A		88840	7/15/2022	1/10/2023	FR				
31502	L0006A		100120	7/15/2022	1/10/2023	10/21/2022				
31503	L0006A		109830	7/15/2022	1/10/2023	11/7/2022				
31504	L0006A		149930	7/15/2022	1/10/2023	11/3/2022				
31505	L0006A		224170	7/15/2022	1/10/2023	10/22/2022				
31506	L0006A		237600	7/15/2022	1/10/2023	FR				
31507	L0006A		249190	7/15/2022	1/10/2023	FR				
31508	L0006A		250670	7/15/2022	1/10/2023	FR				
31509	L0006A		273430	7/15/2022	1/10/2023	FR				
31510	L0006A		276150	7/15/2022	1/10/2023	11/8/2022				
31511	L0006A		278260	7/15/2022	1/10/2023	11/28/2022				
31512	L0006A		279820	7/15/2022	1/10/2023	11/2/2022				
31513	L0006A		280000	7/15/2022	1/10/2023	11/1/2022				
31514	L0006A		280790	7/15/2022	1/10/2023	FR				
31515	L0006A	+ +	289430	7/15/2022	1/10/2023	FR				

Table D-26: P. 50 Corrosion Features Requiring Excavation										
Dig ID	g ID Line Segment Girth Date Fe				Repair / Mitigation	Date of Repair /				
			TTO ICI		Deadline <sup>ODS1</sup>	Mitigation <sup>1,</sup>				
		-				ODS2				
31516	L0006A		289630	7/15/2022	1/10/2023	FR				
31517	L0006A		292570	7/15/2022	1/10/2023	FR				
31518	L0006A		295080	7/15/2022	1/10/2023	11/12/2022				
31519	L0006A		297120	7/15/2022	1/10/2023	FR				
31520	L0006A		297910	7/15/2022	1/10/2023	FR				
31521	L0006A		299420	7/15/2022	1/10/2023	11/21/2022				
31522	L0006A		300920	7/15/2022	1/10/2023	FR				
31523	L0006A		301880	7/15/2022	1/10/2023	FR				
31524	L0006A		302160	7/15/2022	1/10/2023	FR				
31525	L0006A		302190	7/15/2022	1/10/2023	FR				
31526	L0006A		306470	7/15/2022	1/10/2023	11/11/2022				
31527	L0006A		310450	7/15/2022	1/10/2023	FR				
31528	L0006A		310810	7/15/2022	1/10/2023	FR				
31775	L0006A		100400	9/21/2022	3/20/2023	10/27/2022				
31776	L0006A		162030	9/21/2022	9/21/2023	FR				
31777	L0006A		211760	9/21/2022	3/20/2023	10/31/2022				
31778	L0006A		290160	9/21/2022	3/20/2023	FR				
31779	L0006A		291850	9/21/2022	3/20/2023	FR				
31780	L0006A		298040	9/21/2022	3/20/2023	11/18/2022				
31781	L0006A		299680	9/21/2022	3/20/2023	FR				
31782	L0006A		309410	9/21/2022	3/20/2023	FR				
31593	L0006A		45130	8/4/2022	8/4/2023	FR				
31594	L0006A		45390	8/4/2022	8/4/2023	FR				
31596	L0006A		64570	8/4/2022	8/4/2023	FR				
31597	L0006A		64830	8/4/2022	8/4/2023	FR				
31598	L0006A		101870	8/4/2022	1/31/2023	FR				
31599	L0006A		115000	8/4/2022	1/31/2023	11/12/2022				
31601	L0006A		160140	8/4/2022	1/31/2023	10/21/2022				
31602	L0006A		165590	8/4/2022	8/4/2023	FR				
31603	L0006A		169990	8/4/2022	8/4/2023	FR				
31604	L0006A		174660	8/4/2022	1/31/2023	10/31/2022				
31605	L0006A		178850	8/4/2022	8/4/2023	FR				
31606	L0006A		184960	8/4/2022	1/31/2023	FR				
31607	L0006A		185580	8/4/2022	8/4/2023	FR				
31608	L0006A		187800	8/4/2022	1/31/2023	FR				
31609	L0006A		187850	8/4/2022	1/31/2023	FR				
31610	L0006A		188020	8/4/2022	1/31/2023	FR				
31611	L0006A		189830	8/4/2022	8/4/2023	FR				
31612	L0006A		190480	8/4/2022	8/4/2023	FR				
31613	L0006A		196210	8/4/2022	8/4/2023	FR				

	Table D-26: P. 50 Corrosion Features Requiring Excavation											
Dig ID	Line	Segment	Girth Weld	Date Features Added to Dig List	Repair / Mitigation Deadline <sup>ODS1</sup>	Date of Repair / Mitigation <sup>1,</sup> ODS2						
31614	L0006A		200170	8/4/2022	8/4/2023	FR						
31 <mark>615</mark>	L0006A		216570	8/4/2022	8/4/2023	11/1/2022						
31616	L0006A		220620	8/4/2022	8/4/2023	10/19/2022						
31617	L0006A		221100	8/4/2022	8/4/2023	10/25/2022						
31618	L0006A		222010	8/4/2022	8/4/2023	11/2/2022						
31619	L0006A		225660	8/4/2022	8/4/2023	FR						
31620	L0006A		225780	8/4/2022	8/4/2023	FR						
31621	L0006A		225860	8/4/2022	8/4/2023	FR						
31622	L0006A		230000	8/4/2022	8/4/2023	FR						
31623	L0006A		247400	8/4/2022	1/31/2023	10/28/2022						

#### TABLE NOTES:

<sup>1</sup> "FR" indicates that this information is outside the reporting period of this SIPTUR1 <sup>ODS1</sup> Repair/Mitigation Deadline: eDig Report – Power BI Dashboard <sup>ODS1</sup> Date of Repair / Mitigation: eDig Report - Power BI Dashboard, Added columns (NDE Assessed Date and Sleeve Post Repair Assessed Date) to report to track new interpretation dates for P40/77d

The following 3 pages are Table D-27: P. 52 Corrosion Feature Pressure Restrictions.

	Table D-27: P. 52 Corrosion Feature Pressure Restrictions											
PR ID	Line	Segment	Girth Weld	Date of Discovery ODS1	Repair / Mitigation Deadline <sup>1 ODS2</sup>	PPR Set (psi) ODS3	PPR Imposition Date <sup>ODS4</sup>	Repair / Mitigation Date <sup>ODS5</sup>	PPR Removal Date <sup>2 ODS6</sup>			
36178	L0006A		18190	7/14/2022	7/14/2023	614	7/18/2022	FR	FR			
36179	L0006A		73870	7/15/2022	1/10/2023	616	7/18/2022	10/27/2022	FR			
36180	L0006A		73930	7/14/2022	7/14/2023	581	7/18/2022	10/27/2022	FR			
36181	L0006A	-	74040	7/14/2022	7/14/2023	613	7/18/2022	10/31/2022	FR			
36182	L0006A		80630	7/14/2022	7/14/2023	591	7/18/2022	FR	FR			
36183	L0006A		82500	7/15/2022	1/10/2023	602	7/18/2022	FR	FR			
36184	L0006A		88260	7/15/2022	1/10/2023	616	7/18/2022	FR	FR			
36185	L0006A	-	95950	7/14/2022	7/14/2023	597	7/18/2022	FR	FR			
36186	L0006A	-	96300	7/14/2022	7/14/2023	586	7/18/2022	FR	FR			
36187	L0006A	-	96310	7/14/2022	7/14/2023	574	7/18/2022	FR	FR			
36188	L0006A		100120	7/15/2022	1/10/2023	614	7/18/2022	10/21/2022	FR			
36189	L0006A		109830	7/15/2022	1/10/2023	606	7/18/2022	11/7/2022	FR			
36190	L0006A	-	149930	7/15/2022	1/10/2023	617	7/18/2022	11/3/2022	FR			
36191	L0006A	-	155400	7/14/2022	7/14/2023	614	7/18/2022	FR	FR			
36192	L0006A	-	249190	7/15/2022	1/10/2023	606	7/18/2022	FR	FR			
36193	L0006A		250670	7/15/2022	1/10/2023	609	7/18/2022	FR	FR			
36194	L0006A		273430	7/15/2022	1/10/2023	617	7/18/2022	FR	FR			
36195	L0006A	-	278260	7/15/2022	1/10/2023	616	7/18/2022	11/28/2022	FR			
36196	L0006A		279820	7/15/2022	1/10/2023	605	7/18/2022	11/2/2022	FR			
36197	L0006A		280000	7/15/2022	1/10/2023	602	7/18/2022	11/1/2022	FR			
36198	L0006A		289430	7/15/2022	1/10/2023	614	7/18/2022	FR	FR			
36199	L0006A		289630	7/15/2022	1/10/2023	611	7/18/2022	FR	FR			

	Table D-27: P. 52 Corrosion Feature Pressure Restrictions										
PR ID	Line	Segment	Girth Weld	Date of Discovery ODS1	Repair / Mitigation Deadline <sup>1 ODS2</sup>	PPR Set (psi) ODS3	PPR Imposition Date <sup>ODS4</sup>	Repair / Mitigation Date <sup>ODS5</sup>	PPR Removal Date <sup>2 ODS6</sup>		
36200	L0006A		292570	7/15/2022	1/10/2023	605	7/18/2022	FR	FR		
36201	L0006A		300920	7/15/2022	1/10/2023	614	7/18/2022	FR	FR		
36202	L0006A		301880	7/15/2022	1/10/2023	612	7/18/2022	FR	FR		
36203	L0006A		302190	7/15/2022	1/10/2023	599	7/18/2022	FR	FR		
36545	L0006A		162030	9/21/2022	9/21/2023	606	9/22/2022	FR	FR		
36546	L0006A	-	290160	9/21/2022	3/20/2023	608.6	9/22/2022	FR	FR		
36547	L0006A		291850	9/21/2022	3/20/2023	615.1	9/22/2022	FR	FR		
36548	L0006A	-	299680	9/21/2022	3/20/2023	595	9/22/2022	FR	FR		
36549	L0006A		309410	9/21/2022	3/20/2023	590	9/22/2022	FR	FR		
36245	L0006A		45130	8/4/2022	8/4/2023	615.8	8/5/2022	FR	FR		
36246	L0006A		57830	8/4/2022	8/4/2023	615.8	8/5/2022	10/3/2022	FR		
36247	L0006A		64570	8/4/2022	8/4/2023	599.3	8/5/2022	FR	FR		
36248	L0006A		64830	8/4/2022	8/4/2023	616.5	8/5/2022	FR	FR		
36249	L0006A		101870	8/4/2022	1/31/2023	596.4	8/5/2022	FR	FR		
36250	L0006A		123920	8/4/2022	1/31/2023	607.9	8/5/2022	10/17/2022	FR		
36251	L0006A		160140	8/4/2022	1/31/2023	617.3	8/5/2022	10/21/2022	FR		
36252	L0006A		165590	8/4/2022	8/4/2023	610.1	8/5/2022	FR	FR		
36253	L0006A		169990	8/4/2022	8/4/2023	607.9	8/5/2022	FR	FR		
36254	L0006A		174660	8/4/2022	1/31/2023	603.6	8/5/2022	10/31/2022	FR		
36255	L0006A		178850	8/4/2022	8/4/2023	607.9	8/5/2022	FR	FR		
36256	L0006A		184960	8/4/2022	1/31/2023	603.6	8/5/2022	FR	FR		
36257	L0006A		185580	8/4/2022	8/4/2023	600	8/5/2022	FR	FR		

	Table D-27: P. 52 Corrosion Feature Pressure Restrictions											
PR ID	Line	Segment	Girth Weld	Date of Discovery ODS1	Repair / Mitigation Deadline <sup>1 ODS2</sup>	PPR Set (psi) ODS3	PPR Imposition Date <sup>ODS4</sup>	Repair / Mitigation Date <sup>ODS5</sup>	PPR Removal Date <sup>2 ODS6</sup>			
36258	L0006A		187800	8/4/2022	1/31/2023	587.7	8/5/2022	FR	FR			
36259	L0006A		187850	8/4/2022	1/31/2023	586.3	8/5/2022	FR	FR			
36260	L0006A		188020	8/4/2022	1/31/2023	560.4	8/5/2022	FR	FR			
36261	L0006A		189830	8/4/2022	8/4/2023	592.1	8/5/2022	FR	FR			
36262	L0006A		196210	8/4/2022	8/4/2023	595	8/5/2022	FR	FR			
36263	L0006A		200170	8/4/2022	8/4/2023	592.8	8/5/2022	FR	FR			
36264	L0006A		216570	8/4/2022	8/4/2023	600.7	8/5/2022	11/1/2022	FR			
36265	L0006A		220620	8/4/2022	8/4/2023	610.1	8/5/2022	10/19/2022	FR			
36266	L0006A		221100	8/4/2022	8/4/2023	593.5	8/5/2022	10/25/2022	FR			
36267	L0006A		222010	8/4/2022	8/4/2023	615.1	8/5/2022	11/2/2022	FR			
36268	L0006A		225660	8/4/2022	8/4/2023	591.4	8/5/2022	FR	FR			
36269	L0006A		225780	8/4/2022	8/4/2023	610.1	8/5/2022	FR	FR			
36270	L0006A		230000	8/4/2022	8/4/2023	617.3	8/5/2022	FR	FR			
36271	L0006A	A	247400	8/4/2022	1/31/2023	607.2	8/5/2022	10/28/2022	FR			

#### TABLE NOTES:

<sup>1</sup>Repair/ Mitigation Deadline was specified in Tables 1 to 5 of the Consent Decree

<sup>2</sup> PPR is removed after the Feature Requiring Pressure Restriction is repaired or mitigated. This PPR Removal Date can be before the Repair / Mitigation Date which is the repair and mitigation date of the entire dig package that may include other features not requiring pressure restriction. "FR" indicates that this information is outside the reporting period of this SIPTUR1

<sup>ODS1</sup> Date of Discovery: Share Drive - Assessment Sheet – Column JB "UPLOAD TO EDIG", PI Listing (Corrosion) – Column IV "Upload to Edig" <sup>ODS2</sup> Repair / Mitigation Deadline: eDig Report - Power BI Dashboard

<sup>ODS3</sup> PPR Set (psi): PPR Report

<sup>ODS4</sup> PPR Imposition Date: PPR Report

<sup>ODS5</sup> Repair / Mitigation Date: eDig Report - Power BI Dashboard, Added columns (NDE Assessed Date and Sleeve Post Repair Assessed Date) to report to track new interpretation dates for P40/77d

ODS6 PPR Removal Date: PPR Report

The following 1 page is Table D-31: P. 58 Interacting Features Requiring Excavation.

	Table D-31: P. 58 Interacting Features Requiring Excavation												
Dig ID	Line	Segment	Girth Weld	ΤοοΙ	Report Received Date <sup>ODS1</sup>	One-Source Load Date	Date of Discovery / Feature Added to Dig List <sup>ODS2</sup>	Repair / Mitigation Deadline ODS3	Type of Inter-acting features (tool) <sup>ODS4</sup>	Date of Repair / Mitigation ODS5			
32068	L0005		119020	Crack	10/17/2022	10/17/2022	11/16/2022	1/17/2023	Dent	11/18/2022			
320 <mark>6</mark> 9	L0005		190020	Crack	10/17/2022	10/17/2022	11/16/2022	1/17/2023	Dent	FR			
32073	L0005		223700	Crack	10/17/2022	10/17/2022	11/16/2022	5/15/2023	Dent	11/17/2022			
32074	L0005		225020	Crack	10/17/2022	10/17/2022	11/16/2022	1/17/2023	Dent	FR			
32055	L0006A		273270	Crack	10/17/2022	10/18/2022	11/15/2022	1/17/2023	Dent	11/18/2022			

#### TABLE NOTES:

ODS1 Report Received Date: Vendor ILI Report Email

<sup>ODS2</sup> Date of Discovery / Feature Added to Dig List: Share Drive - Assessment Sheet – Column JB "UPLOAD TO EDIG", PI Listing (Corrosion) – Column IV "Upload to Edig"

<sup>ODS3</sup> Repair / Mitigation Deadline: eDig Report - Power BI Dashboard

<sup>ODS4</sup> Type of Inter-acting features (tool): Share Drive - Program Summary Document: Geometry: Summary of Feature Selection Features Identified Through Data Integration, Crack: Mitigation Selection (PI-38) and PI Listing Approval ILI Fitness-for-Service Evaluation and Remarks, Corrosion: Consent Decree Threat Integration Excavation Selection

<sup>ODS5</sup> Date of Repair / Mitigation: eDig Report - Power BI Dashboard, Added columns (NDE Assessed Date and Sleeve Post Repair Assessed Date) to report to track new interpretation dates for P40/77d

"FR" indicates that this information is outside the reporting period of this SIPTUR1

The following 1 page is Table D-32: P. 59 Interacting Features Pressure Restrictions.

	Table D-32: P. 59 Interacting Features Pressure Restrictions									
PR ID	Line	Segment	Girth Weld	Date of Discovery <sup>ODS1</sup>	Repair / Mitigation Deadline <sup>1 ODS2</sup>	PPR Set (psi)	PPR Imposition Date <sup>ODS3</sup>	Repair / Mitigation Date <sup>ODS4</sup>	PPR Removal Date <sup>2,3 ODS5</sup>	
36941 <sup>1</sup>	L0005		119020	11/16/2022	1/17/2023	729	11/18/2022	11/18/2022	FR	
36942 <sup>2</sup>	L0005		190020	11/16/2022	1/17/2023	656	11/18/2022	FR	FR	
36945 <sup>3</sup>	L0005		223700	11/16/2022	5/15/2023	729	11/18/2022	11/17/2022	FR	
36946 <sup>4</sup>	L0005		225020	11/16/2022	1/17/2023	656	11/18/2022	FR	FR	
36925	L0006A		273270	11/15/2022	1/17/2023	336.8	11/17/2022	11/18/2022	11/17/20225	

#### TABLE NOTES:

<sup>1</sup> AP13

<sup>2</sup> AP14

<sup>3</sup> AP15

<sup>4</sup> AP16

<sup>5</sup> PPR was removed after NDE confirmed no crack feature is interacting with geometry feature

<sup>ODS1</sup> Date of Discovery: Share Drive - Assessment Sheet – Column JB<sup>"</sup>UPLOAD TO EDIG", PI Listing (Corrosion) – Column IV "Upload to Edig"

<sup>ODS2</sup> Repair / Mitigation Deadline: eDig Report - Power BI Dashboard <sup>ODS3</sup>PPR Imposition Date: PPR Report

<sup>ODS4</sup>Repair / Mitigation Date: eDig Report - Power BI Dashboard, Added columns (NDE Assessed Date and Sleeve Post Repair Assessed Date) to report to track new interpretation dates for P40/77d

<sup>ODS5</sup> PPR<sup>'</sup> Removal Date: PPR Report

"FR" indicates that this information is outside the reporting period of this SIPTUR1

The following 1 page is Table D-33: P. 60 Remaining Life Calculations.

Table D-33: P. 60 Remaining Life Calculations								
Tool Run ID	Line	Segment	ΤοοΙ	Report Type	Remaining Life Calculation Completion Date <sup>ODS1</sup>			
10888	04	+	DuDi UCM	Corrosion	11/8/2022			
10895	04		DuDi UCM	Crack	10/20/2022			
10904	05		MFL4	Corrosion	11/15/2022			
10907	05		UCx	Crack	11/21/2022			
10909	05		UCx	Crack	11/16/2022			
11053	06A		UCx	Crack	11/15/2022			
10300	93		UCx	Crack	10/26/2022			

 TABLE NOTE:

 ODS1 Remaining Life Calculation Date: PI Listing Approval Confirmation Email – Share Drive Documentation

The following 1 page is Table D-34: P. 63 Crack Feature Remaining Life Calculations.

Table D-34: P. 63 Crack Feature Remaining Life Calculations								
Tool Run ID	Line	Segment	Tool	Report Type	Remaining Life Calculation Completion Date ODS1			
10895	04		DuDi UCM	Crack	10/20/2022			
10907	05		UCx	Crack	11/21/2022			
10909	05		UCx	Crack	11/16/2022			
11053	06A		UCx	Crack	11/15/2022			
10300	93		UCx	Crack	10/26/2022			
10895	04		DuDi UCM	Crack	10/20/2022			

 TABLE NOTE:

 ODS1 Remaining Life Calculation Date: PI Listing Approval Confirmation Email – Share Drive Documentation

# **Section E**

There are no tables associated with Section E.

# **Section F**

The following 1 page is Table F-1: P. 77 OneSource NDE Updates.

# Section F

Table F-1: P. 77 OneSource NDE Updates								
Tool Run ID	Line	Segment	ΤοοΙ	Report Type	Last NDE Report Approved Date <sup>1,2</sup>	OneSource Load Date <sup>ODS1</sup>		
10901	L0005		MFL4MFL	MFL	10/26/2022	10/27/2022		
6743	L0005		GEMINICAL	CALIPER	11/18/2022	11/22/2022		
12046	L0006A		MFL4CAL	CALIPER	10/31/2022	11/1/2022		

#### TABLE NOTE:

<sup>1</sup> The last NDE report approved date was the date the last CD FRE NDE report for that particular ILI program was approved.

<sup>2</sup> There may be instances where an NDE report reissue is required to correct clerical issues. In these instances, the Last NDE Report Approved Date is the approval date of the Initial NDE report.

<sup>ODS1</sup>OneSource Load Date: OneSource - BICONSENTDECREE NDEAssessment\_V - NDEDataChangedDate

The following 1 page is Table F-2: P. 78.a OneSource ILI Updates.

Table F-2: P. 78.a OneSource ILI Updates									
Tool Run ID	Line	Segment	Tool	Report Type	Report Received Date	OneSource Upload Date <sup>ODS1</sup>			
10888	04		DuDi UCM	Corrosion	10/18/2022	10/18/2022			
10888	04		DuDi UCM	Crack	11/17/2022	11/18/2022			
10904	05		MFL4	Corrosion	10/19/2022	10/19/2022			
10904	05		MFL4	Geometry	10/19/2022	10/19/2022			
10905	05		UCx	Crack	11/10/2022	11/15/2022			
10907	05		UCx	Crack	10/26/2022	10/31/2022			
12053	93		XGG	Geometry	11/3/2022	11/7/2022			

#### TABLE NOTE:

<sup>1</sup>Results from this issue did not pass through the quality-control procedures, was determined by Enbridge to be unreliable and could not be uploaded to OneSource.

<sup>2</sup>*Reissue that passed through the quality-control procedures and deemed reliable.* 

<sup>ODS1</sup>OneSource Upload Date: OneSource - BICONSENTDECREE ILIReportIssues\_V - OneSourceLoadDate

The following 1 page is Table F-3: P. 78.b Interacting Feature Reviews.

	Table F-3: P. 78.b Interacting Feature Reviews									
Tool Run ID	Line	Segment	ΤοοΙ	Report Type	Pull Date	Report Received Date	Interacting Feature Review	SQuAD and QuAD Completion Date	Issue #	
10888	04		DuDi UCM	Corrosion	7/20/2022	10/18/2022	11/8/2022	11/8/2022	1	
10895	04		DuDi UCM	Crack	5/25/2022	9/22/2022	10/20/2022	N/A <sup>1</sup>	1	
10904	05		MFL4	Corrosion	7/21/2022	10/19/2022	11/15/2022	11/15/2022	1	
10904	05		MFL4	Geometry	7/21/2022	10/19/2022	11/15/2022	11/15/2022	1	
10907	05		UCx	Crack	6/28/2022	10/26/2022	11/21/2022	N/A <sup>1</sup>	1	
10909	05		UCx	Crack	6/17/2022	10/17/2022	11/16/2022	N/A <sup>1</sup>	1	
11053	06A		UCx	Crack	6/18/2022	10/17/2022	11/15/2022	N/A <sup>1</sup>	1	
12053	93		XGG	Geometry	3/8/2022	11/3/2022	11/10/2022	11/10/2022	3	
10300	93		UCx	Crack	6/1/2022	9/29/2022	10/26/2022	N/A <sup>1</sup>	1	

#### TABLE NOTE:

<sup>1</sup> SQuAD/QuAD is not applicable to the crack program

# **Section G**

The following 1 page is Table G-1: P. 93-94, 96-97 Temporary MBS Suspension.

# Section G

Table G-1: P. 93-94, 96-97 Temporary MBS Suspension							
Reason for Instrumentation Outage	Time Period to Restore MBS Segment to Operation (Requirement)	Number of Occurrences	Number of Occurrences Exceeding Time Period				
Instrumentation failure	10 days	4	0				
Bypass of ILI Tool	4 hours	1	0				
Scheduled maintenance or repairs	4 days	10	0				

The following 1 page is Table G-2: P. 99 Projects.

Table G-2: P. 99 Projects							
Line	Milepost	Valve Tag No.	Installation Date	Triggers Paragraph 99?			
4	1060	1060.09-4-V	Nov 2022	Yes. PT and TT were installed on the downstream side where the valve was exposed.			

The following 1 page is Table G-3: P. 112 Lakehead System Pipeline Incident Reporting.

	Table G-3: P. 112 Lakehead System Pipeline Incident Reporting								
Incident Description	Date and Time Notice Received	Date and Time Investigation Began	Date and time when preliminary Investigation complete	Information Provided with Notice	Conclusion and Findings of the Investigation	Lakehead Lines Affected			
	12/01/2022 17:24 MST	12/01/2022 17:30 MST	12/01/2022 17:30 MST			Line 14			
# **Section H**

There are no tables associated with Section H.

# **Section I**

There are no tables associated with Section I.

# **Section J**

There are no tables associated with Section J.

### **Section IX**

The following 1 page is Table IX-1: P. 144 Problems Anticipated, Consent Decree Interpretation Issues in Discussion by the Parties.

# Section IX

Table IX-1: P. 144 Problems Anticipated, Consent Decree Interpretation Issues         in Discussion by the Parties					
Section and Title Relevant Paragraph or Enbridge Position Reference					
NA					

The following 1 page is Table IX-2: P. 145 List of Potential Non-Compliances.

Table IX-2: P. 145 List of Potential Non-Compliances			
Potential Non-Compliance	Summary Location		
NA in this reporting period	Section IX – Paragraph 145		

The following 1 page is Table IX-3: P. 146 Discharges from a Lakehead System Pipeline.

Table IX-3: P. 146 Discharges from a Lakehead System Pipeline			
Spill Date (MM/DD/YYYY)	11/05/2022		
National Response Center #	1351798		
Spill Location	Livingston, Pontiac, IL		
MP#/Facility Name	Flanagan Terminal <sup>1</sup>		
Equipment or Line Number	61-VV-11		
Cause of spill	Other Accident Cause		
Spill Material	Crude Oil		
Quantity of Spill	50 Barrels		
Distance Spill Travelled	Product travelled 5 feet from release site. Due to 40 MPH winds, product mist travelled a quarter mile.		
Sheen, Sludge or Emulsion Observed	Sheen on road and ditch due to product mist.		
Name of Water that Spill Entered (if applicable)	Not Applicable		
Water Quality Standard Exceeded/Violated	Not Applicable		
Actions Taken or Planned to Address Spill	Line 61 was already shut down prior to the release due to a power failure. ICS was stood up and OSRO contractors were mobilized to the site to commence the cleanup. The failed needle valve and the associated stainless tubing on the valve body was replaced and the line was returned to service.		
Actions Taken or Planned to Prevent Future Spills and Schedule for Future Actions	Actions plans are pending the results of the failure analysis and investigation to determine the root cause.		
Environmental Impacts from Spill	Soil		
Root Cause	Unknown, Under Investigation		

 TABLE NOTES:

 <sup>1</sup> Not a CD-reportable event but disclosed for reporting consistency with previous SARs.

The following 1 page is Table IX-4: P. 147 Update on Discharges from a Lakehead System Facility.

Table IX-4	4: P. 147 Update on Discharges from a Lakehead System Facility
Spill Date (MM/DD/YYYY)	6/23/2022
National Response Center #	1339619
Spill Location	Livingston, Pontiac, IL
MP#/Facility Name	Flanagan Terminal <sup>1</sup>
Equipment or Line Number	Valve 201-V-2023
Cause of spill	Incorrect Operation
Spill Material	Crude Oil
Quantity of Spill	7 Barrels
Distance Spill Travelled	20 feet
Sheen, Sludge or Emulsion Observed	None
Name of Water that Spill Entered (if applicable)	Not Applicable
Water Quality Standard Exceeded/Violated	Not Applicable
Actions Taken or Planned to Address Spill	Incoming and outgoing lines at the Terminal were already shut down for the scheduled maintenance work. Pipeline maintenance crew was onsite with vac trucks to recover product. Contractor was mobilized with additional clean up and recovery equipment. Valve 201-V-2023 was repaired and all lines were returned to service.
Actions Taken or Planned to Prevent Future Spills and Schedule for Future Actions	Pipeline Maintenance team will review OMM Book 3 06-03-03 Drain-up and Line Fill prior to open system work commencing or in pre-job meetings and enforce as it pertains to the work they are conducting.
Final Actions Taken or Planned to Prevent Future Spills and Schedule for Future Actions	No further action warranted.
Environmental Impacts from Spill	Soil
Preliminary Root Cause	Other Incorrect Operation
Final Root Cause	No Change

TABLE NOTE:

<sup>1</sup> Not a CD-reportable event but disclosed for reporting consistency with previous SARs. <sup>2</sup> Updates to the discharges reported in IPTUR are italicized.

# Appendix 2 – Lakehead Leak Alarm Report [108,110,111]

Reporting Period: October 19, 2022 to December 2, 2022



# Lakehead Leak Alarm Reports

- Summary of Alarms (SOA)
- Record of Alarms (ROA)
- Weekly List of Alarms (WLOA)
- Instrumentation Outage Report

## **Prepared by Pipeline Control**

On December 15, 2022

For reporting period October 19, 2022 to December 2, 2022

Company Confidential

### **Purpose of the Document**

The following sections present four (4) reports from section VII.G. LEAK DETECTION AND CONTROL ROOM OPERATIONS of the Consent Decree.

The first three reports are for subsection **VII.G.V. Leak Detection Requirements for Control Room** of the decree. They list production MBS Leak Detection System (MBS) and Rupture Detection System (RDS) alarms in the Lakehead System:

- 1. The summary of alarms ("SOA") lists the total number of Alarms per pipeline and states whether or not Enbridge complied with the 10-Minute Rule in responding to Alarms. With respect to each non-compliance, it provides a reference to the post incident report which states the reason for the non-compliance and identifies the corrective action, if any, taken to prevent a recurrence of the non-compliance.
- 2. The record of alarms ("ROA") documents Unscheduled Shutdowns due to Alarms. Each record indicates an instance when the pipeline was shutdown with critical facts relating to the Alarm.
- 3. The weekly list of alarms ("WLOA") include Alarms broken down by pipeline, the type of Alarm, the total number of Alarms for the reporting period, the date of the Alarm, the time at which it began, and the time when the Alarm was cleared.

The fourth report is for subsection **VII.G.IV. Leak Detection Requirements for Pipelines** within the Lakehead System of the decree. The report lists instances when the outage exceeded time periods set forth in paragraph VII.G.IV.97 of the decree.

- 4. The instrumentation outage report documents two of the three "Reason for Instrumentation Outage" listed in paragraph VII.G.IV.97 of the decree:
  - Instrumentation Failure
  - Scheduled Maintenance or repairs
  - Bypass ILI Tool is documented separately.

Timestamps in the reports are in 24-hour Mountain Standard Time format.

For specific detailed requirements of the reports, please to refer to the Consent Decree.

### **Terms of Reference**

#### Terms of Reference Table: Special Terms and Reference from the Consent Decree

The following section define terms copied from the Consent Decree for convenience. Please refer to the Consent Decree in case of any discrepancies.

Consent Decree Reference	Term	Definition
IV.10.dd	Lakehead System	The portion of the Mainline System within the United States that is comprised of fourteen pipelines – Lines 1, 2B, 3, 4, 5, 6A, 6B, 10, 14, 61, 62, 64, 65, and 67 – and all New Lakehead Pipelines. <i>Note: Line 6B has been renamed to Line 78. 6B and 78 are equivalent and the</i> <i>same pipeline.</i>
IV.10.ii	Material Balance System or MBS Leak Detection System	The computational pipeline monitoring system used by Enbridge to detect leaks or ruptures in the Lakehead System.
IV.10.ggg	Shutdown	The operational period between (1) the initial cessation of pumping operations in a pipeline, or section of pipeline, through which oil has been actively flowing and (2) the point where the flow rate within the pipeline, or section of pipeline, is zero.
IV.10.iii	Startup	The operational period between (1) the commencement of pumping operations in a pipeline that had been previously shut down and (2) the point where oil in the pipeline achieves a Steady State.
VII.G.V.105	Alarm Response Team: CRO, LDA, STA	<ul> <li>All Alarms shall be addressed by an Alarm Response Team, which shall be composed of the following individuals in the Control Room at the time that the Alarm occurs:</li> <li>1. the Control Room operator ("CRO") who is responsible for the pipeline that generates the alarm,</li> <li>2. the leak detection analyst ("LD Analyst"), and</li> <li>3. the senior technical advisor for that pipeline.</li> </ul>

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#### Terms of Reference Table: Special Terms referenced in these reports.

The following section define terms used by Enbridge for the purpose of these reports.

Consent Decree Reference	Term	Definition
VII.G.V.104	Alarm or Alarms	Alarm and Alarming Event are equivalent in these reports. An Alarming Event is an event with a single root cause but can generate one or more alarms. Enbridge documents alarms as events. In order to align with the information requested by the Consent Decree (such as root cause), Alarming Events are reported.
VII.G.V.108	Alarm Clearance	Alarm Clearance is the act of investigating whether an Alarm is truly a potential leak or a false alarm. The alarm clearance is a procedural act and not to be confused with the alarm status which is the binary state of in alarm state (ALM, often "1") or returned to normal (RTN, often "0").

12/15/22, 1:41 PM

Lakehead Report - LDAM

I certify that for this reporting period, the information contained in the SOA, WLOA, and ROAs, is true and accurate, and Enbridge has complied with the 10-Minute Rule and other requirements of Subsection VII.G.(V).

Vice President, Pipeline Control		
Name	Signature	Date

### 1. Summary of Alarms ("SOA")

The records in this report each contain data that are referenced by the Consent Decree. The terms are explained in the following table.

Table 1a:	Description	of fields in	this Report
-----------	-------------	--------------	-------------

Data	Description	
Pipeline	Name (number) of the pipeline	
Total Alarms	Total number of alarming events for reporting period	
Total Non-Compliance	<ul> <li>(Alarming) Number of times Enbridge did not comply with the 10-Minute Rule in responding to Alarms</li> <li>(Non-Alarming) Number of times Enbridge did not comply with the 10-Minute Rule in responding to potential leak or rupture from a source other than an Alarm</li> </ul>	
Reasons and Corrective Actions for each Non-Compliance	Reference to the Post Incident Report describing reason for the non- compliance and the corrective action, if any, taken to prevent a reoccurrence of the non-compliance. An empty reference indicates either zero non-compliance to the 10-minute rule or the Post Incident Report is not yet generated.	

### Table 1b: Summary of Alarms (Reporting Period: October 19, 2022 to December 2, 2022)

Pipeline	Total Alarms	Total Non-Compliance (Alarming)	Total Non-Compliance (Non-Alarming)	Reasons and Corrective Actions for each Non-Compliance
00	0	0	0	
01	3	0	0	
02	4	0	0	
03	0	0	0	
04	14	0	0	
05	1	0	0	
06A	2	0	0	
10	1	0	0	
14	7	0	0	
64	0	0	0	

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Pipeline	Total Alarms	Total Non-Compliance (Alarming)	Total Non-Compliance (Non-Alarming)	Reasons and Corrective Actions for each Non-Compliance
65	2	0	0	
67	3	0	0	
78	2	0	0	

### 2. Record of Alarm ("ROA")

The records in this report each contain data that are referenced by the Consent Decree. The terms are explained in the following table.

Table 2a:	Description	of fields	in this	Report
-----------	-------------	-----------	---------	--------

Data	Description			
Pipeline	Name (number) of the pipeline.			
Alarming Event Start Time	Start of the Alarming Event that caused the alarm(s) to trigger. It is always the receipt time of the earliest alarm in an Alarming Event.			
Alarm Received Time	Time that the alarm was received for each individual alarm within the Alarming Event. Each alarm is simultaneously received by all members of the alarm response team.			
Alarm Assessed Time	Time that the alarm was assessed for each individual alarm within the Alarming Event. Each alarm is assessed by each independent member of the alarm response team; an alarm is considered assessed when all members of the alarm response team has assessed.			
Root Cause	Cause and classification of the Alarm. An empty field indicates the root cause has not yet been documented.			
CRO and STA Actions	Procedures executed by the control room operator (OP) and the senior technical advisor (STA) which define the positions (i.e. role) of the Alarm Recipients, the actions (or inactions) of the Alarm Response Team, and each fact considered in determining the cause of the Alarm. An empty field indicates the actions or procedures have not yet been documented.			

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### Table 2a: Description of fields in this Report

LDA Actions	Procedures executed by the leak detection analyst (LDA) which define the positions (i.e. role) of the Alarm Recipients, the actions (or inactions) of the Alarm Response Team, and each fact considered in determining the cause of the Alarm. An empty field indicates the actions or procedures have not yet been documented.			
Shutdown Commenced	Time the Unscheduled Shutdown commenced. An empty time indicates the Shutdown Commenced has not yet been documented.			
Shutdown Completed	Time the Unscheduled Shutdown completed. An empty time indicates the Shutdown Completed has not yet been documented.			
Justification for Resumption	Justification for resumption of pumping operations. An empty field indicates the Justification for Resumption has not yet been documented.			
Startup Commenced	Time that pumping operations resumed. An empty time indicates the Startup Commenced has not yet been documented.			
Were Procedures Followed	Certification of compliance with 10-Minute Rule. An empty field indicates the certification of compliance has not yet been documented.			
Post Incident Report	Reference of Post-Incident Report if not in compliance with the 10-Minute Rule. An empty reference indicates the Post Incident Report is not needed or has not yet been documented.			

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### Table 2b: Record of Alarm

Pipeline	01				
Alarming Event Start Time	2022-11-03 08:23:37				
MBS Alarm Received Time MBS Alarm Assessed Time	2022-11-03 08:23:37 2022-11-03 08:59:11				
Root Cause	Communication Interruption				
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline				
LDA Actions	LD - MBS - Leak Alarm				
Shutdown Commenced	*Each alarm was assessed individually to rule out the possibility of a leak within 10 minutes of the first alarm. Shutdown was commenced immediately, not to exceed 60 seconds upon completion of the 10-minute timer. This is in accordance with the Ten-Minute Rule as explained to the ITP on Sept 2017 and Jan 2018.				
Shutdown Completed	2022-11-03 08:45:28				
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers				
Startup Commenced	2022-11-03 09:50:00				
Were Procedures Followed	Yes				
Post Incident Report					

Pipeline	04				
Alarming Event Start Time	2022-11-03 08:27:15				
MBS Alarm Received Time MBS Alarm Assessed Time	2022-11-03 08:27:16 2022-11-03 08:33:34				
Root Cause	Field Maintenance				
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Non-Flowing Pipeline				
LDA Actions	LD - MBS - Leak Alarm				
Shutdown Commenced	Not Applicable - pipeline was already Shutdown and Sectionalized				
Shutdown Completed	Not Applicable - pipeline was already Shutdown and Sectionalized				
Justification for Resumption	After shutdown, alarm deemed valid following LDA investigation. Column separation investigated by CCO with no unexplained leak triggers				
Startup Commenced	2022-11-03 16:12:00				
Were Procedures Followed	Yes				
Post Incident Report					

Pipeline	04					
Alarming Event Start Time	2022-11-15 10:37:17					
MBS Alarm Received Time MBS Alarm Assessed Time	2022-11-15 10:37:18 2022-11-15 11:11:08					
MBS Alarm Received Time MBS Alarm Assessed Time	2022-11-15 10:39:18 2022-11-15 11:11:10					
MBS Alarm Received Time MBS Alarm Assessed Time	2022-11-15 10:39:49 2022-11-15 11:11:12					
MBS Alarm Received Time MBS Alarm Assessed Time	2022-11-15 10:46:19 2022-11-15 11:11:14					
Root Cause	LDS Error					
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Non-Flowing Pipeline					
LDA Actions	LD - MBS - Leak Alarm					
Shutdown Commenced	Not Applicable - pipeline was already Shutdown and Sectionalized					
Shutdown Completed	Not Applicable - pipeline was already Shutdown and Sectionalized					
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers					
Startup Commenced	2022-11-15 15:37:00					
Were Procedures Followed	Yes					
Post Incident Report						

Pipeline	04
Alarming Event Start Time	2022-11-16 03:45:59
MBS Alarm Received Time MBS Alarm Assessed Time	2022-11-16 03:46:00 2022-11-16 03:54:51
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2022-11-16 03:47:43
Shutdown Completed	2022-11-16 04:07:36
Justification for Resumption	Static Pressure Monitoring of System over 60 minutes and CCO investigation identified no additional leak triggers. Regional and CCO Admin approvals granted
Startup Commenced	2022-11-16 07:21:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	06A
Alarming Event Start Time	2022-10-23 20:21:39
MBS Alarm Received Time MBS Alarm Assessed Time MBS Alarm Received Time	2022-10-23 20:21:40 2022-10-23 20:31:23 2022-10-23 20:21:40
MBS Alarm Assessed Time	2022-10-23 20:31:25
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2022-10-23 20:23:03
Shutdown Completed	2022-10-23 20:24:32
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2022-10-24 00:12:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	14					
Alarming Event Start Time	2022-12-01 05:56:22					
MBS Alarm Received Time MBS Alarm Assessed Time	2022-12-01 05:56:22 2022-12-01 06:20:07					
MBS Alarm Received Time MBS Alarm Assessed Time	2022-12-01 05:56:22 2022-12-01 06:20:05					
MBS Alarm Received Time MBS Alarm Assessed Time	2022-12-01 06:10:53 2022-12-01 06:20:03					
MBS Alarm Received Time MBS Alarm Assessed Time	2022-12-01 06:10:53 2022-12-01 06:20:01					
Root Cause	Column Separation					
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline					
LDA Actions	LD - MBS - Leak Alarm					
Shutdown Commenced	2022-12-01 06:05:32					
Shutdown Completed	2022-12-01 06:56:01					
Justification for Resumption	After shutdown, alarm deemed valid following LDA investigation. Column separation investigated by CCO with no unexplained leak triggers					
Startup Commenced	2022-12-01 09:50:00					
Were Procedures Followed	Yes					
Post Incident Report						

### 3. Weekly List of Alarms ("WLOA")

The records in this report each contain data that are referenced by the Consent Decree. The terms are explained in the following table.

Data	Description	
Week	ISO 8601 week date label to identify the week in the "weekly" list of alarms.	
Pipeline	Name (number) of the pipeline.	
Туре	<ul> <li>Type of alarm (AVB, MBS or RDS):</li> <li>AVB are 24-hour MBS alarms</li> <li>MBS are 5-minute, 20-minute, or 2-hour MBS alarms</li> <li>RDS are Rupture Detection System alarms</li> </ul>	
Alarming Event Start Time	Start of the Alarming Event that caused the alarm(s) to trigger. It is always the receipt time of the earliest alarm in an Alarming Event.	
Alarm Received Time	Time that the alarm was received for each individual alarm within the Alarming Event. Each alarm is simultaneously received by all members of the alarm response team.	
Alarm Assessed Time	Time that the alarm was assessed for each individual alarm within the Alarming Event. Each alarm is assessed by each independent member of the alarm response team; an alarm is considered assessed when all members of the alarm response team has assessed.	
Alarm Cleared Time	The date and time when the Alarm was cleared. An empty time indicates the Alarm has not yet been cleared as of the printing of this report.	
Shutdown Required	Indication of whether this Alarm resulted in a shutdown.	

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#### Table 3b: Weekly List of Alarms

#### 2022 Week 42: 4 Alarming Events in total

Pipeline	Alarming Event Start Time	Туре	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
02	2022-10-21 06:47:15	MBS	2022-10-21 06:47:15	2022-10-21 06:51:47	2022-10-21 06:51:47	No
		MBS	2022-10-21 06:47:15	2022-10-21 06:51:54	2022-10-21 06:51:54	
		MBS	2022-10-21 06:47:15	2022-10-21 06:51:51	2022-10-21 06:51:51	
06A	2022-10-23 20:21:39	MBS	2022-10-23 20:21:40	2022-10-23 20:31:23	2022-10-23 23:05:25	Yes
		MBS	2022-10-23 20:21:40	2022-10-23 20:31:25	2022-10-23 23:05:25	
14	2022-10-23 15:24:44	MBS	2022-10-23 15:24:45	2022-10-23 15:29:08	2022-10-23 15:29:08	No
67	2022-10-22 21:25:05	MBS	2022-10-22 21:25:06	2022-10-22 21:30:36	2022-10-22 21:30:36	No

#### 2022 Week 43: 8 Alarming Events in total

Pipeline	Alarming Event Start Time	Туре	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2022-10-29 21:47:36	MBS	2022-10-29 21:47:37	2022-10-29 21:51:19	2022-10-29 21:51:19	No
		MBS	2022-10-29 21:48:07	2022-10-29 21:51:34	2022-10-29 21:51:34	
02	2022-10-28 18:23:50	MBS	2022-10-28 18:23:51	2022-10-28 18:25:10	2022-10-28 18:25:10	No
02	2022-10-30 17:05:37	MBS	2022-10-30 17:05:38	2022-10-30 17:11:52	2022-10-30 17:11:52	No
04	2022-10-24 16:34:43	MBS	2022-10-24 16:34:44	2022-10-24 16:38:52	2022-10-24 16:38:52	No
04	2022-10-27 15:12:35	MBS	2022-10-27 15:12:36	2022-10-27 15:18:43	2022-10-27 15:18:43	No
		MBS	2022-10-27 15:12:36	2022-10-27 15:18:41	2022-10-27 15:18:41	
05	2022-10-27 08:53:17	MBS	2022-10-27 08:53:17	2022-10-27 08:55:54	2022-10-27 08:55:54	No
		MBS	2022-10-27 08:53:17	2022-10-27 08:55:57	2022-10-27 08:55:57	
67	2022-10-27 09:26:41	MBS	2022-10-27 09:26:42	2022-10-27 09:31:10	2022-10-27 09:31:10	No
78	2022-10-24 03:48:32	MBS	2022-10-24 03:48:33	2022-10-24 03:56:22	2022-10-24 03:56:22	No

-

#### 2022 Week 44: 8 Alarming Events in total

Pipeline	Alarming Event Start Time	Туре	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2022-11-03 08:23:37	MBS	2022-11-03 08:23:37	2022-11-03 08:59:11	2022-11-03 09:00:00	Yes
04	2022-11-01 04:56:14	MBS	2022-11-01 04:56:15	2022-11-01 05:00:39	2022-11-01 05:00:39	No
04	2022-11-02 17:27:23	MBS	2022-11-02 17:27:24	2022-11-02 17:29:46	2022-11-02 17:29:46	No
04	2022-11-03 08:27:15	MBS	2022-11-03 08:27:16	2022-11-03 08:33:34	2022-11-03 09:00:00	Yes
04	2022-11-03 12:37:51	MBS	2022-11-03 12:37:52	2022-11-03 12:41:13	2022-11-03 12:41:13	No
		MBS	2022-11-03 14:22:25	2022-11-03 14:26:11	2022-11-03 14:26:11	
		MBS	2022-11-03 14:24:55	2022-11-03 14:26:47	2022-11-03 14:26:47	
04	2022-11-05 03:28:20	MBS	2022-11-05 03:28:20	2022-11-05 03:32:21	2022-11-05 03:32:21	No
04	2022-11-05 05:57:24	MBS	2022-11-05 05:57:25	2022-11-05 06:00:17	2022-11-05 06:00:17	No
10	2022-11-02 05:28:49	MBS	2022-11-02 05:28:50	2022-11-02 05:31:37	2022-11-02 05:31:37	No

#### 2022 Week 45: 4 Alarming Events in total

Pipeline	Alarming Event Start Time	Туре	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
02	2022-11-09 17:28:29	MBS	2022-11-09 17:28:30	2022-11-09 17:34:38	2022-11-09 17:34:38	No
14	2022-11-11 07:27:23	MBS	2022-11-11 07:27:24	2022-11-11 07:34:14	2022-11-11 07:34:14	No
14	2022-11-13 10:18:50	MBS MBS	2022-11-13 10:18:50 2022-11-13 10:22:51	2022-11-13 10:26:17 2022-11-13 10:26:19	2022-11-13 10:26:17 2022-11-13 10:26:19	No
78	2022-11-11 08:32:56	MBS	2022-11-11 08:32:57	2022-11-11 08:37:39	2022-11-11 08:37:39	No

# 

#### 2022 Week 46: 5 Alarming Events in total

Pipeline	Alarming Event Start Time	Туре	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
04	2022-11-15 10:37:17	MBS	2022-11-15 10:37:18	2022-11-15 11:11:08	2022-11-15 11:16:00	Yes
		MBS	2022-11-15 10:39:18	2022-11-15 11:11:10	2022-11-15 11:16:00	
		MBS	2022-11-15 10:39:49	2022-11-15 11:11:12	2022-11-15 11:16:00	
		MBS	2022-11-15 10:46:19	2022-11-15 11:11:14	2022-11-15 11:16:00	
04	2022-11-15 15:45:01	MBS	2022-11-15 15:45:01	2022-11-15 15:51:28	2022-11-15 15:51:28	No
		MBS	2022-11-15 15:50:02	2022-11-15 15:51:37	2022-11-15 15:51:37	
		MBS	2022-11-15 15:50:32	2022-11-15 15:51:38	2022-11-15 15:51:38	
04	2022-11-16 03:45:59	MBS	2022-11-16 03:46:00	2022-11-16 03:54:51	2022-11-16 05:12:00	Yes
65	2022-11-16 23:26:13	MBS	2022-11-16 23:26:13	2022-11-16 23:31:09	2022-11-16 23:31:09	No
		MBS	2022-11-16 23:26:13	2022-11-16 23:31:06	2022-11-16 23:31:06	
65	2022-11-17 13:33:45	MBS	2022-11-17 13:33:46	2022-11-17 13:40:48	2022-11-17 13:40:48	No
		MBS	2022-11-17 13:36:45	2022-11-17 13:40:50	2022-11-17 13:40:50	

#### 2022 Week 47: 5 Alarming Events in total

Pipeline	Alarming Event Start Time	Туре	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2022-11-26 05:56:24	MBS	2022-11-26 05:56:25	2022-11-26 06:00:42	2022-11-26 06:00:42	No
		MBS	2022-11-26 05:56:25	2022-11-26 06:00:44	2022-11-26 06:00:44	
04	2022-11-25 10:33:05	MBS	2022-11-25 10:33:05	2022-11-25 10:36:08	2022-11-25 10:36:08	No
		MBS	2022-11-25 10:33:05	2022-11-25 10:36:03	2022-11-25 10:36:03	
04	2022-11-26 06:11:20	MBS	2022-11-26 06:11:21	2022-11-26 06:16:43	2022-11-26 06:16:43	No
		MBS	2022-11-26 06:12:22	2022-11-26 06:16:29	2022-11-26 06:16:29	
		MBS	2022-11-26 06:19:22	2022-11-26 06:21:35	2022-11-26 06:21:35	
14	2022-11-22 08:03:10	MBS	2022-11-22 08:03:10	2022-11-22 08:10:35	2022-11-22 08:10:35	No
14	2022-11-26 20:28:37	MBS	2022-11-26 20:28:37	2022-11-26 20:34:13	2022-11-26 20:34:13	No
		MBS	2022-11-26 20:29:06	2022-11-26 20:34:10	2022-11-26 20:34:10	

# 

#### 2022 Week 48: 5 Alarming Events in total

Pipeline	Alarming Event Start Time	Туре	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
04	2022-12-01 10:56:25	MBS	2022-12-01 10:56:25	2022-12-01 11:00:30	2022-12-01 11:00:30	No
		MBS	2022-12-01 10:56:25	2022-12-01 11:00:31	2022-12-01 11:00:31	
06A	2022-11-30 12:04:43	MBS	2022-11-30 12:04:44	2022-11-30 12:07:59	2022-11-30 12:07:59	No
		MBS	2022-11-30 12:04:44	2022-11-30 12:08:01	2022-11-30 12:08:01	
14	2022-12-01 05:56:22	MBS	2022-12-01 05:56:22	2022-12-01 06:20:07	2022-12-01 08:33:00	Yes
		MBS	2022-12-01 05:56:22	2022-12-01 06:20:05	2022-12-01 08:33:00	
		MBS	2022-12-01 06:10:53	2022-12-01 06:20:03	2022-12-01 08:33:00	
		MBS	2022-12-01 06:10:53	2022-12-01 06:20:01	2022-12-01 08:33:00	
14	2022-12-01 09:51:29	MBS	2022-12-01 09:51:29	2022-12-01 09:54:32	2022-12-01 09:54:32	No
		MBS	2022-12-01 09:51:29	2022-12-01 09:54:29	2022-12-01 09:54:29	
67	2022-11-28 00:49:14	MBS	2022-11-28 00:49:15	2022-11-28 00:55:17	2022-11-28 00:55:17	No

### 4. Instrumentation Outage Report

The records in this report each contain data that are referenced by the Consent Decree. The terms are explained in the following table.

Table 4a: Description of fields in this Report

Data	Description
Pipeline	Name (number) of the pipeline on which the instrument is located
Station	Location of the instrument
Outage Start	Date and time when the instrumentation outage began
Outage End	Date and time when the instrumentation outage was resolved
Root Cause	Reason for instrumentation outage (root cause analysis performed by the Leak Detection Analyst)

The records report instances when the outage exceeds time periods set forth in section VII.G.IV.97 of the decree.

Note Enbridge uses root cause descriptions to categorize the outage. The root cause has a finer granularity than the "Reason for Instrumentation Outage" listed in section VII.G.IV.97 of the decree, but is equivalent. The following table maps the fixed set of root causes that result in the "Reason for Instrumentation Outage" listed in section VII.G.IV.97 of the decree as well as their corresponding fixed set of actions to resolve each outage type.

Table 4b: Description of reasons for outage and actions taken to resolve it

Reason for Instrumentation Outage	Time Limit to Restore	Root Cause	Actions Taken to Resolve the Outage
Instrumentation Failure	10 days	Instrumentation Error	Fixed the Instrument
Instrumentation Failure	10 days	Communication Interruption	Restored Communications
Instrumentation Failure	10 days	Power Outage	Restored Power
Scheduled Maintenance or Repairs	4 days	Field Maintenance	Finished the Maintenance

#### Table 4c: Instrumentation Outage Report

Pipeline	Station	Outage Start	Outage End	Root Cause
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Appendix 3 – Spill Response and Preparedness Additional Information [116]

Reporting Period: October 19, 2022 to December 2, 2022



# Pipeline Safety and Emergency Information

for your family, neighborhood and community



You have received this brochure because you may live, work or own property near Enbridge pipelines and/or associated facilities. Please read and share this important safety information with others. If you operate a business frequented by outside visitors, we encourage you to consider pipelines in your emergency response plans and procedures.

Contents:	
Safe digging information	3
How to determine where our pipelines are located	4
Facilities information	5
Crossing or traversing right-of-way (ROW)	6
How to contact us in an emergency	7
Pipeline safety information including how to recognize a leak and how to respond in the event of a pipeline emergency	8

Read this brochure, then scan for a chance to win \$500.





### Pipeline safety: A shared responsibility

Life takes energy: to heat our homes, to feed our families, to fuel our vehicles. Enbridge connects people to the energy they need to help fuel their quality of life.

Enbridge transports crude oil along with more than 80 different commodities on our crude oil pipeline systems, from various grades of crude oil to natural gas liquids (NGLs) like propane, butane, ethane, natural gasoline and other petroleum products. NGLs are liquids when inside the pipeline or storage tank but become gaseous if released into the atmosphere.

Smaller gathering pipelines begin near crude oil wells and transport crude oil and other petroleum products to transmission pipelines. These larger pipelines move the contents to refineries where they are turned into gasoline, diesel fuel and other products we rely on every day.

#### Pipeline purpose and reliability

The United States has the largest pipeline network in the world. Data collected by the U.S. Department of Transportation reports pipelines are the safest way to move energy resources like the crude oil, natural gas and other petroleum products Enbridge transports. We are committed to the safe and reliable operation of our pipelines in your community. Every year our company invests in the latest technology and training to meet the high environmental and safety standards expected by those who live and work near our pipelines.

#### **Our safety measures**

Safety is, and always will be, our number one priority. Our team devotes hundreds of thousands of hours every year to keeping our systems running smoothly and without incident. We invest heavily in safety measures, which includes:



Inspection and preventative maintenance programs



Around-the-clock monitoring of pipelines and facilities



Emergency response training and drills for employees and local emergency responders



Pressure tests on new and existing pipelines



Aerial and ground patrols along the pipeline right-of-way (ROW)



Automatic shut-off and remote-control valves



High-quality pipeline material and protective coating

Enbridge has enhanced safety measures for pipelines that cross bodies of water and highly populated or environmentally sensitive areas.

To read more about our pipeline safety efforts, see our Safety Report to the Community at **enbridge.com/safety**.

#### Know what's below



**Risk:** Safe digging practices can save your life. Failure to do so can endanger yourself, emergency responders and your community.

Enbridge maintains a Damage Prevention Program in accordance with state and federal guidelines. The purpose of this program is to prevent damage to our pipeline facilities from excavation activities such as digging, trenching, blasting, boring, tunneling or backfilling or other activities such as heavy equipment crossing, storage on the ROW, etc. The Damage Prevention Program also monitors the depth of cover over our pipelines and conducts regular patrols of our ROWs to monitor for unauthorized activities.

If you see someone digging or disturbing the soil and there are no flags or marks on the ground, please stop the activity and ask the person to call **811** or visit **clickbeforeyoudig.com** before continuing. One should not rely on word-of-mouth, maps, memory or pipeline markers when planning a digging project.

#### **One-call requirements**



At least two to three business days before your project—any time you are disturbing the soil—(depending on state law), call **811** or visit **clickbeforeyoudig.com**.



When you Call or Click, you'll be connected to a representative, where you'll be asked to provide important details about your project, such as the type of work you'll be doing, where you'll be doing it and when your project is expected to begin.



**811** will provide this information to pipeline operators, such as Enbridge and other companies with buried utilities near the work site, saving you the time and trouble of contacting them individually.



Within a few days, professional locators will come to your location and mark underground utility lines – including pipelines (marked with yellow flags or paint) – so you can work around them, saving yourself from possible injury or property damage.





Know what's below. Call before you dig.



### Know what's below

#### **Pipeline ROW and pipeline location**

A pipeline follows a narrow, clear stretch of land, called a ROW, that allows our employees and contractors to access the pipeline for inspections, maintenance, testing and emergencies. Approximate location of the pipeline can be determined by the pipeline marker. A few important notes when it comes to ROWs and pipeline markers:

- Markers should never be removed or relocated.
- If an emergency is suspected or discovered, call the number on the marker.
- The ROW must remain clear. Structures, stockpiles, stored equipment and burn piles are not permitted within the ROW.
- The pipeline marker displays the operator's name, the contents and an emergency phone number.
- Markers should not be used to give exact locations and are not alternative to calling 811.







Vent marker

Line marker

Aerial marker
### Know what's near you

#### Above ground facilities

While most Enbridge pipelines are buried underground, our system also includes additional facilities such as pump stations, valve sites, storage facilities and others. It's important that you know what to expect as part of the normal operations at these facilities.

If you notice any suspicious activity or abnormal odor near one of our above ground facilities, call 911 immediately, then call Enbridge's 24-hour emergency number for your area.



#### Keeping pipelines safe

The objective of Enbridge's Integrity Management Program is to improve pipeline safety through a systematic approach involving data gathering, risk assessment, integrity assessments, prevention and mitigation. The U.S. Department of Transportation has developed specific High Consequence Area (HCA) regulations for the operations and maintenance of natural gas and liquids transmission pipelines. These regulations are more rigorous than those for non-HCA locations and focus integrity management activities on populated areas and areas where it would be difficult to evacuate people. In most cases, we apply the more rigorous requirements to the operation of all our pipeline facilities, not just the HCAs.

Neighbors like you can help us maintain a safe, secure and reliable pipeline system. If you observe any unusual or suspicious activity near our pipeline facilities, or in the event an emergency occurs, please call us immediately using the toll-free emergency number included in this brochure.

Facility and	purpose
--------------	---------

At certain facilities, tanker trucks deliver producers' crude oil to **lease automatic custody transfer (LACT) units**, where it is metered and piped into crude oil storage facilities.

**Crude oil storage facilities** are used to safely store and transport crude oil to refineries and other market destinations via pipeline.

**Pump stations** increase pressure in the pipeline to maintain flow and are monitored 24/7 by Enbridge's control centers.

**Valve sites** are located along the pipeline ROW and may be used to control the flow of products in the pipeline.

#### Normal operations

During normal operations, a slight odor may be noticed during oil transfers or maintenance activities. Higher truck traffic is common near LACT units.

During normal operations, a slight odor may be noticed during oil transfers or maintenance activities.

During normal operations, no significant odors should be detected.

During normal operations, no significant odors should be detected.

### Know what's near you



#### Crossing or traversing the ROW

ROWs are not designed as roads or storage locations. The weight of vehicles, equipment or materials can damage pipelines below.



#### Do NOT

- Use an Enbridge pipeline ROW before obtaining consent from Enbridge.
- Cross ROW.
- Travel along ROW.
- Park vehicles or equipment on ROW.
- · Stockpile materials on ROW.

## Vehicle and mobile equipment crossings

As part of Enbridge's ongoing commitment to public safety, Enbridge requires that anyone wanting to cross the pipeline with vehicles including recreational vehicles like 4X4s, all-terrain vehicles, utility vehicles and motorcycles, or mobile equipment (outside of a traveled portion of a highway or public road) submit a request to obtain the pipeline company's written consent before doing so. By submitting your request, you provide Enbridge the opportunity to assess:

- If the vehicle, machinery or mobile equipment being used can safely cross or traverse our pipeline within the ROW at that location.
- If the proposed use is safe by confirming the location and depth of cover of pipelines at the location of the crossing.
- If any mitigation measures are required due to there being a potential risk or no alternative crossing locations.

#### **Crossing during an emergency**

If a crossing is required while responding to an emergency, please call Enbridges emergency number before crossing the ROW.

#### Non-emergency crossings

Email Enbridge at **crossingsus@enbridge.com** before using the ROW.

### REDACTED SUBMITTAL -- PUBLIC COPY Contact Enbridge





#### 24-hour emergency number 1-800-858-5253

If you have a non-emergency question regarding Enbridge's Damage Prevention Program, Integrity Management Program or operations in your area, you can call Public Awareness at **1-877-799-2650** or visit **enbridge.com/uspublicawareness**.



Please scan if you or someone you know would prefer to have the information in the brochure provided in a language other than English.



Land and ROW hotline 1-855-869-8261



Email uspublicawareness@enbridge.com



Website enbridge.com/uspublicawareness



Facebook facebook.com/enbridge

### REDACTED SUBMITTAL -- PUBLIC COPY Critical safety information



**Risk:** Ignoring the critical safety information below could create additional hazards for the public, responders and the environment.

#### **Recognizing a pipeline leak**

In the unlikely event of a pipeline leak, one or any combination of the items listed below can typically help you recognize a leak.

#### You might see:

- Colored liquid on the ground
- Flames, if a leak has ignited
- Oily rainbow-like sheen on water surfaces
- Continuous bubbling in a wet area
- Discolored snow or vegetation in an otherwise green area
- A steam-like cloud or fog
- Unexpected frost buildup on the ground
- Dirt being blown or appearing to be thrown into the air



#### You might hear:

 An unusual roaring, blowing or hissing sound

#### You might smell:

• An unusual odor similar to diesel fuel, gasoline, sulfur or rotten egg

It is important to know that an unintended release of product from the pipeline has potential hazards including:

- Products may be flammable and explosive under certain conditions.
- Suffocation can occur if vapors displace the oxygen in an enclosed area.

#### What NOT to do when a leak occurs



Do not drive into the area.



Do not remain in a building if the smell is stronger inside than outside.

Do not touch any liquid or vapor that

may have come from the pipeline.



Do not turn on or off anything that may create a spark – including cell phones, telephones, two-way radios, light switches, vehicle alarms, vehicle keyless entry systems and flashlights – until you are in a safe location.



Do not light a match and avoid open flames.



Do not attempt to extinguish a natural gas fire.

Do not open or close any pipeline valves; leave all valve operations to pipeline company personnel.

#### What happens next?

Public safety will be the top priority as Enbridge, contractors and local emergency responders work together to evaluate and respond to a pipeline leak. Local public safety officials will determine whether residents should evacuate or shelter in place. Residents may be asked to evacuate if it is no longer safe to be in the area or to shelter in place if there may be something unsafe in the environment.

#### Steps for a safe response

If you are in immediate danger, damage the pipeline or observe or suspect a leak – even if you are uncertain of the severity – take the following steps:



Abandon any equipment being used in or near the area, moving upwind of the product release.



Warn others to stay away.

Call 911.



Call the toll-free, 24-hour Enbridge emergency number for your area: **1-800-858-5253**.

Follow instructions given to you by local emergency responders and Enbridge.



# Pipeline Safety and Emergency Information

for safe excavation and farming activities



You have received this brochure because your company, farm or ranch is located – or may operate – near Enbridge pipelines and/or associated facilities. Please read and share the important safety information with anyone who conducts or makes decisions about ground disturbance activities like excavation, farming, tilling, plowing, construction, development, utility installation, oil and gas production, logging, railroad maintenance, and anchoring or dredging operations.

Contents:	
Safe digging information	3
How to determine where our pipelines are located	4
Facilities information	5
Crossing or traversing right-of-way (ROW)	6
How to contact us in an emergency	7
Pipeline safety information including how to recognize a leak and how to respond in the event of a pipeline emergency	8

Read this brochure, then scan for a chance to win \$500.





### Pipeline safety: A shared responsibility

Life takes energy: to heat our homes, to feed our families, to fuel our vehicles. Enbridge connects people to the energy they need to help fuel their quality of life.

Enbridge transports crude oil along with more than 80 different commodities on our crude oil pipeline systems, from various grades of crude oil to natural gas liquids (NGLs) like propane, butane, ethane, natural gasoline and other petroleum products. NGLs are liquids when inside the pipeline or storage tank but become gaseous if released into the atmosphere.

Smaller gathering pipelines begin near crude oil wells and transport crude oil and other petroleum products to transmission pipelines. These larger pipelines move the contents to refineries where they are turned into gasoline, diesel fuel and other products we rely on every day.

#### Pipeline purpose and reliability

The United States has the largest pipeline network in the world. Data collected by the U.S. Department of Transportation reports pipelines are the safest way to move energy resources like the crude oil, natural gas and other petroleum products Enbridge transports. We are committed to the safe and reliable operation of our pipelines in your community. Every year our company invests in the latest technology and training to meet the high environmental and safety standards expected by those who live and work near our pipelines.

#### **Our safety measures**

Safety is, and always will be, our number one priority. Our team devotes hundreds of thousands of hours every year to keeping our systems running smoothly and without incident. We invest heavily in safety measures, which includes:



Inspection and preventative maintenance programs



Around-the-clock monitoring of pipelines and facilities



Emergency response training and drills for employees and local emergency responders



Pressure tests on new and existing pipelines



Aerial and ground patrols along the pipeline right-of-way (ROW)



remote-control valves

Automatic shut-off and



High-quality pipeline material and protective coating

Enbridge has enhanced safety measures for pipelines that cross bodies of water and highly populated or environmentally sensitive areas.

To read more about our pipeline safety efforts, see our Safety Report to the Community at **enbridge.com/safety**.

### Know what's below



**Risk:** Safe digging practices can save your life. Failure to do so can endanger yourself, emergency responders and your community.

Enbridge maintains a Damage Prevention Program in accordance with state and federal guidelines. The purpose of this program is to prevent damage to our pipeline facilities from excavation activities, such as digging, trenching, blasting, boring, tunneling or backfilling or other activities such as heavy equipment crossing, storage on the ROW, etc. The Damage Prevention Program also monitors the depth of cover over our pipelines and conducts regular patrols of our ROWs to monitor for unauthorized activities.

If you see someone digging or disturbing the soil and there are no flags or marks on the ground, please stop the activity and ask the person to call **811** or visit **clickbeforeyoudig.com** before continuing. One should not rely on word-of-mouth, maps, memory or pipeline markers when planning a digging project.

#### **One-call requirements**



At least two to three business days before your project—any time you are disturbing the soil—(depending on state law), call **811** or visit **clickbeforeyoudig.com**.



When you Call or Click, you'll be connected to a representative, where you'll be asked to provide important details about your project, such as the type of work you'll be doing, where you'll be doing it and when your project is expected to begin.



**811** will provide this information to pipeline operators, such as Enbridge and other companies with buried utilities near the work site, saving you the time and trouble of contacting them individually.



Within a few days, professional locators will come to your location and mark underground utility lines—including pipelines (marked with yellow flags or paint)—so you can work around them, saving yourself from possible injury or property damage.





Know what's below. Call before you dig.

### Know what's below

#### Pipeline ROW and pipeline location

A pipeline follows a narrow, clear stretch of land, called a ROW, which allows our employees and contractors to access the pipeline for inspections, maintenance, testing and emergencies. Pipeline ROWs are not designed as roads, as heavy vehicles and equipment can damage the pipelines below.

For your safety and to protect the pipeline:

- The ROW must remain clear. Structures, stockpiles, stored equipment and burn piles are not permitted within the ROW.
- Fences, roads, driveways and trees are generally prohibited within the ROW; written permission is required before planting any trees or shrubs.
- Choose a location other than the ROW as your muster point or meeting place when developing your emergency plans for your work site. Report any Enbridge pipelines exposed by erosion or other causes to our 24-hour number for your area.

- Pipeline markers must remain in place; they are protected by federal law. Intentionally damaging, removing or knocking over markers could result in significant fines.
- The pipeline marker displays the operator's name, the contents and an emergency phone number.
- Markers should not be used to give exact locations and are not alternative to calling 811.



Vent marker

Line marker

Aerial marker

### Important information

#### Developers

Please look for pipeline markers, consult with your local planning and zoning department, and use any other tools available to identify pipelines on the property during the planning process.

If an Enbridge pipeline exists on the property, please consult with us. Together we can determine whether there is adequate ROW access, whether there are alternative uses for the ROW, what the evacuation routes might be in the unlikely event of an emergency and how we can work together to prevent pipeline damage during construction.

For more information on developing properties near pipelines, please visit the Pipelines and Informed Planning Alliance's (PIPA) webpage at **phmsa.dot.gov**.

#### Underground utility operators and contractors

Please contact Enbridge during the planning phase of your project for construction specifics and permitting.

#### Marine operators

Be sure to account for underwater pipelines when conducting activity in or on water. Dredging or anchoring near pipelines can expose them or damage the pipeline or its coating. Pipelines traversing waterways often can be identified by looking to the banks of the waterway for pipeline markers or signs warning against anchoring and dredging.

#### Farmers and ranchers

You should always call **811** or visit clickbeforeyoudig.com before any soil disturbing activities that include, but are not limited to, deep tilling, ditching, soil ripping, grading, installing drain tile and constructing fences. You should also be aware that heavy rains, floods and droughts can affect the soil above buried pipelines.

### Know what's near you

#### Above ground facilities

While most Enbridge pipelines are buried underground, our system also includes additional facilities, such as pump stations, valve sites, storage facilities and others. It's important that you know what to expect as part of normal operations at these facilities.

If you notice any suspicious activity or abnormal odor near one of our above ground facilities, call 911 immediately, then call Enbridge's 24-hour emergency number for your area.



#### Keeping pipelines safe

The objective of Enbridge's Integrity Management Program is to improve pipeline safety through a systematic approach involving data gathering, risk assessment, integrity assessments, prevention and mitigation. The U.S. Department of Transportation has developed specific High Consequence Area (HCA) regulations for the operations and maintenance of natural gas and liquids transmission pipelines. These regulations are more rigorous than those for non-HCA locations and focus integrity management activities on populated areas and areas where it would be difficult to evacuate people. In most cases, we apply the more rigorous requirements to the operation of all our pipeline facilities, not just the HCAs.

Neighbors like you can help us maintain a safe, secure and reliable pipeline system. If you observe any unusual or suspicious activity near our pipeline facilities, or in the event an emergency occurs, please call us immediately using the toll-free emergency number included in this brochure.

#### Facility and purpose

At certain facilities, tanker trucks deliver producers' crude oil to **lease automatic custody transfer (LACT) units**, where it is metered and piped into crude oil storage facilities.

**Crude oil storage facilities** are used to safely Du store and transport crude oil to refineries and ma other market destinations via pipeline.

**Pump stations** increase pressure in the pipeline to maintain flow and are monitored 24/7 by Enbridge's control centers.

**Valve sites** are located along the pipeline ROW and may be used to control the flow of products in the pipeline.

#### Normal operations

During normal operations, a slight odor may be noticed during oil transfers or maintenance activities. Higher truck traffic is common near LACT units.

During normal operations, a slight odor may be noticed during oil transfers or maintenance activities.

During normal operations, no significant odors should be detected.

During normal operations, no significant odors should be detected.

### Know what's near you



#### Crossing or traversing the ROW

ROWs are not designed as roads or storage locations. The weight of vehicles, equipment or materials can damage pipelines below.



#### Do NOT

- Use an Enbridge pipeline ROW before obtaining consent from Enbridge.
- · Cross ROW.
- Travel along ROW.
- · Park vehicles or equipment on ROW.
- Stockpile materials on ROW.

#### Vehicle and mobile equipment crossings

As part of Enbridge's ongoing commitment to public safety, Enbridge requires that anyone wanting to cross the pipeline with vehicles including recreational vehicles like 4X4s, all-terrain vehicles, utility vehicles and motorcycles, or mobile equipment (outside of a traveled portion of a highway or public road) submit a request to obtain the pipeline company's written consent before doing so. By submitting your request, you provide Enbridge the opportunity to assess:

- · If the vehicle, machinery or mobile equipment being used can safely cross or traverse our pipeline within the ROW at that location.
- If the proposed use is safe by confirming the location and depth of cover of pipelines at the location of the crossing.
- If any mitigation measures are required due to there being a potential risk or no alternative crossing locations

#### Crossing during an emergency

If a crossing is required while responding to an emergency, please call Enbridges emergency number before crossing the ROW.

#### Non-emergency crossings

Email Enbridge at crossingsus@enbridge.com before using the ROW.

### REDACTED SUBMITTAL -- PUBLIC COPY Contact Enbridge





#### 24-hour emergency number 1-800-858-5253

If you have a non-emergency question regarding Enbridge's Damage Prevention Program, Integrity Management Program, or operations in your area, you can call Public Awareness at **1-877-799-2650** or visit **enbridge.com/uspublicawareness**.



Please scan if you or someone you know would prefer to have the information in the brochure provided in a language other than English.



Land and ROW hotline 1-855-869-8261



Email uspublicawareness@enbridge.com



Website enbridge.com/uspublicawareness



Facebook facebook.com/enbridge

### **Critical safety information**



Risk: Ignoring the critical safety information below could create additional hazards for the public, responders and the environment.

#### **Recognizing a pipeline leak**

In the unlikely event of a pipeline leak, one or any combination of the items listed below can typically help you recognize a leak.

#### You might see:

- Colored liquid on the ground
- Flames, if a leak has ignited
- Oilv rainbow-like sheen on water surfaces
- · Continuous bubbling in a wet area
- Discolored snow or vegetation in an otherwise green area
- · A steam-like cloud or fog
- Unexpected frost buildup on the around
- Dirt being blown or appearing to be thrown into the air



#### You might hear:

 An unusual roaring, blowing or hissing sound

#### You might smell:

• An unusual odor similar to diesel fuel, gasoline, sulfur or rotten egg

It is important to know that an unintended release of product from the pipeline has potential hazards including:

- Products may be flammable and explosive under certain conditions.
- Suffocation can occur if vapors displace the oxygen in an enclosed area.

#### What NOT to do when a leak occurs



Do not drive into the area.



Do not remain in a building if the smell is stronger inside than outside.

Do not touch any liquid or vapor that

may have come from the pipeline.



Do not turn on or off anything that may create a spark - including cell phones, telephones, two-way radios, light switches, vehicle alarms, vehicle keyless entry systems and flashlights until vou are in a safe location.



Do not light a match and avoid open flames.



Do not attempt to extinguish a natural gas fire.

Do not open or close any pipeline valves; leave all valve operations to pipeline company personnel.

#### What happens next?

Public safety will be the top priority as Enbridge, contractors and local emergency responders work together to evaluate and respond to a pipeline leak. Local public safety officials will determine whether residents should evacuate or shelter in place. Residents may be asked to evacuate if it is no longer safe to be in the area or to shelter in place if there may be something unsafe in the environment.

#### Steps for a safe response

If you are in immediate danger, damage the pipeline or observe or suspect a leak - even if you are uncertain of the severity - take the following steps:



Abandon any equipment being used in or near the area, moving upwind of the product release.



Call 911.



Call the toll-free, 24-hour Enbridge emergency number for your area: 1-800-858-5253.

Follow instructions given to you by local emergency responders and Enbridge.

Appendix 4 – PHMSA Reports from Lakehead Discharges [146] and Copies of All Postincident Reports [148]

**Reporting Period: October 19, 2022 to December 2, 2022** 

NOTICE: This report is required by 49 CFR Part 195. Failure to report can result in a civil penalty as provided in 49 USC 60122.		OMB NO: 2137-0047 EXPIRATION DATE: 3/31/2024	
A 1	Original Report Date:	12/05/202	22
U.S Department of Transportation	No.	20220274 -3'	7419
Pipeline and Hazardous Materials Safety Administration		(DOT Use O	 Only)
ACCIDENT REPORT - HAZARDOUS LIQUID AND CARBON DIOXIDE PIPELINE SYSTEMS			
A federal agency may not conduct or sponsor, and a person is not required to re- comply with a collection of information subject to the requirements of the Paper current valid OMB Control Number. The OMB Control Number for this inform information is estimated to be approximately 12 hours per response, including th completing and reviewing the collection of information. All responses to the coll burden or any other aspect of this collection of information, including suggestio Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue	spond to, nor shall a perso work Reduction Act unle ation collection is 2137-0 he time for reviewing inst lection of information are ns for reducing the burde SE, Washington, D.C. 2	on be subject to a penalty for ess that collection of informa 0047. Public reporting for th tructions, gathering the data e mandatory. Send comment n to: Information Collection 0590.	r failure to ation displays a is collection of needed, and s regarding thi Clearance
INSTRUCTIONS			
Important: Please read the separate instructions for completing this form befor specific examples. If you do not have a copy of the instructions, you can obtain http://www.phmsa.dot.gov/pipeline/library/forms.` PART A - KEY REPORT INFORMATION	e you begin. They clarify one from the PHMSA Pip	the information requested a peline Safety Community We	nd provide b Page at
	Original		1
	Unginal.	Supplemental:	Final:
Report Type: (select all that apply)	Yes	Supplemental:	Final:
Report Type: <i>(select all that apply)</i>	Yes	Supplemental:	Final:
Report Type: <i>(select all that apply)</i> Last Revision Date: 1. Operator's OPS-issued Operator Identification Number (OPID):	Yes 11169	Supplemental:	Final:
Report Type: <i>(select all that apply)</i> Last Revision Date: 1. Operator's OPS-issued Operator Identification Number (OPID): 2. Name of Operator	Yes 11169 ENBRIDGE ENERG	Supplemental:	Final:
Report Type: <i>(select all that apply)</i> Last Revision Date: 1. Operator's OPS-issued Operator Identification Number (OPID): 2. Name of Operator 3. Address of Operator:	Yes 11169 ENBRIDGE ENERG	Supplemental: Y, LIMITED PARTNERSH	Final:
Report Type: <i>(select all that apply)</i> Last Revision Date: 1. Operator's OPS-issued Operator Identification Number (OPID): 2. Name of Operator 3. Address of Operator: 3a. Street Address	Yes 11169 ENBRIDGE ENERG 5400 WESTHEIMER	Supplemental: Y, LIMITED PARTNERSH	IP Final:
Report Type: <i>(select all that apply)</i> Last Revision Date: 1. Operator's OPS-issued Operator Identification Number (OPID): 2. Name of Operator 3. Address of Operator: 3a. Street Address 3b. City	Yes 11169 ENBRIDGE ENERG 5400 WESTHEIMER HOUSTON	Supplemental: Y, LIMITED PARTNERSH	Final:
Report Type: (select all that apply) Last Revision Date: 1. Operator's OPS-issued Operator Identification Number (OPID): 2. Name of Operator 3. Address of Operator: 3a. Street Address 3b. City 3c. State	Yes 11169 ENBRIDGE ENERG <sup>*</sup> 5400 WESTHEIMER HOUSTON Texas	Supplemental: Y, LIMITED PARTNERSH COURT	IIP
Report Type: <i>(select all that apply)</i> Last Revision Date: 1. Operator's OPS-issued Operator Identification Number (OPID): 2. Name of Operator 3. Address of Operator: 3a. Street Address 3b. City 3c. State 3d. Zip Code	Yes 11169 ENBRIDGE ENERG 5400 WESTHEIMER HOUSTON Texas 77056	Supplemental: Y, LIMITED PARTNERSH	IIP
Report Type: (select all that apply)         Last Revision Date:         1. Operator's OPS-issued Operator Identification Number (OPID):         2. Name of Operator         3. Address of Operator:         3a. Street Address         3b. City         3c. State         3d. Zip Code         4. Earliest local time (24-hr clock) and date an accident reporting criteria was met:	Yes 11169 ENBRIDGE ENERG 5400 WESTHEIMER HOUSTON Texas 77056 11/05/2022 10:58	Supplemental: Y, LIMITED PARTNERSH COURT	IIP
Report Type: (select all that apply)         Last Revision Date:         1. Operator's OPS-issued Operator Identification Number (OPID):         2. Name of Operator         3. Address of Operator:         3a. Street Address         3b. City         3c. State         3d. Zip Code         4. Earliest local time (24-hr clock) and date an accident reporting criteria was met:         4a. Time Zone for local time	Yes 11169 ENBRIDGE ENERG 5400 WESTHEIMER HOUSTON Texas 77056 11/05/2022 10:58 Central	Supplemental: Y, LIMITED PARTNERSH COURT	IIP
Report Type: (select all that apply)         Last Revision Date:         1. Operator's OPS-issued Operator Identification Number (OPID):         2. Name of Operator         3. Address of Operator:         3a. Street Address         3b. City         3c. State         3d. Zip Code         4. Earliest local time (24-hr clock) and date an accident reporting criteria was met:         4a. Time Zone for local time         4b. Daylight Saving in effect?	Yes 11169 ENBRIDGE ENERG <sup>T</sup> 5400 WESTHEIMER HOUSTON Texas 77056 11/05/2022 10:58 Central Yes	Supplemental: Y, LIMITED PARTNERSH COURT	IIP
Report Type: (select all that apply)         Last Revision Date:         1. Operator's OPS-issued Operator Identification Number (OPID):         2. Name of Operator         3. Address of Operator:         3a. Street Address         3b. City         3c. State         3d. Zip Code         4. Earliest local time (24-hr clock) and date an accident reporting criteria was met:         4a. Time Zone for local time         4b. Daylight Saving in effect?         5. Location of Accident:	Yes 11169 ENBRIDGE ENERG 5400 WESTHEIMER HOUSTON Texas 77056 11/05/2022 10:58 Central Yes	Supplemental: Y, LIMITED PARTNERSH COURT	IP
Report Type: (select all that apply)         Last Revision Date:         1. Operator's OPS-issued Operator Identification Number (OPID):         2. Name of Operator         3. Address of Operator:         3a. Street Address         3b. City         3c. State         3d. Zip Code         4. Earliest local time (24-hr clock) and date an accident reporting criteria was met:         4a. Time Zone for local time         4b. Daylight Saving in effect?         5. Location of Accident:         Latitude / Longitude	Yes 11169 ENBRIDGE ENERG 5400 WESTHEIMER HOUSTON Texas 77056 11/05/2022 10:58 Central Yes	Supplemental: Y, LIMITED PARTNERSH COURT	
Report Type: (select all that apply)         Last Revision Date:         1. Operator's OPS-issued Operator Identification Number (OPID):         2. Name of Operator         3. Address of Operator:         3a. Street Address         3b. City         3c. State         3d. Zip Code         4. Earliest local time (24-hr clock) and date an accident reporting criteria was met:         4a. Time Zone for local time         4b. Daylight Saving in effect?         5. Location of Accident:         Latitude / Longitude         6. Commodity released: (select only one, based on predominant volume released)	Yes 11169 ENBRIDGE ENERG 5400 WESTHEIMER HOUSTON Texas 77056 11/05/2022 10:58 Central Yes Crude Oil	Supplemental: Y, LIMITED PARTNERSH COURT	IP
Report Type: (select all that apply)         Last Revision Date:         1. Operator's OPS-issued Operator Identification Number (OPID):         2. Name of Operator         3. Address of Operator:         3a. Street Address         3b. City         3c. State         3d. Zip Code         4. Earliest local time (24-hr clock) and date an accident reporting criteria was met:         4a. Time Zone for local time         4b. Daylight Saving in effect?         5. Location of Accident:         Latitude / Longitude         6. Commodity released: (select only one, based on predominant volume released)         - Specify Commodity Subtype:	Yes 11169 ENBRIDGE ENERG 5400 WESTHEIMER HOUSTON Texas 77056 11/05/2022 10:58 Central Yes Crude Oil	Supplemental: Y, LIMITED PARTNERSH COURT	

- If Biofuel/Alternative Fuel and Commodity Subtype is Ethanol Blend, then % Ethanol Blend:	
- If Biofuel/Alternative Fuel and Commodity Subtype is Biodiesel, then Biodiesel Blend e.g. B2, B20, B100	
7. Estimated volume of commodity released unintentionally (Barrels):	50.00
8. Estimated volume of intentional and/or controlled release/blowdown (Barrels):	
9. Estimated volume of commodity recovered (Barrels):	50.00
10. Were there fatalities?	No
- If Yes, specify the number in each category:	
10a. Operator employees	
10b. Contractor employees working for the Operator	
10c. Non-Operator emergency responders	
10d. Workers working on the right-of-way, but NOT associated with this Operator	
10e. General public	
10f. Total fatalities (sum of above)	0
11. Were there injuries requiring inpatient hospitalization?	No
- If Yes, specify the number in each category:	
11a. Operator employees	
11b. Contractor employees working for the Operator	
11c. Non-Operator emergency responders	
11d. Workers working on the right-of-way, but NOT associated with this Operator	
11e. General public	
11f. Total injuries (sum of above)	0
12. What was the Operator's initial indication of the Failure? (select only one)	Local Operating Personnel, including contractors
Other	
12a. If "Controller", "Local Operating Personnel, including contractors", "Air Pa Question 12, specify the following: (select only one)	trol", or "Ground Patrol by Operator or its contractor" is selected in
	Operator employee
13. Local time Operator identified failure	11/05/2022 10:58
14. formerly C2 Part of system involved in Accident: (select only one)	Onshore Terminal/Tank Farm Equipment and Piping
15. formerly B1 <i>Auto-populated based on A14</i> Was the origin of the Accident onshore?	Yes
Yes (Complete Questions B3-B12)	
No (Complete Questions B13-B15)	
16. Operational Status at time Operator identified failure:	Normal Operation, includes pauses between batches and during maintenance
17. If Operational Status = Routine Start-Up or Normal Operation, was the pipeline/facility shut down due to the Accident?	Yes

Explain:	
If Yes, complete Questions 17.a and 17.b: (use local time, 24-hr clock)	
17a. Local time and date of shutdown	11/05/2022 10:41
17b. Local time pipeline/facility restarted	11/07/2022 01:38
Still shut down*	
18. If A12 = Notification from Emergency Responder, skip A18.a through J	A18.c.
18a. Did the operator communicate with Local, State, or Federal Emergency Responders about the accident?	No
If No, skip 18b. and 18c	
18b. Which party initiated communication about the accident?	
18c. Local time of initial Operator and Local/State/Federal Emergency Responder communication	
19. Local time Operator responders arrived on site	11/05/2022 10:58
20. Local time of confirmed discovery	11/05/2022 10:58
21a. Local time (24-hr clock) and date of initial operator report to the National Response Center :	11/05/2022 12:00
21b. Initial Operator National Response Center Report Number OR	1351798
21c. Additional NRC Report numbers submitted by the operator:	1351920
22. Did the commodity ignite?	No
If Yes, answer 22.a through d:	
22a. Local time of ignition	
22b. How was the fire extinguished?	
specify:	
22c. Estimated volume of commodity consumed by fire	
(barrels): (must be less than or equal to A7)	
22d. formerly A16. Did the commodity explode?	
23. If 14. is "Onshore Pipeline, Including Valve Sites" OR "Offshore Pipelin	ne, Including Riser and Riser Bend", answer A23a through f:
23a. Initial action taken to control flow upstream of failure location	
- If Operational Control	
If Valve Closure, answer A23b and c:	
23b. Local time of valve closure	
23c. Type of upstream valve used to initially isolate release source:	
23d. Initial action taken to control flow downstream of failure location	
- If Operational Control	
If Valve Closure, answer A23.e and f:	
23e. Local time of valve closure	
23f. Type of downstream valve used to initially isolate release source	

24. If A6 = Crude Oil, Refined and/or Petroleum Product (non-HVL) which is (including ethanol blends) AND A15. is Onshore, answer questions A24a and c	a Liquid at Ambient Conditions, or Biofuel / Alternative Fuel
24a. Did the operator notify a "qualified individual" in the Onshore Oil Spill Response Plan?	Yes
If Yes, answer A24b.	
24b. Local time the "qualified individual" was notified.	11/05/2022 11:15
24c. Did the operator activate an Oil Spill Removal Organization (OSRO)?	Yes
If Yes, answer A24d and e:	
24d. Local time operator activated OSRO	11/05/2022 12:52
24e. Local time OSRO arrived on site	11/05/2022 14:30
25. Number of general public evacuated:	0
PART B - ADDITIONAL LOCATION INFORMATION	
1. Pipeline/Facility name:	Flanagan Terminal
2. Segment name/ID:	61-VV-11
If Yes, Complete Ques	tions (2-12)
If No, Complete Quest	ions (13-15)
- If Onshore:	1
3. State:	Illinois
4. Zip Code:	61764
5. City	Pontiac
6. County or Parish	Livingston
7. Operator-designated location:	Milepost
8. Specify:	462
9. Was this onshore Accident on Federal land?	No
10. Location of Accident:	Originated on Operator-controlled property, but then flowed or migrated off the property
11. Area of Accident (as found):	Aboveground
Speci	Typical aboveground facility piping or appurtenance
- If Other, Describe:	
11a. Depth-of-Cover (in):	
12. Did Accident occur in a crossing?	No
- If Yes, specify type below:	
- If Bridge crossing –	
Cased/ Uncased:	
- If Railroad crossing –	
Cased	
Uncased	
Bored/drilled	
- If Road crossing –	

Cased/ / Bored/drilled	
Uncased	
Bored/drilled	
- If Water crossing –	
Cased/ Uncased	
- Name of body of water, if commonly known:	
- Approx. water depth (ft) at the point of the accident:	
- Select:	
Is this water crossing 100 feet or more in length from high water mark to high water mark?	
- If Offshore:	
13. Approximate water depth (ft) at the point of the Accident:	
14. Origin of Accident:	
- In State waters - Specify:	
- State:	
- Area:	
- Block/Tract #:	
- Nearest County/Parish:	
- On the Outer Continental Shelf (OCS) :	
- Area:	
- Block/Tract #:	
15. Area of Accident:	
PART C - ADDITIONAL FACILITY INFORMATION	
1. Is the pipeline or facility:	Interstate
2. reserved	
3. Item involved in Accident:	Valve
- If Pipe, specify:	
If Pipe Body: Was this a puddle/spot weld?	
3a. Nominal Pipe Size:	
3b. Wall thickness (in):	
3c. SMYS (Specified Minimum Yield Strength) of pipe (psi):	
3d. Pipe specification:	
3e. Pipe Seam, specify:	
- If Other, Describe:	
3f. Pipe manufacturer:	
3g. Pipeline coating type at point of Accident, specify:	
- If Other, Describe:	
3h. Coating field applied?	
- If Weld, including heat-affected zone, specify	

If Pipe Girth Weld is selected, complete items C3a through h above. Are any of the C3b though h values different on either side of the girth weld?	
If Yes, enter the different value(s) below:	
3i. Wall thickness (in):	
3j. SMYS (Specified Minimum Yield Strength) of pipe (psi):	
3k. Pipe specification:	
Unknown	
31. Pipe Seam	
- If Other, Describe:	
3m. Pipe manufacturer:	
Unknown	
3n. Pipeline coating type at point of Accident	
- If Other, Describe:	
30. Coating field applied?	
- If Valve, specify:	
- Valve type	Auxiliary or Other Valve
- If Mainline, Valve Mainline type	
- If Other, Describe:	
3p. Mainline valve manufacturer:	
3q. Type of pump	
- If Other, Describe:	
3r. Type of Service	
- If Other, Describe:	
3s. Tubing material	
3t. Type of tubing	
3u. Specify	
- If Other, Describe:	
3v. Tank Type	
If 3v. = Pressurized:	
3v1. Tank Maximum Operating Pressure	
3v2. What is the set point of the primary pressure relief device on the tank	
3v3. Did the thermal or pressure relief valve activate?	
3v4. Was the MOP of the tank exceeded?	
If 3v = Atmospheric or Low Pressure:	
3v5. Safe-Fill-Level (in feet) at the time of the accident?	
3v6. Was the Safe Fill-Level exceeded?	
3v7. Year of most recent API Std 653 Out-of-Service Inspection	

3v8. API Std 653 In-Service Inspection	
4. Year item involved in Accident was installed:	2020
4a. Year item involved in Accident was manufactured:	2020
5. Material involved in Accident:	Carbon Steel
- If Material other than Carbon Steel, specify:	
6. Type of Accident Involved:	Leak
- If Mechanical Puncture – Specify Approx. size:	
in. (axial) by	
in. (circumferential)	
- If Leak - Select Type:	Connection Failure
- If Other, Describe:	
- If Rupture - Select Orientation:	
- If Other, Describe:	
Approx. size: in. (widest opening) by	
in. (length circumferentially or axially)	
- If Other – Describe:	
PART D - ADDITIONAL CONSEQUENCE INFORMATION	
1. Wildlife impact:	No
1a. If Yes, specify all that apply:	
- Fish/aquatic	
- Birds	
- Terrestrial	
2. Soil contamination:	Yes
3. Long term impact assessment performed or planned:	No
4. Anticipated remediation:	No
4a. If Yes, specify all that apply:	
- Surface water	
- Groundwater	
- Soil	
- Vegetation	
- Wildlife	
5. Water contamination:	No
5a. If Yes, specify all that apply:	
- Ocean/Seawater	
- Surface	
- Groundwater	
- Drinking water: (Select one or both)	
- Private Well	
- Public Water Intake	
5h Estimated amount released in or reaching water (Barrels)	

	Т
5c. Name of body of water, if commonly known:	
6. At the location of this Accident, had the pipeline segment or facility been identified as one that "could affect" a High Consequence Area (HCA) as determined in the Operator's Integrity Management Program?	Yes
7. Did the released commodity reach or occur in one or more High Consequence Area (HCA)?	No
7a. If Yes, specify HCA type(s): (Select all that apply)	
- Commercially Navigable Waterway:	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- High Population Area:	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Other Populated Area	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Unusually Sensitive Area (USA) - Drinking Water	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Unusually Sensitive Area (USA) - Ecological	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
8. Estimated cost to Operator - effective 12-2012, changed to "Estimated Prop	erty Damage":
8a. Estimated cost of public and non-Operator private property damage paid/reimbursed by the Operator – effective 12-2012, "paid/reimbursed by the Operator" removed	
8b. Estimated cost of commodity lost	
8c. Estimated cost of Operator's property damage & repairs	
8d. Estimated cost of emergency response	
8e. Estimated cost of environmental remediation	
8f. Estimated other costs	
Describe:	
8g. Total estimated property damage (sum of above)	
<b>Injured Persons not included in A11</b> The number of persons injured, admitted overnight are reported in A11. <i>If a person is included in A11, do not include th</i>	to a hospital, and remaining in the hospital for at least one <i>em in D9.</i>
9 Estimated number of persons with injuries requiring treatment in a medical	

9. Estimated number of persons with injuries requiring treatment in a medical facility but not requiring overnight in-patient hospitalization:

If a person is included in D9, do not include them in D10.	
10. Estimated number of persons with injuries requiring treatment by EMTs at the site of accident:	0
Buildings Affected	1
11. Number of residential buildings affected (evacuated or required repair):	0
12. Number of business buildings affected (evacuated or required repair):	0
PART E - ADDITIONAL OPERATING INFORMATION	
1. Estimated pressure at the point and time of the Accident (psig):	667.00
If C3. Is Tank/Vessel and C3v. is Atmospheric, do not answer E2. and E3	
2. Maximum Operating Pressure (MOP) at the point and time of the Accident (psig):	1,440.00
2a. Limiting factor establishing MOP (select only one):	Component Design Pressure §195.406(a)(2)
describe:	
2b. Date MOP established	02/28/2021
2c. Was the MOP established in conjunction with a reversal of flow direction?	No
If E2c = Yes, E2d. What is the date of the most recent surge analysis performed at the point of the Accident?	
3. Describe the pressure on the system or facility relating to the Accident (psig):	Pressure did not exceed MOP
4. Was the system or facility relating to the Accident operating under an established pressure restriction with pressure limits below those normally allowed by the MOP?	No
- If Yes, Complete 4.a and 4.b below:	
4a. Did the pressure exceed this established pressure restriction?	
4b. Was this pressure restriction mandated by PHMSA or the State?	
If A14. is "Onshore Pipeline, Including Valve Sites" OR "Offshore Pipeline, Inc	luding Riser and Riser Bend", complete E5 through E7
5. Answer E5 only when both A23a and A23d are Valve Closure	
Length of segment initially isolated between valves (ft):	
6. Is the pipeline configured to accommodate internal inspection tools?	
- If No, Which physical features limit tool accommodation? (see	lect all that apply)
- Changes in line pipe diameter	
- Presence of unsuitable mainline valves	
- Tight or mitered pipe bends	
- Other passage restrictions (i.e. unbarred tee's, projecting instrumentation, etc.)	
	•

- Extra thick pipe wall (applicable only for magnetic flux leakage internal inspection tools)	
- Other -	
- If Other, Describe:	
7. For this pipeline, are there operational factors which significantly complicate the execution of an internal inspection tool run?	
- If Yes, Which operational factors complicate execution? (select all that apply)	
- Excessive debris or scale, wax, or other wall buildup	
- Low operating pressure(s)	
- Low flow or absence of flow	
- Incompatible commodity	
- Other -	
- If Other, Describe:	
8. Function of pipeline system:	> 20% SMYS Regulated Transmission
9. Was a Supervisory Control and Data Acquisition (SCADA)-based system in place on the pipeline or facility involved in the Accident?	Yes
If Yes -	
9a. Was it operating at the time of the Accident?	Yes
9b. Was it fully functional at the time of the Accident?	Yes
9c. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	No
9d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	No
10. Was a CPM leak detection system in place on the pipeline or facility involved in the Accident?	Yes
- If Yes:	
10a. Was it operating at the time of the Accident?	Yes
10b. Was it fully functional at the time of the Accident?	Yes
10c. Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	No
10d. Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	Yes
11. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the Accident?	No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (provide an explanation for why the Operator did not investigate)

- If No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: (provide an explanation for why the operator did not investigate)	The release was determined to be outside of the controller's responsibility
- If Yes, specify investigation result(s): (select all that apply)	
- Investigation reviewed work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
- Investigation did NOT review work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
Provide an explanation for why not:	
- Investigation identified no control room issues	
- Investigation identified no controller issues	
- Investigation identified incorrect controller action or controller error	
- Investigation identified that fatigue may have affected the controller(s) involved or impacted the involved controller(s) response	
- Investigation identified incorrect procedures	
- Investigation identified incorrect control room equipment operation	
- Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response	
- Investigation identified areas other than those above:	
Describe:	
PART F - DRUG & ALCOHOL TESTING INFORMATION	
1. As a result of this Accident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
1a. Specify how many were tested:	
1b. Specify how many failed:	
2. As a result of this Accident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
If Vacu	
- II Tes.	
2a. Specify how many were tested:	

Select only one box from PART G in shaded column on left representing the APPARENT Cause of the Accident, and answer the questions on the wight Describe secondary contributing on not equate of the Accident in the parameters (BART II)	
Apparent Cause:	G8 - Other Incident Cause
G1 - Corrosion Failure - only one sub-cause can be picked from shaded left-ha	I
Corrosion Failure – Sub-Cause:	
- If External Corrosion:	
1. Results of visual examination:	
- If Other, Describe:	
2. Type of corrosion: (select all that apply)	
- Galvanic	
- Atmospheric	
- Stray Current	
- Microbiological	
- Selective Seam	
- Other:	
- If Other, Describe:	
2a. If 2 is Stray Current, specify	
2b. Describe the stray current source:	
3. The type(s) of corrosion selected in Question 2 is based on the following: (see	lect all that apply)
- Field examination	
- Determined by metallurgical analysis	
- Other:	
- If Other, Describe:	
4. Was the failed item buried or submerged?	
- If Yes :	
4a. Was failed item considered to be under cathodic protection at the time of the Accident?	
If Yes - Year protection started:	
4b. Was shielding, tenting, or disbonding of coating evident at the point of the Accident?	
4c. Has one or more Cathodic Protection Survey been conducted at the point of the Accident?	
If "Yes, CP Annual Survey" - Most recent year conducted:	
If "Yes, Close Interval Survey" – Most recent year conducted:	
If "Yes, Other CP Survey" – Most recent year conducted:	
Describe other CP survey	
- If No:	
4d. Was the failed item externally coated or painted?	
5. Was there observable damage to the coating or paint in the vicinity of the corrosion?	
- If Internal Corrosion:	

6. Results of visual examination:	
- Other:	
7. Type of corrosion (select all that apply): -	
- Corrosive Commodity	
- Water drop-out/Acid	
- Microbiological	
- Erosion	
- Other:	
- If Other, Describe:	
8. The cause(s) of corrosion selected in Question 7 is based on the following <i>(see</i>	elect all that apply): -
- Field examination	
- Determined by metallurgical analysis	
- Other:	
- If Other, Describe:	
9. Location of corrosion (select all that apply): -	
- Low point in pipe	
- Elbow	
- Dead-Leg	
- Other:	
- If Other, Describe:	
10. Was the commodity treated with corrosion inhibitors or biocides?	
11. Was the interior coated or lined with protective coating?	
12. Were cleaning/dewatering pigs (or other operations) routinely utilized?	
13. Were corrosion coupons routinely utilized?	
G2 - Natural Force Damage - only one sub-cause can be picked from shaded le	aft-handed column
Natural Force Damage – Sub-Cause:	
- If Earth Movement, NOT due to Heavy Rains/Floods:	
1. Specify:	
- If Other, Describe:	
- If Heavy Rains/Floods:	
2. Specify:	
- If Other, Describe:	
- If Lightning:	
3. Specify:	
- If Temperature:	
4. Specify:	
- If Other, Describe:	
- If Other Natural Force Damage:	
5. Describe:	
Complete the following if any Natural Force Damage sub-cause is selected.	
6. Were the natural forces causing the Accident generated in conjunction with an extreme weather event?	

6. Were the natural forces causing the Accident generated in conjunction with an extreme weather event?	
6a. If Yes, specify: (select all that apply)	
- Hurricane	
- Tropical Storm	
- Tornado	
- Other	
- If Other, Describe:	
G3 - Excavation Damage - only one sub-cause can be picked from shaded left-	hand column
Excavation Damage – Sub-Cause:	
- If Previous Damage due to Excavation Activity: Complete Questions 1-5 O Question 3) is Pipe or Weld.	NLY IF the "Item Involved in Accident" (from PART C,
Complete the following if Excavation Damage by Third Party is selected as	the sub-cause.
1. Did the operator get prior notification of the excavation activity?	
1a. If Yes, Notification received from: (select all that apply) -	
- One-Call System	
- Excavator	
- Contractor	
- Landowner	
1b. Per the primary Accident Investigator results, did State law exempt the excavator from notifying the one-call center?	
If yes, answer 1c through 1e.	
1c. select one of the following:	
Describe	
1d. Exempting authority:	
1e. Exempting criteria:	
Complete the following mandatory CGA-DIRT Program questions if any E	ccavation Damage sub-cause is selected.
2. Do you want PHMSA to upload the following information to CGA-DIRT ( <u>www.cga-dirt.com</u> )?	
3. Right-of-Way where event occurred: (select all that apply) -	
- Public	
- If "Public", Specify:	
- Private	
- If "Private", Specify:	
- Pipeline Property/Easement	
- Power/Transmission Line	
- Railroad	
- Dedicated Public Utility Easement	
- Federal Land	
- Unknown/Other	
4 Was the facility part of a Joint Trench?	

5 Did this event involves a Grass Dane?	
5. Did this event involve a Cross Bore?	
6. Measured Depin from Grade	
Measured depth From Grade	
7. Type of excavator:	
8. Type of excavation equipment:	
9. Type of work performed:	
10. Was the One-Call Center notified?	
If No, skip to question 11	
10a. If Yes, specify ticket number:	
10b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified:	
10 c. Was work area white lined?	
11. Type of Locator:	
12. Were facility locate marks visible in the area of excavation?	
13. Did the damage cause an interruption in service?	
13a. If Yes, specify duration of the interruption (hours)	
14. Description of the CGA-DIRT Root Cause (select only the one predominant j choice, the one predominant second level CGA-DIRT Root Cause as well):	first level CGA-DIRT Root Cause and then, where available as a
Root Cause Category	
Root Cause Type	
(comment required)	
G4 - Other Outside Force Damage - only one sub-cause can be selected from a	the shaded left-hand column
Other Outside Force Damage – Sub-Cause:	
- If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT En	ngaged in Excavation:
1. Vehicle/Equipment operated by:	
If this sub-section is picked, please complete questions 5-11 below	
- If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment o Mooring:	r Vessels Set Adrift or Which Have Otherwise Lost Their
2. Select one or more of the following IF an extreme weather event was a factor:	
- Hurricane	
- Tropical Storm	
- Tornado	
- Heavy Rains/Flood	
- Other	
- If Other, Describe:	
- If Previous Mechanical Damage NOT Related to Excavation: Complete Questions 3-7 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
- If Intentional Damage:	F
3. Specify:	
- If Other, Describe:	
- If Other Outside Force Damage:	

4. Describe:	
Complete the following if Damage by Car, Truck, or Other Motorized Vehicle selected.	e/Equipment NOT Engaged in Excavation sub-cause is
5. Was the driver of the vehicle or equipment issued one or more citations related to the accident?	
If 5 is Yes, what was the nature of the citations (select all that apply)	
5a. Excessive Speed	
5b. Reckless Driving	
5c. Driving Under the Influence	
5e. Other	
If Other, Describe	
6. Was the driver under control of the vehicle at the time of the collision?	
7. Estimated speed of the vehicle at the time of impact (miles per hour)?	
- Unknown	
8. Type of vehicle? (select only one)	
9. Where did the vehicle travel from to hit the pipeline facility? (select only one)	
10. Shortest distance from answer in 9. to the damaged pipeline facility (in feet):	
11. At the time of the accident, were protections installed to protect the damaged pipeline facility from vehicular damage?	
If 11 is Yes, specify type of protection (select all that apply):	
11a. Bollards/Guard Posts	
11b. Barricades - include Jersey barriers and fences in instructions	
11c. Guard Rails	
If Other, Describe	
G5 - Material Failure of Pipe or Weld - only one sub-cause can be selected from	m the shaded left-hand column
Use this section to report material failures ONLY IF the "Item Involved in Ac	ccident" (from PART C, Question 3) is "Pipe" or "Weld."
Material Failure of Pipe or Weld – Sub-Cause:	
1. The sub-cause shown above is based on the following: (select all that apply)	
- Field Examination	
- Determined by Metallurgical Analysis	
- Other Analysis	
- If "Other Analysis", Describe:	
- Sub-cause is Tentative or Suspected; Still Under Investigation (Supplemental Report required)	
-If Design-, Construction-, Installation- or Fabrication-related	
2. List contributing factors: (select all that apply)	
- Fatigue or Vibration-related	
Specify:	

- If Other, Describe:	
- Mechanical Stress:	
- Other	
- If Other, Describe:	
- If Original Manufacturing-related (NOT girth weld or other welds formed	in the field)
- Fatigue or Vibration-related	
Specify:	
- If Other, Describe:	
- Mechanical Stress:	
- Other	
- If Other, Describe:	
- If Environmental Cracking-related:	
3. Specify:	
- If Other - Describe:	
Complete the following if any Material Failure of Pipe or Weld sub-cause is s	selected.
4. Additional factors: (select all that apply):	
- Dent	
- Gouge	
- Pipe Bend	
- Arc Burn	
- Crack	
- Lack of Fusion	
- Lamination	
- Buckle	
- Wrinkle	
- Misalignment	
- Burnt Steel	
- Other:	
- If Other, Describe:	
<b>G6 – Equipment Failure</b> - only one <b>sub-cause</b> can be selected from the shaded l	eft-hand column
Equipment Failure – Sub-Cause:	
- If Malfunction of Control/Relief Equipment:	
1. Specify: (select all that apply) -	
- Control Valve	
- Instrumentation	
- SCADA	
- Communications	
- Block Valve	
- Check Valve	
- Relief Valve	
- Power Failure	
- Stopple/Control Fitting	
- ESD System Failure	

- Other	
- If Other – Describe:	
- If Pump or Pump-related Equipment:	
2. Specify:	
- If Other – Describe:	
- If Threaded Connection/Coupling Failure:	
3. Specify:	
- If Other – Describe:	
- If Non-threaded Connection Failure:	
4. Specify:	
- If Other – Describe:	
- If Other Equipment Failure:	
Complete the following if any Equipment Failure sub-cause is selected.	
6. Additional factors that contributed to the equipment failure: (select all that ap	ply)
- Excessive vibration	
- Overpressurization	
- No support or loss of support	
- Manufacturing defect	
- Loss of electricity	
- Improper installation	
- Improper maintenance	
- Mismatched items (different manufacturer for tubing and tubing fittings)	
- Dissimilar metals	
- Breakdown of soft goods due to compatibility issues with transported commodity	
- Valve vault or valve can contributed to the release	
- Alarm/status failure	
- Misalignment	
- Thermal stress	
- Erosion/Abnormal Wear	
- Other	
- If Other, Describe:	
G7 - Incorrect Operation - only one sub-cause can be selected from the shaded	l left-hand column
Incorrect Operation – Sub-Cause:	-
- If Tank, Vessel, or Sump/Separator Allowed or Caused to Overfill or Overflow	
1. Specify:	
- If Other, Describe:	
- If Other Incorrect Operation	

2. Describe:		
Complete the following if any Incorrect Operation sub-cause is selected.		
3. Was this Accident related to <i>(select all that apply):</i> -		
- Inadequate procedure		
- No procedure established		
- Failure to follow procedure		
- Other:		
- If Other, Describe:		
4. What category type was the activity that caused the Accident?		
5. Was the task(s) that led to the Accident identified as a covered task in your Operator Qualification Program?		
5a. If Yes, were the individuals performing the task(s) qualified for the task(s)?		
G8 - Other Accident Cause - only one sub-cause can be selected from the shad	ed left-hand column	
Other Accident Cause – Sub-Cause:	Unknown	
- If Miscellaneous:		
1. Describe:		
- If Unknown:		
2. Specify:	Still under investigation, cause of Accident to be determined* (*Supplemental Report required)	
Mandatory comment field:		
PART L COMPLETED INTECRITY INSPECTIONS		
PART J – COMPLETED INTEGRITY INSPECTIONS		
PART J – COMPLETED INTEGRITY INSPECTIONS Complete the following if the "Item Involved in Accident" (from PART C, Q	Question 3) is Pipe or Weld and the "Cause" (from Part G) is:	
PART J – COMPLETED INTEGRITY INSPECTIONS Complete the following if the "Item Involved in Accident" (from PART C, Q Corrosion (any subCause in Part G1); or	Question 3) is Pipe or Weld and the "Cause" (from Part G) is:	
PART J – COMPLETED INTEGRITY INSPECTIONS Complete the following if the "Item Involved in Accident" (from PART C, Q Corrosion (any subCause in Part G1); or Previous Damage due to Excavation Activity (subCause in Part G3); or	Question 3) is Pipe or Weld and the "Cause" (from Part G) is:	
PART J – COMPLETED INTEGRITY INSPECTIONS Complete the following if the "Item Involved in Accident" (from PART C, Q Corrosion (any subCause in Part G1); or Previous Damage due to Excavation Activity (subCause in Part G3); or Previous Mechanical Damage NOT Related to Excavation (subCause in Par	Question 3) is Pipe or Weld and the "Cause" (from Part G) is:	
PART J – COMPLETED INTEGRITY INSPECTIONS Complete the following if the "Item Involved in Accident" (from PART C, C Corrosion (any subCause in Part G1); or Previous Damage due to Excavation Activity (subCause in Part G3); or Previous Mechanical Damage NOT Related to Excavation (subCause in Par Material Failure of Pipe or Weld (any subCause in Part G5)	Question 3) is Pipe or Weld and the "Cause" (from Part G) is: t G4); or	
PART J – COMPLETED INTEGRITY INSPECTIONS Complete the following if the "Item Involved in Accident" (from PART C, C Corrosion (any subCause in Part G1); or Previous Damage due to Excavation Activity (subCause in Part G3); or Previous Mechanical Damage NOT Related to Excavation (subCause in Part Material Failure of Pipe or Weld (any subCause in Part G5) J1. Have internal inspection tools collected data at the point of the Accident?	Question 3) is Pipe or Weld and the "Cause" (from Part G) is:	
PART J – COMPLETED INTEGRITY INSPECTIONS Complete the following if the "Item Involved in Accident" (from PART C, Q Corrosion (any subCause in Part G1); or Previous Damage due to Excavation Activity (subCause in Part G3); or Previous Mechanical Damage NOT Related to Excavation (subCause in Par Material Failure of Pipe or Weld (any subCause in Part G5) J1. Have internal inspection tools collected data at the point of the Accident? J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:	Question 3) is Pipe or Weld and the "Cause" (from Part G) is:	
PART J – COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, C         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3);         Material Failure of Pipe or Weld (any subCause in Part G5)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage	Question 3) is Pipe or Weld and the "Cause" (from Part G) is:	
PART J - COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, Q         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:	Duestion 3) is Pipe or Weld and the "Cause" (from Part G) is:	
PART J - COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, Q         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3);         Material Failure of Pipe or Weld (any subCause in Part G5)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:         Most recent run Propulsion Method (select only one):	Puestion 3) is Pipe or Weld and the "Cause" (from Part G) is: t G4); or	
PART J - COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, Q         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:         Most recent run Attuned to Detect (select only one):	Duestion 3) is Pipe or Weld and the "Cause" (from Part G) is: t G4); or	
PART J - COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, Q         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3);         Material Failure of Pipe or Weld (any subCause in Part G5)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:         Most recent run Attuned to Detect (select only one):         Other Describe	Puestion 3) is Pipe or Weld and the "Cause" (from Part G) is: t G4); or	
PART J - COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, (         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:         Most recent run Attuned to Detect (select only one):         Other Describe         If Metal Loss, specify (select only one):	Puestion 3) is Pipe or Weld and the "Cause" (from Part G) is: t G4); or	
PART J - COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, Q         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:         Most recent run Attuned to Detect (select only one):         Other Describe         If Metal Loss, specify (select only one):	Duestion 3) is Pipe or Weld and the "Cause" (from Part G) is: t G4); or	
PART J - COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, Q         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3)         Material Failure of Pipe or Weld (any subCause in Part G5)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:         Other Describe         If Metal Loss, specify (select only one):         Other Describe         Previous run Year:	Puestion 3) is Pipe or Weld and the "Cause" (from Part G) is:  t G4); or	
PART J – COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, Q         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3)         Material Failure of Pipe or Weld (any subCause in Part G5)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:         Most recent run Attuned to Detect (select only one):         Other Describe         If Metal Loss, specify (select only one):         Other Describe         Previous run Year:         Previous run Propulsion Method (select only one):	Puestion 3) is Pipe or Weld and the "Cause" (from Part G) is:  t G4); or	
PART J – COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, C         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3);         Material Failure of Pipe or Weld (any subCause in Part G5)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:         Most recent run Propulsion Method (select only one):         Other Describe         If Metal Loss, specify (select only one):         Other Describe         Previous run Year:         Previous run Propulsion Method (select only one):         Previous run Year:         Previous run Propulsion Method (select only one):         Previous run Year:         Previous run Attuned to Detect (select only one):         Previous run Year:	Duestion 3) is Pipe or Weld and the "Cause" (from Part G) is:	
PART J – COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, Q         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part Material Failure of Pipe or Weld (any subCause in Part G5)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:         Most recent run Attuned to Detect (select only one):         Other Describe         If Metal Loss, specify (select only one):         Previous run Year:         Previous run Year:         Previous run Year:         Other Describe         Previous run Attuned to Detect (select only one):         Previous run Year:         Previous run Attuned to Detect (select only one):         Previous run Attuned to Detect (select only one):         Previous run Year:	Puestion 3) is Pipe or Weld and the "Cause" (from Part G) is:  t G4); or	
PART J - COMPLETED INTEGRITY INSPECTIONS         Complete the following if the "Item Involved in Accident" (from PART C, C         Corrosion (any subCause in Part G1); or         Previous Damage due to Excavation Activity (subCause in Part G3); or         Previous Mechanical Damage NOT Related to Excavation (subCause in Part G3)         J1. Have internal inspection tools collected data at the point of the Accident?         J1a. If Yes, for each tool and technology used provide the information below for the most recent and previous tool runs:         Axial Magnetic Flux Leakage         Most recent run Year:         Most recent run Attuned to Detect (select only one):         Other Describe         If Metal Loss, specify (select only one):         Previous run Propulsion Method (select only one):         Other Describe         If Metal Loss, specify (select only one):         Other Describe         If Metal Loss, specify (select only one):         Other Describe         If Metal Loss, specify (select only one):         Other Describe	Duestion 3) is Pipe or Weld and the "Cause" (from Part G) is:	

Circumferential/Transverse Wave Magnetic Flux Leakage	
Most recent run Year:	
Most recent run Propulsion Method (select only one):	
Most recent run Resolution (select only one):	
Other Describe	
Previous run Year:	
Previous run Propulsion Method (select only one):	
Previous run Resolution (select only one):	
Other Describe	
Ultrasonic	
Most recent run Year:	
Most recent run Propulsion Method (select only one):	
Most recent run Attuned (select only one):	
Other Describe	
Previous run Year:	
Previous run Propulsion Method (select only one):	
Most recent run Attuned to (select only one)	
Other Describe	
If Attuned to Wall Measurement, most recent run Metal Loss Resolution (select only one):	
Other Describe	
Geometry/Deformation	
Most recent run Year:	
Most recent run Propulsion Method (select only one):	
Most recent run Resolution (select only one):	
Other Describe	
Most recent run Measurement Cups (select only one):	
Previous run Year:	
Previous run Propulsion Method (select only one):	
Other Describe	
Previous run Resolution (select only one):	
Other Describe	
Previous run Measurement Cups (select only one):	
Electromagnetic Acoustic Transducer (EMAT)	
Most recent run Year:	
Most recent run Propulsion Method (select only one):	
Previous run Year:	
Previous run Propulsion Method (select only one):	
Cathodic Protection Current Measurement (CPCM)	
Most recent run Year:	

Most recent run Propulsion Method (select only one):	
Previous run Year:	
Previous run Propulsion Method (select only one):	
Other, specify tool	
Most recent run Year:	
Most recent run Propulsion Method (select only one):	
Previous run Year:	
Previous run Propulsion Method (select only one):	
Answer J1.b only when the cause i:	
Previous Damage due to Excavation Activity (subCause in Part G3); or	
Previous Mechanical Damage NOT Related to Excavation (subCause in Pa	rt G4)
J1b. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained	
J2. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident? (initial post construction pressure test is NOT reported here)	
Most recent year tested:	
Test pressure (psig):	
J3. Has Direct Assessment been conducted on the pipeline segment?	
Most recent year conducted:	
Most recent year conducted:	
If J3 is Yes, J3a. For each type, indicate the year of the most recent assessment	
External Corrosion Direct Assessment (ECDA)	
Other, specify type	
J4. Has one or more non-destructive examination been conducted prior to the Accident at the point of the Accident since January 1, 2002?	
4a. If Yes, for each examination conducted, select type of non-destructive exam	ination and indicate most recent year the examination was conducted:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography	ination and indicate most recent year the examination was conducted:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic	ination and indicate most recent year the examination was conducted:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic Handheld Ultrasonic Tool	ination and indicate most recent year the examination was conducted:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic Handheld Ultrasonic Tool Wet Magnetic Particle Test	ination and indicate most recent year the examination was conducted:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic Handheld Ultrasonic Tool Wet Magnetic Particle Test Dry Magnetic Particle Test	ination and indicate most recent year the examination was conducted:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic Handheld Ultrasonic Tool Wet Magnetic Particle Test Dry Magnetic Particle Test Other	ination and indicate most recent year the examination was conducted:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic Handheld Ultrasonic Tool Wet Magnetic Particle Test Dry Magnetic Particle Test Other - If Other, specify type	ination and indicate most recent year the examination was conducted:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic Handheld Ultrasonic Tool Wet Magnetic Particle Test Dry Magnetic Particle Test Other - If Other, specify type PART K – CONTRIBUTING FACTORS	ination and indicate most recent year the examination was conducted:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic Handheld Ultrasonic Tool Wet Magnetic Particle Test Dry Magnetic Particle Test Other - If Other, specify type PART K – CONTRIBUTING FACTORS The Apparent Cause of the accident is contained in Part G. Do not report the A identified during a root cause analysis, select all that apply below and explain	Apparent Cause again in this Part K. If Contributing Factors were each in the Narrative:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic Handheld Ultrasonic Tool Wet Magnetic Particle Test Dry Magnetic Particle Test Other - If Other, specify type PART K – CONTRIBUTING FACTORS The Apparent Cause of the accident is contained in Part G. Do not report the <i>A</i> identified during a root cause analysis, select all that apply below and explain External Corrosion	ination and indicate most recent year the examination was conducted:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic Handheld Ultrasonic Tool Wet Magnetic Particle Test Dry Magnetic Particle Test Other - If Other, specify type PART K – CONTRIBUTING FACTORS The Apparent Cause of the accident is contained in Part G. Do not report the <i>A</i> identified during a root cause analysis, select all that apply below and explain External Corrosion External Corrosion, Galvanic	Apparent Cause again in this Part K. If Contributing Factors were each in the Narrative:
4a. If Yes, for each examination conducted, select type of non-destructive exam Radiography Guided Wave Ultrasonic Handheld Ultrasonic Tool Wet Magnetic Particle Test Dry Magnetic Particle Test Other - If Other, specify type PART K – CONTRIBUTING FACTORS The Apparent Cause of the accident is contained in Part G. Do not report the <i>A</i> identified during a root cause analysis, select all that apply below and explain External Corrosion, Galvanic External Corrosion, Atmospheric	Apparent Cause again in this Part K. If Contributing Factors were each in the Narrative:

External Corrosion, Microbiologically Induced	
External Corrosion, Selective Seam	
Internal Corrosion	
Internal Corrosion, Corrosive Commodity	
Internal Corrosion, Water drop-out/Acid	
Internal Corrosion, Microbiological	
Internal Corrosion, Erosion	
Natural Forces	
Earth Movement, NOT due to Heavy Rains/Floods	
Heavy Rains/Floods	
Lightning	
Temperature	
High Winds	
Tree/Vegetation Root	
Excavation Damage	
Excavation Damage by Operator (First Party)	
Excavation Damage by Operator's Contractor (Second Party)	
Excavation Damage by Third Party	
Previous Damage due to Excavation Activity	
Other Outside Force	
Nearby Industrial, Man-made, or Other Fire/Explosion	
Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation	
Damage by Boats, Barges, Drilling Rigs, or Other Adrift Maritime Equipment	
Routine or Normal Fishing or Other Maritime Activity NOT Engaged in Excavation	
Electrical Arcing from Other Equipment or Facility	
Previous Mechanical Damage NOT Related to Excavation	
Intentional Damage	
Pipe/Weld Failure	
Design-related	
Construction-related	
Installation-related	
Fabrication-related	
Original Manufacturing-related	
Environmental Cracking-related, Stress Corrosion Cracking	
Environmental Cracking-related, Sulfide Stress Cracking	
Environmental Cracking-related, Hydrogen Stress Cracking	
Environmental Cracking-related, Hard Spot	

Equipment Failure	
Malfunction of Control/Relief Equipment	
Pump or Pump-related Equipment	
Threaded Connection/Coupling Failure	
Non-threaded Connection Failure	
Defective or Loose Tubing or Fitting	
Failure of Equipment Body (except Compressor), Vessel Plate, or other Material	
Incorrect Operation	
Damage by Operator or Operator's Contractor NOT Excavation and NOT Vehicle/Equipment Damage	
Tank, Vessel, or Sump/Separator Allowed or Caused to Overfill or Overflow	
Valve Left or Placed in Wrong Position, but NOT Resulting in Overpressure	
Pipeline or Equipment Over pressured	
Equipment Not Installed Properly	
Wrong Equipment Specified or Installed	
Inadequate Procedure	
No procedure established	
Failure to follow procedures	
PART H - NARRATIVE DESCRIPTION OF THE ACCIDENT	

On November 5, 2022 storms and high winds occurred in the area around Flanagan Terminal. Line 61 shut down at 10:41 AM CDT due to a power failure at the Terminal which caused an emergency shut down to occur on the system cooler. The Edmonton Control Center contacted field personnel to investigate the event. Field personnel discovered crude oil on the ground around the relief system at 10:58 AM CDT. Approximately 50 barrels of crude oil was released with the majority of product remaining on company property. An immeasurable amount reached the roadside from product mist over due to strong winds. ICS was stood up and OSRO contractors were mobilized to the site to commence the cleanup. The NRC was notified at 12:00 PM CDT (NRC #1351798). The 48-hour update to the NRC was made on November 7, 2022 at 9:44 AM CST (NRC #1351920).

The source of the release has been identified as a failed needle valve (61-VV-11) and the associated tubing on the valve body. Repairs were made and Line 61 was returned to service on November 7, 2022 at 1:38 AM CST. Approximately 501 tons of contaminated soil was removed from the release site. An investigation and third-party failure analysis is being conducted to determining the root cause of the failure. A supplemental report will be completed once the cause is determined.

PART I - PREPARER AND AUTHORIZED SIGNATURE	day .
Preparer's Name	
Preparer's Title	
Preparer's Telephone Number	+
Preparer's E-mail Address	¢
Preparer's Facsimile Number	-
Local Contact Name	
Local Contact Email	
Local Contact Phone	
Authorized Signer Name	
Authorized Signer Title	
Authorized Signer Telephone Number	
Authorized Signer Email	
Date	12/05/2022