

Enbridge Semi-Annual Report November 23, 2019, to May 22, 2020

DJ# 90-5-1-1-10099

July 17, 2020

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



Table of Contents

INTRODUCTION	6
SECTION A – ORIGINAL US LINE 6B	7
SECTION B – REPLACEMENT OF LINE 3; EVALUATION OF REPLACEMENT OF LINE 10	7
SECTION C – HYDROSTATIC PRESSURE TESTING	10
SECTION D – IN-LINE INSPECTION BASED SPILL PREVENTION PROGRAM	10
SECTION E – MEASURES TO PREVENT SPILLS IN THE STRAITS OF MACKINAC	33
SECTION F – DATA INTEGRATION	41
SECTION G – LEAK DETECTION AND CONTROL ROOM OPERATIONS	42
SECTION H – SPILL RESPONSE AND PREPAREDNESS	52
SECTION I – NEW REMOTELY CONTROLLED VALVES	61
SECTION J – INDEPENDENT THIRD PARTY CONSENT DECREE COMPLIANCE VERIFICATION	62
IX. – REPORTING REQUIREMENTS	63
APPENDIX 1 – SECTIONS A-J AND SECTION IX TABLES	
APPENDIX 2 – CATCH-UP TABLES FOR THE FIFTH CD MODIFICATION	
APPENDIX 3 -- LAKEHEAD LEAK ALARM REPORT [108, 110, 111]	
APPENDIX 3 – SPILL RESPONSE AND PREPAREDNESS ADDITIONAL INFORMATION [116]	
APPENDIX 4 – SPILL RESPONSE AND PREPAREDNESS ADDITIONAL INFORMATION	
APPENDIX 5 -- PHMSA REPORTS FROM LAKEHEAD DISCHARGES [146] AND UPDATE ON DISCHARGES FROM LAKEHEAD SYSTEM PIPELINES [147]	



Glossary

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

AIWP	Anchor Inspection Work Plan
AIS	Automated Identification System
ALD	Alternative Leak Detection
ALJ	Administrative Law Judge
APE	Area of Potential Effect
APP	Agricultural Protection Plan
ART	Alarm Response Team
ATC	American Transmission Company
AUV	Autonomous Underwater Vehicle
AVB	Automated Volume Balance
BIWP	Biota Investigation Work Plan
BIA	Bureau of Indian Affairs
COTP	Coast Guard of the Port
CCO	Control Centre Operations
CD	Consent Decree
CGR	Corrosion Growth Rate
CP	Cathodic Protection
CP CIS	Cathodic Protection Close Interval Survey
CRO	Control Room Operator
CWP	Covered Work Period
DAS	Distributed Acoustic Sensing
DOC	Department of Commerce
DOJ	Department of Justice
DPR	Discharge Pressure Restriction
DQA	Data Quality Assessment
DQR	Data Quality Review
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
EPA	Environmental Protection Agency
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
FR	Future Report
FRE	Features Requiring Excavation
GW	Girth Weld
HCA	High Consequence Area
HDD	Horizontal Directional Drill
ICP	Integrated Contingency Plan
ICS	Incident Command System
IL	Illinois
ILI	In-Line Inspection
ILIMRR	In-Line Inspection Minimum Reporting Requirements
IMT	Incident Management Team
IN	Indiana
IR	Information Request



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	Mass 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
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
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
P	Paragraph
PI	Pipeline Integrity
PN	Priority Notification
PPR	Point Pressure Restriction
PAWSA	Ports and Waterways Safety Assessment
PT	Pressure Transmitter
PR	Pressure Restriction
PAtoN	Private Aids to Navigation
QuAD	Quantitative Analysis
RDS	Rupture Detection System
RNA	Regulated Navigation Area
ROA	Record of Alarms
ROV	Remote Operated Vehicle
RPR	Rupture Pressure Ratio
SAR	Semi-Annual Report
SAWP	Screw Anchor Work Plan



SCADA	Supervisory Control and Data Acquisition
SCC	Stress Crack Corrosion
SHPO	State Historic Preservation Office
SME	Subject Matter Expert
SML	Subject Matter Lead
SOA	Summary of Alarms
SOC	Security Operations Center
SoM	State of Michigan
SQuAD	Semi-Quantitative Analysis
SRB	Sulfate Reducing Bacteria
STA	Senior Technical Advisor
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
VCI	Vapor Corrosion Inhibitor
VMRS	Vessel Movement Reporting System
WI	Wisconsin
WCMP	Wisconsin Coastal Management Program
WDNR	Wisconsin Department of Natural Resources
WLOA	Weekly List of Alarms
WMA	Wildlife Management Area
WQC	Water Quality Certification
WT	Wall Thickness



Introduction

Enbridge¹ submits this sixth Semi-Annual Report (also referred to herein as “SAR” or “Report”) in electronic form in accordance with Environmental Protection Agency (“EPA”) request and Section IX, Reporting Requirements, of the Consent Decree entered in *United States v. Enbridge Energy, Limited Partnership, et al.*, Civ. No. 1:16-cv-00914 (referred to herein as “Consent Decree,” “Decree,” or “CD”). Specifically, this sixth SAR is submitted in accordance with Paragraph (or “P.”) 143, which requires Enbridge to submit a SAR documenting Enbridge’s compliance with the Consent Decree for the sixth reporting period dated November 23, 2019 to May 22, 2020 (“the reporting period”), no later than six months after the submittal of the fifth SAR. Enbridge’s first SAR was submitted on January 18, 2018; the second on July 18, 2018; the third SAR on January 18, 2019; the fourth SAR on July 18, 2019; and the fifth SAR on January 17, 2020. This sixth SAR is submitted on July 17, 2020, within six months of the fifth SAR. As per Paragraph 150 of the Consent Decree, this sixth SAR 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 sixth SAR summarizes the requirements in Subsections VII.A-J of the Consent Decree that became due and/or were required to be complied with by Enbridge during the sixth reporting period. This Report is organized by Paragraph and Subparagraph number of the Consent Decree. This SAR addresses, on a Paragraph-by-Paragraph basis, each injunctive requirement of the Consent Decree that became due during the fifth reporting period or for which reporting is required.

In accordance with Paragraph 144, this SAR provides the information that is required to be submitted to the United States under Paragraphs 29, 31, 49, 96, and Subparagraph 110.c, which each have specific SAR requirements. In accordance with Paragraph 144, Enbridge shall discuss, Paragraph-by-Paragraph, such matters as completion of milestones, status of permit applications, operation and maintenance issues, reports to state agencies, number, by type, planned for future repair or mitigation, and any significant changes or issues since the first SAR. In Paragraph 144 of this Report, Enbridge has reported specific situations during Reporting Period 6 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 SAR, and this SAR 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 SAR.

Enbridge has also enclosed appendices to this SAR, 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.

Summary of Activities

Table Intro-1 in Appendix 1 lists activities that Enbridge considers complete in accordance with P. 203(i) as implemented requirements of the Consent Decree.

¹ 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 A – Original US Line 6B

21. [Original US Line 6B]

As reported in the first SAR, the original Line 6B was permanently disconnected from the Enbridge system prior to the Effective Date of the Consent Decree and remains inoperable. This Consent Decree activity is complete. Enbridge continues to monitor Line 6B and will provide updates as warranted in future SARs. There is no update for this reporting period.

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

22.a [Replacement of Line 3 in the United States]

Enbridge has been vigorously pursuing all avenues to complete the replacement of Line 3 as quickly as possible. As discussed in SARs 1 through 5, Enbridge obtained a Certificate of Need and Route Permit from the Minnesota Public Utilities Commission (“MPUC”), both of which are required before certain other state and federal approvals may be obtained. Prior to this report, the Certificate of Need and Route Permit were made ineffective due to the Minnesota Court of Appeals’ ruling that the Environmental Impact Statement (“EIS”) was deficient in one respect. Specifically:

- On June 3, 2019, the Minnesota Court of Appeals issued a decision concluding that the EIS for the Line 3 replacement was adequate with respect to all issues that were challenged by Line 3 replacement opponents, except two of the three appellate judges ruled that the EIS failed to adequately consider the potential impact of an oil spill into the Lake Superior watershed. As a result of this ruling, the Minnesota Court of Appeals reversed the MPUC’s earlier decision finding the EIS to be adequate and remanded the EIS back to the MPUC to conduct a further oil spill analysis.
- On July 3, 2019, two petitions for certiorari were filed by Line 3 replacement opponents, requesting the Minnesota Supreme Court’s review of the June 3 Minnesota Court of Appeals’ decision. The MPUC did not seek Minnesota Supreme Court of the June 3 Minnesota Court of Appeals decision on the one remanded issue; nor did Enbridge.
- On September 17, 2019, the Minnesota Supreme Court denied petitions for review filed by Line 3 replacement opponents.
- On October 8, 2019, on the basis of the June 3 Minnesota Court of Appeals decision, the MPUC issued an order finding the EIS to be inadequate for failure to adequately consider the potential impact of an oil spill into the Lake Superior watershed and directing the Minnesota Department of Commerce (“DOC”) to revise the EIS accordingly.
- On December 9, 2019, the DOC issued for public review and comment a revised EIS assessing the impact of an oil spill into the Lake Superior watershed. The revised FEIS can be viewed at: <https://mn.gov/eera/web/file-list/13765/>. The DOC accepted public comments on the second revised FEIS until Jan 6, 2020. The MPUC allowed for reply comments to be submitted until Jan 16, 2020.
- On February 3, 2020, after reviewing comments received, the MPUC deemed the second revised EIS adequate and restored its grant of the Certificate of Need and Route Permit for the Line 3 Replacement Project.
- On May 1, 2020, the MPUC issued its order deeming the second revised EIS adequate and restored its grant of the Certificate of Need and Route Permit for the Line 3 Replacement Project.



- On May 21, 2020, various parties filed petitions for reconsideration with the MPUC contesting the adequacy of the second revised EIS, and the restoration of its grant of the Certificate of Need and the Route Permit.
- On June 1, 2020, Enbridge and various supporting parties filed responses to those filed petitions for reconsideration. MPUC scheduled a hearing to address the petitions for reconsideration June 25, 2020.
- On June 3, 2020, following a public comment period, the MPCA announced on that it will conduct a contested case hearing regarding the 401 Water Quality Certification.
- On June 23, 2020, after an Administrative Law Judge (ALJ) was assigned, the contested case hearing schedule was established.
 - o Parties must file direct testimony on July 24, 2020 and rebuttal testimony on August 7, 2020.
 - o Cross examination before the Administrative Law Judge will occur between August 24 and August 28, 2020.
 - o The Administrative Law Judge's contested case hearing schedule confirms that the MPCA Commissioner must issue her decision by November 14, 2020 which is within the one-year anniversary of our 401 Water Quality Certification application, as required by statute.
- On June 25, 2020, the MPUC denied all petitions for reconsideration reaffirming its prior decisions in all three dockets.

The status of primary permits and approvals for the Line 3 Replacement project are noted in **Table B-1** in Appendix 1. Additional detail is provided below on the permitting and construction plans.

Permitting:

Minnesota: A number of local, county, state, and federal permits and approvals are required before the replacement of the approximate 340.4-mile segment of Line 3 in Minnesota can proceed. Specifically, Enbridge is awaiting the issuance of the Minnesota approvals that are identified in **Table B-1** in Appendix 1. At this time all permit applications have been filed and are under review. SARs 1 through 5 detail the steps involved with securing the required authorizations.

North Dakota: As reported in previous SARs, on May 7, 2014, Enbridge received approval to replace Line 3 in North Dakota from the North Dakota Public Service Commission ("NDPSC"). In that year, Enbridge replaced an approximate 15-mile segment of Original Line 3 that extends from the U.S.-Canada border to the first U.S. mainline valve. Enbridge plans to replace the remainder of Line 3 in North Dakota as soon as practicable.

Wisconsin: As reported in previous SARs, the Original Line 3 extends approximately 14 miles in the State of Wisconsin. Enbridge received from federal, state, and local authorities all approvals and permits necessary for the replacement of that 14-mile segment. Enbridge initiated construction of the replacement in July 2017. Construction of that segment is complete and the replacement, known as "Segment 18," went into service on May 25, 2018.

Construction Plans:

Table B-2 in Appendix 1 identifies key dates regarding Enbridge's plans to construct the Line 3 replacement. As shown in the table and as indicated above, construction of the portion of the Line 3 replacement in the State of Wisconsin has already been completed and was placed into service on May



25, 2018. Construction of the remaining replacement segments in North Dakota and Minnesota will commence following the receipt of the permits described in **Table B-1** that are required for construction.

All mainline pipe has been procured and delivered to the appropriate pipe yards in Minnesota. Design engineering, handled internally by the Enbridge project team, is also substantially complete, although permitting may require minor route revisions or changes to installation methods for specific areas. Enbridge will provide additional details in the next SAR or subsequent SARs as such information becomes available.

22.b [Line 3 Decommissioning]

Within 90 Days after the Original Line 3 is taken out of service (following the construction of the Line 3 replacement and placing the replacement into service), Enbridge will purge remaining oil from Original US Line 3 by running a cleaning pig through the line. Enbridge will complete final clean-out and decommissioning of Original US Line 3 will be complete within one year thereafter, in accordance with Subparagraph 22.b.

22.c [Original US Line 3 Maximum Operating Pressure (“MOP”)]

Enbridge has limited the operating pressure of all Line 3 segments in accordance with MOP values specified at <https://www.epa.gov/enbridge-spill-michigan/enbridge-revised-maximum-operating-pressure-values>.

Enbridge has not increased operating pressures above the specified MOP values; therefore, hydrostatic pressure tests were neither required to be conducted nor needed to be provided to the EPA with associated procedures and results. Enbridge has not exceeded the Line 3 MOP values submitted to the EPA.

Although not required by the Consent Decree, each month Enbridge has been reporting to the ITP the maximum pressure on Line 3 compared to the maximum allowable pressure on Line 3. During this reporting period, Enbridge discovered an error in the spreadsheet utilized to generate the ‘MOP Exceedances on Original Line 3’ data provided during the monthly technical meetings with the ITP and EPA. The issue was related to the static MOP entries for the Viking discharge and Clearbrook suction values used in the ITP summary table. The values were listed as higher than actual values at those locations. Enbridge notified the ITP of the potential issue during the February 20, 2020 technical meeting and then confirmed the details of the finding in the March 19, 2020 meeting. Enbridge corrected the reporting error and has provided additional details in Paragraph 144 [Section B January 21, 2020 Identified Line 3 MOP Reporting Discrepancies – P. 22].

22.d [Requirements for the Use of Original US Line 3]

Portions of Original US Line 3 remain in service as of December 31, 2017. As a result, in this reporting period, Enbridge implemented the additional requirements specified under Subparagraph 22.d, which pertain to the continued use of Original US Line 3.

- (1) The In-Line Inspection (“ILI”) of all portions of Original US Line 3 is scheduled on an annual basis, using the most appropriate tools for detecting, charactering, and sizing Crack Features, Corrosion Features, and Geometric Features. The ILI schedule is described in this SAR under Subsection VII.D: In-Line Inspection Based Spill Prevention Program.

Enbridge and the ITP and EPA have a difference in interpretation regarding this Paragraph in the Consent Decree. Enbridge, without agreeing that its initial interpretation was incorrect, has agreed to schedule all Line 3 runs in line with the EPA interpretation that each ILI will be scheduled within 365 days of the previous run with the exception of the final year of service.

During the period of this report, ILIs on Line 3 were completed for axial Crack, Corrosion, and Geometry features within 365 Days of the previous ILI completion as per Enbridge’s commitment stated above. The pull date and required completion dates are provided in **Table D-1**.



- (2) The identification, excavation and mitigation or repair of all Features Requiring Excavation (“FRES”) are described in this SAR under Subsection VII.D: In-Line Inspection Based Spill Prevention Program.
- (3) Enbridge conducted quarterly cleaning and biocide treatment of Original US Line 3 in 2020 as required in Subparagraph 22.d.(3) of the Consent Decree. During the current reporting period, Enbridge conducted quarterly biocide treatments on the Original US Line 3 as set forth in **Table B-3**.

The biocide treatment vendors and specific biocide chemicals used in the Line 3 GF-CR and CR-PW segments were adjusted for 2020 to address seasonal requirements. Two different biocides are being used for 2020. Spec-Aid 8Q5703, in which the active ingredient is Cocodiamine, is used when the biocide is exposed to winter conditions at the time of injection. Spec-Aid 8Q5700ULS, in which the active ingredient is Glutaraldehyde, is used when the biocide is exposed to other conditions at the time of injection. One biodispersant, Spec-Aid 8Q5701, is used in conjunction with each specific biocide. The biocide concentration requirement for each biocide remains unchanged at 500ppm.

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

The Original US Line 3 continues to operate, except as follows. The following two portions of Line 3 have been replaced to date: (i) a 15.7-mile segment located in North Dakota, which was taken out of service in 2014; and (ii) the 14-mile Segment 18 located in Wisconsin, which was taken out of service in 2018. These two portions of the Original US Line 3 are not used for any operations, including to transport oil, gas, diluent or any hazardous substances.

23 [Line 10 Replacement Evaluation]

As reported in SAR4 this requirement is complete. On April 8, 2019, Enbridge received the ITP’s Evaluation of Enbridge US Line 10 Submittals Report, identifying that “the Collective Information, taken as a whole, complies with the requirements of CD P. 23. No further actions were taken during this reporting period.

Section C – Hydrostatic Pressure Testing

No hydrostatic pressure tests were conducted pursuant to the terms of the Consent Decree during this reporting period (i.e., between November 23, 2019 and May 22, 2020). Therefore, the requirements specified in Paragraphs 24, 25, and 26 were not triggered and are not applicable to this SAR.

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 dent, corrosion and axial Cracking.

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. Enbridge, the EPA, and the ITP continue to discuss ways to resolve this challenge and this item is included in **Table IX-1** in P. 144 Problems Anticipated in Appendix 1. As discussed with EPA, Enbridge believes that its current integrity management activities, including its geohazard program, allows Enbridge to identify and evaluate features of significance, including circumferential Cracks where present, in a timely manner.

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 SAR 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 currently required under Paragraphs 65 and 66 of the Decree for all Lakehead System Pipelines have been completed. The schedule for ILIs to detect Crack features on Line 2 is 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”).

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

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 8.2, version date January 22, 2018). Prior to the Effective Date of the Consent Decree, all approved ILI vendors were sent the In-Line Inspection Reporting Profile Standard, with a version date of February 1, 2017 which contained the Consent Decree reporting requirements. The requirements that vendors must submit Data Quality Assessments (“DQA”) according to the deadlines specified in the Consent Decree are specified in both the ILIMRR and In-Line Inspection Reporting Profile Standard. 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 4 incomplete or invalid ILI runs during this reporting period which are reported in **Table D-2**. Two of the four incomplete or invalid ILI runs were subsequently completed on May 22, 2020 (within the required CD timelines). The other two ILI runs are planned to be completed within the required CD timelines and will be reported on in SAR7.

29 [12-Month ILI Schedule]

Table D-3 includes each Consent Decree ILI tool run that is scheduled to be initiated on any pipeline during the 12-month period after the reporting period covered by this SAR.



The Required Completion Dates shown in this table are consistent with 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.

Per the ILI Stipulation, Enbridge worked with ILI vendors to develop and test a new Crack ILI tool to detect Line 2 Cracking features, with a particular focus on Crack features on or adjacent to the pipeline's long seam weld. The new Crack ILI tool development and validation is complete, and Enbridge has submitted its report to the ITP and EPA on November 22, 2019. The commercial ILI dates for this new Crack ILI tool are included in **Table D-3**.

30 [ILI Schedule Modification]

ILIs have been performed by Enbridge, as shown **Table D-1**. During this time period there were 4 failed or partially failed ILI runs that required a re-run, as discussed in Subparagraph 28.c of this SAR.

Table D-4 outlines changes to Tool Runs associated with the previous 12-month Lakehead ILI schedule as reported in SAR 5. Any schedule changes associated with the ILI's 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.

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. **Table D-5** reports on incomplete or invalid ILIs.

The ILIs that operated outside of the tool specifications are summarized below. The tool performance summaries are provided in **Table D-6** with details available in the Initial ILI Reports and ILI Summary Documents.

Line 4 CR-CS Deformation (Tool Run ID 6610)

During the inspection the GPS mapping data did not meet the vendor's specification. The GPS data does not impact the bending strain analysis of this inspection as this relies on the IMU and not the GPS data. The GPS data is only used for identifying the position of the girth welds. The vendor identified the locations where the specification was not achieved, and no further actions are required.

Line 4 DN-VG Deformation (Tool Run ID 6643)

During the inspection the GPS mapping data did not meet the vendor's specification. The GPS data does not impact the bending strain analysis of this inspection as this relies on the IMU and not the GPS data. The GPS data is only used for identifying the position of the girth welds. The vendor identified the locations where the specification was not achieved, and no further actions are required.

Line 4 DR-FW Deformation (Tool Run ID 6485)

During the inspection the GPS mapping data did not meet the vendor's specification. The GPS data does not impact the bending strain analysis of this inspection as this relies on the IMU and not the GPS data. The GPS data is only used for identifying the position of the girth welds. The vendor identified the locations where the specification was not achieved, and no further actions are required.



Line 4 FW-WR Deformation (Tool Run ID 4519)

During the inspection the GPS mapping data did not meet the vendor's specification. The GPS data does not impact the bending strain analysis of this inspection as this relies on the IMU and not the GPS data. The GPS data is only used for identifying the position of the girth welds. The vendor identified the locations where the specification was not achieved, and no further actions are required.

Line 4 GF-DN Deformation (Tool Run ID 6549)

During the inspection the GPS mapping data did not meet the vendor's specification. The GPS data does not impact the bending strain analysis of this inspection as this relies on the IMU and not the GPS data. The GPS data is only used for identifying the position of the girth welds. The vendor identified the locations where the specification was not achieved, and no further actions are required.

Line 6A PE-AM DuoCD (Tool Run ID 4676)

From milepost 211.331 to milepost 212.206, one sensor array shows coupling loss, affecting 0.01% of the pipeline. Only one long seam (joint 302890) was affected in this area, but the counterclockwise sensors from another array captured the long seam. The entire section that was impacted by this coupling loss was captured by the previous 2017 DuoCD inspection and no reportable features were detected in this area. The vendor provided an updated tool specification for the area with coupling loss.

Line 61 PE-FN UC (Tool Run ID 4612)

The vendor stated performance specifications were achieved for most of the pipeline length and circumference. There are areas where the sensor carrier experienced sporadic lift-off at various circumferential positions. This resulted in a reduced probability of detection (POD). Pipe joints with a wall thickness >0.41" and primarily in sections between ~400 ft. and ~1200 ft downstream of the launch trap were affected. A total of approximately 0.01% of the pipe wall surface shows unusable data. None of the sensors had continuous coupling loss.

(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.

Line 04, GF-DN, 2020 Deformation ILI Report

The ILI Report received date was initially entered in OnePlan as March 6, 2020. According to the ILI vendor email, the ILI Report Received date was March 5, 2020. All subsequent activities were completed within the timelines dictated by the Consent Decree in relation to the March 5, 2020 ILI Report received date. The Quality Assurance Analyst involved recognized the discrepancy and the OnePlan ILI Report received date has been corrected to match the ILI vendor email date of March 5, 2020.



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.

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

33.b [Priority Feature Definition]

This information has not changed from the first SAR. 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 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, which was lodged with the Court on May 7, 2020, but has not yet been approved. 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. All Priority Features that Enbridge determined to be FREs during this reporting period are summarized in Subparagraph 33.d **Table D-9**.



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

Table D-9 identifies Priority Features for which Enbridge received notification from vendors and/or repaired during this reporting period. Each listed feature is then discussed in greater detail in this section. All priority features identified within this reporting period were reviewed in accordance with required timelines as per the Consent Decree and repair or mitigation actions were taken if required as indicated in the table.

A Line Proving ILI on Line 10 ENR-UT identified one dent with depth over 5%, which met the Priority Notification requirements in Appendix A of the Consent Decree. The Priority notification was received on 5/13/2020. The target feature was confirmed to have been previously repaired on 5/14/2020 and no further action was required.

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**.

Table D-10 provides a comparison of the Data Quality Review ("DQR") timeline and the requirements in Subparagraph 34.a of the Consent Decree.

Refer to P. 144 Various Paragraphs [Section D] Implementation of Fifth Modification and Timing Change from 30+5 to 25+5 in Light of Fifth Modification.

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 SAR identifies the timelines when FREs were identified and placed onto the Dig List during this SAR reporting period.

34.c [Resolution of Identified Data Quality Issues]

Enbridge identified quality concerns during its preliminary review of some Initial ILI Reports. Enbridge completed evaluations required to resolve all identified data quality concerns. In some cases, ILI vendors provided re-issued ILI reports to correct and improve the ILI reporting and data quality, as summarized in **Table D-11**. Details regarding data quality issues are reported below.

Line 1 GF-CR USCD+ Crack (Tool Run ID 4503)

The inspection was interrupted by 3 pump stops with the locations and durations provided by the ILI vendor. At one of the stops, the tool recorded a joint length of 217.46 feet due to the tool moving forwards and backwards during the pump stoppage. This did not impact the data quality; the tool recorded duplicate information on one joint and had an incorrect joint length due to the odometer still collecting data. There was no impact to vendor's specification.

Line 2 GF-CR Proton Crack (Tool Run ID 6368)

During the inspection there were some instances where the ILI tool (robot) speed exceeded the specified maximum speed, however, it was determined that there was no impact to the vendor's specification.

Line 2 GF-CR Proton Crack (Tool Run ID 6367)

During the inspection there were some instances where the ILI tool (robot) speed exceeded the specified maximum speed, however, it was determined that there was no impact to the vendor's specification.



Line 4 CS-DR Deformation Geometry (Tool Run ID 6452)

An Issue 2 report was required for this inspection, as the Issue 1 report incorrectly listed all the dents identified by the tool as top-side dents when they all should have been listed as bottom-side dents.

Line 4 CR-CS Deformation Geometry (Tool Run ID 6610)

During the inspection the GPS mapping data did not meet the vendor's specification. The GPS data does not impact the bending strain analysis of this inspection as this relies on the IMU and not the GPS data. The GPS data is only used for identifying the position of the girth welds. The vendor identified the locations where the specification was not achieved, and no further actions are required. This issue was also reported in Paragraph 31 above.

Line 4 DN-VG Deformation Geometry (Tool Run ID 6643)

During the inspection the GPS mapping data did not meet the vendor's specification. The GPS data does not impact the bending strain analysis of this inspection as this relies on the IMU and not the GPS data. The GPS data is only used for identifying the position of the girth welds. The vendor identified the locations where the specification was not achieved, and no further actions are required. This issue was also reported in Paragraph 31 above.

Line 4 DR-FW Deformation Geometry (Tool Run ID 6485)

During the inspection the GPS mapping data did not meet the vendor's specification. The GPS data does not impact the bending strain analysis of this inspection as this relies on the IMU and not the GPS data. The GPS data is only used for identifying the position of the girth welds. The vendor identified the locations where the specification was not achieved, and no further actions are required. This issue was also reported in Paragraph 31 above.

Line 4 FW-WR Deformation Geometry (Tool Run ID 4519)

During the inspection the GPS mapping data did not meet the vendor's specification. The GPS data does not impact the bending strain analysis of this inspection as this relies on the IMU and not the GPS data. The GPS data is only used for identifying the position of the girth welds. The vendor identified the locations where the specification was not achieved, and no further actions are required. This issue was also reported in Paragraph 31 above.

Line 4 GF-DN Deformation Geometry (Tool Run ID 6549)

During the inspection the GPS mapping data did not meet the vendor's specification. The GPS data does not impact the bending strain analysis of this inspection as this relies on the IMU and not the GPS data. The GPS data is only used for identifying the position of the girth welds. The vendor identified the locations where the specification was not achieved, and no further actions are required. This issue was also reported in Paragraph 31 above.

Line 5 ENO-EMA MFL4 Geometry (Tool Run ID 6636)

Five non-adjacent caliper sensor channels failed for the entire inspection. Since none of the caliper sensors were adjacent to each other, the vendor's tool specification was unaffected. An Issue 2 of the final report was required as the ILI vendor had reported an incorrect tool specification in the Issue 1 report.



Line 5 ENO-EMA MFL4 Corrosion (Tool Run ID 6636)

An Issue 2 of the final report was required as the ILI vendor had reported an incorrect tool specification for the geometry tool.

Line 5 PE-IR GEMINI Geometry (Tool Run ID 6609)

One caliper arm was damaged during this inspection, resulting in 98.5% of the data being collected. Since there was only 1 damaged caliper arm, the vendor's tool specification was still achieved.

Line 5 WNO-WMA MFL4 Geometry (Tool Run ID 6635)

Eight non-adjacent caliper sensor channels failed for the entire inspection. Since none of the caliper sensors were adjacent to each other, the vendor's tool specification was unaffected. An Issue 2 of the final report was required as the ILI vendor had reported an incorrect tool specification in the Issue 1 report.

Line 5 WNO-WMA MFL4 Corrosion (Tool Run ID 6635)

An Issue 2 of the final report was required as the ILI vendor had reported an incorrect tool specification for the geometry tool.

Line 5 MA-BC UCx Crack (Tool Run ID 4537)

An Issue 2 of this inspection report was required as the vendor removed one Crack field feature interacting with a deformation from the original report. Further details regarding the data quality issues are reported in Paragraph 34d.

Line 6A PE-AM DuoCD Crack (Tool Run ID 4676)

From milepost 211.331 to milepost 212.206, one sensor array shows coupling loss, affecting 0.01% of the pipeline. Only one long seam (joint 302890) was affected in this area, but the counterclockwise sensors from another array captured the long seam. The entire section that was impacted by this coupling loss was captured by the previous 2017 DuoCD inspection and no reportable features were detected in this area. The vendor provided an updated tool specification for the area with coupling loss. This issue was also reported in Paragraph 31 above.

Line 6A AM-GT USWM+ Corrosion (Tool Run ID 4674)

An Issue 2 report was required due to a corrosion cluster feature extending over 2 joints of pipe with different nominal wall thicknesses (0.625" and 0.344"). The initial assessment stated that this feature had a depth of 56% based on the nominal wall thickness, but the feature was only 22% deep based on the local wall thickness. The corrosion cluster feature was split per joint so that it did not span across the two joints of pipe with the different nominal wall thicknesses. The corrosion feature on the 0.625" nominal pipe is now reported with a depth of 22% based on local wall thickness, and the feature on the 0.344" nominal pipe is now reported with a depth of 12.5% local wall thickness.

Line 61 PE-FN UC Crack (Tool Run ID 4612)

The vendor stated performance specifications were achieved for most of the pipeline length and circumference. There are areas where the sensor carrier experienced sporadic lift-off at various circumferential positions. This resulted in a reduced probability of detection (POD). Pipe joints with a wall



thickness >0.41" and primarily in sections between ~400 ft. and ~1200 ft was affected. A total of ~0.01% of the pipe wall surface shows unusable data. None of the sensors had continuous coupling loss.

The robot experienced a lot of rotation throughout the inspection, but this does not affect the data analysis because the rotation is recorded by the pendulum and considered during data processing. The robot also experienced a high rotation rate which can possibly affect discrimination capability.

Line 64 GL-GT UC Crack (Tool Run ID 4613)

There were some isolated spots where the tool rotation exceeded the maximum specified tool rotation; this did not appear to affect the data quality.

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 data reviews for the runs (see "Yes" in "Quality Evaluations Completed Within 180 Days" column), and data reviews were ongoing for the runs for which the 180 Day period was still open at the end of this reporting period (see "FR" in "Quality Evaluations Completed Within 180 Days" column). Additional details regarding data review for some listed runs can be found in Paragraph 34.c of this report.

Line 05, MA-BC UCx Crack (Tool Run ID 4537)

On 12/30/2019, 5 FREs and 1 validation dig were issued from Issue 1 of the Line 05, MA-BC, UCx ILI within the required CD timelines. A data quality issue on GW 75530 was identified regarding the reporting of feature ID 920345 in the 2019 Line 5 MA-BC UCx Crack inspection Issue 1 report. The quality issue was related to the ILI data at this location given previous excavation and ILI information not used by the vendor to complete their original assessment. A similarly reported feature was previously excavated on GW 75510 just upstream of this location. During this previous excavation, it was discovered that there was a puddle weld located within a dent and that there was not a Crack field intersecting with a geometry feature at this location as initially reported in the ILI report. Upon flagging this to the ILI vendor and providing the additional information, the ILI vendor submitted a re-issued Crack ILI Report (Issue 2) on 1/10/2020 (within 180 days of the tool pull date which was 07/25/2019) which removed the Crack feature from the ILI listing.

Although the Crack feature was removed from the ILI listing, GW 75530 was still selected for excavation. It was issued under excavation criteria 3.9 (other feature of interest) and was not issued as a CD FRE. Enbridge, however, did complete a full Finite Element Analysis to confirm that a pressure restriction was not required for this feature.

Based on the NDE field assessment results from the validation dig on GW 75530, which were completed on 2/4/2020, there was no Crack feature present. The field results confirmed the original assessment and corroborated Enbridge's conclusion that there was a data quality concern.

The program approval for the Issue 2 program was sent to the SME for approval on 2/10/2020 and approved by the SME on 2/12/2020. Based on the Issue 2 report, no further analysis or further actions were required. Although approval of the Issue 2 program was beyond 1/21/2020 (180 days from the tool pull date) the Issue 1 program was approved, and the data quality issue was resolved within the required timelines of the CD.



34.e [Discrepancies between Two Successive ILI Runs]

Potential data quality concerns that specifically related to the previous assessment of the line segment were identified during Enbridge's preliminary review of some of the initial ILI Reports identified in **Table D-13**. Details of these discrepancies are reported below.

Line 1 GF-CR USCD+ Crack (Run ID 4503)

The 2019 USCD+ inspection identified a smaller feature population than the 2015 USCD+ inspection due to several of the previously reported features now being classified as notch-like features below the reporting threshold. The decrease in feature population is also attributed to a large population of the features being excavated and removed by grinding.

Line 2 GF-CR Proton Crack (Run ID 6367)

This is the baseline inspection with the Proton tool on this pipeline and there is no previous inspection to compare to.

Line 2 GF-CR Proton Crack (Run ID 6368)

This is the baseline inspection with the Proton tool on this pipeline and there is no previous inspection to compare to.

Line 3 CR-PW DUOCD Crack (Run ID 6395)

The 2019 DUOCD reported an increased Crack-like feature population when compared to the previous 2018 DUOCD. This population increase is attributed to the majority of the Crack-like features that are newly reported in the current inspection that were just below the depth or length reporting threshold in the previous inspection.

There is also a decrease in the Crack colony population when compared to the previous Crack inspection. The decrease in the Crack colony population is due to the Segment 13 pipe replacement at the end of this pipe segment.

Line 4 DR-FW MFL DuDi Corrosion (Run ID 6487)

There is an increase in the total number of features reported since the 2015 MFL3 inspection due to areas of low-level corrosion detected during the analysis. Most of the changes are in respect to metal loss features below 10% depth.

Line 5 MA-BC UCx Crack (Run ID 4537)

The 2019 UCx inspection identified a larger feature population than the 2016 USCD+ inspection. These inspections were completed by different ILI vendors that have different detection, classification, and sizing algorithms, as well as different ILI technologies. Considering this, discrepancies in the reported feature density were expected.

Line 5 PE-IR GEMINI Corrosion (Run ID 6609)

The 2020 GEMINI inspection reported a larger feature population than the previous 2017 GEMINI inspection. The increased feature population is due to improvements in the boxing algorithms, detection capabilities, and new features of external corrosion detected along the pipeline.



Line 6A AM-GT USWM+ Corrosion (Run ID 4674)

The 2019 USWM+ reported a higher number of internal and external corrosion features when compared to the previous 2015 USWM+ inspection. This increased feature population is due to improvements in the USWM+ firmware and in the analysis process and techniques resulting in many features now reaching the reporting threshold that did not in the previous inspection.

When the 2019 USWM+ is compared to the previous 2017 UMP inspection, there is also a change in the feature population and types of features reported. This is attributed to the different ILI vendors having their own detection, classification, and sizing algorithms.

Line 6A PE-AM Vectra Corrosion (Run ID 4544)

The 2019 Vectra inspection reported a larger feature population than the previous 2017 GEMINI inspection. The increased feature population is due to improvements in the boxing algorithms and detection capabilities.

Line 61 PE-FN UC Crack (Run ID 4612)

The 2019 UC inspection reported a smaller feature population than the previous 2014 UC inspection. Based on the ILI tool specification including both detection threshold and tolerance aspects, along with sizing algorithm adjustments since 2014, the changes in feature density are within expectations.

Line 64 GL-GT UC Crack (Run ID 4613)

The 2019 UC inspection reported a larger feature population than the previous 2014 UC inspection. The 2019 inspection reported 23 Crack-like indications, while the 2014 inspection reported 12. The feature count variations between the 2014 and 2019 inspections were likely caused by a previous classification as a borderline feature. These features have a depth estimation of ~39 mil in 2019, but they may have been <39 mil in 2014. The differences in depth calculation are caused by the measurement tolerances from the robot as well as the geometry and dimensions of the feature. 12 of the reported Crack-like features from the 2019 inspection were classified as either being below the reporting threshold or below the analysis threshold in the 2014 inspection.

34.f-g [Investigative Digs]

There were no investigative digs issued or completed during the SAR 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.

The details of the Evaluation of Each Feature in Initial ILI Report for Feature Requiring Excavation issues are reported in Paragraph 144 [Section D] Minor Metal Loss Feature Truncation in Assessment Sheets – P. 35, P. 36 of this SAR report.

36 [Feature Requiring Excavation Definition]

With respect to Crack and Corrosion features, Enbridge applies three methods to identify an FRE:

Enbridge Consent Decree Sixth Semi-Annual Report



1. 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.
3. 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 and were referenced in the Compliance Registry Forms database which the ITP has access to.

With respect to Geometric and Intersecting or Interacting features, Enbridge is applying the 5th Modification analysis process to identify features requiring excavation and to set pressure restrictions for these features. Refer to Section IX Implementation of 5th Modification of the Consent Decree for Geometric and Intersecting or Interacting Features for more details.

Refer to Paragraph 144 [Section D] Minor Metal Loss Feature Truncation in Assessment Sheets – P. 35, P. 36 of this SAR report for issues encountered when analyzing minor metal loss features.

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 CD provisions such as those relating to circumferential Cracks.

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 SAR. Priority notifications FREs are excluded from this table as they are included in Paragraph 33 **Table D-9** of this SAR. ILI tool runs that did not discover any FREs are excluded from this table.

The details of issues related to Deadlines for Adding Features Requiring Excavation on the Dig List are reported in Paragraph 144 [Section D] Line 5 PE-IR 2020 GEMINI CAL (Run ID 6609) Deadlines for Adding Features Requiring Excavation on the Dig List – P. 37 of this SAR report.

38 [Dig List Actions]

Enbridge has complied with the requirements of P. 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. In some cases, dig deadlines were extended per the provisions provided in Paragraph 49 such as when completing a dig in the winter is less detrimental to the environment or when a dig was particularly complex. Features that EPA/ITP may consider FREs due to differing interpretations of CD provisions such as those relating to circumferential Cracks in some cases were not subject to excavation deadlines set in this manner, as previously discussed with EPA/ITP.

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 limiting the discharge pressure at the nearest upstream pump station to a level that assured compliance with the PPR value at the location of the feature.

During this reporting period, at the request of the ITP, Enbridge started providing a monthly summary of implemented Consent Decree PPRs and the maximum pressure achieved for the month at PPR locations. Consent Decree PPRs include all PPRs based on 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. Additionally, Enbridge provided an analysis of all Consent Decree PPRs implemented since the Consent Decree effective date and the maximum pressure achieved monthly at the PPR location while the PPR was active. The results confirmed that the only exceedance of Consent Decree PPRs was on Line 6A in 2018 during brief transient events which were reported in SAR2. The line was confirmed to be safe.

Features that EPA/ITP may consider FREs due to differing interpretations of CD provisions such as those relating to circumferential Cracks do not have appropriate technical guidance with the CD to apply pressure restrictions, as previously discussed with EPA/ITP.

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

During the reporting period of this SAR, 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 depth greater than 10% 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 SAR, 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 were not applicable for this SAR.

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



Please note that Priority Features that were repaired are reported in **Table D-9** under Paragraph 33.c-d, therefore they are not reported in **Table D-15**.

40 [Field Data Comparison to ILI Data]

Complete ILI programs with the associated Consent Decree digs completed within the reporting period for this SAR are listed in **Table D-16**.

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").

During the reporting period, Enbridge, EPA and the ITP discussed refinements to when excavations of FREs would be deemed "completed." The parties are nearing finalization of an interpretation to provide clarity around this issue. This item is included in **Table IX-1** in P. 144 Problems Anticipated in Appendix 1.

The details of Field Data Comparison to ILI Data issues are reported in Paragraph 144 [Section D] Line 6A AM-GT 2019 DUOCD (Run ID 4804) Analysis of Field Data – P40 and [Section D, Appendix B] PBP Calculations For Field Data Comparison to ILI Data – P. 40, Appendix B of this SAR report.

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 Crack² and Corrosion features identified by ILI tools, in accordance with the requirements of Subsection VII.D.(IV) of the Consent Decree.

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 Decree². Enbridge calculated the Predicted Burst Pressure of NDE features, as described in SAR 5 Paragraph 144 [Section D] Crack and Corrosion Field Burst Pressure Calculations per Appendix B in the Consent Decree – Paragraph 43.

The ILI assessment sheets documented all ILI feature Burst Pressure calculations, including the methodology and all the inputs as stated above.

² *Enbridge has not applied Appendix B to evaluate circumferential Crack features as it is not suitable for such features.*



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 Crack³ 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 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. The details of Initial Predicted Burst Pressure Calculations and Initial Remaining Life Calculations issues are reported in Paragraph 144 [Section D] Line 3 CR-PW Empty Dig List Approval Delay – P. 44.a&b of this SAR report.

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, until five years after termination of the Consent Decree.

Early versions of some documentation related to the Line 1 CR-PW UMP 2018 program were inadvertently deleted during an update to the documents. Although these previous versions were permanently deleted, the latest versions contained all the relevant and up to date information associated with this program.

Enbridge has taken steps to prevent this from re-occurring through the implementation of a document archive system associated with these types of files.

(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**. The feature repair and mitigation of the Priority Notification features are reported in Subparagraphs 33.c-d **Table D-9** and therefore are not included in **Table D-18**.

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.

In this reporting period, 3 digs were cancelled due to the reasons described below. Digs cancelled during this reporting period are summarized in **Table D-19**.

³ Enbridge has not applied Appendix B to evaluate circumferential Crack features as it is not suitable for such features.



Based on the reassessment of L6A AM-GT 2019 USWM+ Issue 2, Dig ID 27316 (GW 237600) has been cancelled because the driving feature is no longer an FRE based on CD excavation criteria. The original feature was clustered over 2 joints of different wall thickness which caused an incorrect depth percent calculation. Based on Issue 2 analysis, no additional integrity actions are required. Enbridge is working with the ILI vendor to clarify the feature-clustering criteria to prevent this from happening in the future.

On January 28, 2020, a feature meeting FRE criteria was identified as Dig 27331 based on Line 6A AM-GT 2019 USWM program and required a PPR (PR ID 30707). The pressure restriction was imposed on 01/29/2020 which is within 2 days as required by Consent Decree. The dig deadline for the feature was 07/26/2020. The same joint had been scheduled to be excavated due to an FRE identified earlier under a different program as Dig 26633 with an excavation deadline of April 6, 2020, which didn't require a point pressure restriction at the time of issuing. When the duplication was identified, Dig 27331 was cancelled but, conservatively, the point pressure restriction from Dig 27331 remained in effect until after Dig 26633 was repaired. Dig 26633 was repaired on January 31, 2020, which was earlier than required per either dig ID and PPR 30707 was removed on Feb 28, 2020. Enbridge is increasing the communication between groups to avoid duplication issues of this nature going forward.

Dig ID 26871 (GW195120) of Line 6A PE-AM was issued on 12/16/2019 as part of the 2019 BHGE Vectra MFL program. In the initial assessment, the target feature had a Remaining Life less than 5 years and the feature was placed on the dig list with a dig deadline of 12/15/2020. After the RunCom analysis results were available for the 2019 BHGE Vectra MFL, the remaining life of this feature was re-calculated and determined to be 8.9 years. The RunCom analysis provided a more accurate CGR from the signal to signal comparison between the two ILI tool runs. This in turn resulted in a longer Remaining Life. The remaining life is longer than two times the planned reinspection interval per Table 2 and as a result the feature no longer meets CD excavation criteria. The assessment sheet and PI listing have been updated and approved and the dig was cancelled on 12/17/2019.

A pressure restriction (PR ID 30356) associated with Dig 26439 (GW 305690) based on Line 6A AM-GT 2019 DUO CD program was imposed on 08/22/2019 which is within 2 days as required by Consent Decree. The dig was cancelled on 11/15/2019 because the SML determined that the joint had been previously repaired with a sleeve as was reported in SAR 5. The pressure restriction was removed on February 20, 2020 within this reporting period.

Where applicable, Enbridge established pressure restriction requirements and imposed PPRs in accordance with Consent Decree requirements⁴ as summarized in **Table D-20**. Note that when the imposition deadline of a PPR was a weekend day or United States Federal holiday, the deadline was moved to the following business day in accordance with Definition (m) of the Consent Decree.

During this reporting period, at the request of the ITP, Enbridge started providing a monthly summary of implemented Consent Decree (CD) PPRs and the maximum pressure achieved for the month at PPR locations. This update is provided at the PCSLD/CCO monthly technical meetings.

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

Enbridge did not submit any new Alternate Plans during the reporting period of this SAR. 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 SAR reporting period are provided in **Table D-21**.

⁴ Enbridge has not applied Appendix B to evaluate circumferential Crack features as it is not suitable for such features.



46.f [Saturated Signal Crack Feature]

Enbridge did not submit an Alternate Plan or an alternate pressure restriction for any saturated signal Crack feature within the reporting period for this SAR.

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

During the period covered by this SAR, Enbridge did not submit any new Alternate Plans.

46.h [Alternate Plans and Temporary Pressure Restrictions]

The target features included in AP#03, AP#04 and AP#05 have been reviewed in this report period. A Pressure Restriction was imposed on 3/21/2020 for AP#03 during this reporting period.

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

No new Alternate Plan was submitted within the reporting period for this SAR. During the implementation of AP#4 Enbridge complied with applicable laws and regulations.

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

Enbridge has implemented each proposed Alternate Plan and each proposed alternate interim pressure restriction and timetable in accordance with the timetable for implementation of such Alternate Plan or alternate interim pressure restriction as set forth in the applicable notification submitted pursuant to Paragraph 46.g.(2). The initial notification was submitted on December 12, 2018 and has since been supplemented with additional communications with EPA and the ITP. Adjustments to Alternate Plan timelines were communicated to the EPA and ITP via quarterly Alternate Plan Update meetings. In addition, on May 8, 2020 the EPA was informed about a modification to the construction schedule for AP#03. On April 1, 2020 the EPA was informed about a revision to the construction method which resulted in a timelier feature remediation for AP#04. An Update to AP#05 was provided to the EPA on February 27, 2020.

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).

46.l [Updates of Alternate Plans and Alternate Pressure Restrictions]

Alternate Plan updates during this report period have been summarized in **Table D-23**. During this report period, the target feature in AP#04 was repaired with a sleeve on May 12, 2020.

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. The Crack features that meet the above criteria are summarized in **Table D-24** and PPRs of Crack FREs are listed in **Table D-25**.

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 provided in Table 5 and Paragraph 59 of the Consent Decree, as modified by the Fifth Modification to the Consent Decree, entered May 7, 2020, but not yet approved by the United States District Court responsible for overseeing the Consent Decree. For more information about these interacting features, see Paragraph 59 in this SAR. These features are not included in **Table D-24** and **Table D-25**, but they are detailed in Paragraph 58 and 59.

Table D-25 lists the pressure restrictions imposed due to these criteria as applicable to this SAR.

During this reporting period, at the request of the ITP, Enbridge started providing a monthly summary of implemented Consent Decree (CD) PPRs and the maximum pressure achieved for the month at PPR locations. This update is provided at the PCSLD/CCO monthly technical meetings.

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. Refer to P. 144 [Section D] Circumferential Cracking Engineering Assessment Process – Various Paragraphs for details on interpretation issues regarding circumferential Cracking.

The details of Dig-Selection Criteria and Pressure Restriction Requirements for Crack Features issues are reported in Paragraph 144 [Section D] Line 2 GF-CR (Dig ID 27867) and Line 3 GF-CR GW171730 (Dig ID 26806) Incorrect Crack Dig Deadline – P47 of this SAR report.

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, Enbridge extended the dig deadline for three FRE's from 180 Days to 365 Days based on environmental considerations per CD Paragraph 49.a.

One of the Dig deadline extensions is from the Line 3 GF-CR 2019 DuoCD inspection. An FRE identified on GW171730 was added to the dig list on 12/12/2019 as Dig ID 26806. As reported in P144, the deadline was initially incorrectly reported as a 365 Day dig deadline. As a result of Enbridge quality review processes, it was determined that the Dig deadline for this Feature was inadvertently set with a 365 Day deadline instead of the required 180 Day deadline (06/09/2020). The Dig deadline was corrected in Enbridge's systems and documentation prior to the 180 Day deadline.

While planning to remediate this feature, Enbridge determined that due to the location, it would be environmentally beneficial to extend the dig deadline to 365 days per Paragraph 49 to allow for fall/winter construction. Conducting the work in the fall of 2020 will reduce the impact to the extremely sensitive and protected Fen ecosystem. It will allow Enbridge to adjust work and schedule plans so that impacts to state listed species can be avoided to the extent possible and will allow Enbridge to conduct work at a time that we will have the least impact on the unique hydrology of the fen ecosystem. Enbridge has determined that the risk that the identified feature will result in a leak or rupture is low.

The pressure restriction limiting the maximum operating pressure at the feature location was reviewed prior to the expiration of the 180-Day period as per CD Paragraph 49 (06/09/2020). The initial pressure restriction of 472 psi was imposed on 12/13/2019 to maintain a Safety Factor >1.25 in accordance with CD requirements. In order to extend the dig deadline to a maximum of 365 days, an updated pressure



restriction of 444 psi was revised on 05/29/2020 to maintain a Safety Factor >1.25 in accordance with CD requirements.

Two other Dig deadline extensions are from the L6A PE-AM 2019 DuoCD inspection. Two FREs identified on GW64280 and GW65420 were added to the dig list on 1/24/2020 as Dig ID 27264 and 27265 and had an original excavation due date of 7/22/2020 (180 Days). Pressure restrictions of 605 psi and 618 psi respectively, were imposed on 01/27/2020. The excavations are located in a wetland area which requires extensive matting to be installed in order to allow excavation crews to access the site. Enbridge determined that the likelihood that the identified feature will result in a leak or rupture is low. In order to substantially reduce potential adverse impacts of the excavation on the wetland ecosystems, Enbridge decided to postpone the excavations and perform them during the winter months as outlined in CD Paragraph 49.a. The dig deadline was extended from 180 days to 365 days (1/23/2021) and both PPRs were revised to 603 psi and 617 psi respectively on March 27, 2020, limiting the maximum operating pressure at these locations. The pressure restrictions were reviewed for the features prior to expiration of the 180-Day period and determined to meet the requirements as per CD Paragraph 49.

During this reporting period, at the request of the ITP, Enbridge started providing a monthly summary of implemented Consent Decree (CD) PPRs and the maximum pressure achieved for the month at PPR locations. This update is provided at the PCSLD/CCO monthly technical meetings.

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 High Consequence Area ("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, entered May 7, 2020, but not yet approved by the Michigan Supreme Court.⁵ For more information about these interacting features, see Paragraph 59 in this SAR. These features are not included in **Table D-26**.

The details for Dig deadline extensions related to four corrosion features are reported in Paragraph 144 [Section D] Dig Deadline Extension of Three CD digs for four features from L61 PE-FN – P. 50 of this SAR.

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

⁵ *Enbridge and EPA have identified a difference in interpretation regarding Subsection VII.D.(V) as applied to certain interacting or intersecting features addressed by P. 59 and Table 5. The discussion of Enbridge's compliance activities here and elsewhere is based on Enbridge's interpretation of requirements for intersecting or interacting 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 $1.39 \times \text{MOP}$).

Table D-27 lists the PRs imposed due to these criteria in this reporting period of the SAR. 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 Definition (Par. 10.m) of the Consent Decree.

During this reporting period, at the request of the ITP, Enbridge started providing a monthly summary of implemented Consent Decree (CD) PPRs and the maximum pressure achieved for the month at PPR locations. This update is provided at the PCSLD/CCO monthly technical meetings.

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

During this reporting period, Axial Slotting, Axial Grooving and Selective Seam Corrosion, and Weld Anomaly A/B FREs were identified, as listed in **Table D-28**.

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

Pressure Restrictions required as a result of Axial Slotting, Axial Grooving, Selective Seam Corrosion features and Seam Weld anomaly A/B features are imposed, as identified in **Table D-29**, in accordance with Table 3 of the Consent Decree. During this reporting period, there were no features to report in this table.

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 Consent Decree and established pressure restrictions for identified interacting dents as provided in Paragraph 57. Enbridge shall meet 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.

56 [Dent Mitigation Timelines]

Enbridge determined the deadline of a geometry feature repair or mitigation as the shortest deadline as identified in **Table D-30**. 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.

57 [Dent Feature Pressure Restrictions]

Enbridge establishes PRs for dents within the timeframes identified in Paragraph 57 of the Consent Decree. There were no dent features requiring PRs identified during the reporting period of this SAR.

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 SAR) 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. Enbridge excavated and repaired all such intersecting/interacting features that met the dig selection criteria set forth in Table 5 of the Consent Decree, within the applicable timeframes identified in columns 2 and 3 of Table 5. Enbridge also established PRs as provided in Table 5 and Paragraph 59 of the Consent Decree. For more information, see the discussion in the following Paragraph (Paragraph 59) of this SAR. **Table D-31** lists the intersecting/interacting features that were identified for excavation.

Enbridge, EPA and DOJ negotiated the Fifth Modification of the Consent Decree to resolve differences in interpretation regarding this Paragraph. The Fifth Modification was lodged with the United States District Court on May 7, 2020 but has not yet been approved by the Court. As a result of the Parties' agreement regarding these issues, Enbridge has requested that ILI vendors report all deformations down to the tool tolerance of the geometric ILI tool. Historical Consent Decree geometric ILI reports have been revisited by the ILI vendors to add the small geometric features less than 2% that were not previously reported. All 26 of the historical Consent Decree geometric ILI reports were received from the ILI vendors and assessed in advance of the 12/15/2019 deadline agreed to as part of the proposed Paragraph 58/59 CD Modification. The details of the 26 historical Consent Decree geometric ILI reports have been reported in Section D, Appendix 2 of this report. Enbridge has also updated geometric ILI work orders to request that the vendor report all deformation down to tool tolerance for all runs after March 31, 2019. ILI reports received after March 31, 2019 have been assessed following the requirements of the proposed 5th Modification of the Consent Decree.

The details of Dig Selection Criteria for Interacting Features issues are reported in Paragraph 145 [Section D] Line 6A PE-AM (Dig ID 26868) Mitigation Completed 3 Days Late – P. 58 of this SAR report.

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 Consent Decree for each interacting feature identified during the period of this SAR. 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 limited operating pressure at the location of the feature to not more than 80 percent of the Predicted Burst Pressure, as identified in **Table D-32**. Within two days after determining that any dent had an indication of Cracking, metal loss or a stress riser, Enbridge limited operating pressure at the location of such feature to not more than 80 percent of the highest actual operating pressure at the location of the feature over the last 60 days.

Pressure restrictions can be removed upon completion of feature repair. Pressure restriction removal is a safety critical process that is completed at Enbridge's discretion and there is no requirement to remove a pressure restriction within a certain period after a feature is repaired.

During this reporting period, at the request of the ITP, Enbridge started providing a monthly summary of implemented Consent Decree (CD) PPRs and the maximum pressure achieved for the month at PPR locations. This update is provided at the PCSLD/CCO monthly technical meetings.



(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 criteria⁶. These calculations are in the ILI Assessment Sheets. As reported in Paragraph 44.a-b of this SAR, 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.

Three digs were approved for excavation from Issue 2 of Line 1 CR-PW Ump on 03/06/2020 (GW 58880, 153170, and 205770). These are non-CD digs and are classified as validation digs. These three digs were issued to increase the re-inspection interval from 3 to 5 years. After the program was designed, the program was revisited and once it was determined that the reinspection interval could be extended with a very small number of digs, the decision was made to issue the three digs which allows for extension of the reinspection interval from 3 years to 5 years. This was completed in accordance with Enbridge procedures.

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.

⁶ As noted in Paragraph 44 above, Enbridge has not applied Section IV (Remaining Life Determinations/Re-inspection Intervals) as it is not suitable for such features.



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.⁷ **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 SAR. Crack inspections for Line 2 are governed by the Stipulation filed with the Court on May 2, 2018. Under the Stipulation, Crack inspections on Line 2 are due in 2020 and have been completed or planned as required in the Stipulation.

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

Other than Crack inspections for Line 2, Enbridge determined the interval between successive Crack, Corrosion and Geometry ILIs. The maximum interval between successive ILIs does not exceed 5 years for all Lakehead pipeline segments. The 12-month ILI schedule is included in Paragraph 29 **Table D-3** of this SAR and the ILI runs completed during the reporting period of this SAR are included in Paragraph 28 **Table D-1**. Crack inspections for Line 2 are governed by the Stipulation filed with the Court on May 2, 2018. Under the Stipulation, Crack inspections on Line 2 are due in 2020 and have been completed or planned as required in the Stipulation.

Enbridge and the ITP and EPA identified a difference in CD interpretation regarding completion of ILIs for Line 3 on an annual basis. Enbridge agreed on a go-forward basis to run the Line 3 tools within 365 days of the previous run. Enbridge has completed Crack, corrosion and geometry runs on Line 3 within 365 days of the previous run during this reporting period. Challenges identified in meeting this agreement in the SAR5 period are reported in SAR 5 Paragraph 144 [Section D] Line 3 CR-PW 2019 Duo CD Crack Inspection – P. 28.a-b and P. 66.

⁷ As noted in Paragraph 44 above, Enbridge has not applied Section IV (Remaining Life Determinations/Re-inspection Intervals) as it is not suitable for such features.



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

67 [Applicability]

A discussion of Enbridge's implementation of the requirements of Subsection VII.E (Paragraphs 67 to 73) 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.

68 [Span Management Program]

68.a [Integrity Protection from Currents, Ice, Spans or Vessel Anchors – Span Management Program]

Protection from Currents and Ice

Enbridge operates and maintains the Dual Pipelines to ensure that neither ice nor currents impair the integrity of either pipeline. The Dual Pipelines are continuously submerged at a depth below the surface of the Straits where ice floes do not form and they are buried near the shoreline areas, which eliminates the potential for impairment of the integrity of the Dual Pipelines caused by ice. As a precaution, Enbridge also monitors the ice data published on the United States Coast Guard ("USCG") website and performs routine surveys of the shoreline areas to ensure ice does not impair the Dual Pipelines.

Independent studies completed by Dynamic Risk Assessment Systems, Inc. (final report published on State of Michigan website at <https://mipetroleumpipelines.com/document/alternatives-analysis-straits-pipeline-final-report>) have confirmed that there is no risk to the Dual Pipelines from ice on the deeper portions of the pipelines and the burial medium protects the pipelines from ice in the shallow portions. Burial conditions are further confirmed through periodic visual inspections using Remote Operated Vehicle ("ROV") and Autonomous Underwater Vehicle ("AUV") surveys. These inspections are conducted bi-annually, with the next set of inspections scheduled for July 2020.

Management of Spans

Enbridge operates and maintains the Dual Pipelines to ensure the pipelines are well-supported in areas where the pipeline is suspended above the lake bed ("spans"), in compliance with the conditions of the 1953 Easement with the State of Michigan, so as to eliminate any potential impairment of the integrity of the Dual Pipelines caused by currents.

As mentioned above, per the Consent Decree Paragraph 68.f requirements, Enbridge performs periodic visual inspections of the Dual Pipelines every two years to assure that span lengths do not exceed prescribed thresholds, pursuant to the twenty-four (24) month maximum interval prescribed in Consent Decree Paragraph 68.f.

Enbridge initiated its span survey visual inspection activities on May 4, 2020, using ROV for screw anchor pre-installation site inspections. Span information collected during anchor installation activities is retained and included as part of the aggregated span survey data. Please refer to **Table E-1** for information on screw anchor installation year and location. At the end of this reporting period, Enbridge had collected span information associated with installation of seven (7) screw anchors. In addition to span information collected during installations, and though outside of the reporting period 6, Enbridge's 2020 work season will include dedicated survey of spans using both ROV and AUV.



Additional information on Enbridge's span management activities through this reporting period are provided in SAR6 Paragraph 68.b. reporting below.

Protection from Vessel Anchor Strikes

Enbridge operates and maintains the Dual Pipelines to reduce the risk of a vessel's anchor puncturing, dragging or otherwise damaging the pipelines. Prior to and since the effective date of the Consent Decree, Enbridge has led and supported a number of initiatives aimed at reducing the risk of a vessel anchor strike within the Straits.

As previously reported and as referenced in **Table E-2**, Enbridge engaged in discussions with USCG regarding Enbridge's interest in implementing an Automated Identification System ("AIS") in the Straits. This was communicated to the EPA and ITP in Enbridge's January 14, 2019 responses to ITP Grocery List Request E018 E-P68.a Vessel Anchor Strike Mitigation, issued to Enbridge October 29, 2018. Enbridge had not previously reported this information in SAR1 as these efforts were executed as part of Enbridge's collaboration with the State of Michigan regarding anchor strike mitigation. Enbridge's obligations to the State of Michigan regarding anchor strike mitigation are documented in the Line 5 Agreements with the State of Michigan (1st Agreement - November 27, 2017; 2nd Agreement - October 3, 2018; 3rd Agreement – December 19, 2018; and Tunnel Agreement – December 19, 2018) and culminated with Enbridge's proposal to construct a tunnel that could house a Line 5 replacement pipeline.

Enbridge installed the Vesper Marine *Guardian: protect* AIS in December 2017. The *Guardian: protect* system is a tool to actively monitor and communicate with vessels in the Straits when they are near the Dual Pipelines. This was communicated to the EPA and ITP in Enbridge's June 30, 2018 *Report to the State of Michigan: Mitigating potential vessel anchor strike to Line 5 at the Straits of Mackinac*. Similar to Enbridge's AIS correspondence with USCG mentioned above, Enbridge had not previously reported this information in the SAR2 reporting as these efforts were executed as part of Enbridge's collaboration with the State of Michigan regarding anchor strike mitigation.

Activities that occurred later in the SAR5 reporting period are summarized here to provide context to the SAR6 details below. Enbridge notified EPA and ITP of its efforts to implement additional risk reduction measures through a Coordinated System. The Coordinated System is comprised of on-water and shore-based observations, as well as active vessel communications via radio hail and passive vessel communications via *Guardian:protect* that cumulatively address intentional and unintentional risks posed by vessels transiting the Straits to the Line 5 Dual Pipelines. As part of this effort, on October 9, 2019, Enbridge's Superior Terminal Security Operations Center ("SOC") began to monitor vessels transiting the Straits using chart plotter, virtual aids to navigation ("VAIS"), marinetraffic.com, and radio. On October 12, 2019, patrol boats began daytime observations of vessels transiting the Straits to identify whether such vessels have a deployed anchor(s) that could pose a risk to the Line 5 Dual Pipelines. On November 19, 2019, the SOC began to monitor vessels from the shore-based camera at the Mackinaw City Pump Station. Also, on November 19, 2019, patrol boats began 24-hour (including at night) observations of vessels transiting the Straits, with infrared forward-looking infrared ("FLIR") cameras facilitating night-time observations.

Within the SAR6 reporting period, on November 27, 2019, Enbridge received from EPA information requests concerning Enbridge's plans and timing for implementation of the *Guardian:protect* system. On December 18, 2019, Enbridge met in person with EPA in Chicago, IL to discuss issues pertaining to *Guardian:protect*, as well as Enbridge's compliance with Paragraph 68.a. That meeting included discussions on how *Guardian:protect* is a component of Enbridge's broader Coordinated System designed to reduce the risk of anchor strike. On December 23, 2019, Enbridge provided a response to specific questions set forth in EPA's November 27 letter concerning the operation and rules, contingent on Enbridge's receipt of the USCG approval, for broadcasting messages/alerts to vessels via *Guardian:protect*. On February 3, 2020, Enbridge responded to the outstanding questions raised in EPA's



November 27 letter concerning *Guardian:protect*, and also set forth its views on compliance requirements under Paragraph 68.a. Within the SAR6 reporting period, Enbridge has met telephonically, bi-monthly, with EPA and ITP to discuss Enbridge's efforts to implement *Guardian:protect* and the Coordinated System.

In response to inquiries by EPA and ITP during the SAR6 reporting period concerning the contents of the messages broadcast via *Guardian:protect*, Enbridge contacted USCG to obtain its views on whether Enbridge could modify the broadcast message to ask passing vessels to affirmatively "CHECK ANCHOR." Lieutenant Commander Benjamin P. Morgan responded on April 21, 2020, that the USCG would "not approve a proposed language to 'check anchors' because the authority to direct a vessel's actions lies with the Coast Guard of the Port ("COTP"), not a private entity." Enbridge thus continued to pursue the August 30, 2019 application it submitted to the USCG for approval for the anchor risk reduction messages – "NO ANCHORING" and "PIPELINE AREA" – that the USCG believed were appropriate for a private entity to broadcast to vessels transiting the Straits. Final approval for the initiation of such broadcasts was obtained from the USCG on April 28, 2020. While Enbridge is unable to obtain regulatory approval to transmit a "CHECK ANCHOR" type of message, Enbridge's Coordinated System includes measures (beyond the *Guardian:protect* broadcast message) to reduce the risk of an anchor striking the Line 5 Dual Pipelines, whether an anchor is intentionally or unintentionally deployed.

Enbridge's Coordinated System is described in more detail below.

i. Enbridge's Coordinated System

Within the SAR6 reporting period, Enbridge fully implemented its Coordinated System to reduce the risk of a vessel striking the Line 5 Dual Pipelines. This included the completion of the following milestones:

- On December 9, 2019, the SOC began to monitor the status of vessel anchors for those vessels transiting the Straits with the shore-based camera located at the Mackinaw City Pump Station along with additional new mid-grade cameras with infrared capabilities also installed at that location.
- On December 19, 2019, Enbridge toured the USCG's Sector Sault Ste. Marie Command Center to learn how the Agency monitors vessels in the area.
- On January 2, 2020, Enbridge ordered six high resolution cameras, two radar transmitters, and the SEACOP human-machine interface system for fix installation to serve as an alternative means to conduct shore-based observations of vessels transiting the Straits. (This camera system is not yet in place.)
- On January 9, 2020, Enbridge's patrol boat observations ceased activities for the season due to weather.
- On January 10, 2020, Enbridge began conducting shore-based observations of vessels transiting the Straits using high-powered binoculars.
- On January 10, 2020, Enbridge vetted with vessel carriers a draft script to be used to hail vessels via radio during nighttime conditions when shore-based observations cannot be completed.
- On February 13, 2020, Enbridge received conditional approval from the USCG of Enbridge's PAtoNs and eAtoNs applications pending receipt of approval from the Federal Communications Commission ("FCC") and completion of USCG's comment period for mariners on the Enbridge conditional permit.
- On February 18, 2020, Enbridge submitted its application to the FCC, requesting authorization to broadcast via radio bandwidth the eAtoNs and PAtoNs.
- On February 29, 2020, Enbridge began to hail via radio vessels in nighttime conditions when shore-based observations could not be completed.



- On March 23, 2020, the FCC granted Enbridge's application to broadcast the eAtoNs and PAtoNs.
- On March 25, 2020, Enbridge resumed patrol boat observations during daylight hours.
- On April 6, 2020, Enbridge resumed 24-hour patrol boat observations, including during daylight and nighttime hours.
- On April 28, 2020, the USCG granted Enbridge's eAtoNs and PAtoNs applications, which allow Enbridge to electronically broadcast four virtual buoys and messages stating, "NO ANCHORING" and "PIPELINE AREA" to vessels with AIS.
- On May 1, 2020, Enbridge began broadcasting via *Guardian:protect* the four virtual buoys that electronically delineate the location of the submerged Line 5 Dual Pipelines and also began transmitting the USCG-approved messages to all vessels with AIS.

While individual components of Enbridge's Coordinated System have been in place since October 2019, as of May 1, 2020, Enbridge's Coordinated System, as implemented through Program Plan and Operational Protocols (Protocols) that have been shared with EPA, is fully operational.⁸

The Coordinated System is operated and maintained through the land-based Enbridge Straits Maritime Operation Center ("ESMOC"), which is located in Mackinaw City and operated 24 hours per day, seven days per week. As established through the Protocols, the Coordinated System is designed to reduce the risk of a vessel's anchor puncturing, dragging or otherwise damaging the Line 5 Dual Pipelines, whether that strike is due to an intentional anchoring or an unintentionally deployed anchor. The Coordinated System achieves this goal by including integrated measures that are designed to: monitor and identify vessels of significant size that may pose anchor strike risk to the Line 5 Dual Pipelines; communicate to vessels transiting the Straits the location of the Line 5 Dual Pipelines; remind vessels that they are passing through a federally-regulated navigational area ("RNA") where the deployment of anchors is prohibited absent USCG authorization; conduct observations at shore-based or on-water locations to visually confirm whether a vessel transiting the Straits poses an anchor strike risk; hail vessels that may pose an anchor strike risk to alert them to the existence of a deployed anchor; and shut down the Line 5 Dual Pipelines to the extent that an anchor strike risk cannot be resolved.

Specifically, as set forth in the Protocols, the Coordinated System is comprised of the following primary components:

- o Visual Verification: The ESMOC utilizes AIS, marinetraffic.com, and marine chartplotter to track and identify vessels with AIS that are transiting the Straits that are of a size that are regulated by the USCG's RNA regulation at 33 CFR 195.644. For all RNA-regulated vessels that are identified as intending to transit the Straits, the ESMOC will: (i) assign an Event Number to that vessel; (ii) continue to monitor that vessel via AIS, marinetraffic.com, and marine chartplotter as the vessel transits through the Straits; and (iii) direct the completion of observations (either shore-based or on-water) to confirm that the vessel is operating safely and that an Unsafe anchor strike risk is not present (i.e., a vessel's anchor, chains, or cables are not deployed).
 - Shore-based observations are conducted at appropriate shoreline locations utilizing high-resolution optics.
 - On-water observations are conducted using a fleet of three patrol boats (Patrol Boats) with high-resolution optics, including FLIR cameras.

⁸ While outside of the SAR6 reporting period, Enbridge notes that it provided a copy of the Protocols to EPA/ITP on June 4, 2020, and such Protocols were discussed on the June 8, 2020 bi-monthly call with the EPA/ITP concerning anchor strike mitigation measure status.



o Vessel Communication:

- For all vessels assigned an Event Number, the ESMOC communicates directly with vessel captains to inform them:
 - i. Of the location of the Line 5 Dual Pipelines;
 - ii. Advise the vessel that the ESMOC will be conducting observations of the vessel and indicate their approach strategy in the Patrol Boat.
- Each vessel that enters the RNA (defined in 33 CFR 165.944) receives an automated message issued via the *Guardian:protect* system that will indicate that the vessel is entering a federally-regulated navigational area (RNA) and that no-anchoring is permitted.
- Four virtual aids to navigation are electronically broadcast to vessels that depict the location of the submerged Line 5 Dual Pipelines.

o Resolution of Unsafe Conditions: If an Unsafe condition is identified as a result of shore-based or on-water observations, ESMOC personnel will hail the vessel captain via radio to attempt to resolve the condition. Resolution of an Unsafe Condition may include, but is not limited to, notifying the vessel captain that his or her anchor is deployed and recommending that the captain take action to resolve the deployed anchor.

o Response to Unresolved Unsafe Condition / Consequence Mitigation: If an Unsafe condition cannot be resolved and continues to pose a threat to the Line 5 Dual Pipelines, ESMOC personnel will contact the Enbridge CCO Control Centre Operations in Edmonton, Alberta to order the shutdown of Line 5. All ESMOC personnel have been granted full authority by Enbridge to direct the shutdown of Line 5 when an Unsafe condition is observed that poses a risk to the Dual Pipelines that cannot be resolved. In response, the Enbridge Operations Center will immediately shutdown Line 5 and close valves to isolate the Line 5 Dual Pipelines in accordance with the Line 05 – Straits of Mackinac – Reported Anchor Threat procedure, which was provided to the ITP on June 11, 2020.

While the Coordinated System, as currently implemented, reduces the risk of a vessel's anchor puncturing, dragging or otherwise damaging the pipeline in accordance with Paragraph 68.a, Enbridge plans to install high-resolution cameras at fixed positions in proximity to the Straits. Such cameras will provide an alternative means to conduct shore-based observations, which are currently conducted by in-field personnel utilizing high-powered optics to visually confirm whether a vessel transiting the Straits poses an Unsafe anchor strike risk. As reported to EPA and ITP, the cameras are planned to be installed in late 2020, outside the reporting period for SAR6. Additional information regarding the cameras will be provided in the reporting period for SAR7.

Further, while outside the reporting period for SAR6, Enbridge advised EPA and ITP on the bi-monthly anchor strike update call on June 8, 2020, that Enbridge will provide an expert evaluation of the Coordinated System, as currently implemented. Enbridge will report on further activities in SAR7.

Post-Strike Consequence Mitigation Technology

With respect the ThreatScan System at the Straits, Enbridge is proceeding as indicated in its letter dated August 9, 2019. At the time, Enbridge stated that the ThreatScan system was at a Technology Readiness Level ("TRL") "7", "indicating that the system is at a pre-production stage". The letter also outlined that the key remaining activities to put the system into product include:

- Develop a strategy to test system sensitivity
- Execute the strategy to test system sensitivity
- Validate performance of the as-built system, and final system tuning



- Integrate ThreatScan sensors and software system into the production environment
- Develop alarm response, maintenance processes and procedures
- Training of appropriate personnel

For the SAR 6 reporting period, Enbridge has continued working with the vendor to develop a testing methodology to assess ThreatScan System performance, consisting of a customized strategy specific to the installation at the Straits. Upon completion of the testing strategy development, Enbridge will then conduct validation and acceptance of the system as previously indicated.

Upon completion of the above scope, remaining key activities in the above list will be completed as discussed in the previously submitted letter.

68.b [Screw Anchor Support]

In prior SARs, Enbridge has provided details about the progress and timing of its work to comply with the Paragraph 68.b. screw anchor installation requirements. As discussed further below, as of September 20, 2019, that paragraph of the Consent Decree has been modified through the Third Modification, which was approved by the Court on that day.

As previously reported in SAR5, Enbridge received USACE permit on September 20, 2019 allowing it to install 54 screw anchors remaining from the 2017 and 2018 SAWP work seasons. In 2019, Enbridge installed thirty-four (34) screw anchors pursuant to the Consent Decree. At the end of the 2019 work season, in aggregate with prior years' installation activities, Enbridge had installed fifty-three (53) anchors of a total seventy-three (73) planned span inspection analysis anchors.

During the SAR6 reporting period, under the September 20, 2019 issued USACE Permit Number LRE-2010-00463-56-N18 (which remains valid through December 31, 2022), Enbridge initiated installation of the remaining twenty (20) screw anchors.

Prior to starting the work season, on April 14, 2020 Enbridge held a kickoff meeting with stakeholders, contractors, and ITP. During this meeting ITP was informed that the Enbridge contractor would be working under a pandemic protocol, in response to the worldwide outbreak of COVID-19 in late 2019, which would enhance safety precautions and limit personnel and the level of contact between personnel on the work barge. ITP requested a copy of the contractor pandemic protocol for review on April 21, 2020 and Enbridge provided this on May 1, 2020. Along with the pandemic protocol, ITP was asked to consider the necessity of its presence on the barge. To help accommodate the contractor safety protocol and to protect its staff, ITP notified Enbridge, on May 1, 2020, that they would refrain from being present on the barge.

To meet the Consent Decree requirement for independent verification of work associated with the installation of the screw anchors in accordance with the approved 2018 SAWP and the Third Modification, ITP proposed a daily set of communications to be implemented between the ITP, Enbridge, and its barge contractor (Ballard). The communications protocol was intended to be a temporary measure, until travel and physical distancing constraints imposed as a result of the pandemic subside. Enbridge and ITP agreed to a revised version of the ITP 2020 SAWP Barge Communication Protocol on May 12, 2020. The protocol was in use from the May 4, 2020 start of the project execution through the end of reporting period 6 on May 22, 2020, with both parties indicating that the protocol is a suitable alternative to having ITP present on the barge.

Also prior to the start of work, ITP requested that Enbridge supply additional information regarding its planned excavation activities, including dredging. On May 12, 2020, Enbridge provided ITP the Ballard



Excavation Protocol. ITP responded with a request for additional detail describing excavation activity types on May 13, 2020. On May 27, 2020 Enbridge provided descriptions of the various types of excavation activities, similar to what had been provided to USACE in Enbridge's permit application. The ITP identified that sufficient detail had been provided in correspondence to Enbridge sent May 28, 2020.

The Enbridge work season started on May 4, 2020, and by the end of this reporting period, had installed seven (7) screw anchors of the remaining twenty (20) screw anchors, leaving thirteen (13) screw anchors that will be installed outside of reporting period. All seven (7) of the anchors installed were installed per the requirements set forth in the Third Modification of the Consent Decree with no location deviations required for placement of the screw anchors.

On May 21, 2020, on approach to EAP-9 using ROV for pre-installation inspection, Enbridge identified an area of disturbed coating on the pipeline that may require repair. Enbridge notified the ITP and EPA of required repairs on May 26, 2020, outside of this reporting period. Enbridge also completed the repairs of the features at this location on June 16, 2020, also outside of this reporting period. Further information on the disturbed coating and repair will be provided in SAR7.

Enbridge will continue with SAWP installation activities through the 2020 work season and further update EPA and ITP on its progress in the SAR7 reporting period.

Additional information on Enbridge's Consent Decree reporting activities through reporting period 6 are provided in SAR6 Paragraph 68.e. reporting below.

68.c [Periodic Visual Inspections]

Enbridge's compliance with Subparagraph 68.c initial underwater visual inspection of each of the Dual Pipelines no later than July 31, 2016 and survey of biota were previously reported in Enbridge's SAR1. Since that time, SAR Paragraph 68.c reporting has focused on the span management requirements of this paragraph.

As reported in SAR3 and SAR4, Enbridge executed underwater visual inspections pursuant to 68.c in 2018 using ROV between July 16, 2018 and July 24, 2018 and using AUV between June 27, 2018 and July 22, 2018. Detailed span information can be found in the 2018 Ballard Reports submitted to EPA via correspondence from Steptoe on September 21, 2018.

Consent Decree Paragraph 68.f requires Enbridge to conduct periodic underwater visual inspections of each of the Dual Pipelines at intervals not to exceed 24 months, until termination of the Consent Decree. Accordingly, Enbridge's next ROV/AUV inspections will occur during the 2020 work season, outside of most of the SAR6 reporting period. Though the 2020 ROV inspections work season started in advance of this reporting period end date, work scope was focused on anchor site pre-installation inspections. At the time of reporting period 6 ending, the ROV/AUV survey was not complete. Enbridge will report on the findings of the 2020 underwater visual inspections in SAR7.

68.d [Underwater Inspection Repairs]

Anchor installation for the 2020 program began May 4, 2019 with a target program completion date of October 1, 2020. To date, Enbridge has installed 7 new screw anchors on Line 5 in the Straits in 2020. Aggregated with the prior screw anchor installation works, Enbridge has installed 60 out of 73 proposed screw anchors. Enbridge's 2020 ROV/AUV survey analysis (to occur in reporting period 7) will identify the need for additional screw anchors.

Please refer to **Table E-1** for information on screw anchor installation year and location.



68.e [Screw Anchor Report]

As identified above, Enbridge has not completed all the SAWP activities. Enbridge planned to prepare a 2019 SAWP Interim Report for submission to EPA and supplement this report with an SAWP Final Report following completion of all SAWP work activities.

Enbridge submitted its SAWP 2019 Interim Report to EPA on January 22, 2020 via correspondence from Steptoe. In the May 27, 2020 ITP Report on SAR5, outside of the reporting period 6, ITP identified Enbridge's reporting on SAWP as meeting Consent Decree requirements.

Outside of the reporting period 6, EPA asked ITP to provide a Tier 2 review of the 2019 SAWP Interim Report on June 9, 2020. ITP's report should be available within 45 days of the request.

68.f [Periodic Visual Inspections of the Dual Pipelines]

Enbridge plans to complete another underwater visual inspection of each of the Dual Pipelines on or before July 31, 2020. Following that inspection, Enbridge will complete any necessary repairs in accordance with Subparagraph 68.d and will prepare and submit any required reports in accordance with Subparagraph 68.e as outlined above.

69.a [Biota Investigation]

As reported in SARs1 through 4, Enbridge considers this item complete.

69.b [Biota Investigation Work Plan]

Enbridge's compliance with Paragraph 69.b was previously reported in Enbridge's first SAR.

69.c [Biota Work Plan Implementation]

As reported in SARs 1 through 4, Enbridge considers this item complete. Enbridge implemented the BIWP in accordance with the schedule approved by EPA, and in accordance with Subparagraph 69.c, Enbridge submitted a final report to EPA on March 29, 2018, summarizing the results of the Biota Investigation. Enbridge provided responses to subsequent ITP information requests related to the Biota Investigation and subsequently, on March 11, 2019, Enbridge submitted revisions to the BIWP report to the EPA addressing the ITP's recommendations. On March 12, 2019, the ITP recommended to the EPA that they approve Enbridge's submitted revisions. As of the end of this reporting period the EPA has not provided a response to the ITP's recommendation.

70 [In-Line Inspections of the Dual Pipelines]

Enbridge's compliance with Paragraph 70 was previously reported in the first SAR. Enbridge considers this requirement to be complete; however, Enbridge will provide relevant updates, if any, in future SARs.

71 [Investigation and Repair of Axially-aligned Features]

Enbridge's compliance with Paragraph 71 was previously reported in SAR1. Enbridge considers this requirement to be complete; however, Enbridge will provide relevant updates, if any, in future SARs.



72 [Pipeline Movement Investigation]

Enbridge's compliance with Paragraph 72 was previously reported in SAR1. Enbridge continues to conduct annual circumferential Crack inspections in accordance with the Pipes Act. No Features Requiring Excavation have been identified as a result of those inspections in this Covered Period.

73 [Quarterly Inspections Using Acoustic Leak Detection Tool]

During the SAR6 reporting period and as shown in **Table E-3**, Enbridge conducted inspections on each of the Dual Pipelines using an acoustic ILI tool that is capable of detecting sounds associated with small leaks as the tool travels through the pipelines, as shown in the following table.

The acoustic inspections of the Dual Pipelines conducted during this reporting period did not identify any auditory signals that are indicative of small leaks on the Dual Pipelines.

Section F – Data Integration

74 [Feature Integration Database]

Enbridge has operated and maintained 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 includes only OneSource data for Lakehead 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 – 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. Enbridge's discussions with EPA concerning the parties' interpretation of Paragraph 77 remain ongoing. Although Enbridge disagrees that the CD was intended to incorporate excavations that are not governed by the CD, Enbridge is prepared to agree 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, on a going-forward basis.

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 SAR 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 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]

This requirement had been met and is considered complete. No further update is required at this time or in future SARs.



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

81-83 [Create and Submit ALD Mackinac Report]

This requirement had been met and considered complete. No further update is required at this time or in future SARs.

(III) Requirements for New Lakehead Pipelines and Replacement Segments

84 [Applicability]

The New US Line 3 is considered a “New Lakehead Pipeline” as defined in Paragraph 84.a. Design requirements set forth in Subsection VII.G.(III) were applied to Enbridge’s mainline leak detection equipment standard, which was followed in the design engineering phase of the Line 3 Replacement project (“L3R”).

Enbridge submitted process instrumentation diagrams to the ITP in May 2020 that indicate the location of flowmeters, pressure transmitters and temperature transmitters.

Other than the ongoing L3R project, there were no other Replacement Segments or New Lakehead Pipeline projects executed during this reporting period.

85 [Installation of Flowmeters]

The L3R project has designed the New US Line 3 to include flow meters which will be installed at all locations where oil (a) enters into the pipeline, (b) leaves the pipeline, or (c) passes through a pump station. Once the flowmeters are installed, they will be commissioned in the field and to the Supervisory Control and Data Acquisition (“SCADA”) system and integrated into MBS and Rupture Detection System (“RDS”), to continuously monitor flow data under all conditions, including during Startup and Shutdown.

As required by Paragraph 89.a, Enbridge conducted the API 1149 MBS Leak Detection performance estimation based on L3R project design available at the time. The inputs for the estimation are confirmed to be accurate for this reporting period. Based on the results of the API 1149 calculation, additional flow meters are not required on segments that are expected to hold volumes of oil exceeding 45,000 cubic meters (“m³”). Details on MBS segmentation and API 1149 performance estimation are available in Paragraphs 88 through 89 below.

Enbridge will perform the requirements specified in Paragraph 90 to demonstrate compliance with Leak Detection sensitivity design and construction within the timing specified therein.

86 [Installation of Flowmeters on Pipelines that Utilize In-line Batch Interface Tools]

The New US Line 3 has been designed to operate without the use of batch interface tools for the purpose of physically separating products in the pipeline; therefore, the requirement set forth under this Paragraph will not be applicable to L3R project.

87 [Installation of Other Instrumentation]

The L3R project has designed the New US Line 3 to include installation of the following instrumentation:

- Pressure transducer/transmitter will be installed at locations and segments as required by Paragraph 87.a.



- Skin-based temperature transducer/transmitter will be installed at locations and valve segments as required by Paragraph 87.b.

Once the instrumentation is installed on the new US Line 3, they will be commissioned in the field and to the SCADA system, and integrated into MBS and RDS to continuously provide real-time pressure and temperature data, including during Startup and Shutdown periods.

88 [Establishment of Material Balance System (“MBS”) Segments]

Enbridge’s definition of “MBS Segment” aligns with the definition in Paragraph 88.

The New US Line 3 will have MBS segments that are expected to have volumes of oil exceeding 45,000 m³. Enbridge has conducted API 1149 calculations to estimate the sensitivity performance of the MBS Leak Detection System on the New US Line 3 during periods when fluid in the segment is in a steady state. The API 1149 calculation conducted was based on L3R project design available at the time, which remains accurate for this reporting period. Complete input data used for the API 1149 calculation and an example calculation was provided to the ITP on March 11, 2020 for verification.

At this time, the established MBS segments remain as designed, based on the results of the API 1149 calculation, which demonstrated compliance with the leak detection sensitivity requirements in Paragraph 89 below.

89 [Leak Detection Sensitivity Requirements]

Enbridge used the criteria set forth in API Publication 1149, November 1993 ("Pipeline Variable Uncertainties and Their Effects on Leak Detectability") to estimate the ability of the MBS Leak Detection System to achieve each of the targets during periods when the fluid in the MBS Segment is in Steady State. The API 1149 calculation conducted was based on L3R project design available at the time, which remains accurate for this reporting period. The API 1149 calculation results demonstrated that MBS Leak Detection System would achieve each of the targets set forth in the Leak Detection Design and Construction Target for New US Line 3 table under this Paragraph of the Consent Decree. Complete input data used for the API 1149 calculation and an example calculation was provided to the ITP on March 11, 2020 for verification.

Paragraph 89.b is not applicable for this reporting period as there were no Replacement Segments or New Lakehead Pipelines other than the L3R project.

90 [Demonstration of Compliance with Leak Detection Sensitivity Design and Construction Requirements]

There is nothing to report on this Paragraph until the construction of the New US Line 3 is complete and initial line fill is commenced. Once the New US Line 3 is constructed and commissioned, Enbridge will prepare and coordinate the planning and execution of testing to demonstrate compliance with the leak detection sensitivity design and construction requirements defined in this Paragraph.

There are no Replacement Segments or New Lakehead Pipelines for this reporting period other than the L3R project.

91 [Establishment and Optimization of Alarm Thresholds]

There is nothing to report on this Paragraph until the construction of the New US Line 3 is complete and commissioned into the pipeline control and leak detection systems. Also, other than the L3R project, there are no Replacement Segments or New Lakehead Pipelines for this reporting period.



Once the New US Line 3 is constructed and commissioned, Enbridge will undertake the appropriate steps to ensure that requirements set forth in this Paragraph are met.

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

92 [Operation of MBS Leak Detection System]

Enbridge maintains continuous and uninterrupted leak detection capability at all times on active Lakehead System Pipelines, including during periods of start-up and shutdown, except as exempted under Paragraph 93. Enbridge's continuous and uninterrupted leak detection capability is achieved through several measures including architectural, procedural, and quality controls. Since the Effective Date of the Consent Decree, leak detection alarm thresholds for steady state operations have been met and continue to meet the minimum alarm thresholds set forth in the table at Paragraph 91.

93 [Temporary Suspension of MBS Leak Detection Capabilities]

Enbridge continues to track the three categories of temporary MBS suspension that are specified in Subparagraphs 93.a-c. Ultrasonic flowmeter maintenance and flowmeter outage workflows are monitored to track, and coordinate planned (i.e., scheduled maintenance or repairs) and unplanned (i.e., unexpected failures beyond Enbridge's control) outages from start to finish. The ILI tool run procedure also ensures tracking of station flowmeter bypasses when in-line tools are being run, consistent with Paragraph 93.

Please refer to **Table G-1** for a list of occurrences of each type of instrumentation outage during this reporting period, including the reason(s) for any such outages.

94 [Overlapping MBS Segments]

Enbridge's overlapping volume balance algorithm automatically establishes and maintains leak detection capability in the event of a temporary loss or suspension of MBS leak detection capability within one or more MBS segments due to intermediate flow meter (i.e., flow meters not located in either injection or delivery) outage. The overlapping volume balance algorithm continues to maintain leak detection capability in overlapping MBS segments impacted by the outage until the leak detection capability is restored in all MBS segments.

95 [Alternative Leak Detection Requirements]

Enbridge implements and maintains an API RP 1130⁹-compliant alternative leak detection (ALD) procedure in the event of any outage of MBS leak detection capability occurring as a result of the circumstances described in Subparagraphs 95.a and 95.b. Enbridge continuously operates the ALD method until the flowmeter outage is resolved and the MBS segments are restored to operation. Enbridge provided additional information to the ITP on September 20, 2019 following the SAR4 review and was evaluated to be accurate and meeting the requirements.

96 [Reporting of MBS Outages]

Enbridge ensures that it restores leak detection capability as soon as practicable following any outage in an MBS segment even though the overlapping section continues to provide leak detection capability. This

⁹ API RP 1130 – American Petroleum Institute Recommended Practice for Computational Pipeline Monitoring for Liquids



is achieved by following and continually improving Enbridge procedures and processes to track and manage planned and unplanned flow meter outages and ILI tool runs.

97 [Reporting Requirements]

Refer to **Table G-1** for a table identifying the number of occurrences by type where MBS was temporarily suspended.

98 [Tolling Requirements]

In accordance with Paragraph 98, Enbridge tolls the 4-hour time period for restoring the MBS segment to operation (as specified in and allowed under the table at Paragraph 97 in the CD) during any occurrence of an unplanned shutdown during the in-line tool run. The tolling period applied by Enbridge begins when the pipeline is shut down and ends when pipeline operation is resumed. To comply with this Paragraph, Enbridge tracks station flowmeter bypasses when in-line tools are being run. There were no events in this reporting period.

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

There were no excavations identified during the reporting period that met the defined criteria for triggering Paragraph 99 and, therefore, there were no new installations of pressure or temperature transmitters. None of the previously identified projects installed the instruments during this reporting period. As agreed with the ITP, the updated Paragraph 99 Project Logbook will be provided within two weeks after release of SAR6 and will have details of those projects.

100 [Requirements for Valve Excavation]

During the reporting period, no projects or excavations were applicable per the criteria defined in this paragraph.

101 [Transient-State Sensitivity Analysis]

Enbridge performed the transient-state sensitivity analysis required under Paragraph 101 on November 19, 2017, which was within 180 days of Effective Date as reported in SAR1. Enbridge considers this to be complete and no further reporting is required for this SAR and in future SARs.

102 [Rupture Detection System Alarm]

The intent of the Rupture Detection System ("RDS") is to focus on detecting large releases with a very quick onset. Enbridge continuously operates the RDS at all times on all Lakehead System Pipelines during both steady-state and transient-state conditions. The RDS is integrated with Enbridge's SCADA system and MBS Leak Detection System.

A difference in interpretation of this Paragraph remains pertaining to whether Enbridge was obligated to include a factor based on an abnormal increase in flow rate when designing its RDS. Enbridge maintains its position that the RDS system has been compliant with the requirements since implementation and meets the intent of this section. Notwithstanding the difference in interpretation, Enbridge, EPA, and ITP agreed to establish a path forward solution to address the matter, as stated in SAR5. As of December 10, 2019, Enbridge successfully completed the implementation of a Rupture Flow-based Solution ("RFBS") on all Lakehead pipelines. The implementation includes adding a new alarm assessment of "Rupture" in the Leak Detection Alarm Manager ("LDAM") when both the flow-based algorithm and MBS leak alarm are triggered.



A formal report detailing the design, procedure enhancements, testing, and implementation was developed and submitted to the ITP on April 24, 2020. Enbridge is currently working on a response to additional information requests from the ITP, which was received on May 6, 2020.

During the early stages of the RFBS implementation, there were two incorrect assessments which triggered additional enhancements to promote visual cues to the Leak Detection Analyst (“LDA”) in order to minimize the risk of the recurrence of the same issue. The first instance occurred on January 24, 2020 and the second on March 19, 2020. Enbridge reviewed these events with the ITP during the February 20th and May 14th technical meetings respectively. Details of the issue as well as corrective and preventive actions are outlined in P. 144 Problems Anticipated in Appendix 1.

103 [“24-hour” Alarm]

103(a)-(b). Enbridge implemented the 24-hour volume balance alarm, also known as the Automated Volume Balance or “AVB” alarm on the Lakehead system. AVB operates with MBS and was integrated with Enbridge’s SCADA system in advance of the 270-day deadline specified in Paragraph 103, and has since continuously monitored, tracked, and modeled the volume of oil for each MBS Segment over any rolling 24-hour period. AVB operates continuously to alarm, if it cannot detect, or otherwise account for, 3 percent (or within the set threshold per optimization study¹⁰) of oil pumped or injected into the MBS Segment over any rolling 24-hour period. When an AVB alarm occurs, each member of the Alarm Response Team (“ART”) is notified in accordance with Paragraphs 106 and 107 and executes the appropriate procedures in accordance with Paragraphs 108 and 109.

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

Enbridge conducted and completed a 24-hour Alarm optimization study on February 13, 2019, to optimize the alarm thresholds for each pipeline that is part of the Lakehead system. Enbridge submitted the results of the study to the EPA on April 12, 2019 for review and approval. The report set forth the results of the study and proposed alarm thresholds, which are within the 3% sensitivity requirement. Enbridge has implemented and continuously maintains the new thresholds for each Lakehead pipeline upon submission of the report and will continue to do so until EPA approval is obtained.

On April 17, 2020, Enbridge obtained ITP’s evaluation of the 24-Hour Alarm and Related Reports for Alarm Threshold Optimization and Testing which found that the proposed thresholds were appropriate and they were supported by the facts and best engineering judgment. As such, the ITP recommended that the EPA approve the proposed Alarm thresholds. As of the date this SAR was written, Enbridge is awaiting EPA’s formal confirmation of approval.

103.d [“24-hour” Alarm Optimization Study within one year of Initial Linefill of New US Line 3 or any other New Lakehead Pipeline or Replacement Segment]

This requirement does not apply at this time as the New US Line 3 has not yet completed construction and linefill.

103.e [Simulated testing of the 24-hour alarm optimized threshold on two separate MBS segments]

As reported in SAR5, this requirement was completed and submitted to the EPA and ITP within the required timeframe. The report produced from this test was utilized by the ITP as part their evaluation of the 24-Hour alarm.

¹⁰ 2019.04.12 Enbridge 24-Hour Alarm Threshold Optimization Study Results – per P. 103c



103.f [Submission of proposed plan and schedule for unsuccessful testing]

The testing as required by Paragraph 103.e was successful; therefore, the corrective action plan and schedule required by this Subparagraph is not required.

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

103.g(1)-(5). Enbridge continuously complies with the optimized thresholds on each Lakehead pipeline in accordance with the study completed per Subparagraph c. Enbridge has not seen a significant increase of false alarms that could trigger relaxing of the optimized alarm thresholds. However, during the review of the Q4 2019 performance testing, it was discovered that four individual Line 78 meter-to-meter (m2m) segments between Stockbridge and Sarnia West (SK-RW) fell below the 95% confidence for the leak size at 3%. Enbridge maintained the Line 78 24-Hour AVB system's effectiveness in detecting a leak of 3% through achieving 95% confidence for the overlapping segments. Refer to Paragraph 144 describing the details of Line 78 re-optimization per Subparagraph 103.g(5).

(V) Leak Detection Requirements for Control Room

104 [Applicability]

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 leak detection system and by the RDS.

105 [Alarm Response Team]

Enbridge established and implemented an Alarm Response Team ("ART") within 180 days of the Effective Date of the Consent Decree as reported in SAR1. All alarms that occurred in the SAR6 reporting period were addressed by the ART.

106 [Remote Notification of Alarm Response Team]

Enbridge implemented the remote notification system that is specified under Paragraph 106 within 180 days after the Effective Date of the Consent Decree as reported in SAR1. Remote notification capabilities were in place for all alarms that occurred in the SAR6 reporting period as required by this paragraph.

107 [Audible and Visual Alarms]

Enbridge implemented the audible and visual alarms required under Paragraph 107 within 180 days after the Effective Date of the Consent Decree as reported in SAR1. Audible and visual alarm capabilities have remained compliant with the requirements of this paragraph through the SAR6 reporting period.

108.a-f [Alarm Clearance Procedures]

Enbridge implemented the Alarm Clearance procedures required under Paragraph 108.a-f within 180 days of the Effective Date of the Consent Decree as reported in SAR1. Alarm Clearance procedures have been employed and adhered to throughout the SAR6 reporting period as described below.



108.a [Alarm Clearance Requirements]

The requirements of Subparagraph 108.a are incorporated into Enbridge's procedures to ensure that all alarms remain active unless and until: (1) the appropriate ART member(s) accounts for any cumulative imbalances (in which case the team member may invalidate the alarm); (2) all of the ART members independently rule out the possibility of a leak; or (3) the pipeline is shutdown.

108.b [Alarm Clearing Restrictions]

Enbridge procedures prohibit the ART from resolving or clearing an alarm through a manual, one-time adjustment to any alarm system or the inputs into any alarm systems. As per Subparagraph 108.b, Enbridge procedures require that all leak alarms be analyzed until an investigation has been completed and an alarm is terminated in accordance with the requirements of Subparagraph 108.a.

108.c [Confirmation of Leak Detection System Functioning]

Enbridge implemented procedures to require the LDA to analyze and determine whether the leak detection system that generated the alarm is functioning properly. This process consists of determining whether any leak alarms have been caused by data errors input into the leak detection systems, system malfunctions, or other factors that could lead to an invalid leak alarm.

108.d [Independent Alarm Investigation]

Enbridge requires the CRO, in conjunction with the STA, to complete an investigation of the alarm, which is an investigation that is completed independently from the investigation that was conducted by the LDA. This analysis is conducted in conjunction with the Ten-Minute Rule to ensure that a final decision to invalidate the alarm is made within ten minutes after the alarm is generated. If a final decision to invalidate the alarm is not made within the ten-minute period following the alarm, the pipeline is shutdown. The final decision is made by the CRO, with the concurrence of the STA.

108.e [ART Procedures for Column Separation]

ART members are required to employ Enbridge column separation procedures when determining the cause of an alarm. Enbridge procedures accordingly mandate that a determination that an alarm was caused by Column Separation is not a permissible basis for clearing an Alarm unless the ART follows the procedures specified in Subparagraphs 109.b and 109.c.

108.f [Electronic Records of Alarm Response]

Enbridge implemented an electronic record keeping system for managing ART response information. All ART member responses are recorded and are documented as required by this Paragraph (see Appendix 2: Lakehead Leak Alarm Report). Each record – which is created at the end of each shift by each ART member choosing from specified alarm categories that are identified on an electronic menu – includes details of the alarm event including the type of alarm, reasons for clearing the alarm, and the procedures executed by members of the ART. Review of leak alarms are required by all incoming ART members during a shift change (i.e. subsequent shift). All records of alarms are retained for a minimum of five years.



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

Within 50 days after the Effective Date of the Consent Decree, Enbridge implemented all the procedures specified in Subparagraphs 109.a-d, as explained in SAR1. Unscheduled Shutdown procedures have been employed and adhered to throughout the SAR6 reporting period as described below.

109.a [Ten-Minute Rule]

Enbridge implemented operating procedures that require the CRO to shut down and sectionalize the pipeline immediately without further consultation or notification if the ART is unable to rule out the possibility of a leak or rupture within ten minutes of the start of an alarm.

109.b [Column Separation – Running Pipeline]

Enbridge implemented column separation procedures that require the CRO to shut down and sectionalize a running pipeline if within ten minutes from the start of the alarm the column separation continues or the appropriate ART members have not: (1) determined the cause of the column separation, (2) accounted for any cumulative imbalances that triggered the alarm, and (3) ruled out a possibility of a leak or rupture. The procedures are not applicable where the alarm is caused by column separation that occurs during or after the shutdown of the pipeline, consistent with Paragraph 109.c.

109.c [Column Separation – Pipeline Shutdown]

Enbridge has implemented column separation procedures in accordance with Paragraph 109.c and appropriate alarm clearance procedures caused by column separation. Specifically, the calculation of the amount of time needed to fill the column separation and obtaining appropriate authority review and approval prior to restart in accordance with the table provided in this Subparagraph. Upon restart of any pipeline where the column fill time is exceeded, the CRO is immediately required to shut down and sectionalize the line. Upon shutdown, steps to investigate and verify the condition of the pipeline will be taken as required by this Paragraph.

109.d [Confirmed Leak Rule]

Enbridge implemented confirmed leak procedures, which require the CRO to immediately shut down and sectionalize the pipeline in the event that the ART determines that an Alarm is a confirmed leak or rupture, as defined under Subparagraphs 109.d.1-4. Unless a leak is ruled out, the CRO will shut down within ten minutes if leak conditions are observed upstream or downstream at a given location from SCADA data.

109.e [Shutdown and Restart Record]

Enbridge is compliant with this Paragraph and has not observed any instances where pipeline operations were resumed without meeting the requirements of this Subparagraph.

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

110.a [Weekly List of Alarms]

In accordance with Subparagraph 110.a, Enbridge prepares an electronic weekly list of alarms (“WLOA”) as part of the Lakehead Leak Alarm Report. That WLOA is provided in Appendix 3. The WLOA includes



the pipeline, the type of alarm, date of the alarm, the time at which the alarm began, and the time when the alarm was cleared.

110.b [Record of Alarms]

Enbridge complies with this requirement by preparing an electronic Record of Alarms ("ROA") when an unscheduled shutdown occurs. The ROA includes critical facts relating to the Alarm, such as the positions of the Alarm Recipients (i.e., CRO, STA, LDA), the time that the alarm was received, the actions of the ART, when the shutdown commenced, when the shutdown was completed, the root cause, the type of alarm, the procedures executed to determine the cause of the alarm, the justification for resumption of pumping operations, and the time that pumping operations resumed.

110.c [Alarm Submittal to EPA]

Enbridge complies with this requirement by including the WLOAs and ROAs occurring during the reporting period for all Lakehead System Pipelines as part of the Lakehead Alarm Report, enclosed hereto as Appendix 3. The Lakehead Leak Alarm Report also includes the Summary of Alarms ("SOA") noting the pipeline, the total number of alarms and the alarms that did not comply with Enbridge's Ten-Minute Rule. During this reporting period, Enbridge has complied with the Ten-Minute Rule and other requirements in Subsection VII.G. (V) when responding to leak detection system alarms. Therefore, no corrective actions needed to be taken.

110.d [Certification of Reporting Period]

To certify compliance for the reporting period of 180 days after the first SAR, the Vice-President, Pipeline Control has signed the Lakehead Leak Alarm Reports. This includes the information contained in the SOA, WLOA and ROA, which warrants that the information contained therein is true and accurate and that Enbridge has complied with the Ten-Minute Rule and other requirements of this subsection VII.G.(V), except for any non-compliances specifically listed in the SOA, which is none for this reporting period.

111 [Unscheduled Shutdown Procedures in Response to Other Events]

Enbridge has implemented procedural controls that ensure that all emergency phone calls received by the Control Center concerning a potential leak or rupture from a source other than an alarm are investigated within ten minutes of receipt of the call. In the event that the investigation uncovers evidence consistent with a leak or rupture by a Lakehead System pipeline, the CRO for the pipeline is required to immediately and without further consultation or notification to shut down and sectionalize the pipeline. Further, in addition to the requirements of the Consent Decree, Enbridge procedures independently require that while the investigation is required to be conducted as expeditiously as possible, if the investigation is not completed in ten minutes or if a potential leak is identified, the CRO will commence an emergency shutdown and sectionalize the affected pipeline or pipelines. Enbridge is compliant with this Paragraph and has not observed any instances where pipeline operations deviated from the requirements of this Paragraph.

112 [Reporting of Events from Paragraph 111]

Information related to all incidents during the 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 **Table G-3** and in Appendix 3.



Section H – Spill Response and Preparedness

113 [Immediate Action to Confirmed Pipeline Leak or Rupture]

Enbridge had one confirmed leak on the Lakehead System within the reporting period of more than one barrel. Enbridge had no confirmed pipeline leaks or ruptures of any harmful quantity that reached the waters of the United States or adjoining shorelines.

During the reporting period, three releases occurred on the Lakehead System that triggered PHMSA reporting requirements. The releases were 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, Enbridge proceeded without delay to dispatch trained personnel to the location of the leak and took action to prevent any migration of oil into waters of the United States, including shutting down the affected line.

Additional details regarding the reportable release of one or more barrels on April 30, 2020 from the Lakehead System that occurred during this reporting period are provided in response to Paragraph 146.

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]

Planning is currently underway for the Stockbridge Agreed Exercise, which is scheduled to occur on September 22 and 23, 2020. For each agreed exercise, Enbridge conducts three planning meetings in accordance with Subparagraph 115.e(1). As part of its Exercise Program, Enbridge conducts additional exercise meetings where appropriate, such as a Concept and Objectives meeting and/or Master Scenario Events List meeting. Enbridge also conducts periodic touchpoint meetings via Skype to respond to and address any questions that may arise between the times that the face-to-face meetings are held. Additional information regarding each of these Agreed Exercises is provided below.

Cass Lake Agreed Exercise

Details about the Cass Lake Agreed Exercise were reported in SAR1, SAR2, SAR3, and SAR4; this activity is complete.

Des Plaines Agreed Exercise

Details about the Des Plaines Agreed Exercise are found in SAR2, SAR3 and SAR4; this activity is complete.

Wisconsin River Agreed Exercise

In accordance with P115.i, Enbridge submitted the final Wisconsin River After Action Report to all Planning Participants on December 19, 2019. Details about the Wisconsin River Agreed Exercise are found in SAR3, SAR4, SAR5; this activity is complete.



Stockbridge Agreed Exercise

In accordance with Subparagraph 115.b(4), Enbridge scheduled the Stockbridge Agreed Exercise to occur on September 22 and 23, 2020. Planning for the Stockbridge Agreed Exercise was initiated in July 2019. In accordance with Subparagraph 115.e(1), the first of the planning meetings was conducted on November 5, 2019, more than 10 months before the Stockbridge Agreed Exercise. In accordance with Subparagraph 115.e(3), Enbridge coordinated with the planning participants during the initial meeting to develop the objectives, scenario, and participant list for the Stockbridge Agreed Exercise. The specific dates of the planning meetings are as follows:

- Concept and Objectives on May 23, 2019;
- Initial Planning Meeting on November 5, 2019;
- Midterm Planning Meeting on March 2, 2020;
- Master Scenario Events List meeting conducted virtually on May 13, 2020, due to COVID-19; and
- Final Planning Meeting scheduled on August 19, 2020.

Based on input provided by the initial planning meeting attendees, Enbridge prepared a draft exercise plan for the Stockbridge Agreed Exercise, which included the scope, objectives, scenario, and participant list for the exercise. In accordance with Subparagraph 115.e(4), Enbridge submitted the Draft Stockbridge Exercise Plan to EPA on December 5, 2019 and re-submitted the draft exercise plan on April 6, 2020.

Information about problems encountered or anticipated in implementing Consent Decree Requirements due to COVID-19 is further discussed in Paragraph 144.

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

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

In accordance with Subparagraph 116.a, Enbridge conducted the following Field Exercise (“FDE”) during this reporting period:

- Saxon, WI (Superior) on February 5, 2020

In accordance with Subparagraph 116.a, Enbridge conducted the following Table Top Exercise (“TTXs”) during this reporting period:

- Madison, WI (Superior) on March 11, 2020

Information about problems encountered or anticipated in implementing Consent Decree Requirements due to COVID-19 restrictions is further discussed in Paragraph 144.

116.b [Field Exercise Requirements]

In accordance with Subparagraph 116.b, each of the Field Exercises identified above consisted of training exercises conducted in the field to test and practice specific oil spill emergency response tactics used in the initial hours of an oil spill of at least 1,000 gallons into water.

Field deployment exercises test and practice the emergency response actions and tactics of both Enbridge & Government (Federal, Tribal, State, County, and Local) response personnel and equipment, in relation to a release of crude oil from an Enbridge pipeline. A scenario is required to initiate the appropriate level of emergency response within the organizations participating in the exercise. An after-action review (hot wash) is conducted at the conclusion of the exercise to identify areas that went well and areas that need improvement.



The standard schedule for a field exercise is as follows:

- Welcome and Safety Moment
- Operations and Safety Briefing
- Field Deployment
- Equipment Retrieval/Decontamination
- Hot Wash
- Closing Comments

Each Field Exercise included the following:

- A deployment of select equipment and personnel to water;
- A review of locations downstream of a spill where containment and recovery operations can occur; and
- Implementation of one or more containment and collection measures from the Enbridge's "Inland Spill Response Guide" at locations downstream of the potential spill entry point.

Further, in accordance with Subparagraph 115.b, an after-action review and discussion was held after each of the Field Exercises, as explained in response to Subparagraph 116.a above.

Specific details for each exercise include:

Saxon, WI (Superior) February 5,2020

This exercise was attended by 16 Enbridge employees and 6 external partners. The exercise took place on the Montreal River. The objectives of this field exercise were as follows:

- Objective 1:** Conduct review on onsite response equipment to ensure adequate condition and discuss tactics using Inland Spill Tactical Response Guide, Field Emergency Response Plan (FERP), and applicable Control Point Maps.
- Objective 2:** Review the selected waterway and surrounding area to identify any locations that need special consideration (i.e. Historic, Cultural, ESI, Water Intake, Critical infrastructure, etc.).
- Objective 3:** Assign response personnel and resources into the Incident Command System (ICS) Organization and complete the appropriate exercise documentation (including ICS-201).
- Objective 4:** Conduct safety briefing with all participants, observers, and controllers then complete any applicable safety documents.
- Objective 5:** Demonstrate the ability to conduct safe response operations using the containment and recovery strategies outlined in Inland Spill Tactical Response Guide, Field Emergency Response Plan (FERP), and/or applicable Control Point Maps.

Equipment used during the exercise included chainsaws, sled-saws, ice bars, ice auger supplied by the Superior PLM crew.

During the after-action review, discussion of both positive observations and areas for improvement were identified and documented. Positive observations included:

- Good participation, not only from Enbridge employees, but external stakeholders as well.
- FLHA and JHA were used to safely deploy the tactics with no injuries.
- The crews factored in safety before any other item based on ice thickness.

Areas of improvement included:

- Ice conditions were not conducive to winter response.



- Ice Anchors do not work well in slush ice
- No cell phone signal presents limitations in accessing references (Control Point Maps, ICP, etc.).

The items identified under the “Areas for Improvement category will be reviewed and addressed prior to the next Field Deployment Exercise. These items drive improvement of the response capabilities of the Midwest Region Field Response team in both field exercises and the unlikely event of a release.

116.c [Table Top Exercise Requirements]

In accordance with Subparagraph 116.c, the Table Top Exercises identified under Subparagraph 116.a above were conducted to test and practice non-field oil spill emergency response processes and procedures.

The scope of each Table Top Exercise is to review the response capabilities of Enbridge, Local First Response agencies and community stakeholders in relation to a release of crude oil from a pipeline. It utilizes multiple Emergency Response Plans to map out the combined response to the incident using ICS and is based on a simulation of a realistic emergency situation that included a description of the situation (scenario) with communications between players and facilitator. It identifies all responding agencies, resources, the establishment of a Unified Command, and situational assessment, and how the incident would be documented during the initial response.

The Table Top Exercise structure consists of two modules; Module 1: Initial Notifications and Response (Reactive Phase) and Module 2: Mobilization and Sustained Response (Proactive Phase). Each module begins with a multimedia update that summarizes key events occurring within that time period. After the updates, participants review the situation and engage in group discussions of appropriate response issues. A formal hot wash and or after-action reports are not required for Table-Tops, however discussions are held during the exercise and discussion points are captured during or after the exercise.

The exercises included the following:

- A minimum spill scenario of at least 1,000 gallons from a Lakehead System Pipeline located in close proximity to water;
- Notifications of the spill to all the government entities, including tribal authorities, that are identified in the Enbridge Integrated Contingency Plan (“ICP”);
- Both near and long-term response actions to address the spill;
- Anticipated response times for Enbridge equipment and personnel;
- The risks that the spill scenario could pose to public health and the environment;
- Potential resources at risk; and
- Protective measures for the local community, including evacuation procedures, as identified in the Enbridge ICPs.

Specific details for each exercise include:

Madison, WI (Superior) on March 11, 2020

The exercise was attended by 5 members of Enbridge, and no external participants.

Discussion Points Included:

- Future exercises in this location should include stakeholders if possible.
- Table Top Exercises should be held in the evening to get further participation from volunteer fire departments.



- There are airboats in the Algonquin area. These may be helpful for gaining access to shallow water areas on the Fox River.
- Develop material for Worst Case Discharge versus Most Likely Discharge indicating what goes into those calculations and bring that information to the exercise participants.

116.d [Field and Table Top Invitees]

In accordance with Subparagraph 116.d, prior to conducting the Field and Table Top Exercises identified under Subparagraph 116.a above, Enbridge sent out invitations for the scheduled 2020 Table Top and Field Exercises on December 17, 2019, to community, state and local first responders listed in CD Appendix C, as well as first responders located within 5 miles of the exercise scenario, resulting in a total of 487 invitations mailed.

The invitations provided recipients with more than four weeks prior notice of the exercise date when the exercise was to be conducted. The invitation also indicated that Enbridge would provide meals to persons who attended each exercise, and that the training would be provided at no cost to the invitees, excluding travel costs. Interested respondents were directed in the letter to an external-facing website wherein they could register for their interested exercises, in addition to being provided a contact telephone number and e-mail address. During the reporting period 24 registrations were submitted to the online system with one telephone and two e-mail requests for additional information received and responded to.

As part of the 2020 mailing program, two improvements were made at the request of US EPA. First, three EPA Region 5 planners were added to the annual invitation mailing list. Second, county and regional state-level emergency management offices were added to the annual invitation mailing list.

While not a requirement of the Consent Decree, Enbridge also mails exercise reminder postcards approximately two months prior to each TTX/FDE. EPA suggested amending the postcard format, while still recognizing specific venue information may not be available due to securing of appropriate permits or other logistical issues. Taking this request into account, Enbridge has amended the postcard design to include the city of the exercise and type of exercise being conducted.

116.e [Community Outreach Sessions]

Subparagraph 116.e of the Consent Decree regarding the required Community Outreach Session reads:

e. In addition to the above exercises, Enbridge shall conduct or hire a contractor to conduct Community Outreach sessions regarding the hazards of the different oils in the Lakehead System and the location of Enbridge pipelines in the community and how such pipelines are marked. Specifically, within one year of the Effective Date, and for each year thereafter until the Decree is terminated, Enbridge shall hold at least 15 Community Outreach Sessions in 15 different communities where the Lakehead System is located. Enbridge shall also provide information at the Community Outreach sessions regarding: (i) how the community should respond in the event of a spill, (ii) how the community can obtain information in the event of a spill from Enbridge and government agencies, and (iii) how the community can report spills to Enbridge, EPA and the National Response Center.

Due to COVID-19 Enbridge conducted zero Community Outreach Sessions during this reporting period. Information about problems encountered or anticipated in implementing Consent Decree Requirements due to COVID-19 is further discussed in Paragraph 144.

Typically, each Community Outreach session is 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 local communities. The sessions are 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 receives a package of information that is reviewed with them to convey the following information:

- Potential hazards of different oils transported by the Lakehead System;
- 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.

In SAR5, Section H Appendix included copies of the recently updated primary, state-specific handouts reviewed with attendees upon registration at the Illinois and Indiana meetings. 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. No further updates have been made to the handouts since SAR5.

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. Typically, an overwhelming majority of the feedback received, whether through the cards or conversations, are positive as attendees appreciated having access to Enbridge and to the information being provided.

117 [Control Point Plans]

In accordance with Subparagraph 117.a and b, Enbridge has updated and maintained the information for the Control Point locations set forth in Appendix D of the Consent Decree. The Control Point information includes the specifics from Subparagraph 117.b and the information is organized in a format that is consistent with the example template found in Appendix 4 of this report. The number of Control Points has been expanded from the list supplied in Appendix D of the Decree and as such an updated list along with new and old control point names is provided in Appendix 4 of this report.

Enbridge met with the EPA on February 27, March 23 and April 27, 2020 to discuss the submission of the control points deliverable. EPA had an opportunity to review 320 control points that were submitted to the EPA on January 31, 2020 and indicated that the content was appropriate. Enbridge supplied County information with the control points which was above and beyond the Consent Decree requirements. The Control Point information was submitted to the EPA on May 21, 2020 by Enbridge and was provided in the electronic formats specified in Subparagraph 117.e. Information about Subparagraph 117 c, d, f and g have been addressed in previous SARS reports. This activity is complete.

118 [Response Time]

Enbridge completed a review of personnel and equipment available to respond to an oil spill in the times allotted in the ICPs in accordance with Paragraph 118. The scope of that review followed the requirements of Paragraph 118.a and b. Enbridge submitted a draft report on May 12, 2020 to EPA within 180 days of completion in accordance with Paragraph 118.c. Enbridge is waiting for any EPA comments or 180 days from submittal before finalizing the report and implementing any action items from the May 12, 2020



transmittal letter. Discussion included in Subparagraph 119.h regarding the report findings on emergency response equipment.

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 that were held during this reporting period:

- Buffalo Area Committee December 5, 2019
 - o Enbridge attended this area committee meeting. A variety of topics were covered including emergency response training.
- Northern Michigan Sub-Task Force Planning Meeting, December 10, 2019
 - o Enbridge attended the sub task force planning meeting on December 10, 2019 in Detroit and discussed responses around Northern Michigan. Other topics covered included: ER plans, training program review, exercise program review, ER equipment and capabilities and recovery rates.
- Northern Michigan Area Planning Committee January 28, 2020
 - o Enbridge attended this area committee meeting. A variety of topics were covered as outlined in the agenda including high frequency radar, lake levels and coastal change, QR charts in response usage, geographic response strategy updates, In Situ Burn (ISB) test burn results, Michigan crash traffic facts, introduction of no spills conference.
- Northwest Indian Sub-Area Committee February 4, 2020
 - o Enbridge attended this area committee meeting. A variety of topics were covered including but not limited to a presentation on the use of a program related to environmental impacts.

Enbridge also attended the spring Regional Response Team (RRT) meeting that was held on April 29, 2020. This meeting was held virtually due to COVID-19 restrictions. This meeting fell outside of the Sub-Area planning meetings.

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

Enbridge was unable to attend any Sub-Area Committee field exercises or other training events during this reporting period due to COVID-19 restrictions. See Paragraph 144 for information.

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

No Sub-Area Committee or Area Committee for the Lakehead System has made written recommendations to Enbridge regarding its emergency preparedness plans and implementation other than the Northern Michigan area planning group meeting that was held on December 10, 2019. Information was requested and Enbridge responded and provided information at the December 10, 2019 meeting including its emergency response plans, training program, exercise program, emergency equipment capabilities and recovery rates. Thus, Enbridge had no obligation under Subparagraph 119.c to respond and/or revise its emergency preparedness plans or implementation during this reporting period.



119.d [Response Planning Meetings Requirements]

Enbridge did not receive a request to meet and discuss response planning strategies to ensure consistency with the Area Plan other than a request from the Northern Michigan sub-planning group. Enbridge provided information to this group on December 10, 2019.

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

Requirements for Subparagraphs 119.e-g were fully satisfied during the first SAR reporting period, as explained in the first SAR. Enbridge considers this activity complete.

119.h [Emergency Response Equipment]

Enbridge continues to maintain, in good working order, its prepositioned emergency response equipment and materials. During this reporting period, the following modifications to the inventory have been made:

- There was some movement of equipment however none of the changes in equipment resulted in equipment removal from the Midwest region. Specifically, these equipment modifications included:
 - o Some emergency response equipment from ER trailer 578 was moved to ER trailer 574;
 - ER trailer 574 is located in Bemidji PLM in Park Rapids, MN and ER trailer 578 is located at the Fort Atkinson PLM.
 - The movement of emergency response equipment from trailer 578 to 574 was done to further enhance these trailers.
 - The movement of this equipment has not created any deficiencies in emergency equipment in either ER trailers 574 or 578.
 - o Some emergency response equipment from ER trailer 505, CB-4 and Cold Storage locations were moved to create a second boom/skimmer, ER Trailer 578
 - ER Trailer 505 is located in the Parks Rapid PLM, CB-4 is located in the Fort Atkinson PLM, Cold Storage is located in the Fort Atkinson PLM.
 - The movement of equipment from CB-4 and Cold Storage located in the Fort Atkinson PLM has not resulted in any deficiencies in emergency equipment in Fort Atkinson.
 - ER Trailer 505 is located in the Parks Rapids PLM and has not resulted in any deficiencies in emergency equipment in the Parks Rapids PLM

Enbridge acknowledges that in Section 2.1 of the Response Time review report submitted to the EPA as per Paragraph 118, the consultant, as a result of its walkthrough assessment of Enbridge's response equipment locations, found some minor discrepancies between equipment inventory at those locations as compared to the ICPs. Enbridge undertook further investigation to identify the reason for the minor discrepancies identified by the consultant. Enbridge determined that the minor discrepancies are due to differences in how equipment may be named at storage equipment locations; the fact that equipment may be moved locally between response equipment locations for purposes of seasonal storage; and equipment may be used temporarily for operations, thereby necessitating its short-term relocation. Because the analysis confirms that equipment and its location is materially consistent with the ICPs, Enbridge will continue to use its current methodology for maintaining its response equipment locations.



119.i [Inland Spill Response Guide on Website]

In accordance with Subparagraph 119.i, the "Inland Spill Response Guide" has been available on Enbridge's website since May 23, 2017, at <https://www.emergencyresponderinfo.com/>. Enbridge considers this activity complete.

119.j [Inland Spill Response Guide to EPA]

EPA requested a copy of the "Inland Spill Response Guide" on November 1, 2018, and Enbridge fulfilled this request on November 2, 2018. Enbridge considers this activity complete.

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]

Enbridge has ensured that, upon assigning a person to take on the following roles, each person has completed the training identified below prior to beginning such duties or within the timeframe specified under Subparagraph 120.a:

- Incident Commanders, Deputy Incident Commanders or Alternative Incident Commanders of any Regional Incident Management Team in any Lakehead ICP: ICS 100B - 400 and position- specific training;
- All other personnel listed as members of any Regional Incident Management Team in any Lakehead ICP: ICS 100B - 300 and position-specific training;
- Regional Emergency Response Coordinators: ICS 100B - 400 training;

During this reporting period two New Regional Emergency Response Coordinators were hired. These employees completed all required ICS training including role specific training prior to starting on January 27, 2020 and February 24, 2020.

- All emergency management department personnel: ICS 100B – 300 training within 90 days of being assigned;

During this reporting period one emergency management department personnel was hired. This employee completed all required ICS training including role specific training prior to starting on April 27, 2020.

- Any person designated as Vice President of U.S. Operations, or in an equivalent capacity: ICS 402 training; and

During this reporting period [REDACTED] was designated as the Vice President of U.S. Operations and will take the ICS 402 training in the next reporting period, within the required 90 days.

- Any other manager or executive who give direction to field personnel, or is responsible for making funding, personnel, or resource decisions during a spill response (if ICS 100B – 400 has not been taken): ICS 402 training.



Changes to the Incident Management Team lists due to retirements, change of employment, etc. will result in additional training being conducted for any replacement personnel. Additionally, Enbridge will track training dates for IMT positions that change. Since the last reporting period, no changes have been made to any IMT list, therefore nothing to report.

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

In accordance with Subparagraph 120.b, Enbridge has trained at least one employee for each Incident Management Team position as indicated in its ICP.

120.c [Training Requirements and Electronic Certification Documents]

In accordance with Subparagraph 120.c, Enbridge maintains electronic certification documents that confirm personnel training as described in Subparagraph 120.a.

Section I – New Remotely Controlled Valves

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

The Consent Decree requires that Enbridge install 14 remotely-controlled valves over the term of the Decree. During the reporting period, the primary activities were planning and design for the final two installations scheduled for July 2020 on Line 6A at MP 80 and MP 198, per **Table I-1**. The valve installations planned for 2020 are located within the milepost (“MP”) ranges specified under Paragraph 122. The location of Valve #10 must be in the range between MP 190.63 and MP 201.24 on Line 6A. In April 2020 Enbridge changed the location of Valve #10 from MP 196.57 to MP 198.22. The location at MP 196.57 was originally chosen as the favorable location based on the Intelligent Valve Placement (“IVP”) analysis; however, high-voltage, overhead powerlines are present on the site. Enbridge explored the possibility of relocating two power poles to accommodate the valve site, but it was ultimately deemed not feasible to successfully and safely construct the valve site at this location; hence, alternate locations were explored. The new location at MP 198.22 has a satisfactory effectiveness score, which reflects its ability to reduce risk to HCAs; a volume-out profile well within Enbridge’s threshold for line size and flow rate on Line 6A; and requires fewer trees to be removed and less road construction, thereby reducing environmental impact.

123. [Enbridge Computer Modeling for Valve Locations]

The locations for the installation of all remotely-controlled valves, including those identified in Table I-1, were identified by conducting an analysis using Enbridge’s Intelligent Valve Placement (“IVP”) methodology. The objective and guiding principle of the IVP methodology is to reduce the maximum potential release volume as much as reasonably practicable in the unlikely event of a pipeline release. To achieve this, the entire pipeline route is modeled, taking into account: the topography of the right-of-way; the elevation profile of the pipeline; the throughput and operating pressure of the pipeline; and the location of watercourses. The IVP methodology also considers potential impacts of a pipeline release on sensitive features, or high consequence areas (“HCAs”), including highly populated areas, other populated areas, reservoirs holding water intended for human consumption, commercially navigable waterways, and environmentally sensitive areas. HCAs include those that are directly affected by the pipeline and those that are affected by a transport mechanism such as overland or terrain transport, spray, and water transport.

The IVP methodology uses a risk-based approach for optimizing valve placement to reduce potential damage from accidental discharge to populated areas, water crossings, HCAs, and areas of high volume out. The process examines the pipeline segment by segment on an iterative basis until the lowest,



reasonably practicable release volume between valves is achieved along the pipeline. The goal of the IVP methodology is to protect the public and the environment in the entire area, rather than focusing only on specific watercourse crossings.

The IVP also considers the impact to environmental resources caused by construction activities in relation to valve installation. Once potential valve locations are selected using the IVP risk-based approach, Enbridge will conduct a field verification of those locations. Field verification will evaluate the impact of construction to the environment, including the following factors: valve site access, constructability, and power and land availability. Final valve locations may be altered due to constructability issues and environmental impacts identified during field verification.

The information above was summarized in a report titled "DOJ Commitment Valves, Valve Analysis," V3.0, dated January 18, 2017. The ITP was provided the report in response to information requests received from the ITP (under number I011). On July 25, 2017, an in-person meeting select ITP and Enbridge representatives were present to discuss the IVP methodology and answer the ITP's questions pertaining to method, risk, and rationale.

124. [Valve Design and Closure]

Prior to requisition of the valves for installation in 2017, Enbridge subject matter experts examined each step of the valve closure process including initiating of command, communication of command to the remote facility, energizing of the actuator, and mechanical process to fully close and seal the valve. Considerations were made for each of these steps leading up to the start of mechanical closure and subtracted from the total allowable command-to-sealed requirement, and the valves were specified on the Purchase Order to the manufacturer to close within that remaining time. Enbridge also specified on the Inspection and Test Plan that a valve closure timing test will be completed on at least one valve of each size to verify actuator open and close time. Shop timing tests have now been successfully completed on valves of each size for this program. During dry commissioning of the 2020 valves in September 2020, field timing tests will be conducted and reported in the next SAR.

During this SAR reporting period, Enbridge has completed the following milestones:

- Completion of 2020 material procurement activities
- Submittal of all environmental permit applications for 2020 construction activities
- Receipt of environmental permits for MP80 and MP198
- Submittal of all land use permit applications for 2020 construction activities
- Receipt of land use permits for MP80 and MP198
- Completion of construction specifications and drawings for 2020 execution plan
- Completion of construction contract for 2020 execution plan
- 2020 construction activities are underway as of early June

Section J – Independent Third Party Consent Decree Compliance Verification

As reported in the first SAR dated January 2018 and the second SAR dated July 2018 Enbridge retained O.B. Harris, LLC as the ITP on January 11, 2017 to conduct a comprehensive verification of Enbridge's compliance with the requirements set forth in Section VII (Injunctive Measures), except for subsection VII.H (Spill Response & Preparedness) which Paragraph 125 excludes from the verification activities that are



required to be performed by the ITP. Therefore, Enbridge's obligations under Paragraphs 125, 127-132.a and 134 have been satisfied. Enbridge will continue to report on required updates and/or changes to this injunctive measure in future SARs.

126. [ITP Access to Enbridge Lakehead System]

Enbridge continues to provide the ITP with full access to all facilities that are part of Enbridge's Lakehead System including any personnel, documents and databases to allow them to fully perform all activities and services required by the requirements of the Consent Decree.

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

In accordance with Paragraph 132, Enbridge continues to support the ITP in providing them additional information and responding to their requests to assist the ITP in completing the tasks required by Subparagraphs 132.b, c, d and e.

133.b [Enbridge Response to ITP Verification Report]

The agreement between Enbridge and the ITP requires, as per Subparagraph 133.a, that the ITP prepare a written verification report that sets forth the findings, conclusions and recommendations, if any, as to each of the requirements of Section VII of the Consent Decree, excluding Subsection VII.H (Spill Response and Preparedness). There is nothing additional to report in this covered period. If there are further developments related to this Paragraph, Enbridge will provide an update in future SARs.

134.I [General Requirements – ITP Annual Certification]

On January 3, 2020, the ITP provided its annual certification to the United States, verifying that it complies with the General Requirements of Subparagraphs 134.g-k.

135. [Enbridge Enforcement of the Agreement]

As reported in the first, second, third, fourth, and fifth SARs, Enbridge is prepared to enforce the terms of its written agreement with the ITP if needed to ensure compliance with Section VII.J of the Consent Decree but to date has not been required to take such action.

136. [ITP Replacement]

This Paragraph of the Consent Decree addresses replacement of the ITP, which is an issue that has not arisen since the Effective Date.

IX. – Reporting Requirements

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 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 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 Enbridge has resolved or is working to resolve with the ITP and EPA. Enbridge is proceeding using the Enbridge interpretation in areas where the interpretation has not been agreed on by all parties. Refer to **Table IX-1** for a list of interpretation issues.

Consent Decree Penalty Letter from EPA and DOJ (Department of Justice)

On May 8, 2020 Enbridge received a Demand for Payment of the second and third set of Stipulated Penalties pursuant to Paragraphs 164.e, 167 and 168 for violations of the Consent Decree. The letter is public record.

Implementation of 5th Modification of the Consent Decree for Geometric and Intersecting or Interacting Features

Although the modification has not yet been approved, Enbridge is applying the 5th Modification processes for geometric and intersecting or interacting features, specifically the analysis process contained in the Fifth Modification including Semi-Quantitative (SQuAD) and Quantitative analysis (QuAD) per Appendix G and H to identify features requiring excavation and to set pressure restrictions for these features.

Problems Encountered or Anticipated in Implementing Consent Decree Requirements

The following is a list of the problems encountered or anticipated in implementing Consent Decree requirements for reporting period 6. Each of these are discussed in more detail in the sections below and are referenced in the applicable injunctive paragraph.

- Paragraph 22 [Section B] January 21, 2020 Identified Line 3 MOP Reporting Discrepancies
- Paragraph 35 and 36 [Section D] Minor Metal Loss Feature Truncation in Assessment Sheets
- Paragraph 37 [Section D] Line 5 PE-IR 2020 GEMINI CAL (Run ID 6609) Deadlines for Adding Features Requiring Excavation on the Dig List
- Paragraph 40 [Section D] Line 6A AM-GT 2019 DUOCD (Run ID 4804) Analysis of Field Data
- Paragraph 40, Appendix B [Section D, Appendix B] PBP Calculations for Field Data Comparison to ILI Data
- Paragraph 44.a&b [Section D] Line 3 CR-PW Empty Dig List Approval Delay
- Paragraph 47 [Section D] Line 2 GF-CR (Dig ID 27867) and Line 3 GF-CR GW171730 (Dig ID 26806) Incorrect Crack Dig Deadline



- Various Paragraphs [Section D] Implementation of Fifth Modification and Timing Change from 30+5 to 25+5 in Light of Fifth Modification
- Various Paragraphs [Section D] Circumferential Cracking Engineering Assessment Process
- [Section E] Drilling Rod Contact of West Leg of Line 5 Dual Pipelines
- Paragraph 102 [Section G] Leak Detection Analyst Rupture Flow Based procedure not promptly followed
- Paragraph 103 [Section G] April 2020 Optimization of 24-hour alarm thresholds due to lower flow rates on Line 78
- Paragraph 115 [Section H] Agreed Exercises
- Paragraph 116 [Section H] Field Exercises, Table Top Exercises, and Community Outreach

[Section B] January 21, 2020 Identified Line 3 MOP Reporting Discrepancies – P. 22

On January 21, 2020, an error was identified in the spreadsheet utilized to generate the 'MOP Exceedances on Original Line 3' data provided during the monthly technical meetings with the ITP and EPA. The issue was related to the static MOP entries for the Viking discharge and Clearbrook suction values used in the ITP summary table. The values were listed as higher than actual values at those locations. Enbridge notified the ITP of the potential issue during the February 20, 2020 technical meeting and then confirmed the details of the finding in the March 19, 2020 technical meeting. At the March meeting Enbridge also provided the revised line 3 MOP reports going back to May 2017. It was explained that the error was due to incorrect entry of the static Viking and Clearbrook values in the initial version of the reporting document which then carried forward until the issue was discovered.

Enbridge revised the Viking discharge value from 412 psi to 371.93 psi and the Clearbrook suction from 496 psi to 464.91 psi. All reporting tables going back to May 2017 were reviewed and it has been verified that there were no occurrences of operating pressures exceeding 100% of MOP on Line 3 from the initiation of the Consent Decree. The revised data tables were provided to the ITP and the monthly reporting template was updated going forward to represent the correct values.

This issue did not impact the operational controls in place to manage overpressure situations and was limited to the reporting of the pressure data.

[Section D] Minor Metal Loss Feature Truncation in Assessment Sheets – P. 35, P. 36

Paragraph 35 of the Consent Decree requires that Enbridge evaluate each feature identified in the Initial ILI Report to determine whether the feature is an FRE. Assessment sheets for Corrosion programs have historically been truncated given the large number of features reported, the limitations of the Excel file size and the large amount of analysis that would be required for minor non-intersecting Corrosion features that are known to be non-injurious to the pipeline. These minor Corrosion features that are not interacting or intersecting with other features would not trigger a CD FRE criterion. Paragraph 36 of the Consent Decree requires that Enbridge applies three methods for the purpose of determining whether the feature is an FRE, including: Predicted Burst Pressure (PBP); Remaining Life (RL); and, other unique characteristics of the feature using the criteria set forth in Subsection VII.D.(V).

As part of the initial Corrosion program assessments the following activities were completed:



1. Full assessment of all Corrosion features greater than the truncation threshold, which varies by Line and program.
2. Threat integration for CD interacting and intersecting features was completed for all reported features including all Corrosion features less than the truncation threshold.

Enbridge has recently completed the RL, PBP, and Safety Factor analysis on all reported Corrosion features less than the truncation threshold which demonstrated that no features triggered a CD FRE criterion.

Enbridge has adjusted its processes going forward to complete all calculations for identified Corrosion features and will document those in the Assessment Sheets and other supporting Excel files.

[Section D] Line 5 PE-IR 2020 GEMINI CAL (Run ID 6609) Deadlines for Adding Features Requiring Excavation on the Dig List – P. 37

The Initial ILI Report for Line 5 PE-IR 2020 GEMINI CAL was received on 4/21/2020 and the program was approved by the SME on 5/21/2020 as per CD requirements. As part of Enbridge's internal quality review process, it was determined that the program was successfully uploaded to OneSource on 5/21/2020 and that the SME also attempted to upload the program to eDig (add 1 FRE to the Dig list) on this date. The SME's attempt to upload the program to eDig on 5/21/2020 was not successful and the program was not successfully uploaded to eDig until 5/25/2020. Although the program (1 FRE added to the Dig list) was uploaded as per CD requirements, it is Enbridge's practice for the SME to upload the program to both eDig and OneSource at the same time and typically on the same day that the program is approved by the SME. Enbridge has updated the training for the process to add features to the dig list (upload FREs to eDig) to ensure consistency going forward.

[Section D] Line 6A AM-GT 2019 DUOCD (Run ID 4804) Analysis of Field Data – P. 40

Following the approval of the last NDE report for FRE's and investigative digs, it is Enbridge practice to complete the comparison of ILI to field data and perform a statistical analysis, as per the Lakehead System Integrity Remediation Process. Once this analysis is complete, the subject matter lead for the line will review the data to determine if the ILI tool tended to understate the actual severity of the features and if so, take the required action as detailed in Paragraph 40. The subject matter lead then documents this review in the appropriate section of the Program Summary Document.

The statistical analysis completed on 3/17/2020 for the Line 6A AM-GT 2019 DUOCD program was completed within the 30 Day deadline. The analysis identified that the ILI tool did not understate the actual severity of the features by more than one tool tolerance and that no further action was required. However, the subject matter lead did not review and document that no further action was required in the Program Summary Document within the 30 Day timeline as is Enbridge practice.

Enbridge is committed to completing the subject matter lead review within 30 Days, however in this instance the approval did not occur within these timelines. Enbridge is providing additional training and improving the review and documentation process to ensure consistency going forward.

[Section D, Appendix B] PBP Calculations for Field Data Comparison to ILI Data – P. 40, Appendix B

Enbridge completed field PBP calculations for all features as required by Appendix B. As part of Enbridge's internal quality review process, it was determined that although the CorLAS™ Model was used to calculate the Field Burst Pressure for the vast majority of Crack features detected by ILI tools, there are instances where the updated (non-trademark) version of CorLAS has been used for these calculations. Enbridge has



reviewed a number of programs and has determined that the differences in Field Burst Pressures between the CorLAS™ Model and the updated (non-trademark) version of CorLAS are very minor and often resulted in variances in the range of approximately 1 psi to 30 psi. As per Paragraph 40c. of the Consent Decree, ILI tool bias is determined based on depth bias or PBP bias. Tool bias is primarily determined using the statistical analysis of feature depth and is not typically based on PBP.

A review of Predicted Burst Pressure calculations for Field Data comparison to ILI Data is underway to correct these inconsistencies and determine the appropriate mitigations to prevent this from occurring in future programs.

[Section D] Line 3 CR-PW Empty Dig List Approval Delay – P. 44.a-b

No Features Requiring Excavation (FREs) were required based on the Line 3 CR-PW 2019 DUO CD program; however, it is Enbridge's practice that the SME review and approve the Dig List no later than 5 days following the burst pressure and remaining life calculations, regardless of whether or not there are any FREs meeting Consent Decree excavation criteria. In this case, the Data Quality Review and identification of potential FREs was completed on 11/26/2019 and thus SME approval of the empty dig list was required by 12/2/2019. The SME approval was completed on 12/3/2019 which is one day after Enbridge's practice at the time.

Enbridge has implemented process dashboards and reports to proactively manage the associated timeline requirements related to the Consent Decree to ensure that all deadlines are met, even for programs in which no FRE's are determined.

[Section D] Line 2 GF-CR (Dig ID 27867) and Line 3 GF-CR GW171730 (Dig ID 26806) Incorrect Crack Dig Deadline – P. 47

FREs were identified and were added to the dig lists in compliance with CD deadlines for each of these programs. As part of Enbridge's internal quality review process, it was determined that the Dig deadline for one Feature in each program was inadvertently set with a 365 Day deadline instead of the required 180 Day deadline as per CD Table 1. The Dig deadline for each Feature was corrected in Enbridge's systems and no Dig deadlines were missed. The Pressure Restriction associated with each feature has been Reviewed and no adjustments to the Pressure Restrictions were required.

A review of the Crack Assessment Sheet and Process is underway to determine the appropriate mitigations to prevent this from occurring in future programs.

[Section D] Dig Deadline Extension of Three CD digs for four features from L61 PE-FN – P. 50

In 2015, Enbridge began an MOP Verification Project to verify the accuracy of information used in determining the MOP values previously established by the company, including the MOP values incorporated into the Consent Decree through Paragraph 10.s of the Consent Decree. As a result of its MOP Validation Project, in 2019 and 2020, Enbridge determined that a number of MOP values were based on erroneous information regarding pipe wall thickness at particular locations on the Lakehead Pipelines. If revised information concerning pipe wall thickness is considered, MOP values at numerous locations on the Lakehead System would be lower than the values established pursuant to Paragraph 10.s of the Consent Decree. If features are identified at these locations, there is the possibility that if the corrected wall thickness is considered, the features may no longer meet excavation criteria under the CD. In this reporting period, Enbridge and the ITP and EPA have agreed to modify the MOP values incorporated into the CD through Paragraph 10.s for Line 61 as described in Paragraph 50 of this report. Enbridge is working with the ITP and EPA to determine if other lines should be updated to reflect the results of the MOP Verification Project. The MOP Verification Project is not governed by the CD and is expected to be



completed in 2020, with ongoing updates as new information is identified and as pipe modifications result in revised values.

[Section D] Implementation of Fifth Modification and Timing Change from 30+5 to 25+5 in Light of Fifth Modification – Various Paragraphs

On May 7, 2020, the Fifth Modification of the Consent Decree was filed and is currently before the Court for approval. It is the culmination of negotiations between Enbridge, the ITP, EPA and DOJ to revise and clarify requirements governing Enbridge's management of pipeline dents that interact with other features. Enbridge agreed to implement the timelines associated with the Fifth Modification as per the guidance from the Government and as such was required to adjust how internal processes were implemented within this reporting period. Pre-modification Enbridge had 30 days to analyze data and 5 days to approve FRE lists. The new timing provides 25 days to analyze data and 5 days to approve FRE lists.

Prior to the 5th Modification of the Consent Decree, the Program Approval Request was used to report the pertinent dates associated with these Paragraphs. Commencing on April 1, 2020, for any Initial ILI report received after this date, based upon the 5th Modification of the Consent Decree and as requested by the DOJ, the Program Approval will now be used to report the pertinent dates associated with these Paragraphs.

[Section D] Circumferential Cracking Engineering Assessment Process – Various Paragraphs

Enbridge and the ITP have identified a difference in interpretation that circumferential Crack ILI, which historically has not been used on the Lakehead system, was intended to be incorporated within the Consent Decree. However, Enbridge and the ITP do agree that the use of this technology is based on the level of risk to the Lakehead system and that technical assessment processes within the Consent Decree are not suitable to analyze circumferential Crack features. As a result, Enbridge agreed to provide the ITP two Engineering Assessments that detail suitable technical analysis processes for eleven circumferential Crack features on two lines and one Engineering Assessment that details the level of risk of circumferential Crack on the Lakehead system as a whole.

On April 9, 2020 (Line 10) and May 5, 2020 (Line 6A), Enbridge provided the ITP two Engineering Assessments for eleven circumferential Crack features. The final Engineering Assessment will be provided to the ITP in the next reporting period.

[Section D] Delayed Data Quality Investigations – P. 34.d

Line 3 GF-CR 2017 UCMp and L6A AM-GT 2017 UMP Complete All Data Quality Evaluations Within 180 Days– P. 34.d

Six FREs from programs re-issued due to the vendor using an Alternative Wall Thickness Used for Burst Pressure Calculations as reported in SAR 5 P. 144 [Section D] Alternative Wall Thickness Used for Burst Pressure Calculations – P. 34.c, had data quality programs that extended beyond 180 days after the pull date. The problem was unexpected, and the vendor required time to resolve and reissue the report. As a result, approval of the report and official resolution of the data quality evaluation was delayed.

[Section E] Drilling Rod Contact of West Leg of Line 5 Dual Pipelines

Following Enbridge's September 12, 2019 borehole completion activities, due to a borehole collapse, a 40-foot segment of drilling rod was left stuck in the borehole below the lakebed of the Straits of Mackinac and a 45-foot segment of drilling rod was left loose on the lakebed. On November 19, 2019 Enbridge informed the State of Michigan, Michigan Department of Environment, Great Lakes, and Energy ("EGLE") and USACE of the occurrences and submitted a drill rod Retrieval Plan on November 30, 2020.



As a portion of the rod was left in the lakebed, Enbridge was in violation of its permit with USACE and subsequently received a Notice of Violation (“NOV”) from EGLE on December 3, 2019. On December 28, 2019, the drill rod retrieval was executed. Enbridge found the drill rod in contact with the West Leg of Line 5, near the W72 support anchor.

Enbridge notified EPA/ITP of the operational events in December 2019. Enbridge met with EPA on February 12, 2020 to provide a summary of the pipeline integrity assessments conducted on Line 5 following the drill rod retrieval. During this engagement, Enbridge committed to providing an update to EPA on findings following its site investigation that would occur during the 2020 work season.

In January 2020, Enbridge conducted In-line Inspection runs to detect metal loss and deformations on the dual pipelines and the data shows that there is no damage to the pipeline at the location where the drill rod was found resting. The pipe was assessed as safe in January 2020 as demonstrated by the Enbridge diver inspection and ILI program.

On May 4th, 2020, Enbridge’s marine contractor surveyed the location where the drill rod was found resting adjacent to anchor W-41. This inspection revealed no bare metal or coating damage. Small calcareous deposits indicating effective cathodic protection were observed approximately seven feet from the anchor. In accordance with the Third Agreement with the State, this site does not require coating repair.

[Section G] Leak Detection Analyst Rupture Flow Based procedure not promptly followed – P. 102

On December 10, 2019, the Enbridge Flow Based Rupture Detection system was put into service on Lakehead lines. Enbridge has been closely monitoring the implementation and operation of this system. Enhancements to visual indications provided to the Leak Detection Analyst were identified as the result of two incorrect assessment events that occurred soon after implementation. Through these changes Enbridge has enhanced the Rupture Flow Based system to minimize the chance of missed flow-based Rupture assessments and improve response time by the Leak Detection Analyst.

The first event occurred on January 24, 2020, as the result of an alarm on Line 1 and the second event occurred on March 19, 2020 as the result of an alarm on Line 10. There were no adverse impacts to compliance with CD alarm clearance or shutdown requirements as a result of these two events, however investigation into the assessments have resulted in additional training, awareness as well as visual enhancements. Enbridge is reporting these events under Paragraph 144 based on a commitment to ensure the Rupture Flow Based solution is as effective and timely as possible. Visual enhancement includes Rupture indications on the Leak Detection Alarm Manager (“LDAM”) and use of the word “Rupture” on the primary MBS display. Enbridge presented the details of the events and resulting enhancements to the ITP on May 14, 2020.

[Section G] April 2020 Optimization of 24-hour alarm thresholds due to lower flow rates on Line 78 – P. 103

During the execution of the Q4 2019 sensitivity performance testing of Automated Volume Balance (“AVB”) systems, it was discovered that four individual Line 78 meter-to-meter segments between Stockbridge and Sarnia West (SK-RW) fell below the 95% confidence for the leak sensitivity detection threshold of 3% of nominal flow. It is important to note that the AVB sensitivity performance for the overlapping segments for this area was maintained and capable of detecting a leak of 3% at a 95% confidence level.

On April 16, 2020, Enbridge then performed and completed a thorough technical analysis, which uncovered the root cause of the issue. It was found that Line 78 was operating at a flow rate lower than the range observed and used during the study¹¹.

¹¹ 2019.04.12 Enbridge 24-Hour Alarm Threshold Optimization Study Results – per P. 103.c



Typical flow rates on Line 78 range from 2000 to 3000 m³/hour; however, over the past 6 months Line 78 has consistently operated at a flow rate of 1900 m³/hr. The flow rate of 1900 m³/hour is outside the range that was accounted for during the 24-hour alarm optimization study testing period. This change is considered as “significant change in pipeline operation” as extensive flow at this minimum flow rate was not observed during the optimization study data set. As indicated in the study, this change in operation is considered significant, which triggered the need for re-optimization of Line 78.

Enbridge is currently performing a new optimization study for Line 78 to lower the threshold¹² in order to maintain the sensitivity requirement of 3% under persistent lower flow rate conditions. This re-optimization will be carried out in accordance with Subparagraph 103.g(3) and to meet the sensitivity requirements per Subparagraph 103.g(4). Subparagraph 103.g(5) will not be applicable for this event as neither the sensitivity is relaxed, nor a temporary sensitivity is established. However, Enbridge will undertake further discussions with the ITP when the optimization study is complete, and a report of the optimization results is submitted.

[Section H] Spill Response and Preparedness

Enbridge is implementing a number of precautions for health reasons during the COVID-19 outbreak. Enbridge Safety and Health Services teams continue to monitor the situation, have activated our Public Health Emergency Support Team (PHEST) to ensure a proactive response coordination across all Enbridge business units and functions and are implementing contingency plans to help mitigate risks. The information below outlines problems encountered or anticipated in implementing Consent Decree requirements for Section H – Spill Response and Preparedness.

[Section H] Agreed Exercises - P. 115

Table IX-2 summarizes the meeting and exercise activities that are planned in the State of Michigan, related to the Stockbridge Agreed Exercise. Additional meetings remain scheduled but will occur remotely.

Cancellations and re-scheduling dates of the Stockbridge activities will be influenced as the COVID-19 outbreak continues to evolve. As of May 23, 2020, there have been no cancellations made; however, due to travel restrictions, the Stockbridge Master Scenario Events List (“MSEL”) Meeting on May 13th, originally scheduled in Lansing, Michigan, was held virtually.

[Section H] FDE, TTX, and Community Outreach - P. 116

Table IX-3 summarizes the TTX and FDE that were planned to occur and have been re-scheduled.

Due to COVID-19, several Field and Table-Top exercises were postponed. As a result of these delays, the agencies that had registered for affected exercises were informed on March 16, 2020, of the need for a delay. Follow-up emails were sent once the exercises were rescheduled (four notifications sent). A second set of exercises was delayed; however, the registrant contact information was not available (Michigan State Police). Enbridge notified Michigan State Police of the change through email.

Table IX-4 summarizes the Community Outreach events that were to occur within this reporting period and have been re-scheduled.

Force Majeure Notifications were submitted as Enbridge could not meet the 15 Community Outreach Sessions per DOJ Calendar year (May 2019 - May 2020). Enbridge nevertheless is expected to meet the 15 Consent Decree meeting requirement for this Consent Decree by calendar year ending December 31, 2020.

¹² The term “threshold” in this context refers to Enbridge definition, which is the flow range of when the alarm is triggered. “Threshold” per CD definition is synonymous to “sensitivity”, as per Enbridge definition and CD’s intent.



[Section H] Coordination with Government Planners - P. 119

The following exercises were cancelled or altered due to COVID-19:

- Cancelled: Table - Top exercise originally scheduled for April 2, 2020 (Lakeshore Center, 600 Lakeshore Drive, Houghton, MI 49931). Confirmation of exercises cancellation was made via verbal discussion between Enbridge's legal department and the EPA;
- Postponed: Table -Top exercises originally scheduled for April 6, 2020 (West Olive Michigan)
- Natural Resource Damage Assessment and Restoration Science Webinar originally scheduled for March 18, 2020 was rescheduled to April 29, 2020 and attended by Enbridge.

[Section H] Force Majeures – P. 174

The Force Majeure notification process from Enbridge to the EPA is detailed in **Table IX-5**.

Any significant changes or issues since the previous SAR

Any significant changes or issues since the previous SAR are addressed in the Injunctive Paragraphs as applicable.

145. [Non-Compliance]

A list of the potential non-compliances identified during the SAR6 reporting period is shown in **Table IX-6**.

[Section D] Line 6A PE-AM (Dig ID 26868) Mitigation Completed 3 Days Late P. 58

As required per Paragraph 58 of the Consent Decree, the Interacting Features Requiring Excavation for this program was added to the Dig List within the applicable deadlines based on the Fifth Modification. The Feature was analyzed using SQuAD and QuAD, met the Dig Selection Criteria, and was added to the Dig List on 12/16/2020 within CD deadlines. It was determined that no Pressure Restriction was required for this Feature. The corresponding 30-Day Dig deadline for this Feature should have been 1/15/2020 but was inadvertently set to 2/14/2020. As part of Enbridge's internal quality review process, it was determined that the Dig deadline for this Feature was inadvertently set with a 60 Day deadline instead of the required 30 Day deadline per Paragraph 58.c in the Fifth Modification of the Consent Decree.

The Feature was repaired with a sleeve on 1/18/2020, 3 Days after the 30-Day Dig deadline.

A review of Enbridge processes is underway to determine the appropriate mitigations to prevent this from occurring in future programs.

146. [Discharges from a Lakehead System Pipeline]

Table IX-7 in Appendix 1 identifies one discharge from a Lakehead System Pipeline of one or more barrels of oil that occurred on April 30, 2020. Enbridge can confirm 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 SAR reporting period. The reports at issue are provided in Appendix 5.



147. [Update on Discharges from a Lakehead System Pipeline reported in SAR5, January 2020]

There was one discharge from a Lakehead System Pipeline reported in SAR5. **Table IX-8** in Appendix 1 provide updates on the information reported in SAR5 for this discharge.

148. [Copies of all Post Incident Reports in SAR6]

A copy of the post incident report from the April 30, 2020 incident and from the SAR5 reportable incident are provided in Appendix 5.



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.,

[REDACTED]

[REDACTED] Vice President

FOR DEFENDANTS:

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

[REDACTED]

[REDACTED], President

Appendix 1 SAR6 Sections A-J and IX Tables

Reporting Period: November 23, 2019 to May 22, 2020

Table Intro-1: Implemented Requirements per P. 203(i)	A4
Table B-1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)	A6
Table B-2: Line 3 Construction Milestone Schedule	A7
Table B-3: P. 22.d(3) Original US Line 3 Biocide Treatments	A8
Table D-1: P. 28.a-b ILI Runs Completed During this Reporting Period	A10
Table D-2: P. 28.c Incomplete or Invalid ILIs and Rerun Dates	A11
Table D-3: P. 29 12-Month Lakehead ILI Schedule (May 23, 2020 – May 22, 2021)	A12
Table D-4: P. 30 Changes to Previous 12-Month ILI Schedule (May 23, 2019 to May 22, 2020)	A13
Table D-5: P. 31 Incomplete or Invalid ILIs and Rerun Dates	A14
Table D-6: P. 31 ILIs with Minor Tool Performance Deficiencies	A15
Table D-7: P. 32.a-c Valid In-line Inspection Runs with Initial ILI Report Received	A16
Table D-8: P. 33.b ILIMRR Version 8.3 Table 5 Inside Diameter Priority Notification Criteria for Ovalities and Other Deformation Features	A17
Table D-9: P. 33.c-d Priority Features	A18
Table D-10: P. 34.a Preliminary Review of Initial ILI Reports	A19
Table D-11: P. 34.c ILI Reports with Reporting and/or Data Quality Issues	A20
Table D-12: P. 34.d Data Quality Evaluation Timelines	A21
Table D-13: P. 34.e Discrepancies between Two Successive ILI Runs	A22
Table D-14: P. 37 Deadlines for Placing Features Requiring Excavation on the Dig List	A23
Table D-15: P. 39.a-b FREs Repaired and Planned for Repair	A24
Table D-16: P. 40 ILI Programs with all Features Requiring Excavation Repaired/Mitigated during the reporting period	A25
Table D-17: P. 40 Cancelled Digs	A26
Table D-18: P. 44.a-b Initial Predicted Burst Pressure and Initial Remaining Life Calculations	A27
Table D-19: P. 46.a, c Identified Digs	A28
Enbridge Consent Decree Sixth Semi-Annual Report	Page A1

Table D-20: P. 46.b. d PPRs	A29
Table D-21: P. 46.e, 46.l Alternate Plans and Alternate Pressure Restrictions	A30
Table D-22: P. 46.g Alternate Plan #	A31
Table D-23: P. 46.l Previous Alternate Plan Status Update	A32
Table D-24: P. 47 Crack Features Requiring Excavation	A33
Table D-25: P. 47 Crack Feature Pressure Restrictions	A34
Table D-26: P. 50 Corrosion Features Requiring Excavation	A35
Table D-27: P. 52 Corrosion Feature Pressure Restrictions	A36
Table D-28: P. 53 Digs for Axial Slotting, Axial Grooving, Selective Seam Corrosion and Seam Weld anomaly A/B Features	A37
Table D-29: P. 54 Axial Slotting, Axial Grooving, and Selective Seam Corrosion, and Weld Anomaly A/B Feature Pressure Restrictions	A38
Table D-30: P. 56 Geometry features Mitigation Timelines	A39
Table D-31: P. 58 Interacting Features Requiring Excavation	A40
Table D-32: P. 59 Interacting Features Pressure Restrictions	A41
Table D-33: P. 60 Remaining Life Calculations	A42
Table D-34: P. 63 Crack Feature Remaining Life Calculations	A43
Table E-1: P. 68 Consent Decree Screw Anchor Installation Summary	A44
Table E-2: P. 68.a Line 5 Straits – Dual Pipelines Anchor Strike Mitigation Initiatives	A45
Table E-3: P. 73 Acoustic Leak Detection	A46
Table F-1: P. 77 OneSource NDE Updates	A47
Table F-2: P. 78.a OneSource ILI Updates	A48
Table F-3: P. 78.b Interacting Feature Reviews	A49
Table G-1: P. 93-94, 96-97 Temporary MBS Suspension	A50
Table G-2: P. 99 Projects	A51
Table G-3: P. 112 Lakehead System Pipeline Incident Reporting	A52

Table I-1: P. 121-122 Planned Valve Installation Program Overview	A54
Table IX-1: P. 144 Problems Anticipated, Consent Decree Interpretation Issues in Discussion by the Parties	A56
Table IX-2: Paragraph 115 Stockbridge Agreed Exercise Activities	A57
Table IX-3: Paragraph 116 Rescheduled TTXs and FDEs March-June 2020	A58
Table IX-4: Paragraph 116 Rescheduled Community Outreach Sessions April – June 2020	A59
Table IX-5: Section H Paragraph 174 Force Majeure Notifications	A60
Table IX-6: P. 145 List of Potential Non-Compliances	A61
Table IX-7: P. 146 Discharges from a Lakehead System Pipeline	A62
Table IX-8: P. 147 Update on Discharges from a Lakehead System Pipeline	A63

Introduction

The following 2 pages are Table Intro-1: Implemented Requirements per P. 203(i).

Introduction

Table Intro-1: Implemented Requirements per P. 203(i)			
CD Section and Paragraph	Short description	Reported in	Enbridge status
Section B P. 21	No operation of original US Line 6B	SAR1	Complete
Section B P. 23	Line 10 evaluation	SAR1-SAR4	Complete
Section E P. 69.a; 69.b; 69.c	Biota Investigation Work Plan, report, and implementation	SAR1-SAR4	Complete
Section E P. 70.a; 70.b	Line 5 ILI corrosion, circumferential crack, and geometric features	SAR1	Complete
Section E P. 71.a; 71.b	Line 5 ILI axially-aligned crack features or hydrotest	SAR1	Complete
Section F P. 77.a-c	Updated OneSource within 365 days of CD Effective Date per requirements	SAR1	Complete
Section G P. 79 80	Assessment of Alternative Leak Detection Technologies and report	SAR1	Complete
Section G P. 81-83	Report on Feasibility of Installing External Leak Detection System at the Straits of Mackinac	SAR1-SAR2	Complete
Section G P. 101	Transient-State Sensitivity Analysis	SAR1	Complete
Section H P. 115.b(1), 115.b(2), 115.b(3)	Cass Lake, Des Plaines, and Wisconsin River Agreed Exercises	SAR1-SAR6	Complete
Section H P. 117.c	Straits of Mackinac Control Points (CPs)	SAR3	Complete
Section H P. 119.e	Redacted Lakehead System Integrated Contingency Plans (ICPs) and Straits of Mackinac Tactical Response Plan to Area and Sub-Area Committees	SAR1	Complete

Table Intro-1: Implemented Requirements per P. 203(i)			
CD Section and Paragraph	Short description	Reported in	Enbridge status
Section H P. 119.f	Unredacted electronic copies of the Lakehead ICPs	SAR1	Complete
Section H P. 119.g	Lakehead System map of prepositioned emergency response equipment and complete inventory to EPA, Area Committees, and Sub-Area Committees	SAR1	Complete
Section H P. 119.i	Public copies of Enbridge Inland Spill Response Guide on website	SAR1	Complete
Section J P. 125	Retain ITP	SAR1	Complete
Section J P. 127.a-e	ITP candidates and eligibility terms	SAR1	Complete
Section J P. 129	EPA approves ITP	SAR1	Complete
Section J P. 131	Enbridge provides agreement to the ITP	SAR1	Complete
Section J P. 133.b	Enbridge provides response to ITP's Verification Report	SAR4	Complete

Section A

There are no tables associated with Section A.

Section B

The following 7 pages are Table B-1: Permits/Approvals Required for Line 3 Replacement Project (U.S.).

Section B

Table B-1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)			
Unit of Government	Type of Application	Reason Required	Permit Status
U.S. Army Corps of Engineers ("USACE") – St. Paul District	Section 404/10 Individual Permit	Authorizes discharge of dredged and fill material into waters of the United States, including wetlands, and crossing of navigable waters of the United States; USACE has engaged Tribes through its regulatory process	MN: Application Submitted WI: Received
USACE – Omaha District	Section 404/10 Nationwide Permit	Authorizes discharge of dredged and fill material into waters of the United States, including wetlands, and crossing of navigable waters of the United States	Under Review
USACE – St. Paul District	Section 408 Authorization	Authorizes crossing of USACE civil works projects	Authorization Request Submitted
State Historic Preservation Office ("SHPO")	National Historic Preservation Act ("NHPA") Section 106 Clearance	Ensures adequate consideration of impacts to significant cultural resources but especially National Register of Historic Places ("NRHP")-eligible within the lead federal agency Area of Potential Effect ("APE"). SHPOs and Tribal Historic Preservation Offices are engaged through the USACE Section 404/10 process	MN: Consultation Ongoing ND: Consultation Complete WI: Consultation Complete
U.S. Fish & Wildlife Service ("USFWS")	Section 7 Endangered Species Act ("ESA") Consultation (federal threatened or endangered species)	Establishes conservation measures and authorizes, as needed, take of ESA-listed species; the USFWS is engaged through the USACE Section 10/404 process	MN: Consultations Complete ND: Consultation Complete WI: Consultation Complete
	Bald Eagle Nest Disturbance Permit	Allows for disturbance of a known bald eagle nest in proximity to construction activities	ND: Permit Received MN: Permit Received

Table B-1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)			
Unit of Government	Type of Application	Reason Required	Permit Status
Bureau of Indian Affairs ("BIA")	Grant of Right-of-Way	Enbridge applied for easement approval to cross the Fond du Lac Reservation along the routing authorized by the MPUC's Route Permit order	Easement granted May 1, 2020 ¹
Fond du Lac Band of Lake Superior Chippewa ("FdL")	Section 401 Water Quality Certification ("WQC")	Section 401 WQC required to issue the USACE Section 404/10 Permit	Received
	Standard Wetland Activity Permit	Authorizes impacts to wetlands and waterbodies within the external boundaries of the Reservation	Received
	Land Use Permit	Authorizes permitted uses in zoning districts within the Reservation	Application being prepared for submittal
Minnesota Public Utilities Commission ("MPUC")	Certificate of Need	Determines need for the pipeline, including questions of size, type and timing	Previously issued, then deemed ineffective pending completion of the remand process to update EIS to include spill analysis required by Minnesota Court of Appeals' June 3, 2019 decision. Following completion of spill modeling, the MPUC deemed the second revised EIS adequate and restored the Certificate of Need by vote on Feb. 3, 2020 and by order issued on May 1, 2020.

Table B-1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)			
Unit of Government	Type of Application	Reason Required	Permit Status
	Route Permit	Authorizes construction of the pipeline along a specific route, subject to certain conditions	Previously issued, then deemed ineffective pending completion of the remand process to update the EIS to include spill analysis required by Minnesota Court of Appeals' June 3, 2019 decision. Following completion of spill modeling, the MPUC deemed the second revised EIS adequate and restored the Route Permit by vote on Feb. 3, 2020 and by order issued on May 1, 2020.
Minnesota Department of Natural Resources ("MDNR")	License to Cross Public Waters	50-year license that allows for crossing of public waters with proposed utility	Application Submitted
	Work in Public Waters Permit	Authorizes in-water activities in public waters located on private lands	Applications Submitted
	License to Cross Public Lands	50-year license that allows for crossing of public lands with proposed utility	Application Submitted
	Short-term Leases	Authorizes activities such as construction dewatering, water appropriation, and discharge on MDNR-managed lands	Applications Submitted
	Access Roads Leases	Authorizes use of MDNR-managed access roads during construction and/or operation	Applications Submitted
	Endangered Species Permit	Outlines plans for avoidance, minimization, and mitigation of take of state-listed flora species and authorizes take of individuals	Application Submitted
	Gully 30 Calcareous Fen Management Plan ("FMP") Authorization	Outlines the site-specific construction, restoration, and monitoring requirements for this wetland crossing	Plan Submitted

Table B-1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)			
Unit of Government	Type of Application	Reason Required	Permit Status
	Individual Water Appropriation Permit for Construction Dewatering	Authorizes withdrawal of groundwater associated with dewatering of trench and excavations	Application Submitted
	Individual Water Appropriation Permit for HDD/Hydrostatic Testing	Authorizes withdrawal and use of water from surface sources to support horizontal directional drills ("HDDs"), hydrostatic testing, and dust suppression	Application Submitted
	Individual Water Appropriation Permit for Dust Suppression	Authorizes withdrawal and use of water from sources to support fugitive dust control	Application Submitted
	Individual Water Appropriation Permit for Construction Dewatering at Gully 30 Calcareous Fen	Authorizes withdrawal of groundwater associated with dewatering of excavations at the Gully 30 Calcareous Fen in accordance with the FMP	Application Submitted
Minnesota Pollution Control Agency ("MPCA")	Section 401 WQC and Antidegradation Assessment	Section 401 WQC required to issue the USACE Section 404/10 Permit	Application Submitted
	Clearbrook Terminal Air Quality Permit – Capped Emissions Permit	Authorizes construction and operation at the modified Clearbrook Terminal	Application Submitted
	National Pollutant Discharge Elimination System ("NPDES") Industrial Hydrostatic Discharge Permit and Antidegradation Analysis	Authorizes discharge of water from hydrostatic testing activities	Application Submitted

Table B-1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)			
Unit of Government	Type of Application	Reason Required	Permit Status
	NPDES Construction Stormwater General Permit	Authorizes ground disturbance with approved protection measures to manage soil erosion and stormwater discharge on construction site; and removal of water that may accumulate in pipeline trench	To Be Filed 30 days prior to construction start
Minnesota Department of Agriculture ("MDA")	Agricultural Protection Plan ("APP")	Establishes measures for agricultural protection	Approved by MDA
Minnesota Department of Transportation ("MnDOT")	Road Crossing Permits	Authorizes crossings of state jurisdictional roadways	Received
	Temporary access/entrance	Authorizes access to private lands during construction from state land	Received
Red Lake, Two Rivers, and Middle-Snake Watershed Districts	Watershed District Permits	Authorizes crossing of legal drains and ditches within watershed	Received
Mississippi Headwaters Board	Compatibility Evaluation	Submittal ensures project crossings align with Minnesota Statutes 116C.57 subd.2c	Consultation Ongoing
Minnesota Department of Drinking Water Supply Management Areas ("DWSMAs")	Notification of crossing of DWSMAs	To ensure appropriate protective measures are implemented	Consultation Ongoing
North Dakota State Water Commission ("NDSWC")	Sovereign Lands Permit	Authorizes crossing of state Sovereign Lands and navigable waters	Received
North Dakota Department of Health ("NDDH")	Section 401 WQC	Section 401 WQC required to issue the USACE Section 404/10 Permit	Received

Table B-1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)			
Unit of Government	Type of Application	Reason Required	Permit Status
	Construction Stormwater General Permit	Coverage under General Permit NDR10-0000 authorizes ground disturbance with approved protection measures to manage soil erosion and stormwater discharge on construction site	Received
	Temporary Dewatering / Hydrostatic Discharge Permit	Coverage under General Permit NDG-0700000 authorizes for temporary dewatering and hydrostatic test discharge activities	Received
Pembina County	Pembina County Floodplain Permit	Authorizes crossing of Pembina County floodplains	Received
North Dakota Game and Fish ("NDGF")	Dunklee Wildlife Management Area ("WMA") Consultation	Consult with NDGF to identify special seeding or restoration measures on WMA	Consultations Ongoing
Wisconsin Department of Natural Resources ("WDNR")	Chapter 30 Wetland Individual Permit / NR 103 Wetland Permit / WQC	Authorizes impacts to wetlands and waterbodies; Section 401 WQC required to issue the USACE Section 404/10 Permit	Received
	Protected Species Consultation and Incidental Take Permit	Outlines plans for avoidance, minimization, and mitigation of take of state-listed flora and fauna species and authorizes take of individual flora species	Received
	Superior Terminal Air Permit	Authorizes construction and operation at the modified Superior Terminal	Received
Wisconsin Coastal Management Program ("WCMP")	Consistency Review	Authorizes activities within the Coastal Management Zone	Received
City of Superior	Land Disturbing Permit – Pipeline and Superior Terminal	Authorizes ground disturbance with approved protection measures to manage soil erosion and stormwater discharge on construction site	Received

Table B-1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)			
Unit of Government	Type of Application	Reason Required	Permit Status
	Post-Construction Stormwater Management – Pipeline	To establish long-term, post construction runoff management requirements	Received

TABLE NOTE:

¹ This Grant of a Right-of-Way certificate extends and modifies an existing easement for Enbridge Energy pipeline numbers 1, 2, 3, 4, and 67, and Southern Lights Line 13, as well as the repair of Line 4 within the exterior boundaries of the Fond du Lac Reservation in Carlton and St. Louis Counties, Minnesota. Enbridge submitted cultural resources survey data, valuation appraisals, and allotment easement consents to BIA in support of the application.

The following 1 page is Table B-2: Line 3 Construction Milestone Schedule.

Table B-2: Line 3 Construction Milestone Schedule		
Line 3 Milestone	Status	Notes
Mainline Design Reports	Completed before Q3, 2015	
Facilities Design	Completed Q1 2017	Design was updated to account for route modifications, changes to external codes and regulations, etc.
Procurement for major items – pipe, valves, transformers, etc.	Complete	
Line 3 Construction – Segment 18 Wisconsin	Completed Q1 2018	
Segment 18 Tie-in	May 25, 2018	Commissioning of pipe segment completed May 25, 2018.
Superior Terminal Construction	Substantially complete	
Execution of Mainline and Facilities Construction Contracts	Complete	
Line 3 Construction Start – North Dakota + Minnesota	Projected 2020	Pending permits. Note that a segment of Line 3 near the U.S.-Canada border in North Dakota has already been replaced.
Line 3 Construction Complete	TBD	Completion date dependent on timing of issuance of permits.

The following 1 page is Table B-3: P. 22.d(3) Original US Line 3 Biocide Treatments.

Table B-3: P. 22.d(3) Original US Line 3 Biocide Treatments		
Segment	Type of Tool Run	Completion Date (MM/DD/YYYY)
Gretna to Clearbrook	Biocide treatment	02/26/2020
Clearbrook to Superior	Biocide treatment	03/16/2020

TABLE NOTE:

All Original US Line 3 Biocide Treatments to date meet the requirements set forth in Subparagraph 22.d.(3) of the Consent Decree

Section C

There are no tables associated with Section C.

Section D

The following 2 pages are 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 10.m

Table D-1: P. 28.a-b ILI Runs Completed During this Reporting Period						
Tool Run ID	Line	Segment	Tool	Pull Date	Threat Monitored	Required Completion Date
4506	02		Proton	5/7/2020	Crack	9/22/2020
6367	02		Proton	12/6/2019	Crack	9/14/2020
6368	02		Proton	12/16/2019	Crack	9/14/2020
6581	03		UCMp	3/23/2020	Corrosion	6/2/2020
6581	03		UCMp	3/23/2020	Crack	6/30/2020
6606	03		MFL4	5/7/2020	Corrosion	6/2/2020
10052	03		MFL4	5/22/2020	Corrosion	7/13/2020
10052	03		MFL4	5/22/2020	Geometry	7/13/2020
6610	04		Deformation	2/18/2020	Geometry	4/26/2021
6582	04		MFL DuDi	3/11/2020	Corrosion	5/9/2022
6452	04		Deformation	2/19/2020	Geometry	4/27/2022
6643	04		Deformation	1/10/2020	Geometry	2/3/2020
6485	04		Deformation	1/14/2020	Geometry	2/10/2020
6487	04		MFL DuDi	1/24/2020	Corrosion	4/9/2020
6488	04		MFL DuDi	2/11/2020	Corrosion	7/18/2022
6549	04		Deformation	1/7/2020	Geometry	3/22/2021
6607	04		MFL DuDi	2/26/2020	Corrosion	5/3/2021
6539	04		MFL4	2/27/2020	Corrosion	5/4/2020
6636 ¹	05		MFL4	1/14/2020	Corrosion	3/12/2020
6636 ¹	05		MFL4	1/14/2020	Geometry	2/19/2020 ²
6563	05		UCc	2/5/2020	Crack	3/5/2020
6579	05		GEMINI	3/4/2020	Corrosion	1/24/2022
6579	05		GEMINI	3/4/2020	Geometry	1/24/2022
6609	05		GEMINI	1/22/2020	Corrosion	3/14/2022
6609	05		GEMINI	1/22/2020	Geometry	1/24/2022
6635 ³	05		MFL4	1/17/2020	Corrosion	3/13/2020
6635 ³	05		MFL4	1/17/2020	Geometry	2/20/2020 ⁴

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-1: P. 28.a-b ILI Runs Completed During this Reporting Period						
Tool Run ID	Line	Segment	Tool	Pull Date	Threat Monitored	Required Completion Date
6560	05		UCc	2/7/2020	Crack	3/6/2020
6449	10		Eclipse	5/11/2020	Crack	9/21/2020
6491	10		Eclipse	5/12/2020	Crack	7/27/2020
6504	67		GEMINI	5/14/2020	Corrosion	6/3/2020
6504	67		GEMINI	5/14/2020	Geometry	6/3/2020
6503	67		UC	5/21/2020	Crack	7/24/2020
6416	78		UC	4/21/2020	Crack	6/24/2020
6418	78		CD+	1/16/2020	Crack	3/13/2020

TABLE NOTE:

¹ Tool Run ID was revised from 6565 to 6636.

² Required Completion Date in SAR5 was incorrectly reported as 3/12/2020 but above table shows the correct Required Completion Date of the Geometry ILI.

³ Tool Run ID was revised from 6562 to 6635.

⁴ Required Completion Date in SAR5 was incorrectly reported as 3/13/2020 but above table shows the correct Required Completion Date of the Geometry ILI.

The following 1 page is Table D-2: P. 28.c Incomplete or Invalid ILIs and Rerun Dates.

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-2: P. 28.c Incomplete or Invalid ILIs and Rerun Dates								
Tool Run ID	Line	Segment	Tool	Inspection Deadline	Pull Date	Date of DQA Notification	Rerun Tool Run ID	Rerun Date
6606	03		GEO	6/2/2020	5/7/2020	5/14/2020	10008	FR
6605	03		MFL4	7/13/2020	4/24/2020	5/1/2020	10052	5/22/2020
6605	03		GEO	7/13/2020	4/24/2020	5/1/2020	10052	5/22/2020
6604	03		DUO CD	7/20/2020	5/4/2020	5/11/2020	10001	FR

The following 2 pages are Table D-3: P. 29 12-Month Lakehead ILI Schedule (May 23, 2020 – May 22, 2021).

Table D-3: P. 29 12-Month Lakehead ILI Schedule (May 23, 2020 – May 22, 2021) ¹					
Run ID	Line	Segment	Tool	Threat Monitored	Required Completion Date ²
4507 ³	02		Proton	Crack	9/21/2020
10008	03		MFL4	Geometry	6/2/2020
10001	03		DUO CD	Crack	7/20/2020
6729	04		MFL DuDi	Corrosion	2/5/2021 ⁴
6674	04		DuDi UCM	Corrosion	2/5/2021
6738	04		MFL DuDi	Corrosion	2/6/2023
6486	04		DuDi UCM	Corrosion	2/27/2023
6486	04		DuDi UCM	Crack	8/27/2020
6736	04		Deformation	Geometry	4/6/2021
6737	04		MFL DuDi	Corrosion	3/29/2021
6739	04		Deformation	Geometry	4/5/2021
6740	04		MFL DuDi	Corrosion	5/5/2021
6694	05		MFL4	Corrosion	1/13/2021
6694	05		MFL4	Geometry	1/13/2021
6693	05		UCc	Crack	2/4/2021
6593	05		CD+	Crack	4/20/2022
6743	05		GEMINI	Corrosion	4/11/2022
6743	05		GEMINI	Geometry	4/11/2022
6667	05		MFL4	Corrosion	1/19/2021
6667	05		MFL4	Geometry	1/19/2021
6666	05		UCc	Crack	2/8/2021
6578	06A		GeoPig	Geometry	3/9/2022
6668	10		GEMINI	Corrosion	6/4/2021
6668	10		GEMINI	Geometry	6/4/2021
6691	10		UMP	Corrosion	6/28/2021
6692	10		MFL4	Corrosion	7/12/2021
6692	10		MFL4	Geometry	5/17/2021
6718	10		UCh	Crack	5/14/2021
6719	10		MFL4	Corrosion	5/14/2021
6719	10		MFL4	Geometry	5/14/2021
6728	10		USWM	Corrosion	5/14/2021
6443	14		MFL4	Corrosion	1/27/2021
6443	14		MFL4	Geometry	1/6/2021

Table D-3: P. 29 12-Month Lakehead ILI Schedule (May 23, 2020 – May 22, 2021) ¹					
Run ID	Line	Segment	Tool	Threat Monitored	Required Completion Date ²
6742	14		Eclipse	Crack	7/26/2021
6553	14		Eclipse	Crack	1/19/2021
6498	14		MFL4	Corrosion	1/15/2021
6498	14		MFL4	Geometry	1/15/2021
6555	65		CD+	Crack	4/6/2021
6744	65		GEMINI	Corrosion	5/3/2021
6744	65		GEMINI	Geometry	5/3/2021

TABLE NOTE:

¹ Line 62 is idle therefore ILIs do not need to be run on that line while it remains out of operation; there is no ILI scheduled for Line 62 for this 12-month period. (More detail is available in SAR2, which was submitted on July 18, 2018).

² ILI tools will be scheduled/run prior to the Required Completion Date. The Required Completion Dates comply with all applicable laws and regulations in addition to the Consent Decree requirements and requirements found in the "Stipulation and Agreement Regarding Assessment and Payment of Stipulated Penalties Relating to Timeliness of Certain In-Line Inspection" filed with the Court on May 2, 2018.

³ Line 2 crack ILI deadline is calculated based on the completion of the 2015 Hydrostatic Testing, as stipulated in the "Stipulation and Agreement Regarding Assessment and Payment of Stipulated Penalties Relating to Timeliness of Certain In-Line Inspection".

⁴ Required Completion Date in SAR5 was incorrectly reported as 3/15/2021 but above table shows the correct Required Completion Date of the ILI.

The following 2 pages are Table D-4: P. 30 Changes to Previous 12-Month ILI Schedule (November 23, 2019 to November 22, 2020).

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-4: P. 30 Changes to Previous 12-Month ILI Schedule (November 23, 2019 to November 22, 2020)							
Original Run ID	Revised Run ID	Line	Segment Name	Tool	Threat Monitored	Required Completion Date	Schedule Revision Comments
6606	10008	03		MFL4	Geometry	6/2/2020	Failed Run, run ID revised to 10008 and it was completed successfully in June 2020
6605	10052	03		MFL4	Corrosion	7/13/2020	Failed Run, run ID revised to 10052 and it was completed successfully in May 2020
6605	10052	03		MFL4	Geometry	7/13/2020	Failed Run, run ID revised to 10052 and it was completed successfully in May 2020
6604	10001	03		DUO CD	Crack	7/20/2020	Failed Run, run ID revised to 10001 and it will be completed in June 2020
6489	6738	04		MFL DuDi	Corrosion	2/6/2023	Deferred to the new program scheduled to be run before the deadline
6550	6736	04		Deformation	Geometry	4/6/2021	Deferred to the new program scheduled to be run before the deadline
6052	6643	04		Deformation	Geometry	2/3/2020	Run ID revised to 6643, the tool Run was completed successfully in January 2020
6453	6729	04		MFL DuDi	Corrosion	2/5/2021 ¹	Deferred to the new program scheduled to be run before the deadline
6551	6737	04		MFL DuDi	Corrosion	3/29/2021	Deferred to the new program scheduled to be run before the deadline
6554	6739	04		Deformation	Geometry	4/5/2021	Deferred to the new program scheduled to be ran before the deadline
6501	6740	04		MFL DuDi	Corrosion	5/5/2021	Deferred to the new program scheduled to be ran before the deadline
6565	6636	05		MFL4	Geometry	3/12/2020	Run ID revised to 6636, the tool Run was completed successfully in January 2020
6565	6636	05		MFL4	corrosion	3/12/2020	Run ID revised to 6636, the tool Run was completed successfully in January 2020

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-4: P. 30 Changes to Previous 12-Month ILI Schedule (November 23, 2019 to November 22, 2020)							
Original Run ID	Revised Run ID	Line	Segment Name	Tool	Threat Monitored	Required Completion Date	Schedule Revision Comments
6562	6635	05		MFL4	Geometry	3/13/2020	Run ID revised to 6635, the tool Run was completed successfully in January 2020
6562	6635	05		MFL4	Corrosion	3/13/2020	Run ID revised to 6635, the tool Run was completed successfully in January 2020
6577	6743	05		GEMINI	Corrosion	4/11/2022	Deferred to the new program scheduled to be run before the deadline
6577	6743	05		GEMINI	Geometry	4/11/2022	Deferred to the new program scheduled to be run before the deadline
6557	6728	10		USWM	Corrosion	5/14/2021	Deferred to the new program scheduled to be run before the deadline
6547	6742	14		Eclipse	Crack	7/26/2021	Deferred to the new program scheduled to be run before the deadline
6556	6744	65		GEMINI	Corrosion	5/3/2021	Deferred to the new program scheduled to be run before the deadline
6556	6744	65		GEMINI	Geometry	5/3/2021	Deferred to the new program scheduled to be run before the deadline

TABLE NOTE:

¹ Required Completion Date in SAR5 was incorrectly reported as 3/15/2021 but above table shows the correct Required Completion Date of the ILI.

The following 1 page is Table D-5: P. 31 Incomplete or Invalid ILIs and Rerun Dates.

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-5: P. 31 Incomplete or Invalid ILIs and Rerun Dates								
Tool Run ID	Line	Segment	Tool	Inspection Deadline	Pull Date	Date of DQA Notification	Rerun Tool Run ID	Rerun Date
6606	03		MFL4	6/2/2020	5/7/2020	5/14/2020	10008	FR
6605	03		MFL4	7/13/2020	4/24/2020	5/1/2020	10052	5/22/2020
6605	03		GEO	7/13/2020	4/24/2020	5/1/2020	10052	5/22/2020
6604	03		DUO CD	7/20/2020	5/4/2020	5/11/2020	10001	FR

The following 1 page is Table D-6: P. 31 ILIs with Minor Tool Performance Deficiencies.

Table D-6: P. 31 ILIs with Minor Tool Performance Deficiencies ¹							
Tool Run ID	Line	Segment	Tool	Inspection Deadline	Pull Date	ILI Tool Run Accepted?	Further Action Required?
6610	4		Deformation	4/26/2021	2/18/2020	Yes	No
6643	4		Deformation	2/3/2020	1/10/2020	Yes	No
6485	4		Deformation	2/10/2020	1/14/2020	Yes	No
4519	4		Deformation	2/10/2020	9/13/2019	Yes	No
6549	4		Deformation	3/22/2021	1/7/2020	Yes	No
4676	6A		DUO CD	4/6/2020	8/23/2019	Yes	No
4612	61		UC	11/14/2019	8/20/2019	Yes	No

TABLE NOTE:

¹ Table includes ILIs that occurred in SAR5, Enbridge accepted the tool runs and their ILI Initial Report receipts and subsequent Data Quality Review and ILI assessment occurred in SAR6.

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

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-7: P. 32.a-c Valid In-line Inspection Runs with Initial ILI Report Received							
Tool Run ID	Line	Segment	Tool	Report Type	Report Due Date	Report Received Date	Report Received On Time?
4503	01		CD+	Crack	2/24/2020	2/24/2020	Yes
6367	02		Proton	Crack	4/6/2020	4/6/2020	Yes
6368	02		Proton	Crack	4/14/2020	4/14/2020	Yes
6610	04		Deformation	Geometry	4/20/2020	4/20/2020	Yes
6452	04		Deformation	Geometry	4/20/2020	4/20/2020	Yes
6643	04		Deformation	Geometry	3/10/2020	3/9/2020	Yes
6485	04		Deformation	Geometry	3/16/2020	3/13/2020	Yes
6487	04		MFL DuDi	Corrosion	4/23/2020	4/23/2020	Yes
6488	04		MFL DuDi	Corrosion	5/11/2020	5/11/2020	Yes
6549	04		Deformation	Geometry	3/9/2020	3/5/2020	Yes
6636	05		MFL4	Corrosion	4/13/2020	4/13/2020	Yes
6636	05		MFL4	Geometry	4/13/2020	4/13/2020	Yes
6609	05		GEMINI	Corrosion	4/21/2020	4/21/2020	Yes
6609	05		GEMINI	Geometry	4/21/2020	4/21/2020	Yes
6635	05		MFL4	Corrosion	4/16/2020	4/16/2020	Yes
6635	05		MFL4	Geometry	4/16/2020	4/16/2020	Yes
4674	06A		USWM+	Corrosion	12/26/2019	12/24/2019	Yes
4676	06A		DUO CD	Crack	12/23/2019	12/20/2019	Yes
4612	61		UC	Crack	12/18/2019	12/16/2019	Yes
4613	64		UC	Crack	1/15/2020	1/15/2020	Yes
6418	78		CD+	Crack	5/15/2020	5/15/2020	Yes

The following 1 page is Table D-8: P. 33.b ILIMRR Version 8.2 Table 3 Inside Diameter Priority Notification Criteria for Ovalities and Other Deformation Features.

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-9: P. 33.c-d Priority Features.

Table D-9: P. 33.c-d Priority Features											
Run ID	Line	Segment	Technology	Girth Weld (GW)	Date Priority Notification Received	Date Priority Notification Reviewed	Date of Discovery/ Date Features Added to Dig List ²	Pressure Restriction Required?	Date Pressure Restriction Imposed ²	Repair/ Mitigation Deadline	Date of Repair/ Mitigation
6490 ¹	10		Line Proving	20390	5/13/2020	5/14/2020	5/14/2020	N/A	N/A	N/A	N/A

TABLE NOTE:

¹ The Priority Notification feature was confirmed to be previously repaired, thus no excavation was required.

² "N/A" in this table indicates that the features were not applicable to be added to the dig list (i.e. previously repaired or mitigated, or not did not meet repair or mitigation criteria) or that a pressure restriction was not required.

The following 2 pages are Table D-10: P. 34.a Preliminary Review of Initial ILI Reports.

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-10: P. 34.a Preliminary Review of Initial ILI Reports									
Tool Run ID	Line	Segment	Tool	Report Received Date	Report Type	Date Preliminary Review Required	Date Preliminary Review Completed ¹	Review Completed on Time?	Data Quality Concerns?
4503	01		CD+	2/24/2020	Crack	3/25/2020	3/20/2020 ²	Yes	Yes
6367	02		Proton	4/6/2020	Crack	5/6/2020	5/5/2020	Yes	Yes
6368	02		Proton	4/14/2020	Crack	5/14/2020	5/11/2020	Yes	Yes
6395	03		DUO CD	10/29/2019	Crack	11/29/2019	11/26/2019 ²	Yes	No
6393	03		DUO CD	11/15/2019	Crack	12/15/2019	12/11/2019 ²	Yes	No
6610	04		Deformation	4/20/2020	Geometry	5/20/2020	5/12/2020	Yes	Yes
6452	04		Deformation	4/20/2020	Geometry	5/20/2020	5/12/2020	Yes	Yes
6643	04		Deformation	3/9/2020	Geometry	4/8/2020	3/31/2020 ²	Yes	Yes
6485	04		Deformation	3/13/2020	Geometry	4/13/2020	4/2/2020 ²	Yes	Yes
6487	04		MFL DuDi	4/23/2020	Corrosion	5/26/2020	5/22/2020	Yes	No
4519	04		Deformation	11/12/2019	Geometry	12/12/2019	12/12/2019 ²	Yes	Yes
6549	04		Deformation	3/5/2020	Geometry	4/6/2020	3/23/2020 ²	Yes	Yes
6636	05		MFL4	4/13/2020	Corrosion	5/13/2020	5/11/2020	Yes	Yes
6636	05		MFL4	4/13/2020	Geometry	5/13/2020	5/11/2020	Yes	Yes
4537	05		UCx	11/22/2019	Crack	12/23/2019	12/23/2019 ²	Yes	Yes
6609	05		GEMINI	4/21/2020	Corrosion	5/21/2020	5/21/2020	Yes	No
6609	05		GEMINI	4/21/2020	Geometry	5/21/2020	5/21/2020	Yes	Yes
6635	05		MFL4	4/16/2020	Geometry	5/18/2020	5/11/2020	Yes	Yes
6635	05		MFL4	4/16/2020	Corrosion	5/18/2020	5/11/2020	Yes	Yes
4674	06A		USWM+	12/24/2019	Corrosion	1/23/2020	1/23/2020 ²	Yes	Yes
4544	06A		Vectra	11/13/2019	Corrosion	12/13/2019	12/13/2019 ²	Yes	No
4676	06A		DUO CD	12/20/2019	Crack	1/21/2020	1/20/2020 ²	Yes	Yes

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-10: P. 34.a Preliminary Review of Initial ILI Reports									
Tool Run ID	Line	Segment	Tool	Report Received Date	Report Type	Date Preliminary Review Required	Date Preliminary Review Completed ¹	Review Completed on Time?	Data Quality Concerns?
4612	61		UC	12/16/2019	Crack	1/15/2020	1/15/2020 ²	Yes	Yes
4613	64		UC	1/15/2020	Crack	2/14/2020	2/6/2020 ²	Yes	Yes

TABLE NOTE:

¹ "FR" indicates that this information is outside the reporting window of this SAR and will be included in a future SAR.

² Prior to the 5th modification of the Consent Decree, the "PI Listing Approval Request Email" was used to report this date. Commencing on April 1, 2020 any Initial ILI report received after this date, based upon the 5th modification of the Consent Decree and as requested by the DOJ, the "PI Listing Approval Confirmation Email" will be used to report this date. Refer to P. 144 [Section D] Timing Change from 30+5 to 25+5 due to Fifth Modification – Various Paragraphs for more details.

The following 2 pages are Table D-11: P. 34.c ILI Reports with Reporting and/or Data Quality Issues.

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-11: P. 34.c ILI Reports with Reporting and/or Data Quality Issues								
Tool Run ID	Line	Segment	Tool	Report Type	Initial Report Received Date	Date Preliminary Review of Initial ILI Report Required	Date Preliminary Review of Initial ILI Report Completed	Data Quality Concerns Identified and Resolved
4503	1		USCD+	Crack	2/24/2020	3/25/2020	3/20/2020 ¹	Yes
6368	2		Proton	Crack	4/14/2020	5/14/2020	5/11/2020	Yes
6367	2		Proton	Crack	4/6/2020	5/6/2020	5/5/2020	Yes
6452	4		Deformation	Geometry	4/20/2020	5/20/2020	5/12/2020	Yes
6610	4		Deformation	Geometry	4/20/2020	5/20/2020	5/12/2020	Yes
6643	4		Deformation	Geometry	3/9/2020	4/8/2020	3/31/2020 ¹	Yes
6485	4		Deformation	Geometry	3/13/2020	4/13/2020	4/2/2020 ¹	Yes
4519	4		Deformation	Geometry	11/12/2019	12/12/2019	12/12/2019 ¹	Yes
6549	4		Deformation	Geometry	3/5/2020	4/6/2020	3/23/2020 ¹	Yes
6636	5		MFL4	Geometry	4/13/2020	5/13/2020	5/11/2020	Yes
6636	5		MFL4	Corrosion	4/13/2020	5/13/2020	5/11/2020	Yes
6609	5		GEMINI	Geometry	4/21/2020	5/21/2020	5/21/2020	Yes
6635	5		MFL4	Geometry	4/16/2020	5/18/2020	5/11/2020	Yes
6635	5		MFL4	Corrosion	4/16/2020	5/18/2020	5/11/2020	Yes
4537	5		UCx	Crack	11/22/2019	12/23/2019	12/23/2019 ¹	Yes
4676	6A		DuoCD	Crack	12/20/2019	1/21/2020	1/20/2020 ¹	Yes
4674	6A		USWM+	Corrosion	12/24/2019	1/23/2020	1/23/2020 ¹	Yes
4612	61		UC	Crack	12/16/2019	1/15/2020	1/15/2020 ¹	Yes
4613	64		UC	Crack	1/15/2020	2/14/2020	2/6/2020 ¹	Yes

TABLE NOTE:

¹ Prior to the 5th modification of the Consent Decree, the "PI Listing Approval Request Email" was used to report this date. Commencing on April 1, 2020 any Initial ILI report received after this date, based upon the 5th modification of the Consent Decree and as requested by the DOJ, the "PI Listing Approval Confirmation Email" will be used to report this date. Refer to P. 144 [Section D] Timing Change from 30+5 to 25+5 due to Fifth Modification – Various Paragraphs for more details.

The following 3 pages are 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	Tool	Pull Date	Report Type	Deadline to Complete All ILI Data Quality Evaluations	Quality Evaluations Completed Within 180 Days?
4503	01		CD+	10/27/2019	Crack	4/24/2020	Yes
6367	02		Proton	12/6/2019	Crack	6/3/2020	Yes
6368	02		Proton	12/16/2019	Crack	6/15/2020	Yes
4506	02		Proton	5/7/2020	Crack	11/3/2020	FR
6395	03		DUO CD	7/1/2019	Crack	12/30/2019	Yes
6396	03		MFL4	6/3/2019	Corrosion	12/2/2019	Yes
6396	03		MFL4	6/3/2019	Corrosion (Issue 2)	12/2/2019	Yes
6396	03		MFL4	6/3/2019	Geometry	12/2/2019	Yes
6581	03		UCMp	3/23/2020	Corrosion	9/21/2020	FR
6581	03		UCMp	3/23/2020	Crack	9/21/2020	FR
6606	03		MFL4	5/7/2020	Corrosion	11/3/2020	FR
6393	03		DUO CD	7/19/2019	Crack	1/15/2020	Yes
6394	03		MFL4	7/12/2019	Corrosion	1/8/2020	Yes
6394	03		MFL4	7/12/2019	Geometry	1/8/2020	Yes
1005 2	03		MFL4	5/22/2020	Corrosion	11/18/2020	FR
1005 2	03		MFL4	5/22/2020	Geometry	11/18/2020	FR
6582	04		MFL DuDi	3/11/2020	Corrosion	9/8/2020	FR
6610	04		Deformation	2/18/2020	Geometry	8/17/2020	Yes
6452	04		Deformation	2/19/2020	Geometry (Issue 2)	8/17/2020	Yes
6643	04		Deformation	1/10/2020	Geometry	7/8/2020	Yes
6485	04		Deformation	1/14/2020	Geometry	7/13/2020	Yes
6487	04		MFL DuDi	1/24/2020	Corrosion	7/22/2020	Yes
4519	04		Deformation	9/13/2019	Geometry	3/11/2020	Yes
6488	04		MFL DuDi	2/11/2020	Corrosion	8/10/2020	FR
6549	04		Deformation	1/7/2020	Geometry	7/6/2020	Yes
6607	04		MFL DuDi	2/26/2020	Corrosion	8/24/2020	FR
6539	04		MFL4	2/27/2020	Corrosion	8/25/2020	FR

Table D-12: P. 34.d Data Quality Evaluation Timelines							
Tool Run ID	Line	Segment	Tool	Pull Date	Report Type	Deadline to Complete All ILI Data Quality Evaluations	Quality Evaluations Completed Within 180 Days?
6563	05		UCc	2/5/2020	Crack	8/3/2020	FR
6636	05		MFL4	1/14/2020	Corrosion	7/13/2020	See Note 1
6636	05		MFL4	1/14/2020	Corrosion (Issue 2)	7/13/2020	Yes
6636	05		MFL4	1/14/2020	Geometry	7/13/2020	See Note 1
6636	05		MFL4	1/14/2020	Geometry (Issue 2)	7/13/2020	Yes
4537	05		UCx	7/25/2019	Crack	1/21/2020	Yes
4537	05		UCx	7/25/2019	Crack (Issue 2)	1/21/2020	Yes
6579	05		GEMINI	3/4/2020	Corrosion	8/31/2020	FR
6579	05		GEMINI	3/4/2020	Geometry	8/31/2020	FR
6609	05		GEMINI	1/22/2020	Corrosion	7/20/2020	Yes
6609	05		GEMINI	1/22/2020	Geometry	7/20/2020	Yes
6635	05		MFL4	1/17/2020	Corrosion	7/15/2020	See Note 1
6635	05		MFL4	1/17/2020	Corrosion (Issue 2)	7/15/2020	Yes
6635	05		MFL4	1/17/2020	Geometry	7/15/2020	See Note 1
6635	05		MFL4	1/17/2020	Geometry (Issue 2)	7/15/2020	Yes
4674	06A		USWM+	9/26/2019	Corrosion	3/24/2020	Yes
4674	06A		USWM+	9/26/2019	Corrosion (Issue 2)	3/24/2020	Yes
5369	06A		Vectra	6/7/2019	Corrosion	12/4/2019	Yes
4544	06A		Vectra	8/16/2019	Corrosion	2/12/2020	Yes
4676	06A		DUO CD	8/23/2019	Crack	2/19/2020	Yes
6449	10		Eclipse	5/11/2020	Crack	11/9/2020	FR
6491	10		Eclipse	5/12/2020	Crack	11/9/2020	FR

Table D-12: P. 34.d Data Quality Evaluation Timelines							
Tool Run ID	Line	Segment	Tool	Pull Date	Report Type	Deadline to Complete All ILI Data Quality Evaluations	Quality Evaluations Completed Within 180 Days?
4612	61		UC	8/20/2019	Crack	2/18/2020	Yes
6546	61		MFL-A	6/7/2019	Corrosion	12/4/2019	Yes
4613	64		UC	9/17/2019	Crack	3/16/2020	Yes
6503	67		UC	5/21/2020	Crack	11/17/2020	FR
6504	67		GEMINI	5/14/2020	Corrosion	11/10/2020	FR
6504	67		GEMINI	5/14/2020	Geometry	11/10/2020	FR
6418	78		CD+	1/16/2020	Crack	7/14/2020	FR
6416	78		UC	4/21/2020	Crack	10/19/2020	FR

TABLE NOTE:

“FR” indicates that this information is outside the reporting window of this SAR and will be included in a future SAR.

¹An incorrect Caliper detection specification was listed in Issue 1 of the ILI report. An Issue 2 ILI report was received to correct this discrepancy. The program was approved based on the Issue 1 ILI report as feature related information was not affected. Data Quality Evaluations related to both the Issue 1 and 2 ILI reports were completed within 180 Days of the ILI tool pull date.

The following 2 pages are Table D-13: P. 34.e Discrepancies between Two Successive ILI Runs.

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-13: P. 34.e Discrepancies between Two Successive ILI Runs

Tool Run ID	Line	Segment	Tool	Report Type	Severity Discrepancy?	Density Discrepancy?	Feature Type Discrepancy?
4503	01		CD+	Crack	No	Yes	Yes
6367	02		Proton	Crack	N/A	N/A	N/A
6368	02		Proton	Crack	N/A	N/A	N/A
6395	03		DUO CD	Crack	No	Yes	No
6581	03		UCMp	Corrosion	FR	FR	FR
6581	03		UCMp	Crack	FR	FR	FR
6393	03		DUO CD	Crack	No	No	No
6610	04		Deformation	Geometry	No	No	No
6582	04		MFL DuDi	Corrosion	FR	FR	FR
6452	04		Deformation	Geometry	No	No	No
6643	04		Deformation	Geometry	No	No	No
6485	04		Deformation	Geometry	No	No	No
6487	04		MFL DuDi	Corrosion	No	Yes	No
4519	04		Deformation	Geometry	No	No	No
6488	04		MFL DuDi	Corrosion	FR	FR	FR
6549	04		Deformation	Geometry	No	No	No
6607	04		MFL DuDi	Corrosion	FR	FR	FR
6539	04		MFL4	Corrosion	FR	FR	FR
6636	05		MFL4	Corrosion	No	No	No
6636	05		MFL4	Geometry	No	No	No
4537	05		UCx	Crack	No	Yes	No
6579	05		GEMINI	Corrosion	FR	FR	FR
6579	05		GEMINI	Geometry	FR	FR	FR
6609	05		GEMINI	Corrosion	No	Yes	No

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-13: P. 34.e Discrepancies between Two Successive ILI Runs							
Tool Run ID	Line	Segment	Tool	Report Type	Severity Discrepancy?	Density Discrepancy?	Feature Type Discrepancy?
6609	05		GEMINI	Geometry	No	No	No
6635	05		MFL4	Corrosion	No	No	No
6635	05		MFL4	Geometry	No	No	No
4674	06A		USWM+	Corrosion	No	Yes	Yes
4544	06A		Vectra	Corrosion	No	Yes	No
4676	06A		DUO CD	Crack	No	No	No
4612	61		UC	Crack	No	Yes	No
4613	64		UC	Crack	No	Yes	No
6418	78		CD+	Crack	FR	FR	FR

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

Table D-14: P. 37 Deadlines for Placing Features Requiring Excavation on the Dig List

Tool Run ID	Line	Segment	Tool	Threat Type	Pull Date	Burst Pressure Calculation Date	Remaining Life Calculation Date	Other Features Identified Date	SQuAD and QuAD Completion date	Number of Features Identified	Date All Features Added to Dig List	Within 180 Days of Tool Pull Date?	Within 5 Days of Calculations?
6367	L0002		PROTON	Crack	12/6/2019	5/5/2020	5/5/2020	5/5/2020	N/A	1	5/5/2020	Yes	Yes
6393	L0003		DUOCD	Crack	7/19/2019	12/11/2019 ²	12/11/2019 ²	12/11/2019 ²	N/A	14	12/12/2019	Yes	Yes
6487	L0004		MFLDUDI	Corrosion	1/24/2020	5/22/2020	5/22/2020	5/22/2020	5/22/2020	13	5/22/2020	Yes	Yes
6636	L0005		MFL4MFL	Corrosion	1/14/2020	5/11/2020	5/11/2020	5/11/2020	5/11/2020	1	5/11/2020	Yes	Yes
4537	L0005		UCX	Crack	7/25/2019	12/23/2019 ²	12/23/2019 ²	12/23/2019 ²	N/A	5	12/30/2019	Yes	Yes
6609	L0005		GEMINICAL	Geometry	1/22/2020	5/21/2020	5/21/2020	5/21/2020	5/21/2020	1	5/25/2020 ¹	Yes	Yes
4674	L0006A		USWM+	Corrosion	9/26/2019	1/23/2020 ²	1/23/2020 ²	1/23/2020 ²	1/23/2020 ²	28	1/28/2020	Yes	Yes
4544	L0006A		VECTRA	Corrosion	8/16/2019	12/13/2019 ²	12/13/2019 ²	12/13/2019 ²	12/13/2019 ²	10	12/16/2019	Yes	Yes
4676	L0006A		DUOCD	Crack	8/23/2019	1/20/2020 ²	1/20/2020 ²	1/20/2020 ²	N/A	13	1/24/2020	Yes	Yes

TABLE NOTE:

¹ See P. 144 for details regarding the Date All Features Added to Dig List.

² Prior to the 5th modification of the Consent Decree, the "PI Listing Approval Request Email" was used to report this date. Commencing on April 1, 2020 any Initial ILI report received after this date, based upon the 5th modification of the Consent Decree and as requested by the DOJ, the "PI Listing Approval Confirmation Email" will be used to report this date. Refer to P. 144 [Section D] Timing Change from 30+5 to 25+5 due to Fifth Modification – Various Paragraphs for more details.

The following 5 pages are Table D-15: P. 39.a-b FREs Repaired and Planned for Repair.

REDACTED SUBMITTAL -- PUBLIC COPY

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	Crack Features	Corrosion Features	Axial Grooving Features	Interacting Features	Geometry Features
25340	L0001		12010	4405	1/11/2020	1	0	0	0	0
25343	L0001		98280	4405	1/23/2020	1	0	0	0	0
25346	L0001		122610	4405	1/12/2020	1	0	0	0	0
25347	L0001		126590	4405	1/23/2020	1	0	0	0	0
25348	L0001		128650	4405	1/28/2020	1	0	0	0	0
25352	L0001		172170	4405	1/17/2020	1	0	0	0	0
25353	L0001		176630	4405	2/5/2020	1	0	0	0	0
25355	L0001		194840	4405	1/17/2020	1	0	0	0	0
27867	L0002		60210	6367	FR	1	0	0	0	0
24805 ¹	L0003		58670	3829	FR	0	1	0	0	0
26636	L0003		56530	6396	12/4/2019	0	1	0	0	0
26637	L0003		56850	6396	12/16/2019	0	1	0	0	0
26638	L0003		57690	6396	12/10/2019	0	2	0	0	0
26639	L0003		58620	6396	12/17/2019	0	1	0	0	0
26640	L0003		59010	6396	1/9/2020	0	1	0	0	0
26641	L0003		59670	6396	2/20/2020	0	1	0	0	0
26642	L0003		60300	6396	2/18/2020	0	1	0	0	0
26644	L0003		154460	6396	2/10/2020	0	1	0	0	0
26465	L0003		183120	3711	12/6/2019	0	1	0	0	0
26794	L0003		63870	6393	FR	1	0	0	0	0
26795	L0003		71070	6393	FR	1	0	0	0	0
26796	L0003		148910	6393	FR	1	0	0	0	0
26797	L0003		150860	6393	FR	1	0	0	0	0
26798	L0003		151090	6393	FR	2	0	0	0	0
26799	L0003		152170	6393	FR	1	0	0	0	0
26800	L0003		152330	6393	FR	1	0	0	0	0
26801	L0003		152460	6393	FR	1	0	0	0	0

REDACTED SUBMITTAL -- PUBLIC COPY

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	Crack Features	Corrosion Features	Axial Grooving Features	Interacting Features	Geometry Features
26802	L0003		153550	6393	FR	1	0	0	0	0
26803	L0003		155980	6393	FR	1	0	0	0	0
26804	L0003		160430	6393	FR	1	0	0	0	0
26805	L0003		160810	6393	FR	1	0	0	0	0
26806	L0003		171730	6393	FR	1	0	0	0	0
26721	L0003		175050	6394	2/3/2020	0	1	0	0	0
26722	L0003		1129340	6394	1/23/2020	0	1	0	0	0
26723	L0003		1129880	6394	1/30/2020	0	1	0	0	0
26724	L0003		1133000	6394	1/25/2020	0	1	0	0	0
27910	L0004		129830	6487	FR	0	1	0	0	0
27911	L0004		130950	6487	FR	0	3	0	0	0
27912	L0004		133090	6487	FR	0	1	0	0	0
27913	L0004		134440	6487	FR	0	1	0	0	0
27914	L0004		137340	6487	FR	0	4	0	0	0
27915	L0004		142920	6487	FR	0	2	0	0	0
27916	L0004		146160	6487	FR	0	1	0	0	0
27869	L0005		1521	6636	FR	0	1	0	0	0
27066	L0005		147010	4537	5/18/2020	1	0	0	0	0
27067	L0005		147090	4537	5/16/2020	1	0	0	0	0
27069	L0005		1105210	4537	FR	1	0	0	0	0
27070	L0005		1153710	4537	5/14/2020	1	0	0	0	0
27071	L0005		1161650	4537	FR	1	0	0	0	0
27917	L0005		1142170	6609	FR	0	0	1	0	0
23941 ²	L0006A		1256490	4334	FR	0	1	0	0	0
24098 ³	L0006A		1226360	4334	5/12/2020	0	1	0	0	0
26676	L0006A		1166750	4443	2/12/2020	0	1	0	0	0
26677	L0006A		1205920	4443	2/18/2020	0	1	0	0	0

REDACTED SUBMITTAL -- PUBLIC COPY

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	Crack Features	Corrosion Features	Axial Grooving Features	Interacting Features	Geometry Features
26678	L0006A		280780	4443	3/4/2020	0	1	0	0	0
27307	L0006A		17600	4674	FR	0	1	0	0	0
27308	L0006A		62050	4674	FR	0	1	0	0	0
27309	L0006A		67480	4674	FR	0	1	0	0	0
27310	L0006A		95750	4674	FR	0	1	0	0	0
27311	L0006A		100340	4674	FR	0	1	0	0	0
27312	L0006A		108890	4674	FR	0	1	0	0	0
27313	L0006A		113560	4674	FR	0	1	0	0	0
27314	L0006A		163560	4674	FR	0	1	0	0	0
27315	L0006A		218990	4674	FR	0	1	0	0	0
27316	L0006A		237600	4674	Cancelled on 3/20/2020	0	1	0	0	0
27317	L0006A		252690	4674	FR	0	1	0	0	0
27318	L0006A		255180	4674	FR	0	1	0	0	0
27319	L0006A		265470	4674	FR	0	1	0	0	0
27320	L0006A		266950	4674	FR	0	1	0	0	0
27321	L0006A		267020	4674	FR	0	1	0	0	0
27322	L0006A		271950	4674	FR	0	1	0	0	0
27323	L0006A		273270	4674	5/21/2020	0	1	0	0	0
27324	L0006A		287530	4674	FR	0	1	0	0	0
27325	L0006A		290110	4674	FR	0	1	0	0	0
27326	L0006A		290200	4674	FR	0	1	0	0	0
27327	L0006A		291890	4674	5/22/2020	0	1	0	0	0
27328	L0006A		297890	4674	FR	0	1	0	0	0
27329	L0006A		298490	4674	FR	0	1	0	0	0
27330	L0006A		299670	4674	FR	0	1	0	0	0
27331	L0006A		300190	4674	Cancelled on 2/21/2020	0	1	0	0	0
27332	L0006A		301370	4674	FR	0	1	0	0	0

REDACTED SUBMITTAL -- PUBLIC COPY

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	Crack Features	Corrosion Features	Axial Grooving Features	Interacting Features	Geometry Features
27333	L0006A		302440	4674	FR	0	1	0	0	0
27334	L0006A		319530	4674	FR	0	1	0	0	0
26433	L0006A		122260	4804	2/14/2020	1	0	0	0	0
26434	L0006A		203270	4804	2/13/2020	1	0	0	0	0
26435	L0006A		210840	4804	2/8/2020	1	0	0	0	0
26438	L0006A		300610	4804	12/12/2019	1	0	0	0	0
26441	L0006A		307340	4804	1/12/2020	1	0	0	0	0
26632	L0006A		109850	5369	2/15/2020	0	1	0	0	0
26633	L0006A		300190	5369	1/31/2020	0	1	0	0	0
26634	L0006A		329710	5369	2/23/2020	0	1	0	0	0
26864	L0006A		710	4544	FR	0	1	0	0	0
26865	L0006A		84500	4544	3/11/2020	0	1	0	0	0
26866	L0006A		97160	4544	2/4/2020	0	1	0	0	0
26867	L0006A		163060	4544	FR	0	1	0	0	0
26868	L0006A		174110	4544	1/18/2020	0	0	0	1	0
26869	L0006A		182040	4544	3/7/2020	0	1	0	0	0
26870	L0006A		186660	4544	FR	0	2	0	0	0
26871	L0006A		195120	4544	Cancelled on 12/17/2019	0	1	0	0	0
26872	L0006A		244920	4544	2/29/2020	0	1	0	0	0
27264	L0006A		64280	4676	FR	1	0	0	0	0
27265	L0006A		65420	4676	FR	1	0	0	0	0
27266	L0006A		107770	4676	FR	1	0	0	0	0
27267	L0006A		136980	4676	1/25/2020	0	0	0	1	0
27268	L0006A		167150	4676	5/14/2020	1	0	0	0	0
27269	L0006A		168660	4676	FR	1	0	0	0	0
27270	L0006A		169690	4676	FR	1	0	0	0	0
27271	L0006A		169920	4676	FR	1	0	0	0	0

REDACTED SUBMITTAL -- PUBLIC COPY

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	Crack Features	Corrosion Features	Axial Grooving Features	Interacting Features	Geometry Features
27272	L0006A		179400	4676	FR	1	0	0	0	0
27273	L0006A		194800	4676	FR	1	0	0	0	0
27274	L0006A		206970	4676	FR	1	0	0	0	0
27275	L0006A		222140	4676	FR	1	0	0	0	0
27276	L0006A		248000	4676	5/16/2020	1	0	0	0	0
26243	L0006A		216270	4805	2/4/2020	0	1	0	0	0
26627	L0061		73610	6546	FR	0	1	0	0	0
26628	L0061		90360	6546	FR	0	1	0	0	0
26629	L0061		250590	6546	FR	0	1	0	0	0
24862 ⁴	L0001		121630	4045	6/7/2019	0	1	0	0	0
25349 ⁵	L0001		131300	4405	6/7/2019	1	0	0	0	0
26439 ⁶	L0006A		305690	4804	Cancelled on 11/15/2019	1	0	0	0	0
Total: 129						47	79	1	2	0

TABLE NOTE:

¹This dig is related to Alternate Plan 5.

²This dig is related to Alternate Plan 3.

³This dig is related to Alternate Plan 4.

⁴This feature was repaired in the SAR5 period and was reported in SAR5 Paragraph 46a.c and 50. It was reported in SAR5 as FR in this paragraph and has been included in SAR6 as a result.

⁵This feature was repaired in the SAR5 period and was reported in SAR5 Paragraph 46a.c and 47. It was reported in SAR5 as FR in this paragraph and has been included in SAR6 as a result.

⁶This feature was cancelled in the SAR5 period and was reported in SAR5 Paragraph 46a.c and 40 cancelled digs. It was reported in SAR5 as FR in this paragraph and has been included in SAR6 as a result.

The following 1 page is Table D-16: P. 40 ILI Programs with all Features Requiring Excavation Repaired/Mitigated during the reporting period.

Table D-16: P. 40 ILI Programs with all Features Requiring Excavation Repaired/Mitigated during the reporting period						
Tool Run ID	Line	Segment	Tool	Report Type	Last NDE Report Approved Date	Analysis of Field Data/Statistical Analysis Date ²
4405	L0001		UC	UTCD	3/6/2020	3/31/2020
6396	L0003		MFL4MFL	MFL	3/17/2020	3/23/2020
6396	L0003		MFL4CAL	CALIPER	11/19/2019	11/19/2019
3711	L0003		UCMPUT WM	UTWM	12/24/2019	12/30/2019
6394	L0003		MFL4CAL	CALIPER	12/16/2019	12/16/2019
6394	L0003		MFL4MFL	MFL	3/2/2020	3/12/2020
5369	L0006A		VECTRA	MFL	3/25/2020	4/1/2020
4804	L0006A		DUOCD	PHASEDARRAY	3/9/2020	3/17/2020
4443	L0006A		UMP	UTWM	5/12/2020	4/7/2020 ¹
4805	L0006A		UMP	UTWM	3/4/2020	3/2/2020
4610	L0061		GEMINICAL	CALIPER	11/20/2019	11/25/2019

TABLE NOTE:

¹The trending for the 4 digs that were issued under issue 3 of this ILI program were completed prior to the approval of the final NDE report.

²Enbridge and the ITP and EPA are working towards a mutual interpretation of the timing for Paragraph 40. For the purposes of this SAR the Stantec trending date is used to be consistent with previous SAR reporting.

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

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-17: P. 44.a-b Initial Predicted Burst Pressure and Initial Remaining Life Calculations											
Tool Run ID	Line	Segment	Tool	Report Type	Pull Date	Date Preliminary Review Completed	Data Quality Concerns ?	Calculation Deadline (1)	Calculation Deadline (2)	Burst Pressure Calculation Date	Remaining Life Calculation Date
4503	01		CD+	Crack	10/27/2019	3/20/2020 ¹	Yes	5/15/2020	4/20/2020	3/20/2020 ¹	3/20/2020 ¹
6367	02		Proton	Crack	12/6/2019	5/5/2020	Yes	6/30/2020	5/29/2020	5/5/2020	5/5/2020
6368	02		Proton	Crack	12/16/2019	5/11/2020	Yes	7/6/2020	6/8/2020	5/11/2020	5/11/2020
6395	03		DUO CD	Crack	7/1/2019	11/26/2019 ¹	No	1/21/2020	12/23/2019	11/26/2019 ¹	11/26/2019 ¹
6393	03		DUO CD	Crack	7/19/2019	12/11/2019 ¹	No	2/5/2020	1/10/2020	12/11/2019 ¹	12/11/2019 ¹
6487	04		MFL DuDi	Corrosion	1/24/2020	5/22/2020	No	7/17/2020	7/17/2020	5/22/2020	5/22/2020
6636	05		MFL4	Corrosion	1/14/2020	5/11/2020	Yes	7/6/2020	7/7/2020	5/11/2020	5/11/2020
4537	05		UCx	Crack	7/25/2019	12/23/2019 ¹	Yes	2/18/2020	1/16/2020	12/23/2019 ¹	12/23/2019 ¹
6609	05		GEMINI	Corrosion	1/22/2020	5/21/2020	No	7/16/2020	7/15/2020	5/21/2020	5/21/2020
6635	05		MFL4	Corrosion	1/17/2020	5/11/2020	Yes	7/6/2020	7/10/2020	5/11/2020	5/11/2020
4674	06A		USWM+	Corrosion	9/26/2019	1/23/2020 ¹	Yes	3/19/2020	3/19/2020	1/23/2020 ¹	1/23/2020 ¹
4544	06A		Vectra	Corrosion	8/16/2019	12/13/2019 ¹	No	2/7/2020	2/7/2020	12/13/2019 ¹	12/13/2019 ¹
4676	06A		DUO CD	Crack	8/23/2019	1/20/2020 ¹	Yes	3/16/2020	2/14/2020	1/20/2020 ¹	1/20/2020 ¹
4612	61		UC	Crack	8/20/2019	1/15/2020 ¹	Yes	3/11/2020	2/11/2020	1/15/2020 ¹	1/15/2020 ¹
4613	64		UC	Crack	9/17/2019	2/6/2020 ¹	Yes	4/2/2020	3/10/2020	2/6/2020 ¹	2/6/2020 ¹

TABLE NOTE:

¹ Prior to the 5th modification of the Consent Decree, the "PI Listing Approval Request Email" was used to report this date. Commencing on April 1, 2020 any Initial ILI report received after this date, based upon the 5th modification of the Consent Decree and as requested by the DOJ, the "PI Listing Approval Confirmation Email" will be used to report this date. Refer to P. 144 [Section D] Timing Change from 30+5 to 25+5 due to Fifth Modification – Various Paragraphs for more details.

The following 6 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	Technology	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation ¹
25340	L0001		12010	4405	UTCD	2/14/2019	2/14/2020	1/11/2020
25343 ²	L0001		98280	4405	UTCD	2/14/2019	2/14/2020	1/23/2020
25346	L0001		122610	4405	UTCD	2/14/2019	2/14/2020	1/12/2020
25347	L0001		126590	4405	UTCD	2/14/2019	2/14/2020	1/23/2020
25348	L0001		128650	4405	UTCD	2/14/2019	2/14/2020	1/28/2020
25352	L0001		172170	4405	UTCD	2/14/2019	2/14/2020	1/17/2020
25353	L0001		176630	4405	UTCD	2/14/2019	2/14/2020	2/5/2020
25355	L0001		194840	4405	UTCD	2/14/2019	2/14/2020	1/17/2020
27867	L0002		60210	6367	UTCD & PHASEA RRAY	5/5/2020	11/2/2020 ¹¹	FR
24805 ³	L0003		58670	3829	MFL	12/10/2018	4/17/2032	FR
26636	L0003		56530	6396	MFL	10/9/2019	4/6/2020	12/4/2019
26637	L0003		56850	6396	MFL	10/9/2019	4/6/2020	12/16/2019
26638	L0003		57690	6396	MFL	10/9/2019	4/6/2020	12/10/2019
26639	L0003		58620	6396	MFL	10/9/2019	4/6/2020	12/17/2019
26640	L0003		59010	6396	MFL	10/9/2019	4/6/2020	1/9/2020
26641	L0003		59670	6396	MFL	10/9/2019	4/6/2020	2/20/2020
26642	L0003		60300	6396	MFL	10/9/2019	4/6/2020	2/18/2020
26644	L0003		154460	6396	MFL	10/9/2019	4/6/2020	2/10/2020
26794	L0003		63870	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26795	L0003		71070	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26796	L0003		148910	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26797	L0003		150860	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR

REDACTED SUBMITTAL -- PUBLIC COPY

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	Repair / Mitigation Deadline	Date of Repair / Mitigation ¹
26798	L0003		151090	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26799	L0003		152170	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26800	L0003		152330	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26801	L0003		152460	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26802	L0003		153550	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26803	L0003		155980	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26804	L0003		160430	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26805	L0003		160810	6393	PHASED ARRAY	12/12/2019	12/11/2020	FR
26806 ⁴	L0003		171730	6393	PHASED ARRAY	12/12/2019	12/11/2020 ¹¹	FR
26721	L0003		75050	6394	MFL	11/12/2019	5/11/2020	2/3/2020
26722	L0003		129340	6394	MFL	11/12/2019	5/11/2020	1/23/2020
26723	L0003		129880	6394	MFL	11/12/2019	5/11/2020	1/30/2020
26724	L0003		133000	6394	MFL	11/12/2019	5/11/2020	1/25/2020
26465	L0003		183120	3711	UTWM	8/29/2019	2/25/2020 ¹²	12/6/2019
27910	L0004		29830	6487	MFL	5/22/2020	5/18/2021	FR
27911	L0004		30950	6487	MFL	5/22/2020	5/18/2021	FR
27912	L0004		33090	6487	MFL	5/22/2020	5/18/2021	FR
27913	L0004		34440	6487	MFL	5/22/2020	5/18/2021	FR
27914	L0004		37340	6487	MFL	5/22/2020	5/18/2021	FR

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-18: P. 46.a, c Identified Digs								
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Technology	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation ¹
27915	L0004		42920	6487	MFL	5/22/2020	5/18/2021	FR
27916	L0004		46160	6487	MFL	5/22/2020	5/18/2021	FR
27869	L0005		21	6636	MFL	5/11/2020	5/11/2021	FR
27066	L0005		47010	4537	UTCD	12/30/2019	6/29/2020	5/18/2020
27067	L0005		47090	4537	UTCD	12/30/2019	6/29/2020	5/16/2020
27069	L0005		105210	4537	UTCD	12/30/2019	6/29/2020	FR
27070	L0005		153710	4537	UTCD	12/30/2019	6/29/2020	5/14/2020
27071	L0005		161650	4537	UTCD	12/30/2019	12/29/2020	FR
27917	L0005		142170	6609	CALIPER	5/25/2020	11/17/2020	FR
23941 ⁵	L0006A		256490	4334	MFL	5/11/2018	7/20/2020	FR
24098 ⁶	L0006A		226360	4334	MFL	7/6/2018	7/27/2020	5/12/2020
27307	L0006A		17600	4674	UTWM	1/28/2020	1/27/2021	FR
27308	L0006A		62050	4674	UTWM	1/28/2020	1/27/2021	FR
27309	L0006A		67480	4674	UTWM	1/28/2020	7/27/2020	FR
27310	L0006A		95750	4674	UTWM	1/28/2020	1/27/2021	FR
27311	L0006A		100340	4674	UTWM	1/28/2020	7/27/2020	FR
27312	L0006A		108890	4674	UTWM	1/28/2020	7/27/2020	FR
27313	L0006A		113560	4674	UTWM	1/28/2020	7/27/2020	FR
27314	L0006A		163560	4674	UTWM	1/28/2020	1/27/2021	FR
27315	L0006A		218990	4674	UTWM	1/28/2020	7/27/2020	FR
27316 ⁷	L0006A		237600	4674	UTWM	1/28/2020	7/27/2020	N/A
27317	L0006A		252690	4674	UTWM	1/28/2020	7/27/2020	FR
27318	L0006A		255180	4674	UTWM	1/28/2020	7/27/2020	FR
27319	L0006A		265470	4674	UTWM	1/28/2020	7/27/2020	FR

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-18: P. 46.a, c Identified Digs								
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Technology	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation ¹
27320	L0006A		266950	4674	UTWM	1/28/2020	7/27/2020	FR
27321	L0006A		267020	4674	UTWM	1/28/2020	7/27/2020	FR
27322	L0006A		271950	4674	UTWM	1/28/2020	7/27/2020	FR
27323	L0006A		273270	4674	UTWM	1/28/2020	7/27/2020	5/21/2020
27324	L0006A		287530	4674	UTWM	1/28/2020	7/27/2020	FR
27325	L0006A		290110	4674	UTWM	1/28/2020	7/27/2020	FR
27326	L0006A		290200	4674	UTWM	1/28/2020	7/27/2020	FR
27327	L0006A		291890	4674	UTWM	1/28/2020	7/27/2020	5/22/2020
27328	L0006A		297890	4674	UTWM	1/28/2020	7/27/2020	FR
27329	L0006A		298490	4674	UTWM	1/28/2020	7/27/2020	FR
27330	L0006A		299670	4674	UTWM	1/28/2020	7/27/2020	FR
27331 ⁷	L0006A		300190	4674	UTWM	1/28/2020	7/27/2020	N/A
27332	L0006A		301370	4674	UTWM	1/28/2020	7/27/2020	FR
27333	L0006A		302440	4674	UTWM	1/28/2020	7/27/2020	FR
27334	L0006A		319530	4674	UTWM	1/28/2020	7/27/2020	FR
26433	L0006A		122260	4804	PHASED ARRAY	8/20/2019	2/18/2020	2/14/2020
26434	L0006A		203270	4804	PHASED ARRAY	8/20/2019	2/18/2020	2/13/2020
26435	L0006A		210840	4804	PHASED ARRAY	8/20/2019	2/18/2020	2/8/2020
26438	L0006A		300610	4804	PHASED ARRAY	8/20/2019	2/18/2020	12/12/2019
26441	L0006A		307340	4804	PHASED ARRAY	8/20/2019	2/18/2020	1/12/2020
26632	L0006A		109850	5369	MFL	10/8/2019	4/6/2020	2/15/2020
26633	L0006A		300190	5369	MFL	10/8/2019	4/6/2020	1/31/2020

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-18: P. 46.a, c Identified Digs								
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Technology	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation ¹
26634	L0006A		329710	5369	MFL	10/8/2019	4/6/2020	2/23/2020
26676	L0006A		166750	4443	UTWM	10/24/2019	4/21/2020 ¹²	2/12/2020
26677	L0006A		205920	4443	UTWM	10/24/2019	4/21/2020 ¹²	2/18/2020
26678	L0006A		280780	4443	UTWM	10/24/2019	4/21/2020 ¹²	3/4/2020
26864	L0006A		710	4544	MFL	12/16/2019	6/15/2020	FR
26865	L0006A		84500	4544	MFL	12/16/2019	6/15/2020	3/11/2020
26866	L0006A		97160	4544	MFL	12/16/2019	12/15/2020	2/4/2020
26867	L0006A		163060	4544	MFL	12/16/2019	12/15/2020	FR
26868 ⁸	L0006A		174110	4544	MFL	12/16/2019	1/15/2020	1/18/2020
26869	L0006A		182040	4544	MFL	12/16/2019	6/15/2020	3/7/2020
26870	L0006A		186660	4544	MFL	12/16/2019	12/15/2020	FR
26871 ⁷	L0006A		195120	4544	MFL	12/16/2019	12/15/2020	N/A
26872	L0006A		244920	4544	MFL	12/16/2019	6/15/2020	2/29/2020
27264 ⁹	L0006A		64280	4676	PHASED ARRAY	1/24/2020	1/25/2021	FR
27265 ⁹	L0006A		65420	4676	PHASED ARRAY	1/24/2020	1/25/2021	FR
27266	L0006A		107770	4676	PHASED ARRAY	1/24/2020	1/25/2021	FR
27267	L0006A		136980	4676	PHASED ARRAY	1/24/2020	2/24/2020	1/25/2020
27268	L0006A		167150	4676	PHASED ARRAY	1/24/2020	7/22/2020	5/14/2020

Table D-18: P. 46.a, c Identified Digs								
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Technology	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation ¹
27269	L0006A		168660	4676	PHASED ARRAY	1/24/2020	7/22/2020	FR
27270	L0006A		169690	4676	PHASED ARRAY	1/24/2020	7/22/2020	FR
27271	L0006A		169920	4676	PHASED ARRAY	1/24/2020	7/22/2020	FR
27272	L0006A		179400	4676	PHASED ARRAY	1/24/2020	7/22/2020	FR
27273	L0006A		194800	4676	PHASED ARRAY	1/24/2020	7/22/2020	FR
27274	L0006A		206970	4676	PHASED ARRAY	1/24/2020	7/22/2020	FR
27275	L0006A		222140	4676	PHASED ARRAY	1/24/2020	7/22/2020	FR
27276	L0006A		248000	4676	PHASED ARRAY	1/24/2020	7/22/2020	5/16/2020
26243	L0006A		216270	4805	UTWM	7/3/2019	7/2/2020	2/4/2020
26627 ¹⁰	L0061		73610	6546	MFL	10/7/2019	11/2/2020	FR
26628 ¹⁰	L0061		90360	6546	MFL	10/7/2019	11/2/2020	FR
26629 ¹⁰	L0061		250590	6546	MFL	10/7/2019	11/2/2020	FR

TABLE NOTES:

¹ "FR" indicates that this information is outside the reporting window of this SAR and will be included in a future SAR.

² Dig Repair/Mitigation Deadline was requested to be extended, which was reported in SAR5

³ Alternate Plan #5 target feature. Deadline was extended from 6/8/2019 to 4/17/2032, which was reported in Alternate Plan #5 Version 3

⁴ Dig Repair/Mitigation deadline was extended from 6/9/2020 to 12/11/2020.

⁵ AP3 target feature. Reported in SAR5

⁶ AP4 target feature. Repair / Mitigation Deadline was modified from 1/2/2019 to 7/27/2020 as outlined in AP4.

⁷ Dig was cancelled (refer to D-19: Cancelled Digs Table and P. 46.a-d).

⁸ Issues related to the repair/mitigation date are described in P145 of this report.

⁹ Dig Repair/Mitigation Deadline was extended from 180 to 365 Days.

¹⁰ Dig Repair/Mitigation Deadline was extended from 4/4/2020 to 11/2/2020.

¹¹ Dig Repair/Mitigation Deadline was incorrect; refer to Paragraph 144, [Section D] Line 2 GF-CR (Dig ID 27867) and Line 3 GF-CR GW171730 (Dig ID 26806) Incorrect Crack Dig Deadline – P. 47.

¹² Dig Repair/Mitigation Deadline was changed due to HCA Boundary change. Refer to Paragraph 144 for details.

The following 1 page is Table D-19: P. 46.a, c Identified Digs.

Table D-19: P. 46.a Cancelled Digs						
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Technology	Reason for Dig Cancellation
27316	L0006A		237600	4674	UTWM	Based on the reassessment of L6A AM-GT 2019 USWM+ Issue 2, GW 237600 is cancelled as the driving feature is no longer an FRE based on CD excavation criteria. The original FRE was clustered over 2 joints of different wall thickness which caused an incorrect depth percent calculation. Based on Issue 2 analysis, no additional integrity actions are required.
27331	L0006A		300190	4674	UTWM	This dig was in proposed status and the feature of interest was repaired by Dig ID 26633 which was issued as part of the 2019 Vectra MFL program.
26871	L0006A		195120	4544	MFL	RunCom analysis results are now available for the 2019 BHGE VectraMFL. Based on this analysis the FRE on GW 195120 (eDig #26871) no longer meets CD excavation criteria (1.2.c_L remaining life < 5 years). The assessment sheet and PI listing has been updated and approved by PI Planning

TABLE NOTE:

Dig ID 26439 as discussed in P. 46.a-d was cancelled during SAR5.

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	Repair / Mitigation Deadline ¹	PPR Imposition Date	Repair / Mitigation Date	PPR Removal Date ²
29199 ³	L0001		8280	2/14/2019	2/14/2020	2/15/2019	1/23/2020	2/20/2020
31460	L0002		0210	5/5/2020	11/2/2020	5/7/2020	FR	FR
27100 ⁴	L0003		39920	12/26/2017	6/25/2018	12/28/2017	1/25/2018	5/31/2018
30479 ⁵	L0003		71730	12/12/2019	12/11/2020	12/13/2019	FR	FR
31461	L0004		9830	5/22/2020	5/18/2021	5/22/2020	FR	FR
31462	L0004		0950	5/22/2020	5/18/2021	5/22/2020	FR	FR
31463	L0004		3090	5/22/2020	5/18/2021	5/22/2020	FR	FR
31464	L0004		4440	5/22/2020	5/18/2021	5/22/2020	FR	FR
31465	L0004		7340	5/22/2020	5/18/2021	5/22/2020	FR	FR
31466	L0004		2920	5/22/2020	5/18/2021	5/22/2020	FR	FR
31467	L0004		6160	5/22/2020	5/18/2021	5/22/2020	FR	FR
27062	L0005		3220	12/18/2017	6/18/2018	12/19/2017	5/17/2018	2/19/2020
30484	L0005		7010	12/30/2019	6/29/2020	12/30/2019	5/18/2020	FR
30485	L0005		7090	12/30/2019	6/29/2020	12/30/2019	5/16/2020	FR
30486	L0005		05210	12/30/2019	6/29/2020	12/30/2019	FR	FR
30487	L0005		53710	12/30/2019	6/29/2020	12/30/2019	5/14/2020	FR
27024 ⁴	L0005		42570	10/27/2017	4/25/2018	10/30/2017	3/1/2018	5/29/2018
28133	L0006A		26360	7/6/2018	7/27/2020	7/6/2018	5/12/2020	FR
30351	L0006A		22260	8/20/2019	2/18/2020	8/22/2019	2/14/2020	4/13/2020
30352	L0006A		03270	8/20/2019	2/18/2020	8/22/2019	2/13/2020	4/13/2020
30353	L0006A		10840	8/20/2019	2/18/2020	8/22/2019	2/8/2020	4/13/2020
30354	L0006A		75420	8/20/2019	2/18/2020	8/22/2019	11/18/2019	2/20/2020
30355	L0006A		00610	8/20/2019	2/18/2020	8/22/2019	12/12/2019	2/20/2020
30356 ⁶	L0006A		05690	8/20/2019	2/18/2020	8/22/2019	N/A	2/20/2020
30358	L0006A		07340	8/20/2019	2/18/2020	8/22/2019	1/12/2020	2/20/2020
30401	L0006A		09850	10/8/2019	4/6/2020	10/10/2019	2/15/2020	5/13/2020
30432	L0006A		2080	10/24/2019	10/23/2020	10/28/2019	11/20/2019	2/20/2020
30433	L0006A		66750	10/24/2019	4/21/2020	10/28/2019	2/12/2020	4/13/2020
30434	L0006A		05920	10/24/2019	4/21/2020	10/28/2019	2/18/2020	4/13/2020
30435	L0006A		80780	10/24/2019	4/21/2020	10/28/2019	3/4/2020	5/13/2020
30695	L0006A		00340	1/28/2020	7/27/2020	1/29/2020	FR	FR
30696	L0006A		08890	1/28/2020	7/27/2020	1/29/2020	FR	FR

Table D-20: P. 46.b. d PPRs								
PR ID	Line	Segment	Girth Weld	Date of Discovery	Repair / Mitigation Deadline ¹	PPR Imposition Date	Repair / Mitigation Date	PPR Removal Date ²
30697	L0006A		113560	1/28/2020	7/27/2020	1/29/2020	FR	FR
30698	L0006A		163560	1/28/2020	1/27/2021	1/29/2020	FR	FR
30699	L0006A		252690	1/28/2020	7/27/2020	1/29/2020	FR	FR
30700	L0006A		255180	1/28/2020	7/27/2020	1/29/2020	FR	FR
30701	L0006A		273270	1/28/2020	7/27/2020	1/29/2020	5/21/2020	FR
30702	L0006A		287530	1/28/2020	7/27/2020	1/29/2020	FR	FR
30703	L0006A		290200	1/28/2020	7/27/2020	1/29/2020	FR	FR
30704	L0006A		291890	1/28/2020	7/27/2020	1/29/2020	5/22/2020	FR
30705	L0006A		297890	1/28/2020	7/27/2020	1/29/2020	FR	FR
30706	L0006A		299670	1/28/2020	7/27/2020	1/29/2020	FR	FR
30707 ⁷	L0006A		300190	1/28/2020	7/27/2020	1/29/2020	1/31/2020	2/28/2020
30708	L0006A		301370	1/28/2020	7/27/2020	1/29/2020	FR	FR
30709	L0006A		302440	1/28/2020	7/27/2020	1/29/2020	FR	FR
30710	L0006A		319530	1/28/2020	7/27/2020	1/29/2020	FR	FR
30947 ⁸	L0006A		256490	5/11/2018	7/20/2020	3/23/2020	FR	FR
30292	L0006A		46330	7/3/2019	12/30/2019	7/4/2019	8/22/2019	12/18/2019
30293	L0006A		117220	7/3/2019	12/30/2019	7/4/2019	8/28/2019	12/18/2019
30294	L0006A		161650	7/3/2019	7/2/2020	7/4/2019	9/19/2019	12/18/2019
30295	L0006A		174680	7/3/2019	12/30/2019	7/4/2019	9/17/2019	12/18/2019
30296	L0006A		216270	7/3/2019	7/2/2020	7/4/2019	2/4/2020	4/13/2020
30297	L0006A		228030	7/3/2019	7/2/2020	7/4/2019	10/15/2019	12/18/2019
30298	L0006A		241240	7/3/2019	12/30/2019	7/4/2019	9/28/2019	12/18/2019
30481	L0006A		34500	12/16/2019	6/15/2020	12/18/2019	3/11/2020	5/13/2020
30482	L0006A		182040	12/16/2019	6/15/2020	12/18/2019	3/7/2020	5/13/2020
30683 ⁹	L0006A		64280	1/24/2020	1/25/2021	1/27/2020	FR	FR
30684 ⁹	L0006A		65420	1/24/2020	1/25/2021	1/27/2020	FR	FR
30685 ¹⁰	L0006A		136980	1/24/2020	2/24/2020	See note 10	1/25/2020	1/27/2020
30686	L0006A		167150	1/24/2020	7/22/2020	1/27/2020	5/14/2020	FR
30687	L0006A		168660	1/24/2020	7/22/2020	1/27/2020	FR	FR
30688	L0006A		169690	1/24/2020	7/22/2020	1/27/2020	FR	FR
30689	L0006A		169920	1/24/2020	7/22/2020	1/27/2020	FR	FR
30690	L0006A		179400	1/24/2020	7/22/2020	1/27/2020	FR	FR

Table D-20: P. 46.b. d PPRs								
PR ID	Line	Segment	Girth Weld	Date of Discovery	Repair / Mitigation Deadline ¹	PPR Imposition Date	Repair / Mitigation Date	PPR Removal Date ²
30691	L0006A		194800	1/24/2020	7/22/2020	1/27/2020	FR	FR
30692	L0006A		206970	1/24/2020	7/22/2020	1/27/2020	FR	FR
30693	L0006A		222140	1/24/2020	7/22/2020	1/27/2020	FR	FR
30694	L0006A		248000	1/24/2020	7/22/2020	1/27/2020	5/16/2020	FR
30398 ¹¹	L0061		73610	10/7/2019	11/2/2020	10/9/2019	FR	FR
30399 ¹¹	L0061		90360	10/7/2019	11/2/2020	10/9/2019	FR	FR
30400 ¹¹	L0061		250590	10/7/2019	11/2/2020	10/9/2019	FR	FR

TABLE NOTES:

¹ Repair/Mitigation Deadline was specified in Tables 1 to 5 of the Consent Decree.

² 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.

³ Dig Repair/Mitigation Deadline was requested to be extended, which is reported in SAR5.

⁴ PPRs of PR IDs 27100 and 27024 were removed before the start date of this SAR period. They were reported as "FR" in PPR Removal Date in SAR5. Both PPR Removal dates were first reported in PPR report to ITP version 01/07/2020.

⁵ Dig Repair/Mitigation Deadline was extended from 6/9/2020 to 12/11/2020.

⁶ Dig associated with this PPR was cancelled (Dig ID 26439).

⁷ Dig associated with this pressure was cancelled (Dig ID 27331). PPR was implemented and after the feature was repaired in another dig, PPR was removed. Refer to P. 46.a-d.

⁸ AP3 target feature. Reported in SAR5. PPR was added during the feature re-assessment, which was approved on March 21, 2020. PPR was implemented on March 23, 2020.

⁹ Dig Repair/Mitigation Deadline was extended from 180 Days to 365 Days.

¹⁰ The PPR Removal Date is the same as the scheduled PPR Imposition Date as the feature was repaired prior to the scheduled imposition of the PPR.

¹¹ Dig Repair/Mitigation Deadline was extended from 4/4/2020 to 11/2/2020

The following 1 page is Table D-21: P. 46.e, 46.l Alternate Plans and Alternate Pressure Restrictions.

Table D-21: P. 46.e, 46.l Alternate Plans and Alternate Pressure Restrictions	
46.e. Alternate Plan or Alternate Interim Pressure Restrictions submitted from effective date to the end of this SAR reporting period:	5 of maximum 40
46.e. Cumulative Excavations of Joints	5 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 1 page is Table D-22: P. 46.g Alternate Plan #.

Table D-22: P. 46.g Alternate Plan #
N/A ¹

TABLE NOTES:

¹There were no Alternate Plans proposed in this reporting period.

The following 1 page is Table D-23: P. 46.I Previous Alternate Plan Status Update.

Table D-23: P. 46.I Previous Alternate Plan Status Update	
Alternate Plan #3	12/10/2019: Consent Decree Alternate Plan Q4 Quarterly Meeting 3/5/2020: Consent Decree Alternate Plan Q1 Quarterly Meeting 3/19/2020: Feature reassessment complete and a PPR of 618 psi was approved 3/21/2020: PPR was approved 3/23/2020: PPR imposed - Permit/Landowner Agreement updates: - City of Aurora outstanding - Lot 401: Negotiations ongoing, working towards closing date - Diehl (Warehouse): Final negotiations ongoing Nicor: Easement executed April 22, 2020, but it was delayed.
Alternate Plan #4	12/10/2019: Consent Decree Alternate Plan Q4 Quarterly Meeting 3/5/2020: Consent Decree Alternate Plan Q1 Quarterly Meeting 3/19/2020: target feature was reviewed and current PPR is sufficient - Permit update: All permits received; crew mobilized on April 13, 2020 - Target feature was sleeved on May 12, 2020
Alternate Plan #5	08/02/2019: version 2 was prepared. It is concluded that the dig deadline can be extended to 04/17/2032. Version 2 was submitted to ITP. - Enbridge met with [REDACTED] on November 20, 2019 02/03/2020: the Minnesota Public Utilities Commission (MPUC) reaffirmed the revised Environmental Impact Statement (EIS) for the Line 3 Replacement Project, along with reapproval of the Certificate of Need and Route Permit 02/26/2020: Version 3 was prepared based on 2019 ILI data. Enbridge indicated that the target feature is safe currently and the dig deadline can be extended to 04/17/2032 as stated in Version 3. Version 3 was sent out on 02/27/2020. 3/5/2020: Consent Decree Alternate Plan Q1 Quarterly Meeting 03/05/2020: Enbridge updated AP process in the meeting with [REDACTED]. Based on the dig results, it was concluded that the ILI tool performance is in the specifications. Communicated that the target feature would be assessed again in 2020 ILI tool run. 05/07/2020: Tool pulled, 30-day report for target feature expected June 6, 2020

The following 2 pages are Table D-24: P. 47 Crack Features Requiring Excavation Table.

Table D-24: P. 47 Crack Features Requiring Excavation						
Dig ID	Line	Segment	Girth Weld	Date Features Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation
25340	L0001		12010	2/14/2019	2/14/2020	1/11/2020
25343 ¹	L0001		98280	2/14/2019	2/14/2020	1/23/2020
25346	L0001		122610	2/14/2019	2/14/2020	1/12/2020
25347	L0001		126590	2/14/2019	2/14/2020	1/23/2020
25348	L0001		128650	2/14/2019	2/14/2020	1/28/2020
25352	L0001		172170	2/14/2019	2/14/2020	1/17/2020
25353	L0001		176630	2/14/2019	2/14/2020	2/5/2020
25355	L0001		194840	2/14/2019	2/14/2020	1/17/2020
27867	L0002		60210	5/5/2020	11/2/2020 ⁴	FR
26794	L0003		63870	12/12/2019	12/11/2020	FR
26795	L0003		71070	12/12/2019	12/11/2020	FR
26796	L0003		148910	12/12/2019	12/11/2020	FR
26797	L0003		150860	12/12/2019	12/11/2020	FR
26798	L0003		151090	12/12/2019	12/11/2020	FR
26799	L0003		152170	12/12/2019	12/11/2020	FR
26800	L0003		152330	12/12/2019	12/11/2020	FR
26801	L0003		152460	12/12/2019	12/11/2020	FR
26802	L0003		153550	12/12/2019	12/11/2020	FR
26803	L0003		155980	12/12/2019	12/11/2020	FR
26804	L0003		160430	12/12/2019	12/11/2020	FR
26805	L0003		160810	12/12/2019	12/11/2020	FR
26806 ²	L0003		171730	12/12/2019	12/11/2020	FR
27066	L0005		47010	12/30/2019	6/29/2020	5/18/2020
27067	L0005		47090	12/30/2019	6/29/2020	5/16/2020
27069	L0005		105210	12/30/2019	6/29/2020	FR
27070	L0005		153710	12/30/2019	6/29/2020	5/14/2020
27071	L0005		161650	12/30/2019	12/29/2020	FR
26433	L0006A		122260	8/20/2019	2/18/2020	2/14/2020
26434	L0006A		203270	8/20/2019	2/18/2020	2/13/2020
26435	L0006A		210840	8/20/2019	2/18/2020	2/8/2020
26438	L0006A		300610	8/20/2019	2/18/2020	12/12/2019
26441	L0006A		307340	8/20/2019	2/18/2020	1/12/2020

Table D-24: P. 47 Crack Features Requiring Excavation						
Dig ID	Line	Segment	Girth Weld	Date Features Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation
27264 ³	L0006A		64280	1/24/2020	1/25/2021	FR
27265 ³	L0006A		65420	1/24/2020	1/25/2021	FR
27266	L0006A		107770	1/24/2020	1/25/2021	FR
27268	L0006A		167150	1/24/2020	7/22/2020	5/14/2020
27269	L0006A		168660	1/24/2020	7/22/2020	FR
27270	L0006A		169690	1/24/2020	7/22/2020	FR
27271	L0006A		169920	1/24/2020	7/22/2020	FR
27272	L0006A		179400	1/24/2020	7/22/2020	FR
27273	L0006A		194800	1/24/2020	7/22/2020	FR
27274	L0006A		206970	1/24/2020	7/22/2020	FR
27275	L0006A		222140	1/24/2020	7/22/2020	FR
27276	L0006A		248000	1/24/2020	7/22/2020	5/16/2020

TABLE NOTES:

¹ Dig Repair/Mitigation deadline was requested to be extended, which is reported in SAR5

² Repair/Mitigation deadline was extended from 6/9/2020 to 12/11/2020

³ Dig deadline was extended from 180 Days to 365 Days

⁴ Dig Repair/Mitigation Deadline was incorrect; refer to Paragraph 144, [Section D] Line 2 GF-CR (Dig ID 27867) and Line 3 GF-CR GW171730 (Dig ID 26806) Incorrect Crack Dig Deadline – P. 47

The following 2 pages are the D-25: P. 47 Crack Feature Pressure Restrictions Table.

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-25: P. 47 Crack Feature Pressure Restrictions									
PR ID	Line	Segment	Girth Weld	Date of Discovery	Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)	PPR Set (psi)	PPR Imposition Date	Repair / Mitigation Date	PPR Removal Date ¹
29199 ⁴	L0001		8280	2/14/2019	2/14/2020	781	2/15/2019	1/23/2020	2/20/2020
31460	L0002		0210	5/5/2020	11/2/2020	789	5/7/2020	FR	FR
30479 ⁵	L0003		71730	12/12/2019	12/11/2020	444	12/13/2019	FR	FR
30484	L0005		7010	12/30/2019	6/29/2020	680	12/30/2019	5/18/2020	FR
30485	L0005		7090	12/30/2019	6/29/2020	663	12/30/2019	5/16/2020	FR
30486	L0005		05210	12/30/2019	6/29/2020	696	12/30/2019	FR	FR
30487	L0005		53710	12/30/2019	6/29/2020	682	12/30/2019	5/14/2020	FR
30351	L0006A		22260	8/20/2019	2/18/2020	1099	8/22/2019	2/14/2020	4/13/2020
30352	L0006A		03270	8/20/2019	2/18/2020	612	8/22/2019	2/13/2020	4/13/2020
30353	L0006A		10840	8/20/2019	2/18/2020	571	8/22/2019	2/8/2020	4/13/2020
30354	L0006A		75420	8/20/2019	2/18/2020	529	8/22/2019	11/18/2019	2/20/2020
30355	L0006A		00610	8/20/2019	2/18/2020	600	8/22/2019	12/12/2019	2/20/2020
30356 ⁶	L0006A		05690	8/20/2019	2/18/2020	538	8/22/2019	N/A	2/20/2020
30358	L0006A		07340	8/20/2019	2/18/2020	596	8/22/2019	1/12/2020	2/20/2020
30683 ⁷	L0006A		4280	1/24/2020	1/25/2021	603	1/27/2020	FR	FR
30684 ⁷	L0006A		5420	1/24/2020	1/25/2021	617	1/27/2020	FR	FR
30686	L0006A		67150	1/24/2020	7/22/2020	591	1/27/2020	5/14/2020	FR
30687	L0006A		68660	1/24/2020	7/22/2020	616	1/27/2020	FR	FR
30688	L0006A		69690	1/24/2020	7/22/2020	603	1/27/2020	FR	FR
30689	L0006A		69920	1/24/2020	7/22/2020	607	1/27/2020	FR	FR
30690	L0006A		79400	1/24/2020	7/22/2020	604	1/27/2020	FR	FR
30691	L0006A		94800	1/24/2020	7/22/2020	597	1/27/2020	FR	FR
30692	L0006A		06970	1/24/2020	7/22/2020	551	1/27/2020	FR	FR

Table D-25: P. 47 Crack Feature Pressure Restrictions									
PR ID	Line	Segment	Girth Weld	Date of Discovery	Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)	PPR Set (psi)	PPR Imposition Date	Repair / Mitigation Date	PPR Removal Date ¹
30693	L0006A		222140	1/24/2020	7/22/2020	606	1/27/2020	FR	FR
30694	L0006A		248000	1/24/2020	7/22/2020	600	1/27/2020	5/16/2020	FR

TABLE NOTES:

¹ 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.

² "FR" indicates that this information is outside the reporting window of this SAR and will be included in a future SAR.

³ The PPR Removal Date is the same as the scheduled PPR Imposition Date as the feature was repaired prior to the scheduled imposition of the PPR.

⁴ Dig Repair/Mitigation deadline was extended, which is reported in SAR5.

⁵ Dig Repair/Mitigation deadline was extended from 6/9/2020 to 12/11/2020.

⁶ Dig associated with this pressure restriction was cancelled (Dig ID 26439).

⁷ Dig Repair/Mitigation deadline was extended from 180 Days to 365 Days.

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

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-26: P. 50 Corrosion Features Requiring Excavation						
Dig ID	Line	Segment	Girth Weld	Date Features Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation ¹
24805 ²	L0003		58670	12/10/2018	4/17/2032	FR
26636	L0003		56530	10/9/2019	4/6/2020	12/4/2019
26637	L0003		56850	10/9/2019	4/6/2020	12/16/2019
26638	L0003		57690	10/9/2019	4/6/2020	12/10/2019
26639	L0003		58620	10/9/2019	4/6/2020	12/17/2019
26640	L0003		59010	10/9/2019	4/6/2020	1/9/2020
26641	L0003		59670	10/9/2019	4/6/2020	2/20/2020
26642	L0003		60300	10/9/2019	4/6/2020	2/18/2020
26644	L0003		154460	10/9/2019	4/6/2020	2/10/2020
26721	L0003		75050	11/12/2019	5/11/2020	2/3/2020
26722	L0003		129340	11/12/2019	5/11/2020	1/23/2020
26723	L0003		129880	11/12/2019	5/11/2020	1/30/2020
26724	L0003		133000	11/12/2019	5/11/2020	1/25/2020
26465 ³	L0003		183120	8/29/2019	2/25/2020	12/6/2019
27910	L0004		29830	5/22/2020	5/18/2021	FR
27911	L0004		30950	5/22/2020	5/18/2021	FR
27912	L0004		33090	5/22/2020	5/18/2021	FR
27913	L0004		34440	5/22/2020	5/18/2021	FR
27914	L0004		37340	5/22/2020	5/18/2021	FR
27915	L0004		42920	5/22/2020	5/18/2021	FR
27916	L0004		46160	5/22/2020	5/18/2021	FR
27869	L0005		21	5/11/2020	5/11/2021	FR
23941 ⁴	L0006A		256490	5/11/2018	7/20/2020	FR
24098 ⁵	L0006A		226360	7/6/2018	7/27/2020	5/12/2020
27307	L0006A		17600	1/28/2020	1/27/2021	FR
27308	L0006A		62050	1/28/2020	1/27/2021	FR

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-26: P. 50 Corrosion Features Requiring Excavation						
Dig ID	Line	Segment	Girth Weld	Date Features Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation ¹
27309	L0006A		67480	1/28/2020	7/27/2020	FR
27310	L0006A		95750	1/28/2020	1/27/2021	FR
27311	L0006A		100340	1/28/2020	7/27/2020	FR
27312	L0006A		108890	1/28/2020	7/27/2020	FR
27313	L0006A		113560	1/28/2020	7/27/2020	FR
27314	L0006A		163560	1/28/2020	1/27/2021	FR
27315	L0006A		218990	1/28/2020	7/27/2020	FR
27316 ⁶	L0006A		237600	1/28/2020	7/27/2020	N/A
27317	L0006A		252690	1/28/2020	7/27/2020	FR
27318	L0006A		255180	1/28/2020	7/27/2020	FR
27319	L0006A		265470	1/28/2020	7/27/2020	FR
27320	L0006A		266950	1/28/2020	7/27/2020	FR
27321	L0006A		267020	1/28/2020	7/27/2020	FR
27322	L0006A		271950	1/28/2020	7/27/2020	FR
27323	L0006A		273270	1/28/2020	7/27/2020	5/21/2020
27324	L0006A		287530	1/28/2020	7/27/2020	FR
27325	L0006A		290110	1/28/2020	7/27/2020	FR
27326	L0006A		290200	1/28/2020	7/27/2020	FR
27327	L0006A		291890	1/28/2020	7/27/2020	5/22/2020
27328	L0006A		297890	1/28/2020	7/27/2020	FR
27329	L0006A		298490	1/28/2020	7/27/2020	FR
27330	L0006A		299670	1/28/2020	7/27/2020	FR
27331 ⁶	L0006A		300190	1/28/2020	7/27/2020	N/A
27332	L0006A		301370	1/28/2020	7/27/2020	FR
27333	L0006A		302440	1/28/2020	7/27/2020	FR
27334	L0006A		319530	1/28/2020	7/27/2020	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	Date of Repair / Mitigation ¹
26632	L0006A		109850	10/8/2019	4/6/2020	2/15/2020
26633	L0006A		300190	10/8/2019	4/6/2020	1/31/2020
26634	L0006A		329710	10/8/2019	4/6/2020	2/23/2020
26676 ³	L0006A		166750	10/24/2019	4/21/2020	2/12/2020
26677 ³	L0006A		205920	10/24/2019	4/21/2020	2/18/2020
26678 ³	L0006A		280780	10/24/2019	4/21/2020	3/4/2020
26864	L0006A		710	12/16/2019	6/15/2020	FR
26865	L0006A		84500	12/16/2019	6/15/2020	3/11/2020
26866	L0006A		97160	12/16/2019	12/15/2020	2/4/2020
26867	L0006A		163060	12/16/2019	12/15/2020	FR
26869	L0006A		182040	12/16/2019	6/15/2020	3/7/2020
26870	L0006A		186660	12/16/2019	12/15/2020	FR
26871 ⁶	L0006A		195120	12/16/2019	12/15/2020	N/A
26872	L0006A		244920	12/16/2019	6/15/2020	2/29/2020
26243	L0006A		216270	7/3/2019	7/2/2020	2/4/2020
26627 ⁷	L0061		73610	10/7/2019	11/2/2020	FR
26628 ⁷	L0061		90360	10/7/2019	11/2/2020	FR
26629 ⁷	L0061		250590	10/7/2019	11/2/2020	FR

TABLE NOTE:

¹ "FR" indicates that this information is outside the reporting window of this SAR and will be included in a future SAR.

² Alternate Plan #5 target feature. Deadline was extended from 6/8/2019 to 4/17/2032, which was reported in Alternate Plan #5 Version 3.

³ Dig Repair/Mitigation Deadlines were changed due to HCA Boundary change. Refer to Paragraph 144 for details.

⁴ Repair / Mitigation Deadline was modified from 11/7/2018 to 7/20/2020 as outlined in AP3.

⁵ Repair / Mitigation Deadline was modified from 1/2/2019 to 7/27/2020 as outlined in AP4.

⁶ Dig was Cancelled (refer to Table D-19: Cancelled Digs and P. 46).

⁷ Dig Repair Mitigation Deadline was extended from 4/4/2020 to 11/2/2020.

⁸ These digs were discussed in SAR5 P. 144 [Section D] Alternative Wall Thickness Used for Burst Pressure Calculations. The dig deadline was revised, and the dig was completed per CD requirements.

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

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-27: P. 52 Corrosion Feature Pressure Restrictions									
PR ID	Line	Segment	Girth Weld	Date of Discovery	Repair / Mitigation Deadline ¹	PPR Set (psi)	PPR Imposition Date	Repair / Mitigation Date	PPR Removal Date ²
31461	L0004		29830	5/22/2020	5/18/2021	607	5/22/2020	FR	FR
31462	L0004		30950	5/22/2020	5/18/2021	614	5/22/2020	FR	FR
31463	L0004		33090	5/22/2020	5/18/2021	617	5/22/2020	FR	FR
31464	L0004		34440	5/22/2020	5/18/2021	622	5/22/2020	FR	FR
31465	L0004		37340	5/22/2020	5/18/2021	609	5/22/2020	FR	FR
31466	L0004		42920	5/22/2020	5/18/2021	619	5/22/2020	FR	FR
31467	L0004		46160	5/22/2020	5/18/2021	604	5/22/2020	FR	FR
27062	L0005		13220	12/18/2017	6/18/2018	731	12/19/2017	5/17/2018	2/19/2020
27024 ³	L0005		242570	10/27/2017	4/25/2018	696	10/30/2017	3/1/2018	5/29/2018
28133	L0006A		226360	7/6/2018	7/27/2020	554	7/6/2018	5/12/2020	FR
30401	L0006A		109850	10/8/2019	4/6/2020	614	10/10/2019	2/15/2020	5/13/2020
30432	L0006A		72080	10/24/2019	10/23/2020	604	10/28/2019	11/20/2019	2/20/2020
30433	L0006A		166750	10/24/2019	4/21/2020	610	10/28/2019	2/12/2020	4/13/2020
30434	L0006A		205920	10/24/2019	4/21/2020	612	10/28/2019	2/18/2020	4/13/2020
30435	L0006A		280780	10/24/2019	4/21/2020	610	10/28/2019	3/4/2020	5/13/2020
30695	L0006A		100340	1/28/2020	7/27/2020	597	1/29/2020	FR	FR
30696	L0006A		108890	1/28/2020	7/27/2020	617	1/29/2020	FR	FR
30697	L0006A		113560	1/28/2020	7/27/2020	613	1/29/2020	FR	FR
30698	L0006A		163560	1/28/2020	1/27/2021	594	1/29/2020	FR	FR
30699	L0006A		252690	1/28/2020	7/27/2020	604	1/29/2020	FR	FR
30700	L0006A		255180	1/28/2020	7/27/2020	584	1/29/2020	FR	FR
30701	L0006A		273270	1/28/2020	7/27/2020	610	1/29/2020	5/21/2020	FR
30702	L0006A		287530	1/28/2020	7/27/2020	617	1/29/2020	FR	FR

Table D-27: P. 52 Corrosion Feature Pressure Restrictions									
PR ID	Line	Segment	Girth Weld	Date of Discovery	Repair / Mitigation Deadline ¹	PPR Set (psi)	PPR Imposition Date	Repair / Mitigation Date	PPR Removal Date ²
30703	L0006A		290200	1/28/2020	7/27/2020	588	1/29/2020	FR	FR
30704	L0006A		291890	1/28/2020	7/27/2020	614	1/29/2020	5/22/2020	FR
30705	L0006A		297890	1/28/2020	7/27/2020	609	1/29/2020	FR	FR
30706	L0006A		299670	1/28/2020	7/27/2020	617	1/29/2020	FR	FR
30707 ⁴	L0006A		300190	1/28/2020	7/27/2020	613	1/29/2020	1/31/2020	2/28/2020
30708	L0006A		301370	1/28/2020	7/27/2020	614	1/29/2020	FR	FR
30709	L0006A		302440	1/28/2020	7/27/2020	614	1/29/2020	FR	FR
30710	L0006A		319530	1/28/2020	7/27/2020	615	1/29/2020	FR	FR
30947 ⁵	L0006A		256490	5/11/2018	7/20/2020	618	3/23/2020	FR	FR
30292	L0006A		46330	7/3/2019	12/30/2019	612	7/4/2019	8/22/2019	12/18/2019
30293	L0006A		117220	7/3/2019	12/30/2019	612	7/4/2019	8/28/2019	12/18/2019
30294	L0006A		161650	7/3/2019	7/2/2020	677	7/4/2019	9/19/2019	12/18/2019
30295	L0006A		174680	7/3/2019	12/30/2019	617	7/4/2019	9/17/2019	12/18/2019
30296	L0006A		216270	7/3/2019	7/2/2020	607	7/4/2019	2/4/2020	4/13/2020
30297	L0006A		228030	7/3/2019	7/2/2020	618	7/4/2019	10/15/2019	12/18/2019
30298	L0006A		241240	7/3/2019	12/30/2019	619	7/4/2019	9/28/2019	12/18/2019
30481	L0006A		84500	12/16/2019	6/15/2020	616	12/18/2019	3/11/2020	5/13/2020
30482	L0006A		182040	12/16/2019	6/15/2020	608	12/18/2019	3/7/2020	5/13/2020
30398 ⁶	L0061		73610	10/7/2019	11/2/2020	1153	10/9/2019	FR	FR
30399 ⁶	L0061		90360	10/7/2019	11/2/2020	1137	10/9/2019	FR	FR
30400 ⁶	L0061		250590	10/7/2019	11/2/2020	1156	10/9/2019	FR	FR

TABLE NOTES:

¹ Repair/Mitigation Deadline was specified in Tables 1 to 5 of the Consent Decree.

REDACTED SUBMITTAL -- PUBLIC COPY

² 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 window of this SAR and will be included in a future SAR.

³ PPR of PR ID 27024 has been removed before the start date of this SAR period. It was reported as "FR" in PPR Removal Date in SAR5. The PPR Removal dates was first reported in PPR Report to ITP version 01/07/2020.

⁴ Dig associated with this pressure restriction is cancelled (Dig ID 27331). PPR was implemented and after the feature was repaired in another dig, PPR was removed. Refer to paragraph story (Paragraph 46) for detail.

⁵ AP3 target feature. Reported in SAR5. PPR was added during the feature re-assessment, which was approved on 3/21/2020. PPR was implemented on 3/23/2020.

⁶ Dig Repair Mitigation Deadline was extended from 4/4/2020 to 11/2/2020.

The following 1 page is Table D-28: P. 53 Digs for Axial Slotting, Axial Grooving, Selective Seam Corrosion and Seam Weld anomaly A/B Features Table.

Table D-28: P. 53 Digs for Axial Slotting, Axial Grooving, Selective Seam Corrosion and Seam Weld anomaly A/B Features						
Dig ID	Line	Segment	Girth Weld	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation ¹
24841 ²	L0003		160440	12/17/2018	12/17/2019	09/18/2019

TABLE NOTES:

¹ "FR" indicates that this information is outside the reporting window of this SAR and will be included in a future SAR.

²This feature was repaired in the SAR5 period and was reported in SAR5 Paragraph 39 and 46a.c. It was reported in SAR5 as FR in this paragraph and has been included in SAR6 as a result.

The following 1 page is Table D-29: P. 54 Axial Slotting, Axial Grooving, and Selective Seam Corrosion, and Weld Anomaly A/B Feature Pressure Restrictions.

Table D-29: P. 54 Axial Slotting, Axial Grooving, and Selective Seam Corrosion, and Weld Anomaly A/B Feature Pressure Restrictions									
PR ID	Line	Segment	Girth Weld	Date of Discovery	Repair / Mitigation Deadline	PPR Set (psi)	PPR Imposition Date	Repair / Mitigation Date	PPR Removal Date
NA ¹									

TABLE NOTES:

¹ There are no features to report in this SAR period

The following 1 page is Table D-30: P. 56 Geometry features Mitigation Timelines Table.

Table D-30: P. 56 Geometry features Mitigation Timelines						
Dig ID	Line	Segment	Girth Weld	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation ¹
27917	L0005		142170	5/25/2020	11/17/2020	FR

TABLE NOTE:

¹ "FR" indicates that this information is outside the reporting window of this SAR and will be included in a future SAR.

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

REDACTED SUBMITTAL -- PUBLIC COPY

Table D-31: P. 58 Interacting Features Requiring Excavation										
Dig ID	Line	Segment	Girth Weld	Tool	Report Received Date	One-Source Load Date	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Type of Inter-acting features (tool)	Date of Repair / Mitigation ¹
26868 ²	L0006A		174110	MFL	11/13/2019	11/15/2019	12/16/2019	1/15/2020	Geometry	1/18/2020
27267	L0006A		136980	PHASED ARRAY	12/20/2019	12/20/2019	1/24/2020	2/24/2020	Geometry	1/25/2020

TABLE NOTES:

¹ "FR" indicates that this information is outside the reporting window of this SAR and will be included in a future SAR.

² Issues related to the repair/mitigation date are described in P145 of this report.

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	Repair / Mitigation Deadline ¹	PPR Set (psi)	PPR Imposition Date	Repair / Mitigation Date	PPR Removal Date ^{2,3}
30685 ⁴	L0006A		136980	1/24/2020	2/24/2020	247	See table note 4	1/25/2020	1/27/2020
27100 ⁵	L0003		239920	12/26/2017	6/25/2018	322	12/28/2017	1/25/2018	5/31/2018

TABLE NOTES:

¹ Specified in Tables 1 to 5 of the Consent Decree and Exhibit 1 – Fifth modification of Consent Decree.

² PPR is removed after the Feature requiring Pressure Restriction is repaired or mitigated. The PPR Removal Date may be before the Repair / Mitigation Date because that date is the repair and mitigation date of the entire dig package that may include other features not requiring pressure restriction.

³ "FR" indicates that this information is outside the reporting window of this SAR and will be included in a future SAR.

⁴ The PPR Removal Date is the same as the scheduled PPR Imposition Date as the feature was repaired prior to the scheduled imposition of the PPR.

⁵ PPR of PR ID 27100 was removed before the start date of this SAR period. It was reported as "FR" in PPR Removal Date in SAR5. The PPR Removal date was first reported in PPR Report to ITP version 01/07/2020.

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	Tool	Report Type	Remaining Life Calculation Completion Date
4503	01		CD+	Crack	3/20/2020 ¹
6367	02		Proton	Crack	5/5/2020
6368	02		Proton	Crack	5/11/2020
6395	03		DUO CD	Crack	11/26/2019 ¹
6393	03		DUO CD	Crack	12/11/2019 ¹
6487	04		MFL DuDi	Corrosion	5/22/2020
6636	05		MFL4	Corrosion	5/11/2020
4537	05		UCx	Crack	12/23/2019 ¹
6609	05		GEMINI	Corrosion	5/21/2020
6635	05		MFL4	Corrosion	5/11/2020
4674	06A		USWM+	Corrosion	1/23/2020 ¹
4544	06A		Vectra	Corrosion	12/13/2019 ¹
4676	06A		DUO CD	Crack	1/20/2020 ¹
4612	61		UC	Crack	1/15/2020 ¹
4613	64		UC	Crack	2/6/2020 ¹

TABLE NOTE:

¹ Prior to the 5th modification of the Consent Decree, the "PI Listing Approval Request Email" was used to report this date. Commencing on April 1, 2020 any Initial ILI report received after this date, based upon the 5th modification of the Consent Decree and as requested by the DOJ, the "PI Listing Approval Confirmation Email" will be used to report this date. Refer to P. 144 [Section D] Timing Change from 30+5 to 25+5 due to Fifth Modification – Various Paragraphs for more details.

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
4503	01		CD+	Crack	3/20/2020 ¹
6367	02		Proton	Crack	5/5/2020
6368	02		Proton	Crack	5/11/2020
6395	03		DUO CD	Crack	11/26/2019 ¹
6393	03		DUO CD	Crack	12/11/2019 ¹
4537	05		UCx	Crack	12/23/2019 ¹
4676	06A		DUO CD	Crack	1/20/2020 ¹
4612	61		UC	Crack	1/15/2020 ¹
4613	64		UC	Crack	2/6/2020 ¹

TABLE NOTE:

¹ Prior to the 5th modification of the Consent Decree, the "PI Listing Approval Request Email" was used to report this date. Commencing on April 1, 2020 any Initial ILI report received after this date, based upon the 5th modification of the Consent Decree and as requested by the DOJ, the "PI Listing Approval Confirmation Email" will be used to report this date. Refer to P. 144 [Section D] Timing Change from 30+5 to 25+5 due to Fifth Modification – Various Paragraphs for more details.

Section E

The following 2 pages are Table E-1: P. 68 Consent Decree Screw Anchor Installation Summary.

Section E

Table E-1: P. 68 Consent Decree Screw Anchor Installation Summary				
Location	Installed	Installation Year	Long.	Lat.
EP-17-1	Y	2018		
EP-17-2	Y	2018		
EP-17-3	Y	2018		
EP-17-4	Y	2018		
EP-17-5	Y	2018		
WP-17-1	Y	2018		
WP-17-2	Y	2018		
WP-17-3	Y	2018		
WP-17-4	Y	2018		
WP-17-5	Y	2018		
WP-17-6	Y	2018		
WP-17-7	Y	2018		
WP-17-8	Y	2018		
WP-17-9	Y	2018		
WP-17-10	Y	2018		
WP-17-11	Y	2018		
WP-17-12	Y	2018		
WP-17-13	N	-		
WP-17-14	N	-		
WP-17-15	Y	2018		
WP-17-16	Y	2018		
WP-17-17	Y	2019		
EAP-1	Y	2019		
EAP-2	Y	2020		
EAP-3	Y	2020		
EAP-4	Y	2020		
EAP-5	Y	2019		
EAP-6	N	-		
EAP-7	N	-		
EAP-8	N	-		
EAP-9	N	-		
EAP-10	Y	2020		
EAP-11	Y	2020		
EAP-12	Y	2020		
EAP-13	Y	2019		
EAP-14	Y	2019		
EAP-15	Y	2019		
EAP-16	Y	2019		
EAP-17	Y	2019		
EAP-18	Y	2019		
EAP-19	Y	2019		
EAP-20	Y	2019		

Table E-1: P. 68 Consent Decree Screw Anchor Installation Summary				
Location	Installed	Installation Year	Long.	Lat.
EAP-21	Y	2019		
EAP-22	Y	2019		
EAP-23	Y	2019		
EAP-24	Y	2019		
EAP-25	N	-		
EAP-26	Y	2019		
EAP-27	Y	2019		
EAP-28	N	-		
EAP-29	N	-		
EAP-30	Y	2019		
WAP-1	Y	2019		
WAP-2	Y	2019		
WAP-3	N	-		
WAP-4	N	-		
WAP-5	Y	2019		
WAP-6	Y	2020		
WAP-7	Y	2019		
WAP-8	Y	2019		
WAP-9	Y	2019		
WAP-10	Y	2019		
WAP-11	Y	2019		
WAP-12	N	-		
WAP-13	Y	2019		
WAP-14	Y	2019		
WAP-15	Y	2019		
WAP-16	Y	2019		
WAP-17	Y	2019		
WAP-18	Y	2019		
WAP-19	Y	2019		
WAP-20	Y	2019		
WAP-21	N	-		

The following 3 pages are Table E-2: P. 68.a Line 5 Straits – Dual Pipelines Anchor Strike Mitigation Initiatives.

Table E-2: P. 68.a Line 5 Straits – Dual Pipelines Anchor Strike Mitigation Initiatives		
Initiative Area	Activity Description	Activity Status
Operations	Quarterly meeting to update ITP and EPA on Enbridge progress on P. 68.a initiatives	Ongoing since October 2018
	Markup of pipeline on National Oceanic and Atmospheric Administration's marine navigation maps	Complete. Available for reference.
	Enbridge's engagement with the Great Lakes' mariner associations and other maritime agencies	Ongoing
	Recurring Pipeline Patrol via bi-weekly flights over the Straits	Ongoing
Technology	Implementation of GE ThreatScan strike detection system for indication of pipeline impacts requiring operational response	Installed: Q4 2018 Testing: 2019-2020 Please refer to SAR6 Section E Paragraph 68a. Protection from Vessel Anchor Strikes for a summary of Enbridge's GE ThreatScan implementation progress
	Implementation of Vesper Marine Guardian:protect Automatic Identification System ("AIS") for potential communication with vessels in the Straits regarding pipeline safety (e.g. no anchoring instructions)	Complete Please refer to SAR6 Section E Paragraph 68a. Protection from Vessel Anchor Strikes for a summary of milestones that Enbridge achieved in implementing the AIS system
	Investigation of Distributed Acoustic Sensing ("DAS") system – use of fiber optic cables to detect line strikes	Following review of received Request for Information responses, Enbridge determined that DAS technology is not sufficiently developed for use in a submerged environment such as the Straits. Enbridge will no longer pursue DAS until such time the technology is proven for the proposed application.
Regulatory	"DO NOT ANCHOR" signing	In-place, not owned by Enbridge
	State of Michigan ("SoM") Governor's approval of Department of Natural Resources Emergency Rule establishing a restricted anchor and vessel equipment zone in the Straits May 24, 2018 (No direct action by Enbridge)	Complete: May 24, 2018
	Enbridge provided support and feedback (via public commentary process) on United States Coast Guard (USCG)/Department of Homeland Security ("DHS") Final Rule "Regulated Navigation Area; Straits of Mackinac, Mackinaw City, MI" (Docket Number USCG–2018–0563) issued Oct. 1, 2018 and effective Oct. 31, 2018	Enbridge commentary submitted August 31, 2018 Complete: Final Rule Effective October 31, 2018.

Table E-2: P. 68.a Line 5 Straits – Dual Pipelines Anchor Strike Mitigation Initiatives		
Initiative Area	Activity Description	Activity Status
	impacting 33 CFR Part 165. The Final Rule restricts the deployment of anchors by vessels in the regulated navigation area.	
Agreements with the State of Michigan	Line 5 Agreements with the State of Michigan aimed at increasing “coordination between the State and Enbridge concerning the operation and maintenance of Enbridge's Line 5 pipeline located in the State of Michigan, including enhancing its operation in the interest of the citizens of Michigan”. 1st Line 5 Agreement executed November 27, 2017. Completed report on 6/28/2018 to assess options to mitigate the risk of a vessel's anchor puncturing, dragging, or otherwise damaging the Dual Pipelines with input from subject-matter experts who worked in collaboration with State of Michigan representatives. 2nd Line 5 Agreement executed October 3, 2018. As part of the Second Agreement, Enbridge has provided \$200,000 to the USCG for video cameras to monitor compliance with the USCG Restricted Navigation Area rules restricting the deployment of vessel anchors in the Straits. A 3rd Agreement and Tunnel Agreement were executed December 19, 2018, providing in part for replacement of the Dual Pipelines with a new pipeline inside of a shared utility tunnel below the Straits. Enbridge engagement with the State regarding 3rd Agreement and Tunnel Agreement work continues. On June 6, 2019 Enbridge filed a legal action in the Michigan Court of Claims seeking a ruling that the tunnel legislation is constitutional. The Michigan Attorney General opposed Enbridge's action, seeking a summary determination of unconstitutionality. On October 31, 2019, the Michigan Court of Claims upheld the constitutionality of the tunnel statute. The case is now pending on appeal to the Michigan Court of Appeals.	Ongoing

Table E-2: P. 68.a Line 5 Straits – Dual Pipelines Anchor Strike Mitigation Initiatives		
Initiative Area	Activity Description	Activity Status
	On July 1, 2019, the State of Michigan initiated a legal action in the Michigan Circuit Court in Ingham County seeking a ruling that the 1953 Easement on which the Dual Pipelines rely should be voided as contrary to the public trust, that the continued operation of the Dual Pipelines violates the public trust, that the Dual Pipelines are a public nuisance and that their operation is contrary to the Michigan Environmental Protection Act. The case is pending on cross-motions for summary disposition. Despite the litigation, Enbridge has continued to adhere to obligations it undertook in the Third Agreement and Tunnel Agreement, including: • April 4, 2019 submission of a work plan to, in conjunction with the Close Interval Surveys required under Section I.D of the Second Agreement, visually inspect pipeline coatings at sites to be specified in the work plan along the Dual Pipelines and to repair the coating at any and all sites where Bare Metal is identified. Continuation of Close Interval Surveys. • April 29, 2019 submission of the Draft Procurement and Contracting Execution Plan submitted to MSCA on April 29, 2019 as part of the April Progress Report • Geotechnical investigations of the lakebed within the proposed tunnel easement	

The following 1 page is Table E-3: P. 73 Acoustic Leak Detection.

Table E-3: P. 73 Acoustic Leak Detection		
Segment	Quarter	Leak Detection Tool Run Date
Dual Pipelines (West and East)	Q1 2020	3/18/2020

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	Tool	Report Type	Last NDE Report Approved Date	OneSource Load Date
4405	L0001		UC	Crack	3/6/2020	3/9/2020
6396	L0003		MFL4CAL	Geometry	11/19/2019	11/27/2019
6396	L0003		MFL4MFL	Corrosion	3/17/2020	3/23/2020
3711	L0003		UCMPUTWM	Corrosion (Issue 3)	12/24/2019	12/31/2019
6394	L0003		MFL4CAL	Geometry	12/16/2019	12/31/2019
6394	L0003		MFL4MFL	Corrosion	3/2/2020	3/9/2020
4443	L0006A		UMP	Corrosion (Issue 3)	5/12/2020	5/20/2020
4804	L0006A		DUOCD	Crack	5/20/2020	FR
5369	L0006A		VECTRA	Corrosion	3/25/2020	3/30/2020
4805	L0006A		UMP	Corrosion	3/4/2020	3/9/2020
4610	L0061		GEMINICAL	Geometry (Issue 2)	11/20/2019	11/27/2019

TABLE NOTE:

The last NDE report approved date was the date the last CD FRE NDE report for that particular ILI program was approved.

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 Load Date
4503	01		CD+	Crack	2/24/2020	2/24/2020
6367	02		Proton	Crack	4/6/2020	4/8/2020
6368	02		Proton	Crack	4/14/2020	4/14/2020
6610	04		Deformation	Geometry	4/20/2020	4/21/2020
6452	04		Deformation	Geometry (issue 2)	4/30/2020	4/30/2020
6452	04		Deformation	Geometry	4/20/2020	4/21/2020
6643	04		Deformation	Geometry	3/9/2020	3/11/2020
6485	04		Deformation	Geometry	3/13/2020	3/14/2020
6487	04		MFL DuDi	Corrosion	4/23/2020	4/24/2020
6488	04		MFL DuDi	Corrosion	5/11/2020	5/12/2020
6549	04		Deformation	Geometry	3/5/2020	3/6/2020
6636	05		MFL4	Corrosion	4/13/2020	4/15/2020
6636	05		MFL4	Geometry	4/13/2020	4/15/2020
4537	05		UCx	Crack (Issue 2)	1/10/2020	1/28/2020
6609	05		GEMINI	Corrosion	4/21/2020	4/22/2020
6609	05		GEMINI	Geometry	4/21/2020	4/22/2020
6635	05		MFL4	Corrosion	4/16/2020	4/20/2020
6635	05		MFL4	Geometry	4/16/2020	4/20/2020
4674	06A		USWM+	Corrosion (Issue 2)	3/19/2020	3/19/2020
4674	06A		USWM+	Corrosion	12/24/2019	12/24/2019
4676	06A		DUO CD	Crack	12/20/2019	12/20/2019
4612	61		UC	Crack	12/16/2019	1/13/2020
4613	64		UC	Crack	1/15/2020	1/20/2020
6418	78		CD+	Crack	5/15/2020	5/19/2020

The following 2 pages are Table F-3: P. 78.b Interacting Feature Reviews.

REDACTED SUBMITTAL -- PUBLIC COPY

Table F-3: P. 78.b Interacting Feature Reviews

Tool Run ID	Line	Segment	Tool	Report Type	Pull Date	Report Received Date	Interacting Feature Review	SQuAD and QuAD Completion Date	Issue #
4503	01		CD+	Crack	10/27/2019	2/24/2020	3/20/2020 ²	N/A	1
6367	02		Proton	Crack	12/6/2019	4/6/2020	5/5/2020	N/A	1
6368	02		Proton	Crack	12/16/2019	4/14/2020	5/11/2020	N/A	1
6395	03		DUO CD	Crack	7/1/2019	10/29/2019	11/26/2019 ²	N/A	1
6393	03		DUO CD	Crack	7/19/2019	11/15/2019	12/11/2019 ²	N/A	1
6610	04		Deformation	Geometry	2/18/2020	4/20/2020	5/12/2020	5/12/2020	1
6452	04		Deformation	Geometry	2/19/2020	4/30/2020	5/12/2020	5/12/2020	2
6643	04		Deformation	Geometry	1/10/2020	3/9/2020	3/31/2020 ²	3/31/2020 ²	1
6487	04		MFL DuDi	Corrosion	1/24/2020	4/23/2020	5/22/2020	5/22/2020	1
6485	04		Deformation	Geometry	1/14/2020	3/13/2020	4/2/2020 ²	4/2/2020 ²	1
4519	04		Deformation	Geometry	9/13/2019	11/12/2019	12/12/2019 ²	12/12/2019 ²	1
6549	04		Deformation	Geometry	1/7/2020	3/5/2020	3/23/2020 ²	3/23/2020 ²	1
6636	05		MFL4	Corrosion	1/14/2020	4/13/2020	5/11/2020 ¹	5/11/2020	1
6636	05		MFL4	Geometry	1/14/2020	4/13/2020	5/11/2020 ¹	5/11/2020	1
4537	05		UCx	Crack	7/25/2019	11/22/2019	12/23/2019 ²	N/A	1
4537	05		UCx	Crack	7/25/2019	1/10/2020	2/10/2020 ²	N/A	2
6609	05		GEMINI	Corrosion	1/22/2020	4/21/2020	5/21/2020	5/21/2020	1
6609	05		GEMINI	Geometry	1/22/2020	4/21/2020	5/21/2020	5/21/2020	1
6635	05		MFL4	Corrosion	1/17/2020	4/16/2020	5/11/2020 ¹	5/11/2020	1
6635	05		MFL4	Geometry	1/17/2020	4/16/2020	5/11/2020 ¹	5/11/2020	1

Table F-3: P. 78.b Interacting Feature Reviews

Tool Run ID	Line	Segment	Tool	Report Type	Pull Date	Report Received Date	Interacting Feature Review	SQuAD and QuAD Completion Date	Issue #
4674	06A		USWM+	Corrosion	9/26/2019	12/24/2019	1/23/2020 ²	1/23/2020 ²	1
4674	06A		USWM+	Corrosion	9/26/2019	3/19/2020	3/19/2020 ²	3/19/2020 ²	2
4544	06A		Vectra	Corrosion	8/16/2019	11/13/2019	12/13/2019 ²	12/13/2019 ²	1
4676	06A		DUO CD	Crack	8/23/2019	12/20/2019	1/20/2020 ²	N/A	1
4612	61		UC	Crack	8/20/2019	12/16/2019	1/15/2020 ²	N/A	1
4613	64		UC	Crack	9/17/2019	1/15/2020	2/6/2020 ²	N/A	1

TABLE NOTE:

¹For these programs, the ILI report received date was the date that the Issue 1 report was received. A data quality issue was found with the Issue 1 report and an Issue 2 report was received shortly after that. The assessment was completed on the Issue 2 reports, therefore the threat integration in this column is associated with Issue 2 reports. The threat integration was completed within 30 days of when the report Issue 1 were received.

² Prior to the 5th modification of the Consent Decree, the "PI Listing Approval Request Email" was used to report this date. Commencing on April 1, 2020 any Initial ILI report received after this date, based upon the 5th modification of the Consent Decree and as requested by the DOJ, the "PI Listing Approval Confirmation Email" will be used to report this date.

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	11	0
Bypass of ILI Tool	4 hours	21	0
Scheduled maintenance or repairs	4 days	33	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?
NA ¹				

TABLE NOTE:

¹ There were no Paragraph 99 Projects that occurred during the reporting period for this SAR.

The following 5 pages are Table G-3: P. 112 Lakehead System Pipeline Incident Reporting.

REDACTED SUBMITTAL -- PUBLIC COPY

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
	11/24/2019 19:38 MST	11/24/2019 19:42 MST	11/24/2019 19:43 MST			Line 5
	12/01/2019 04:56 MST	12/01/2019 05:03 MST	12/01/2019 05:03 MST			Line 78
	12/01/2019 13:41 MST	12/01/2019 13:46 MST	12/01/2019 13:48 MST			Line 06A Line 14 Line 61

REDACTED SUBMITTAL -- PUBLIC COPY

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
	12/06/2019 14:18 MST	12/06/2019 14:26 MST	12/06/2019 14:32 MST			Line 78
	01/08/2020 15:21 MST	01/08/2020 15:32 MST	01/08/2020 15:28 MST			Line 78
	01/09/2020 08:47 MST	01/09/2020 08:55 MST	01/09/2020 08:56 MST			Line 14

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
	02/26/2020 13:32 MST	02/26/2020 13:34 MST	02/26/2020 13:35 MST			Line 05
	02/26/2020 16:15 MST	02/26/2020 16:21 MST	02/26/2020 16:22 MST			Line 01 Line 02B Line 04 Line 05 Line 6A Line 14 Line 61 Line 67
	04/14/2020 11:48 MST	04/14/2020 11:55 MST	04/14/2020 11:56 MST			Line 06A Line 14 Line 61

REDACTED SUBMITTAL -- PUBLIC COPY

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
	04/18/2020 12:53 MST	04/18/2020 12:59 MST	04/18/2020 13:00 MST			Line 01
	04/27/2020 15:21 MST	04/27/2020 15:31 MST	04/27/2020 15:33 MST			Line 78
	05/19/2020 17:45 MST	05/19/2020 17:51 MST	05/19/2020 17:53 MST			Line 06A Line 14 Line 61

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
	05/20/2020 10:56 MST	05/20/2020 10:59 MST	05/20/2020 11:00 MST			Line 05

Section H

There are no tables associated with Section H.

Section I

The following 1 page is Table I-1: P. 121-122 Planned Valve Installation Program Overview.

Section I

Table I-1: P. 121-122 Planned Valve Installation Program Overview		
Year	Quantity and Line Number	Milepost Number
2017 (Complete)	4 sites, Line 5	1473, 1487, 1601, 1715
2018 (Complete)	4 sites, Line 5	1416, 1518, 1429, 1621
2019 (Complete)	2 sites, Line 6A	427, 458
	2 sites, Line 14	412, 430
2020 (Planned)	2 sites, Line 6A	80, 198

Section J

There are no tables associated with Section J.

Section IX

The following 2 pages are Table IX-1: P. 144 Problems Anticipated, Consent Decree Interpretation Issues.

Section IX

Table IX-1: P. 144 Problems Anticipated, Consent Decree Interpretation Issues in Discussion by the Parties		
Section and Title	Relevant Paragraph or Reference	Enbridge Position
[Section B] Replacement of Line 3	Paragraph 22.d(1); interpretation of “on an annual basis” from “On an annual basis with the exception of the final year of service for the Original US Line 3, Enbridge shall complete valid ILIs of all portions of Original US Line 3...”	The parties did not initially agree on whether an “annual basis” referred to a calendar year or any 12-month period. Enbridge interpreted “on an annual basis” to refer to a calendar year. EPA disagreed with this position. Enbridge, without agreeing that its initial interpretation was incorrect, has agreed to schedule all L3 runs in line with the EPA interpretation going forward, with the exception of the final year of service.
[Section D] Periodic In-Line Inspections, Circumferential Cracking	Paragraph 27, 28: “ILI tools that are most appropriate for accurately detecting, characterizing and sizing all Crack features.”	As the parties have discussed at length, Enbridge believes that the Consent Decree was not drafted to address circumferential cracking. Enbridge has identified difficulties encountered, from a technical perspective, of applying the Consent Decree as written to circumferential Cracking. Enbridge, the EPA, and the ITP continue to discuss ways to resolve this challenge.
[Section D] FRE completed	Paragraph 40, 77.d	FRE Completion is the NDE approval date. This is chosen because the NDE QA/QC process can result in revisions to the NDE data, additional NDE data being provided and ultimately, rarely, re-excavation of the site. It appears likely that the parties will agree on a mutually accepted interpretation going forward and thus resolve this issue.
[Section D] HCA Determination	Paragraph 50, 53, 55, 58	HCA status and resulting remediation timing is evaluated when a feature is placed on the dig list. Remediation timing associated with HCA status is not revisited after a feature has been placed on the dig list. The parties are discussing whether additional reviews are required should HCA status change after digs are issued.

Table IX-1: P. 144 Problems Anticipated, Consent Decree Interpretation Issues in Discussion by the Parties		
Section and Title	Relevant Paragraph or Reference	Enbridge Position
[Section F] Update of OneSource Database, "all field investigations"	Paragraph 77.d	Although Enbridge does not believe that Paragraph 77 of the Consent Decree was intended to incorporate digs that are outside of Consent Decree requirements, Enbridge is willing to agree that NDE reports from all integrity dig excavations issued from Consent Decree ILI programs, including Consent Decree FRE, investigative digs and Non-Consent Decree digs, would be uploaded into OneSource within 60 days after completing the last field investigation related to an ILI. It appears likely that the parties will agree on a mutually accepted interpretation going forward and thus resolve this issue.
[Section G] Rupture Detection System Alarm	Paragraph 102.a	Enbridge maintains that it has met the requirements in Paragraph 102.a and that flow rate is not a mandatory input. It currently appears that this issue may be resolved based on information already provided to EPA and the ITP.

The following 1 page is Table IX-2: P. 115 Stockbridge Agreed Exercise Activities.

Table IX-2: Paragraph 115 Stockbridge Agreed Exercise Activities			
Date	Planned Exercise Activity	City	State
05/13/20	Stockbridge Master Scenario Events List (MSEL) Meeting	Lansing	Michigan
08/19/20	Stockbridge Final Planning Meeting	Lansing	Michigan
09/22/20 – 09/23/20	Stockbridge Exercise	Lansing	Michigan
09/24/20	Stockbridge After Action Meeting	Lansing	Michigan

The following 1 page is Table IX-3: P. 116 Rescheduled TTXs and FDEs March-June 2020.

REDACTED SUBMITTAL -- PUBLIC COPY

Table IX-3: Paragraph 116 Rescheduled TTXs and FDEs March-June 2020				
Original Date	Rescheduled Date	Exercise Type	City	State
03/18/20	08/13/20	TTX	Homer Glen	Illinois
03/25/20	08/04/20	TTX	Niles	Michigan
04/22/20	08/27/20	TTX	Cloquet	Minnesota
05/19/20	07/28/20	TTX	Rapid River	Michigan
05/20/20	07/29/20	FDE	Rapid River	Michigan
05/26/20	08/11/20	FDE	Floodwood	Minnesota
06/03/20	09/30/20	FDE	Morris	Illinois

The following 1 page is Table IX-4: P. 116 Rescheduled Community Outreach Sessions April – June 2020.

REDACTED SUBMITTAL -- PUBLIC COPY

Table IX-4: Paragraph 116 Rescheduled Community Outreach Sessions April – June 2020			
Original Date	Re-Scheduled Date	Community Outreach Sessions	State
04/14/20	07/14/20	Midwest Region - Minong/Stone Lake (Sawyer/Washburn County) This meeting was re-scheduled to a July date and will be conducted via Tele-Town Hall.	Wisconsin
04/15/20	07/15/20	Midwest Region - Medford (Taylor County) This meeting was re-scheduled to a July date and will be conducted via Tele-Town Hall.	Wisconsin
04/28/20	07/21/20	Midwest Region-Marshfield (Wood County) This meeting was re-scheduled to a July date and will be conducted via Tele-Town Hall.	Wisconsin
04/29/20	07/22/20	Midwest Region - Portage (Columbia County) This meeting was re-scheduled to a July date and will be conducted via Tele-Town Hall.	Wisconsin
05/05/20	06/02/20	Great Lakes Region - Marshall (Calhoun County) This meeting was re-scheduled to a June date and was conducted via Tele-Town Hall.	Michigan
05/06/20	06/01/20	Great Lakes Region - Kalamazoo (Kalamazoo County) This meeting was re-scheduled to a June date and was conducted via Tele-Town Hall.	Michigan
05/19/20	08/25/20	Great Lakes Region - Crystal Lake (McHenry County)	Illinois
05/20/20	08/26/20	Great Lakes Region - Ottawa (LaSalle County)	Illinois
05/21/20	08/27/20	Great Lakes Region - Crete (Will County)	Illinois
06/23/20*	10/27/20	Great Lakes Region - Manteo (Kankakee County)	Illinois
06/24/20*	10/28/20	Great Lakes Region - Valparaiso/Chesterton (Porter County)	Indiana
06/25/20*	10/29/20	Great Lakes Region - Niles (St. Joseph County, IN)	Indiana

*Community Outreach Sessions originally scheduled in June still meet Consent Decree requirements by rescheduling them for October therefore no Force Majeure Notification was submitted.

The following 2 pages are Table IX-5: Section H P. 174 Force Majeure Notifications.

Table IX-5: Section H Paragraph 174 Force Majeure Notifications	
Step	Summary of Section H Action
Step 1 Verbal Immediate	As soon as Enbridge is aware of an issue that will result in not meeting Consent Decree requirements then they must notify the EPA immediately. - In our case, Emergency Management notified the EPA verbally of changes to planned Consent Decree requirements, via Legal. <u>First Verbal Notification</u>: The first verbal notification on March 12, 2020 included re-scheduling of March and April TTX (P.116) and April Community Outreach (P.116) <u>Second Verbal Notification</u>: A second verbal notification on April 7, 2020 was provided for the re-scheduling of the May Community Outreach (P.116). <u>Third Verbal Notification</u>: A third verbal notification to the EPA occurred on April 24, 2020 notifying them of the virtual format of the MSEL meeting and notifying them of the re-scheduled May TTX and FDE meetings. <u>Fourth Verbal notification</u>: Verbal notification May 12, 2020 was made regarding the June 3, 2020 Field Deployment exercise in Morris.
Step 2 Written within 5 Days of Knowing As of April 30, 2020 – This step is no longer required and is replaced by the day written follow up (Step 3).	A written notification is made to the EPA. <u>First Written Notification</u>: In our case Enbridge submitted a written notification letter on March 13, 2020 via Legal. This notified the EPA of the re-scheduling of the March and April TTX (P.116) and the re-scheduling of the April Community Outreach (P.116). <u>Second Written Notification</u>: a written notification was submitted April 10, 2020 regarding the May Community Engagement re-scheduling to date.
Step 3 Written Follow up within 10 Days of the Written Follow-up	A follow up written notification is made to the EPA by legal following the initial written notification. <u>First Written Notification</u>: In our case, Enbridge followed up with a letter on March 23, 2020. This notified the EPA of the re-scheduling of the March and April TTX (P.116) and the re-scheduling of the April Community Outreach (P.116). <u>Second Written Notification</u>: the written notification was submitted April 10, 2020 regarding the May Community Outreach re-scheduling satisfies the 10 day follow up. <u>Third Written Notification</u>: a written notification was submitted notifying the EPA on May 4, 2020 of the virtual format of the MSEL meeting and providing notification of the re-scheduled May TTX and FDE meetings. <u>Fourth Written Notification</u>: a written notification was submitted on May 22, 2020 notifying the EPA of the re-scheduled June 3, 2020 FDE in Morris to September 30, 2020.
Note: every time Enbridge is aware of any Consent Decree obligations it is unable to meet, then Steps 1, 2 and 3 are repeated	
Step 4 Enbridge Continues to Monitor the Situation	For Section H, Enbridge staff coordinate every Monday for an update and conduct a review meeting every Wednesday.
Step 5 Enbridge Identifies a Work Around if Possible and Notifies EPA	For Section H, the events impacted are TTX, FDE, Community Outreach and likely future FSE planning meetings for Stockbridge. Note, to date Enbridge has notified and been

Table IX-5: Section H Paragraph 174 Force Majeure Notifications	
Step	Summary of Section H Action
	approved by the EPA to host six Community Outreach sessions virtually as well as hosted the MSEL meeting virtually. On April 30, 2020, during the legal meeting, the EPA gave verbal approval to hold the Great Lakes Region - Kalamazoo (Kalamazoo County), and the Great Lakes Region - Marshall (Calhoun County) via tele-town hall in June. Written approval was received June 11, 2020 to host the April Community Outreach Sessions as tele-town hall meetings in July.
Step 6 EPA Policy Termination	This step is initiated by the EPA, Enbridge will have 7 days to come up with an updated plan to meet our Consent Decree obligations. Enbridge will meet those obligations as per the submitted plan.

The following 1 page is Table IX-6: P. 145 List of Potential Non-Compliances.

REDACTED SUBMITTAL -- PUBLIC COPY

Table IX-6: P. 145 List of Potential Non-Compliances	
Potential Non-Compliance	Summary Location
[Section D] Line 6A PE-AM (Dig ID 26868) Mitigation Completed 3 Days Late	Paragraph 58

The following 1 page is Table IX-7: P. 146 Discharges from a Lakehead System Pipeline.

Table IX-7: P. 146 Discharges from a Lakehead System Pipeline	
Spill Date (MM/DD/YYYY)	4/30/2020
National Response Center #	Not Required
Spill Location	Griffith, Lake County, IN
MP#/Facility Name	Griffith Terminal
Equipment or Line Number	Tank 71 Floating Roof
Cause of spill	Natural Force Damage
Spill Material	Crude Oil
Quantity of Spill	2.52 Barrels
Distance Spill Travelled	Contained to tank roof
Sheen, Sludge or Emulsion Observed	Not Applicable
Name of Water that Spill Entered (if applicable)	Not Applicable
Water Quality Standard Exceeded/Violated	Not Applicable
Actions Taken or Planned to Address Spill	The tank was isolated and locked out while a triple filter system was installed on the roof drain to safely drain water from the roof. After cleanup was complete, Tank 71 was returned to service.
Actions Taken or Planned to Prevent Future Spills and Schedule for Future Actions	No further actions warranted.
Environmental Impacts from Spill	Not Applicable
Root Cause	Heavy rains

The following 1 page is Table IX-8: P. 147 Updated Discharges from a Lakehead System Pipeline.

Table IX-8: P. 147 Update on Discharges from a Lakehead System Pipeline		
Spill Date (MM/DD/YYYY)	7/4/2019	
National Response Center #	1251072	
Spill Location	Floodwood, St. Louis County, MN	
MP#/Facility Name	Floodwood Station	
Equipment or Line Number	Line 4 Unit 2 Pump	
Cause of spill	Under Investigation	
Spill Material	Crude Oil	
Quantity of Spill	6.7 Barrels	
Distance Spill Travelled	Contained within the pump room building, with a small amount of product migrating outside the building wall.	
Sheen, Sludge or Emulsion Observed	Not Applicable	
Name of Water that Spill Entered (if applicable)	Not Applicable	
Water Quality Standard Exceeded/Violated	Not Applicable	
Actions Taken or Planned to Address Spill	Pump is currently out of service for scheduled maintenance. The failed tubing will be replaced prior to the pump going back into service. <i>The motor was sent in for an overall cleaning and the pump was rebuilt and the piping replaced. Floodwood Unit 4.2 is now back in service¹.</i>	
Actions Taken or Planned to Prevent Future Spills and Schedule for Future Actions	Once the final metallurgical analysis is received, it will be determined if similar configurations require remediation. <i>Metallurgical analysis determined that the failure was due to mechanical damage.</i>	
Final Actions Taken or Planned to Prevent Future Spills and Schedule for Future Actions	<i>Floodwood Unit 4.3 was inspected and had an orifice installed. An orifice will be installed on Floodwood Unit 4.1 the next time the pump unit requires a seal change.</i> <i>A procedure revision has been submitted to incorporate the initiative of ensuring that an orifice is present on pump units' company wide.</i>	
Environmental Impacts from Spill	Soil (Solely on Enbridge Property)	
Preliminary Root Cause	Under Investigation	
Final Root Cause	<i>Defective or Loose Tubing or Fitting (Mechanical damage)</i>	

TABLE NOTE:

¹ Updates to the discharges reported in the fifth SAR are italicized

Appendix 2 – Catch-Up Tables for the Fifth CD Modification [Paragraphs 32.a-c, 34.a, 34.c, 37, 40, 44.a-b, 46.a-d, 58, 59, 60, 77, 78.b]

Enbridge has been working on the Fifth Modification of the Consent Decree with the ITP and EPA for many months. Although the modification has not yet been approved by the Court, Enbridge has been completing tasks in accordance with the requirements of the Fifth Modification, as agreed to by the ITP and EPA. Although Fifth Modification activities have taken place over the reporting period of previous SARs, Enbridge is reporting all Fifth Modification activities in the current SAR and on a go-forward basis. As a result, this Appendix contains activities that are outside of the reporting period for this SAR. In accordance with the Fifth Modification of the Consent Decree, the vendor requirements for reporting for Geometry programs has been modified. As a result, geometry reports from the start of the Consent Decree to March 31, 2019 were re-analyzed. Specific details relating to this re-analysis are included in this Appendix. The Fifth modification also provides provisions for Enbridge to analyze dents intersecting with corrosion using Semi-Quantitative Analysis ("SQuAD") and Quantitative Analysis ("QuAD") techniques. Features that do not pass SQuAD may be subject to QuAD analysis and features that fail QuAD analysis must be remediated or repaired. The re-analysis of the geometry programs is reported below. Note that the PPRs associated with these features are reported in **Table A2-3** below.

Notes for Appendix 2 tables:

1. Modified tables were prepared for all Catch-Up programs (ILI runs prior to March 31, 2019).
2. Tables are provided in Appendix 2 of SAR6 only.
3. Issue 9 and 10 reports are specific to catch-up features which are geometric features less than five percent depth.
4. All Catch-Up assessments were completed on or before December 15, 2019, in accordance with the requirements of the 5th Modification of the Consent Decree. All Catch-Up programs are for Geometry ILIs.

Table A2-1: Fifth Modification Reporting Program Level Table (Includes data from tables in Paragraphs 32.a-c, 34.a, 34.c, 37, 44.a-b, 60, 78.b, and additional columns specific to the 5th Modification)

Line 1 CR-PW Report Issue 9 Data Quality Concern – P34c.

During the data quality review, it was discovered that the Issue 9 ILI report contained features with depth below the lower tool detection threshold of the tool and as a result a re-issue was requested. A summary document and an assessment sheet were not generated for Issue 9 of the ILI report. The full assessment, complete with summary document and assessment sheet was completed for Issue 10.

Line 67 GF-CR Report Issue 9 Data Quality Concern – P34c.

During the data quality review, it was discovered that the Issue 9 ILI report contained minor errors that did not impact the assessment for this program. An Issue 9.1 was requested to correct 3 Most Severe Point (MSP) orientations that were reported incorrectly in Issue 9. The full assessment was completed for Issue 9 and no additional assessment was required for Issue 9.1.

Line 78 SK-RW Report Issue 9 Data Quality Concern – P34c.

During the data quality review, it was discovered that the Issue 9 ILI report contained features with depth below the lower tool detection threshold of the tool and as a result a re-issue was requested. A summary document and an assessment sheet were not generated for Issue 9 of the ILI report. The full assessment, complete with summary document and assessment sheet was completed for Issue 10.

Re-analysis supporting document approval date

Enbridge is aware of various supporting analyses that were administratively approved after the date that the FRE evaluation was completed. The administrative delay of formalizing the approval of the supporting information occurred during the early stage of implementing the process for SQuAD and QuAD on Catch-up programs. For example, the L2 GF-CR Issue 9 report was received on May 15, 2019. SQuAD on the interacting feature for this program was completed and reviewed by the engineer on May 24, 2019. The completed evaluation was approved by the SME on June 7, 2019 with no Feature Requiring Excavation for the Issue 9 program. The re-analysis completion date was within 60 days of receiving the report and before the Dec 15, 2019 deadline for all Catch-up programs. However, the approval time stamp on the supporting SQuAD report for this program was on June 12, 2019.

The SME approval reflects the completed result from the SQuAD/QuAD analyses but does not account for the administrative stamping and the physical sign off the documents. Enbridge has since improved the process to ensure the stamp of the SQuAD/QuAD report is prior to the SME approval date.

REDACTED SUBMITTAL -- PUBLIC COPY

Table A2-1: Program Level Table (Includes data from tables in Paragraphs 32.a-c, 34.a, 34.c, 37, 44.a-b, 60, 78.b, and additional columns specific for the 5 th Modification) ¹												
Tool Run ID	Line	Segment	Tool	ILI Re- port Issue #	ILI Report Received Date	Data Quality Concerns Identified and Resolved	Number of Additional Features Identified Requiring Assessment ²	Number of Features that Failed SQuAD	Number of Features that Failed QuAD	Date Re-Analysis of FREs Completed ³	Re-Analysis of FREs Completed within 60 Days of Receiving Results	Date All Features Added to Dig List
6110	01		MFL4C AL	9	4/24/2019	Yes	N/A	N/A	N/A	N/A	N/A	N/A
6110	01		MFL4C AL	10	6/5/2019	No	510	12	3	7/5/2019	Yes	7/5/2019
4395	02		GEMINI	9	4/12/2019	No	190	0	0	5/14/2019	Yes	N/A
4396	02		GEMINI	9	6/28/2019	No	766	0	0	7/29/2019	Yes	N/A
4494	02		GEMINI	9	5/15/2019	No	235	0	0	6/7/2019	Yes	N/A
2211	04		Kaliper K360	9	4/25/2019	No	0	0	0	5/21/2019	Yes	N/A
3678	04		Kaliper K360	9	4/26/2019	No	6	0	0	5/14/2019	Yes	N/A
1519	04		Kaliper K360	9	3/21/2019	No	0	0	0	4/1/2019	Yes	N/A
1855	04		Kaliper K360	9	3/26/2019	No	3	0	0	4/17/2019	Yes	N/A
1860	04		Kaliper K360	9	4/4/2019	No	13	0	0	4/24/2019	Yes	N/A
1975	04		Kaliper K360	9	4/12/2019	No	0	0	0	4/23/2019	Yes	N/A
1982	04		Kaliper K360	9	4/16/2019	No	0	0	0	4/24/2019	Yes	N/A

REDACTED SUBMITTAL -- PUBLIC COPY

Table A2-1: Program Level Table (Includes data from tables in Paragraphs 32.a-c, 34.a, 34.c, 37, 44.a-b, 60, 78.b, and additional columns specific for the 5 th Modification) ¹												
Tool Run ID	Line	Segment	Tool	ILI Re- port Issue #	ILI Report Received Date	Data Quality Concerns Identified and Resolved	Number of Additional Features Identified Requiring Assessment ²	Number of Features that Failed SQuAD	Number of Features that Failed QuAD	Date Re-Analysis of FREs Completed ³	Re-Analysis of FREs Completed within 60 Days of Receiving Results	Date All Features Added to Dig List
1980	04		Kaliper K360	9	4/15/2019	No	2	0	0	5/9/2019	Yes	N/A
2689	04		GeoPig	9	3/7/2019	No	5	0	0	3/21/2019	Yes	N/A
2215	05		GEMINI	9	5/30/2019	No	640	0	0	6/24/2019	Yes	N/A
2183	05		GEMINI	9	9/12/2019	No	1619	4	0	11/4/2019	Yes	11/4/2019
2194	05		GEMINI	9	7/31/2019	No	684	2	0	8/26/2019	Yes	8/26/2019
4334	06A		GEMINI	9	10/30/2019	No	985	4	0	12/13/2019	Yes	12/13/2019
3807	06A		GEMINI	9	8/9/2019	No	569	1	1	9/4/2019	Yes	9/4/2019
4107	10		GEMINI	9	8/30/2019	No	10	0	0	9/24/2019	Yes	N/A
4109	10		MFL4	9	9/5/2019	No	24	3	0	10/7/2019	Yes	10/7/2019
4105	10		MFL4	9	8/27/2019	No	1	0	0	9/13/2019	Yes	N/A
2459	64		GEMINI	9	6/24/2019	No	0	0	0	7/18/2019	Yes	N/A
1862	67		GEMINI	9	9/24/2019	No	69	0	0	10/21/2019	Yes	N/A
6091	67		GeoPig	9	9/24/2019	Yes	64	0	0	10/21/2019	Yes	N/A
6091	67		GeoPig	9.1	12/10/2019	No	N/A	N/A	N/A	N/A	N/A	N/A
4487	78		GEMINI	9	11/1/2019	No	23	0	0	11/28/2019	Yes	N/A

REDACTED SUBMITTAL -- PUBLIC COPY

Table A2-1: Program Level Table (Includes data from tables in Paragraphs 32.a-c, 34.a, 34.c, 37, 44.a-b, 60, 78.b, and additional columns specific for the 5th Modification)¹

Tool Run ID	Line	Segment	Tool	ILI Re-report Issue #	ILI Report Received Date	Data Quality Concerns Identified and Resolved	Number of Additional Features Identified Requiring Assessment ²	Number of Features that Failed SQuAD	Number of Features that Failed QuAD	Date Re-Analysis of FRES Completed ³	Re-Analysis of FRES Completed within 60 Days of Receiving Results	Date All Features Added to Dig List
4490	78		MFL4	9	5/1/2019	Yes	N/A	N/A	N/A	N/A	N/A	N/A
4490	78		MFL4	10	6/5/2019	No	16	0	0	6/19/2019	Yes	N/A

TABLE NOTE:

¹All Catch-Up assessments were completed on or before December 15, 2019, in accordance with the requirements of the 5th Modification of the Consent Decree. All Catch-Up programs are for Geometry ILIs

² The number of features in this column includes all geometric anomaly and dent features above the tool detection threshold that were not reported previously. This is the number of additional geometric anomaly and dent features that were flagged for re-analysis by the ILI vendor.

³ The "PI Listing Approval Confirmation Email" (SME approval of the program) is used to report this date.

REDACTED SUBMITTAL -- PUBLIC COPY

Table A2-2: Dig Table (Includes data from tables in Paragraphs 46.a, 46.c, 58)									
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Tool	Date of Discovery/Feature Added to Dig List Date	Repair/Mitigation Deadline	Type of Interacting Features (Tool)	Date of Repair/Mitigation
26249	L0001		8130	6110	MFL4CAL	7/5/2019	1/2/2020	Corrosion	7/17/2019
26250	L0001		191590	6110	MFL4CAL	7/5/2019	8/5/2019	Corrosion	7/18/2019
26251	L0001		226200	6110	MFL4CAL	7/5/2019	9/3/2019	Corrosion	7/12/2019
26696	L0005		97480	2183	GEMINICAL	11/4/2019	11/3/2020	Crack	11/5/2019
26455	L0005		199730	2194	GEMINICAL	8/26/2019	8/25/2020	N/A ¹	2/19/2020
26808	L0006A		55280	4334	GEMINICAL	12/13/2019	2/11/2020	Crack	12/18/2019
26469	L0006A		28920	3807	GEMINICAL	9/4/2019	9/3/2020	N/A ¹	10/8/2019
26470	L0006A		116400	3807	GEMINICAL	9/4/2019	10/4/2019	Crack	9/6/2019
26471	L0006A		215240	3807	GEMINICAL	9/4/2019	11/4/2019	Corrosion	10/25/2019

TABLE NOTE:

¹ Feature is interacting with a weld and not an ILI reported feature

Table A2-3: Pressure Table (Includes data from tables in Paragraphs 46.b-d, 59)

L1 CR-PW PR ID 30300 PPR removal date

Based on the NDE field assessment on 7/10/2019, no features were found to be interacting with the dent, therefore the pressure restriction was no longer required. The pressure restriction was removed on 7/11/2019. The sleeve repair was completed on 7/12/2019 to mitigate the non-interacting features.

L6A AM-GT PR ID 30480 PPR removal date

During the excavation two sleeves were installed on the same joint. The sleeve associated with the target feature was completed on 12/16/2019 and as a result, the pressure restriction required was also removed on 12/16/2019. A second sleeve repair was completed for the non-target feature on 12/18/2019. eDig is only able to document one sleeve repair date per excavation, thus the sleeve repair date for this GW in eDig has been documented as the latest sleeve repair date which is 12/18/2019.

Table A2-3: Pressure Restrictions Table (Includes data from tables in Paragraphs 46.b-d, 59)									
PR ID	Line	Segment	Girth Weld	Date of Discovery	Repair/Mitigation Deadline	PPR Set (psi)	PPR Imposition date	Repair/Mitigation Date	PPR Removal Date
30299	L0001		8130	7/5/2019	1/2/2020	551	7/8/2019	7/17/2019	7/26/2019
30300	L0001		226200	7/5/2019	9/3/2019	451	7/8/2019	7/12/2019	7/11/2019
30437	L0005		97480	11/4/2019	11/3/2020	329	See table note 1	11/5/2019	11/6/2019
30480	L0006A		55280	12/13/2019	2/11/2020	288	See table note 1	12/18/2019	12/16/2019
30361	L0006A		116400	9/4/2019	10/4/2019	299	See table note 1	9/6/2019	9/6/2019

TABLE NOTE:

¹ The PPR Removal Date is the same as the scheduled PPR Imposition Date as the feature was repaired prior to the scheduled imposition of the PPR.

Table A2-4: Trending Table (Paragraph 40)						
Tool Run ID	Line	Segment	Tool	Report Type	Last NDE Report Approved Date ¹	Analysis of Field Data/Statistical Analysis Date ²
6110	L0001		MFL4CAL	Geometry	8/1/2019	8/15/2019
2183	L0005		GEMINICAL	Geometry	12/5/2019	12/5/2019
2194	L0005		GEMINICAL	Geometry	3/17/2020	3/24/2019
4334	L0006A		GEMINICAL	Geometry	1/27/2020	1/27/2020
3807	L0006A		GEMINICAL	Geometry	11/11/2019	12/11/2019

TABLE NOTE:

¹ This is the date that the last CD FRE NDE report was approved.

² This is the date reported in Program summary document

Table A2-5: NDE Report Upload to OneSource Table (Paragraph 77)						
Tool Run ID	Line	Segment	Tool	Report Type	Last NDE Report Approved Date ¹	OneSource Load Date
6110	L0001		MFL4CAL	Geometry	FR	FR
2183	L0005		GEMINICAL	Geometry	12/5/2019	12/10/2019
2194	L0005		GEMINICAL	Geometry	3/17/2020	3/23/2020
4334	L0006A		GEMINICAL	Geometry	FR	FR
3807	L0006A		GEMINICAL	Geometry	11/11/2019	11/20/2019
4109	L0010		MFL4CAL	Geometry	1/28/2020	2/3/2020

TABLE NOTE:

¹ This is the date that the last NDE report was approved (all digs).

Table A2-6: ILI Report Upload to OneSource Table (Paragraph 78.a)

Line 67, GF-CR, 2018 Geopig ILI Report Issue Number Discrepancy

The ILI Report for L67 GF-CR 2018 Geopig Issue 9 required a minor revision change to Issue 9.1. However, early versions of OnePlan did not accept issue numbers in decimal format. As a result, the ILI Report issue number in OnePlan for this program was listed as Issue 10 while other Enbridge data sources for this program list it as Issue 9.1. Enbridge has updated OnePlan to accept issue numbers in decimal format and the OnePlan record has been updated to Issue 9.1.

Line 4 FW-WR Report Issue 9

The Initial ILI report for this program was first received on 3/28/2019 and uploaded to OneSource on 3/28/2019. A report error was identified after this date and the report was resubmitted by ILI vendor with the same issue number on 4/4/2019. The ILI report was re-uploaded to OneSource on 4/4/2019, but the OneSource upload date remains as 3/28/2019 as this date cannot be changed in OneSource.

Table A2-6: ILI Report Upload to OneSource Table (Paragraph 78.a)						
Tool Run ID	Line	Segment	Tool	Report Type	Report Received Date	OneSource Load Date
6110	01		MFL4	Geometry	4/24/2019	4/29/2019
6110	01		MFL4	Geometry (Issue 10)	6/5/2019	6/10/2019
4395	02		GEMINI	Geometry	4/12/2019	4/15/2019
4396	02		GEMINI	Geometry	6/28/2019	7/3/2019
4494	02		GEMINI	Geometry	5/15/2019	5/22/2019
2211	04		Kaliper K360	Geometry	4/25/2019	4/26/2019
3678	04		Kaliper K360	Geometry	4/26/2019	4/29/2019
1519	04		Kaliper K360	Geometry	3/21/2019	3/25/2019
1855	04		Kaliper K360	Geometry	3/26/2019	3/27/2019
1860	04		Kaliper K360	Geometry	4/4/2019	3/28/2019 ¹
1975	04		Kaliper K360	Geometry	4/12/2019	4/15/2019
1982	04		Kaliper K360	Geometry	4/16/2019	4/17/2019
1980	04		Kaliper K360	Geometry	4/15/2019	4/16/2019
2689	04		GeoPig	Geometry	3/7/2019	3/7/2019
2215	05		GEMINI	Geometry	5/30/2019	6/4/2019
2183	05		GEMINI	Geometry	9/12/2019	9/15/2019

Table A2-6: ILI Report Upload to OneSource Table (Paragraph 78.a)						
Tool Run ID	Line	Segment	Tool	Report Type	Report Received Date	OneSource Load Date
2194	05		GEMINI	Geometry	7/31/2019	8/2/2019
4334	06A		GEMINI	Geometry	10/30/2019	10/31/2019
3807	06A		GEMINI	Geometry	8/9/2019	8/9/2019
4107	10		GEMINI	Geometry	8/30/2019	9/3/2019
4109	10		MFL4	Geometry	9/5/2019	9/8/2019
4105	10		MFL4	Geometry	8/27/2019	8/29/2019
2459	64		GEMINI	Geometry	6/24/2019	6/27/2019
1862	67		GEMINI	Geometry	9/24/2019	9/25/2019
6091	67		GeoPig	Geometry	9/24/2019	9/25/2019
6091	67		GeoPig (Issue 9.1)	Geometry	12/10/2019	12/13/2019
4487	78		GEMINI	Geometry	11/1/2019	11/4/2019
4490	78		MFL4	Geometry	5/1/2019	5/2/2019
4490	78		MFL4 (Issue 10)	Geometry	6/5/2019	6/10/2019

TABLE NOTE:

¹ See Paragraph for details

Appendix 3 – Lakehead Leak Alarm Report [108,110,111]

Reporting Period: November 23, 2019 to May 22, 2020



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 June 18, 2020

For reporting period November 23, 2019 to May 22, 2020

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 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	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: 1. the Control Room operator (“CRO”) who is responsible for the pipeline that generates the alarm, 2. the leak detection analyst (“LD Analyst”), and 3. the senior technical advisor for that pipeline.

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").

REDACTED SUBMITTAL -- PUBLIC COPY

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

[Redacted]

Name

[Redacted]

Signature

[Redacted]

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	(Alarming) Number of times Enbridge did not comply with the 10-Minute Rule in responding to Alarms (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
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: November 23, 2019 to May 22, 2020)

Pipeline	Total Alarms	Total Non-Compliance (Alarming)	Total Non-Compliance (Non-Alarming)	Reasons and Corrective Actions for each Non-Compliance
01	5	0	0	
02	10	0	0	
03	8	0	0	
04	4	0	0	
05	10	0	0	
06A	6	0	0	
10	3	0	0	
14	16	0	0	
61	4	0	0	
62	0	0	0	

REDACTED SUBMITTAL -- PUBLIC COPY

Pipeline	Total Alarms	Total Non-Compliance (Alarming)	Total Non-Compliance (Non-Alarming)	Reasons and Corrective Actions for each Non-Compliance
64	0	0	0	
65	3	0	0	
67	0	0	0	
78	17	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.

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.

Table 2b: Record of Alarm

Pipeline	01	
Alarming Event Start Time	2020-01-24 14:09:58^	^Line already shut-in when MBS alarms with flow-based rupture flag were received due to instrument calibration. Assessed as Rupture alarms as per procedure.
MBS Alarm Received Time	2020-01-24 14:09:59	
MBS Alarm Assessed Time	2020-01-24 14:18:58	
MBS Alarm Received Time	2020-01-24 14:09:59	
MBS Alarm Assessed Time	2020-01-24 14:19:02	
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	Visual inspection performed by field staff - Regional and CCO Admin approvals granted	
Startup Commenced	2020-01-25 16:25:02	
Were Procedures Followed	Yes	
Post Incident Report		

Pipeline	01	
Alarming Event Start Time	2020-02-03 18:48:02^	^Line already shut-in when MBS alarms with flow-based rupture flag were received due to false flow measurements. Assessed as Rupture alarms as per procedure.
MBS Alarm Received Time	2020-02-03 18:48:03	
MBS Alarm Assessed Time	2020-02-03 18:53:41	
MBS Alarm Received Time	2020-02-03 18:48:03	
MBS Alarm Assessed Time	2020-02-03 18:53:44	
Root Cause	Instrument Error	
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - 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	Visual inspection performed by field staff - Regional and CCO Admin approvals granted	
Startup Commenced	2020-02-05 08:29:00	
Were Procedures Followed	Yes	
Post Incident Report		

REDACTED SUBMITTAL -- PUBLIC COPY

Pipeline	02	
Alarming Event Start Time	2020-04-16 10:35:44 [^]	[^] MBS alarms with flow-based rupture flag were received due to false flow measurements. Assessed as Rupture alarms as per procedure.
MBS Alarm Received Time	2020-04-16 10:35:44	
MBS Alarm Assessed Time	2020-04-16 10:48:33	
MBS Alarm Received Time	2020-04-16 10:36:14	
MBS Alarm Assessed Time	2020-04-16 10:48:31	
MBS Alarm Received Time	2020-04-16 10:38:14	
MBS Alarm Assessed Time	2020-04-16 10:48:18	
MBS Alarm Received Time	2020-04-16 10:38:14	
MBS Alarm Assessed Time	2020-04-16 10:48:16	
MBS Alarm Received Time	2020-04-16 10:40:13	
MBS Alarm Assessed Time	2020-04-16 10:48:07	
MBS Alarm Received Time	2020-04-16 10:40:13	
MBS Alarm Assessed Time	2020-04-16 10:48:06	
Root Cause	Instrument Error	
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline	
LDA Actions	LD - MBS - Leak Alarm	
Shutdown Commenced	2020-04-16 10:39:13	
Shutdown Completed	2020-04-16 10:53:13	
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted	
Startup Commenced	2020-04-16 13:30:44	
Were Procedures Followed	Yes	
Post Incident Report		

REDACTED SUBMITTAL -- PUBLIC COPY

Pipeline	02
Alarming Event Start Time	2020-04-16 10:37:44
MBS Alarm Received Time MBS Alarm Assessed Time	2020-04-16 10:37:44 2020-04-16 11:03:18
MBS Alarm Received Time MBS Alarm Assessed Time	2020-04-16 10:37:44 2020-04-16 11:03:21
MBS Alarm Received Time MBS Alarm Assessed Time	2020-04-16 10:38:44 2020-04-16 11:03:23
MBS Alarm Received Time MBS Alarm Assessed Time	2020-04-16 10:39:14 2020-04-16 11:03:27
Root Cause	Instrument Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2020-04-16 10:39:13
Shutdown Completed	2020-04-16 10:53:13
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2020-04-16 13:30:51
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	03
Alarming Event Start Time	2019-12-25 06:40:32
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-25 06:40:33 2019-12-25 06:45:35
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2019-12-25 06:34:47**
Shutdown Completed	2019-12-25 06:55:16
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	2019-12-25 10:30:00
Were Procedures Followed	Yes
Post Incident Report	

**The line was in the process of shutting down when the alarm was generated. The 'Shutdown Commenced' is the time when the shutdown was initiated.

REDACTED SUBMITTAL -- PUBLIC COPY

Pipeline	03
Alarming Event Start Time	2019-12-28 23:29:34
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-28 23:29:35 2019-12-28 23:36:54
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-28 23:31:05 2019-12-28 23:36:58
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-28 23:37:35 2019-12-28 23:46:23
Root Cause	Column Separation
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2019-12-28 23:31:49
Shutdown Completed	2019-12-28 23:43:15
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2019-12-29 01:30:59
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2020-03-20 11:45:04
RDS Alarm Received Time RDS Alarm Assessed Time	2020-03-20 11:45:05 2020-03-20 11:52:48
Root Cause	Field Maintenance
CRO and STA Actions	Rupture Detection Alarm - Pipeline
LDA Actions	LD - RDS - Rupture Alarm
Shutdown Commenced	2020-03-20 11:45:09
Shutdown Completed	2020-03-20 11:58:01
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2020-03-20 15:25:00
Were Procedures Followed	Yes
Post Incident Report	

REDACTED SUBMITTAL -- PUBLIC COPY

Pipeline	05
Alarming Event Start Time	2020-05-21 10:04:24
MBS Alarm Received Time MBS Alarm Assessed Time	2020-05-21 10:04:25 2020-05-21 12:06:03
Root Cause	LDS Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2020-05-21 10:15:25* *Each alarm was assessed individually to rule out the possibility of a leak within 10 minutes of the alarm in the event. 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	2020-05-21 10:32:04
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2020-05-21 13:00:19
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	06A
Alarming Event Start Time	2019-12-01 16:09:46
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-01 16:09:47 2019-12-01 16:13:20
Root Cause	Column Separation
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	2019-12-01 20:09:00
Were Procedures Followed	Yes
Post Incident Report	

REDACTED SUBMITTAL -- PUBLIC COPY

Pipeline	06A
Alarming Event Start Time	2020-03-12 20:59:42
MBS Alarm Received Time MBS Alarm Assessed Time MBS Alarm Received Time MBS Alarm Assessed Time MBS Alarm Received Time MBS Alarm Assessed Time	2020-03-12 20:59:43 2020-03-12 21:07:58 2020-03-12 20:59:43 2020-03-12 21:08:01 2020-03-12 21:11:14 2020-03-12 21:15:37
Root Cause	LDS Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2020-03-12 21:10:15* *Each alarm was assessed individually to rule out the possibility of a leak within 10 minutes of the alarm in the event. 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	2020-03-12 21:22:36
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	2020-03-13 00:00:59
Were Procedures Followed	Yes
Post Incident Report	

REDACTED SUBMITTAL -- PUBLIC COPY

Pipeline	14
Alarming Event Start Time	2019-12-04 12:34:39
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-04 12:34:39 2019-12-04 12:43:27
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-04 12:35:08 2019-12-04 12:43:24
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-04 12:46:39 2019-12-04 12:50:55
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-04 12:46:39 2019-12-04 12:51:02
Root Cause	Fluid Loss
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2019-12-04 12:40:32
Shutdown Completed	2019-12-04 12:55:33
Justification for Resumption	Authorized Fluid Withdrawal Test
Startup Commenced	2019-12-04 14:50:05
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	61
Alarming Event Start Time	2019-12-01 19:26:21
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-01 19:26:21 2019-12-01 19:55:19
MBS Alarm Received Time MBS Alarm Assessed Time	2019-12-01 19:33:52 2019-12-01 19:55:21
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	2019-12-01 20:09:16
Were Procedures Followed	Yes
Post Incident Report	

REDACTED SUBMITTAL -- PUBLIC COPY

Pipeline	61
Alarming Event Start Time	2020-05-14 16:38:43
MBS Alarm Received Time MBS Alarm Assessed Time	2020-05-14 16:38:43 2020-05-14 16:46:22
MBS Alarm Received Time MBS Alarm Assessed Time	2020-05-14 16:42:45 2020-05-14 16:46:23
MBS Alarm Received Time MBS Alarm Assessed Time	2020-05-14 16:46:46 2020-05-14 16:49:29
Root Cause	Column Separation
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	2020-05-14 17:46:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	65
Alarming Event Start Time	2020-02-11 01:48:27
MBS Alarm Received Time MBS Alarm Assessed Time	2020-02-11 01:48:27 2020-02-11 01:53:48
Root Cause	Transient Condition
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	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2020-02-11 03:37:00
Were Procedures Followed	Yes
Post Incident Report	

REDACTED SUBMITTAL -- PUBLIC COPY

Pipeline	65
Alarming Event Start Time	2020-03-01 13:45:58
MBS Alarm Received Time MBS Alarm Assessed Time	2020-03-01 13:45:59 2020-03-01 13:55:00
Root Cause	Transient Condition
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	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2020-03-01 16:45:39
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	65
Alarming Event Start Time	2020-03-10 07:41:33
MBS Alarm Received Time MBS Alarm Assessed Time	2020-03-10 07:41:33 2020-03-10 08:16:58
MBS Alarm Received Time MBS Alarm Assessed Time	2020-03-10 07:47:34 2020-03-10 08:17:01
MBS Alarm Received Time MBS Alarm Assessed Time	2020-03-10 07:57:33 2020-03-10 08:17:04
Root Cause	LDS Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2020-03-10 07:51:53* *Each alarm was assessed individually to rule out the possibility of a leak within 10 minutes of the alarm in the event. 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	2020-03-10 08:03:41
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2020-03-10 09:35:41
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.

Table 3a: Description of fields in this Report

Data	Description
Week	ISO 8601 week date label to identify the week in the “weekly” list of alarms.
Pipeline	Name (number) of the pipeline.
Type	Type of alarm (AVB, MBS or RDS): • AVB are 24-hour MBS alarms • MBS are 5-minute, 20-minute, or 2-hour MBS alarms • RDS are Rupture Detection System alarms
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.

Table 3b: Weekly List of Alarms

2019 Week 47: 2 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
05	2019-11-23 12:25:17	MBS	2019-11-23 12:25:17	2019-11-23 12:30:13	2019-11-23 12:30:13	No
14	2019-11-24 07:12:44	MBS	2019-11-24 07:12:45	2019-11-24 07:21:16	2019-11-24 07:21:16	No

2019 Week 48: 5 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
02	2019-11-27 19:00:05	MBS	2019-11-27 19:00:06	2019-11-27 19:06:06	2019-11-27 19:06:06	No
		MBS	2019-11-27 19:01:36	2019-11-27 19:06:08	2019-11-27 19:06:08	
06A	2019-12-01 16:09:46	MBS	2019-12-01 16:09:47	2019-12-01 16:13:20	2019-12-01 16:22:41	Yes
61	2019-11-30 16:55:04	MBS	2019-11-30 16:55:05	2019-11-30 16:59:08	2019-11-30 16:59:08	No
		MBS	2019-11-30 16:56:35	2019-11-30 16:59:06	2019-11-30 16:59:06	
61	2019-12-01 19:26:21	MBS	2019-12-01 19:26:21	2019-12-01 19:55:19	2019-12-01 19:58:10	Yes
		MBS	2019-12-01 19:33:52	2019-12-01 19:55:21	2019-12-01 19:58:10	
78	2019-11-28 06:38:45	MBS	2019-11-28 06:38:45	2019-11-28 06:48:04	2019-11-28 06:48:04	No
		MBS	2019-11-28 06:47:16	2019-11-28 06:49:59	2019-11-28 06:49:59	

REDACTED SUBMITTAL -- PUBLIC COPY

2019 Week 49: 5 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
06A	2019-12-07 10:04:02	MBS	2019-12-07 10:04:02	2019-12-07 10:08:01	2019-12-07 10:08:01	No
06A	2019-12-07 10:57:07	MBS	2019-12-07 10:57:07	2019-12-07 11:00:25	2019-12-07 11:00:25	No
		MBS	2019-12-07 10:57:38	2019-12-07 11:00:23	2019-12-07 11:00:23	
14	2019-12-04 12:34:39	MBS	2019-12-04 12:34:39	2019-12-04 12:43:27	2019-12-04 14:00:38	Yes
		MBS	2019-12-04 12:35:08	2019-12-04 12:43:24	2019-12-04 14:00:38	
		MBS	2019-12-04 12:46:39	2019-12-04 12:50:55	2019-12-04 14:00:38	
		MBS	2019-12-04 12:46:39	2019-12-04 12:51:02	2019-12-04 14:00:38	
14	2019-12-04 13:34:39	MBS	2019-12-04 13:34:40	2019-12-04 13:36:01	2019-12-04 13:36:01	No
14	2019-12-05 19:23:41	MBS	2019-12-05 19:23:42	2019-12-05 19:28:58	2019-12-05 19:28:58	No

2019 Week 50: 1 Alarming Event in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
14	2019-12-13 11:50:39	MBS	2019-12-13 11:50:39	2019-12-13 11:56:39	2019-12-13 11:56:39	No
		MBS	2019-12-13 11:50:39	2019-12-13 11:56:37	2019-12-13 11:56:37	

2019 Week 51: 4 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
14	2019-12-19 10:06:45	MBS	2019-12-19 10:06:46	2019-12-19 10:10:34	2019-12-19 10:10:34	No
		MBS	2019-12-19 10:06:46	2019-12-19 10:10:36	2019-12-19 10:10:36	
14	2019-12-21 09:34:50	MBS	2019-12-21 09:34:51	2019-12-21 09:39:38	2019-12-21 09:39:38	No
78	2019-12-17 01:33:03	MBS	2019-12-17 01:33:03	2019-12-17 01:39:00	2019-12-17 01:39:00	No
78	2019-12-21 13:52:32	MBS	2019-12-21 13:52:33	2019-12-21 13:59:49	2019-12-21 13:59:49	No
		MBS	2019-12-21 13:52:33	2019-12-21 13:59:46	2019-12-21 13:59:46	

REDACTED SUBMITTAL -- PUBLIC COPY

2019 Week 52: 3 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2019-12-25 06:40:32	MBS	2019-12-25 06:40:33	2019-12-25 06:45:35	2019-12-25 09:30:08	Yes
03	2019-12-28 23:29:34	MBS	2019-12-28 23:29:35	2019-12-28 23:36:54	2019-12-29 00:44:22	Yes
		MBS	2019-12-28 23:31:05	2019-12-28 23:36:58	2019-12-29 00:44:22	
		MBS	2019-12-28 23:37:35	2019-12-28 23:46:23	2019-12-29 00:44:22	
03	2019-12-29 01:49:09	MBS	2019-12-29 01:49:09	2019-12-29 01:56:36	2019-12-29 01:56:36	No
		MBS	2019-12-29 01:49:38	2019-12-29 01:56:39	2019-12-29 01:56:39	

2020 Week 02: 6 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
02	2020-01-07 05:54:22	MBS	2020-01-07 05:54:23	2020-01-07 05:58:11	2020-01-07 05:58:11	No
02	2020-01-10 02:15:29	MBS	2020-01-10 02:15:29	2020-01-10 02:21:18	2020-01-10 02:21:18	No
		MBS	2020-01-10 02:18:29	2020-01-10 02:21:15	2020-01-10 02:21:15	
02	2020-01-10 09:30:15	MBS	2020-01-10 09:30:15	2020-01-10 09:35:58	2020-01-10 09:35:58	No
		MBS	2020-01-10 09:33:45	2020-01-10 09:35:56	2020-01-10 09:35:56	
05	2020-01-06 17:41:31	MBS	2020-01-06 17:41:32	2020-01-06 17:48:39	2020-01-06 17:48:39	No
		MBS	2020-01-06 17:41:32	2020-01-06 17:48:44	2020-01-06 17:48:44	
14	2020-01-10 22:42:52	MBS	2020-01-10 22:42:53	2020-01-10 22:47:09	2020-01-10 22:47:09	No
14	2020-01-12 00:59:20	MBS	2020-01-12 00:59:20	2020-01-12 01:04:38	2020-01-12 01:04:38	No

REDACTED SUBMITTAL -- PUBLIC COPY

2020 Week 03: 9 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2020-01-16 19:43:38	MBS	2020-01-16 19:43:39	2020-01-16 19:48:22	2020-01-16 19:48:22	No
02	2020-01-14 03:28:57	MBS	2020-01-14 03:28:58	2020-01-14 03:34:08	2020-01-14 03:34:08	No
02	2020-01-14 09:12:06	MBS	2020-01-14 09:12:07	2020-01-14 09:20:46	2020-01-14 09:20:46	No
02	2020-01-18 20:49:15	MBS	2020-01-18 20:49:16	2020-01-18 20:53:24	2020-01-18 20:53:24	No
02	2020-01-19 04:17:08	MBS	2020-01-19 04:17:08	2020-01-19 04:19:42	2020-01-19 04:19:42	No
05	2020-01-18 22:35:16	MBS	2020-01-18 22:35:16	2020-01-18 22:44:06	2020-01-18 22:44:06	No
		MBS	2020-01-18 22:35:47	2020-01-18 22:44:08	2020-01-18 22:44:08	
14	2020-01-13 21:53:14	MBS	2020-01-13 21:53:15	2020-01-13 21:56:22	2020-01-13 21:56:22	No
78	2020-01-14 11:47:46	MBS	2020-01-14 11:47:46	2020-01-14 11:50:51	2020-01-14 11:50:51	No
		MBS	2020-01-14 11:47:46	2020-01-14 11:50:51	2020-01-14 11:50:51	
78	2020-01-17 20:51:47	MBS	2020-01-17 20:51:48	2020-01-17 21:00:17	2020-01-17 21:00:17	No

2020 Week 04: 3 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2020-01-24 14:09:58	MBS	2020-01-24 14:09:59	2020-01-24 14:18:58	2020-01-24 15:39:26	Yes
		MBS	2020-01-24 14:09:59	2020-01-24 14:19:02	2020-01-24 15:39:26	
78	2020-01-20 23:13:17	MBS	2020-01-20 23:13:18	2020-01-20 23:20:36	2020-01-20 23:20:36	No
78	2020-01-21 13:46:43	MBS	2020-01-21 13:46:44	2020-01-21 13:53:22	2020-01-21 13:53:22	No
		MBS	2020-01-21 13:50:45	2020-01-21 13:53:31	2020-01-21 13:53:31	

REDACTED SUBMITTAL -- PUBLIC COPY

2020 Week 05: 5 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
14	2020-01-29 00:07:20	MBS	2020-01-29 00:07:21	2020-01-29 00:14:32	2020-01-29 00:14:32	No
14	2020-01-30 09:20:12	MBS	2020-01-30 09:20:12	2020-01-30 09:26:38	2020-01-30 09:26:38	No
78	2020-01-28 00:40:13	MBS	2020-01-28 00:40:14	2020-01-28 00:46:42	2020-01-28 00:46:42	No
78	2020-01-31 23:05:37	MBS	2020-01-31 23:05:38	2020-01-31 23:13:05	2020-01-31 23:13:05	No
		MBS	2020-01-31 23:07:08	2020-01-31 23:13:08	2020-01-31 23:13:08	
78	2020-02-01 20:50:13	MBS	2020-02-01 20:50:13	2020-02-01 20:56:17	2020-02-01 20:56:17	No

2020 Week 06: 1 Alarming Event in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2020-02-03 18:48:02	MBS	2020-02-03 18:48:03	2020-02-03 18:53:41	2020-02-04 14:43:44	Yes
		MBS	2020-02-03 18:48:03	2020-02-03 18:53:44	2020-02-04 14:43:44	

2020 Week 07: 3 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2020-02-10 05:56:22	MBS	2020-02-10 05:56:23	2020-02-10 06:05:54	2020-02-10 06:05:54	No
		MBS	2020-02-10 05:56:23	2020-02-10 06:05:52	2020-02-10 06:05:52	
14	2020-02-14 05:58:07	MBS	2020-02-14 05:58:07	2020-02-14 06:02:55	2020-02-14 06:02:55	No
65	2020-02-11 01:48:27	MBS	2020-02-11 01:48:27	2020-02-11 01:53:48	2020-02-11 03:18:31	Yes

2020 Week 09: 1 Alarming Event in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
65	2020-03-01 13:45:58	MBS	2020-03-01 13:45:59	2020-03-01 13:55:00	2020-03-01 15:33:23	Yes

REDACTED SUBMITTAL -- PUBLIC COPY

2020 Week 11: 6 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
06A	2020-03-12 20:59:42	MBS	2020-03-12 20:59:43	2020-03-12 21:07:58	2020-03-12 22:53:44	Yes
		MBS	2020-03-12 20:59:43	2020-03-12 21:08:01	2020-03-12 22:53:44	
		MBS	2020-03-12 21:11:14	2020-03-12 21:15:37	2020-03-12 22:53:44	
65	2020-03-10 07:41:33	MBS	2020-03-10 07:41:33	2020-03-10 08:16:58	2020-03-10 08:21:34	Yes
		MBS	2020-03-10 07:47:34	2020-03-10 08:17:01	2020-03-10 08:21:34	
		MBS	2020-03-10 07:57:33	2020-03-10 08:17:04	2020-03-10 08:21:34	
78	2020-03-09 11:01:56	AVB	2020-03-09 11:01:57	2020-03-09 11:06:42	2020-03-09 11:06:42	No
78	2020-03-10 07:02:03	AVB	2020-03-10 07:02:04	2020-03-10 07:10:02	2020-03-10 07:10:02	No
78	2020-03-11 13:37:24	MBS	2020-03-11 13:37:25	2020-03-11 13:42:32	2020-03-11 13:42:32	No
78	2020-03-11 17:04:56	AVB	2020-03-11 17:04:57	2020-03-11 17:06:59	2020-03-11 17:06:59	No
		AVB	2020-03-11 17:04:57	2020-03-11 17:06:57	2020-03-11 17:06:57	

2020 Week 12: 3 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2020-03-16 11:21:33	MBS	2020-03-16 11:21:34	2020-03-16 11:24:05	2020-03-16 11:24:05	No
		MBS	2020-03-16 11:21:34	2020-03-16 11:24:01	2020-03-16 11:24:01	
05	2020-03-20 11:45:04	RDS	2020-03-20 11:45:05	2020-03-20 11:52:48	2020-03-20 15:25:00	Yes
10	2020-03-19 03:26:15	MBS	2020-03-19 03:26:16	2020-03-19 03:32:29	2020-03-19 03:32:29	No

2020 Week 14: 1 Alarming Event in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
14	2020-04-01 11:01:10	MBS	2020-04-01 11:01:11	2020-04-01 11:08:30	2020-04-01 11:08:30	No
		MBS	2020-04-01 11:01:11	2020-04-01 11:08:25	2020-04-01 11:08:25	
		MBS	2020-04-01 11:02:41	2020-04-01 11:08:32	2020-04-01 11:08:32	
		MBS	2020-04-01 11:02:41	2020-04-01 11:08:34	2020-04-01 11:08:34	

REDACTED SUBMITTAL -- PUBLIC COPY

2020 Week 15: 1 Alarming Event in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2020-04-06 11:37:28	MBS	2020-04-06 11:37:28	2020-04-06 11:43:38	2020-04-06 11:43:38	No

2020 Week 16: 9 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2020-04-15 17:34:59	MBS	2020-04-15 17:35:00	2020-04-15 17:42:23	2020-04-15 17:42:23	No
		MBS	2020-04-15 17:38:00	2020-04-15 17:42:25	2020-04-15 17:42:25	
02	2020-04-16 10:35:44	MBS	2020-04-16 10:35:44	2020-04-16 10:48:33	2020-04-16 13:01:56	Yes
		MBS	2020-04-16 10:36:14	2020-04-16 10:48:31	2020-04-16 13:01:56	
		MBS	2020-04-16 10:38:14	2020-04-16 10:48:18	2020-04-16 13:01:56	
		MBS	2020-04-16 10:38:14	2020-04-16 10:48:16	2020-04-16 13:01:56	
		MBS	2020-04-16 10:40:13	2020-04-16 10:48:07	2020-04-16 13:01:56	
		MBS	2020-04-16 10:40:13	2020-04-16 10:48:06	2020-04-16 13:01:56	
02	2020-04-16 10:37:44	MBS	2020-04-16 10:37:44	2020-04-16 11:03:18	2020-04-16 13:01:56	Yes
		MBS	2020-04-16 10:37:44	2020-04-16 11:03:21	2020-04-16 13:01:56	
		MBS	2020-04-16 10:38:44	2020-04-16 11:03:23	2020-04-16 13:01:56	
		MBS	2020-04-16 10:39:14	2020-04-16 11:03:27	2020-04-16 13:01:56	
04	2020-04-16 05:39:34	MBS	2020-04-16 05:39:35	2020-04-16 05:46:38	2020-04-16 05:46:38	No
05	2020-04-16 09:28:25	MBS	2020-04-16 09:28:26	2020-04-16 09:36:09	2020-04-16 09:36:09	No
		MBS	2020-04-16 09:29:26	2020-04-16 09:36:07	2020-04-16 09:36:07	
		MBS	2020-04-16 09:29:56	2020-04-16 09:36:04	2020-04-16 09:36:04	
05	2020-04-16 12:24:04	MBS	2020-04-16 12:24:04	2020-04-16 12:28:19	2020-04-16 12:28:19	No
10	2020-04-19 10:42:10	MBS	2020-04-19 10:42:10	2020-04-19 10:44:10	2020-04-19 10:44:10	No
		MBS	2020-04-19 10:42:40	2020-04-19 10:44:13	2020-04-19 10:44:13	
14	2020-04-14 19:55:15	MBS	2020-04-14 19:55:15	2020-04-14 20:00:27	2020-04-14 20:00:27	No
14	2020-04-17 04:23:18	MBS	2020-04-17 04:23:19	2020-04-17 04:31:50	2020-04-17 04:31:50	No

REDACTED SUBMITTAL -- PUBLIC COPY

2020 Week 17: 3 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
04	2020-04-24 09:13:14	MBS	2020-04-24 09:13:15	2020-04-24 09:19:12	2020-04-24 09:19:12	No
		MBS	2020-04-24 09:13:15	2020-04-24 09:19:17	2020-04-24 09:19:17	
05	2020-04-22 07:11:35	MBS	2020-04-22 07:11:36	2020-04-22 07:17:21	2020-04-22 07:17:21	No
		MBS	2020-04-22 07:12:06	2020-04-22 07:17:24	2020-04-22 07:17:24	
		MBS	2020-04-22 07:12:06	2020-04-22 07:17:18	2020-04-22 07:17:18	
06A	2020-04-20 16:01:44	AVB	2020-04-20 16:01:45	2020-04-20 16:07:39	2020-04-20 16:07:39	No

2020 Week 18: 3 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
04	2020-05-01 05:56:57	MBS	2020-05-01 05:56:57	2020-05-01 06:06:03	2020-05-01 06:06:03	No
06A	2020-04-30 09:50:52	MBS	2020-04-30 09:50:52	2020-04-30 09:57:51	2020-04-30 09:57:51	No
		MBS	2020-04-30 09:54:54	2020-04-30 09:57:59	2020-04-30 09:57:59	
78	2020-04-30 08:54:56	MBS	2020-04-30 08:54:56	2020-04-30 09:00:34	2020-04-30 09:00:34	No

2020 Week 19: 4 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2020-05-08 05:53:44	MBS	2020-05-08 05:53:45	2020-05-08 05:59:37	2020-05-08 05:59:37	No
		MBS	2020-05-08 05:53:45	2020-05-08 05:59:35	2020-05-08 05:59:35	
04	2020-05-10 19:22:50	MBS	2020-05-10 19:22:51	2020-05-10 19:28:26	2020-05-10 19:28:26	No
05	2020-05-07 07:54:54	MBS	2020-05-07 07:54:55	2020-05-07 07:59:29	2020-05-07 07:59:29	No
		MBS	2020-05-07 07:54:55	2020-05-07 07:59:27	2020-05-07 07:59:27	
		MBS	2020-05-07 07:54:55	2020-05-07 07:59:31	2020-05-07 07:59:31	
10	2020-05-05 10:59:14	MBS	2020-05-05 10:59:15	2020-05-05 11:02:59	2020-05-05 11:02:59	No
		MBS	2020-05-05 10:59:45	2020-05-05 11:03:00	2020-05-05 11:03:00	

REDACTED SUBMITTAL -- PUBLIC COPY

2020 Week 20: 4 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2020-05-15 12:49:44	MBS	2020-05-15 12:49:44	2020-05-15 12:57:06	2020-05-15 12:57:06	No
		MBS	2020-05-15 12:49:44	2020-05-15 12:57:04	2020-05-15 12:57:04	
61	2020-05-14 06:42:53	MBS	2020-05-14 06:42:53	2020-05-14 06:48:23	2020-05-14 06:48:23	No
		MBS	2020-05-14 06:42:53	2020-05-14 06:48:25	2020-05-14 06:48:25	
61	2020-05-14 16:38:43	MBS	2020-05-14 16:38:43	2020-05-14 16:46:22	2020-05-14 16:53:12	Yes
		MBS	2020-05-14 16:42:45	2020-05-14 16:46:23	2020-05-14 16:53:12	
		MBS	2020-05-14 16:46:46	2020-05-14 16:49:29	2020-05-14 16:53:12	
78	2020-05-11 21:21:50	MBS	2020-05-11 21:21:50	2020-05-11 21:29:18	2020-05-11 21:29:18	No
		MBS	2020-05-11 21:29:21	2020-05-11 21:30:52	2020-05-11 21:30:52	

2020 Week 21: 4 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2020-05-21 09:29:46	MBS	2020-05-21 09:29:46	2020-05-21 09:38:34	2020-05-21 09:38:34	No
05	2020-05-21 10:04:24	MBS	2020-05-21 10:04:25	2020-05-21 12:06:03	2020-05-21 12:20:01	Yes
05	2020-05-21 14:26:10	MBS	2020-05-21 14:26:11	2020-05-21 14:35:37	2020-05-21 14:35:37	No
78	2020-05-19 11:25:59	MBS	2020-05-19 11:25:59	2020-05-19 11:29:13	2020-05-19 11:29:13	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
----------	---------	--------------	------------	------------

Appendix 4 – Spill Response and Preparedness Additional Information [116]

Reporting Period: November 23, 2019 to May 22, 2020

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Pipeline(s)	Reason for Change
Great Lakes	Chicago		Yes			Kishwaukee River	CP369-3.3	14	
Great Lakes	Chicago		Yes			Kishwaukee River	CP369-4.2	14	
Great Lakes	Chicago		Yes			Kishwaukee River	CP369-6.4	14	
Great Lakes	Chicago		Yes			Kishwaukee River	CP369-7.9	14	
Great Lakes	Chicago		Yes			Kishwaukee River	CP369-11.6	14	
Great Lakes	Chicago		Yes			Kishwaukee River	CP369-14.5	14	
Great Lakes			Yes			Kishwaukee River		13 & 61	New Control Point
Great Lakes	Chicago		Yes			Kishwaukee Coon	CP363-2.5	13 & 61	
Great Lakes	Chicago		Yes			Kishwaukee River	CP356-12.6 / CP363-3.7	13 & 61	
Great Lakes	Chicago		Yes			Kishwaukee River	CP356-19.3 / CP363-10.6	13 & 61	
Great Lakes	Chicago		Yes			Kishwaukee River	CP363-12.7	13 & 61	
Great Lakes	Chicago		Yes			Kishwaukee River	CP363-17.4	13 & 61	
Great Lakes	Chicago		Yes			Kishwaukee River	CP363-21.2	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP371-5.0	14	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP371-3.4	14	
Great Lakes	Chicago		Yes			Beaver Creek	CP351-2.8	13 & 61	
Great Lakes	Chicago		Yes			Beaver Creek	CP351-5.6	13 & 61	
Great Lakes	Chicago		Yes			Beaver Creek	CP351-11.8	13 & 61	
Great Lakes	Chicago		Yes			Beaver Creek	CP351-17.8	13 & 61	
Great Lakes	Chicago		Yes			Beaver Creek	CP351-19.4	13 & 61	
Great Lakes	Chicago		Yes			Piscasaw Creek	CP356-5.5	13 & 61	
Great Lakes	Chicago		Yes			Piscasaw Creek	CP356-7.5	13 & 61	
Great Lakes	Chicago		Yes			Piscasaw Creek	CP356-9.0	13 & 61	
Great Lakes	Chicago		Yes			Piscasaw Creek	CP356-10.5	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP390-1.8	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP390-5.0	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP390-8.2	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP390-10.1	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP390-14.1	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP374-3.5	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP374-5.5	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP374-8.4	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP374-12.2	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP374-13.1	13 & 61	
Great Lakes	Chicago		Yes			South Branch Kishwaukee River	CP374-15.9	13 & 61	
Great Lakes	Chicago		Yes			Big Rock Creek	CP408-1.9	14	
Great Lakes	Chicago		Yes			Big Rock Creek	CP408-2.7	14	
Great Lakes	Chicago		Yes			Big Rock Creek	CP408-4.2	14	
Great Lakes	Chicago		Yes			Big Rock Creek	CP408-6.1	14	
Great Lakes	Chicago		Yes			Big Rock Creek	CP408-8.6	14	
Great Lakes	Chicago		Yes			Big Rock Creek	CP415-4.5	14	
Great Lakes	Chicago		Yes			Fox River	CP415-5.8	14	
Great Lakes	Chicago		Yes			Fox River	CP419-1.0	14	
Great Lakes	Chicago		Yes			Fox River	CP419-4.4	14	
Great Lakes	Chicago		Yes			Fox River	CP419-6.2	14	
Great Lakes	Chicago		Yes			Fox River	CP419-9.5	14	
Great Lakes	Chicago		Yes			Fox River	CP419-11.8	14	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Pipeline(s)	Reason for Change
Great Lakes	Chicago		Yes			Fox River	CP419-14.1	14	
Great Lakes	Chicago		Yes			Fox River	CP419-20.3	13 & 61	
Great Lakes	Chicago		Yes			Fox River	CP421-4.5	13 & 61	
Great Lakes	Chicago		Yes			Fox River	CP421-7.3	13 & 61	
Great Lakes	Chicago		Yes			Fox River	CP421-11.9	13 & 61	
Great Lakes	Chicago		Yes			Little Rock Creek	CP415-1.9	14	
Great Lakes	Chicago		Yes			Chicago Ship Canal	CP425-1.2	6A	
Great Lakes	Chicago		Yes			Des Plaines River	CP425-3.7	6A	
Great Lakes	Chicago		Yes			Des Plaines River	CP425-4.8	6A	
Great Lakes	Chicago		Yes			Chicago Ship Canal	CP425-5.5	6A	
Great Lakes	Chicago		Yes			Des Plaines River and Chicago Ship Canal	CP425-8.0	6A	
Great Lakes	Chicago		Yes			Des Plaines River and Chicago Ship Canal	CP425-10.3	6A	
Great Lakes	Chicago		Yes			Des Plaines River and Chicago Ship Canal	CP425-18.5 / CP445-6.5	14 & 6A	
Great Lakes	Chicago		Yes			Des Plaines River and Chicago Ship Canal	CP445-9.5	14 & 6A	
Great Lakes			Yes			Des Plaines River and Chicago Ship Canal		14 & 6A	New Control Point
Great Lakes			Yes			Illinois River		13, 14 & 6A	New Control Point
Great Lakes			Yes			Illinois River		13, 14 & 6A	New Control Point
Great Lakes	Chicago		Yes			Fox River	CP421-13.0	13 & 61	
Great Lakes	Chicago		Yes			Illinois River	CP432-4.3	6A, 14, 13 & 61	
Great Lakes	Chicago		Yes			Illinois River	CP421-19.0 / CP432-10.3	6A, 14, 13 & 61	
Great Lakes	Chicago		Yes			Illinois River	CP421-21.2 / CP432-12.4	6A, 14, 13 & 61	
Great Lakes	Mid-Continent		Yes			Kankakee River	CP 37.59 - 8.26	78	
Great Lakes	Mid-Continent		Yes			Kankakee River	CP 37.59 - 9.91	78	
Great Lakes	Mid-Continent		Yes			Kankakee River	CP 37.59 - 11.41	13 & 78	
Great Lakes	Mid-Continent		Yes			Kankakee River	CP 37.59 - 14.13	13 & 78	
Great Lakes	Mid Continent / Chicago		Yes			Kankakee River	CP 37.59 - 15.67 / CP37-15.7N / CP425-24.0 / CP445-12.0	13 & 78	
Great Lakes	Mid-Continent		Yes			Kankakee River	CP 37.59 - 18.67	13 & 78	
Great Lakes	Chicago		Yes			Aux Sable Creek	CP434-4.1	14	
Great Lakes	Chicago		Yes			Aux Sable Creek	CP434-7.0	14	
Great Lakes	Chicago		Yes			Aux Sable Creek	CP434-10.0	14	
Great Lakes	Chicago		Yes			Aux Sable Creek	CP434-14.6	14	
Great Lakes	Chicago		Yes			DuPage River	CP418-1.8	6A	
Great Lakes	Chicago		Yes			DuPage River	CP418-3.6	6A	
Great Lakes	Chicago		Yes			DuPage River	CP418-5.8	6A	
Great Lakes	Chicago		Yes			DuPage River	CP418-9.1	6A	
Great Lakes	Chicago		Yes			DuPage River	CP418-13.3	6A	
Great Lakes	Chicago		Yes			DuPage River	CP440-1.4	14	
Great Lakes	Chicago		Yes			Rock Run	CP441-4.7	14	
Great Lakes	Chicago		Yes			DuPage River	CP440-6.1	14	
Great Lakes	Chicago		Yes			Lily Cache Creek	CP420-2.0	6A	
Great Lakes	Chicago		Yes			Lily Cache Creek	CP420-3.1	6A	
Great Lakes	Chicago		Yes			Waubensie Creek	CP409-0.9	6A	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ CP Names	Pipeline(s)	Reason for Change
Great Lakes	Chicago		Yes			Waubonsie Creek	CP409-1.9	6A	
Great Lakes	Chicago		Yes			Waubonsie Creek	CP409-5.1	6A	
Great Lakes	Chicago		Yes			Waubonsie Creek	CP409-7.1	6A	
Great Lakes	Chicago		Yes			Fox River	CP409-9.2	6A	
Great Lakes	Chicago		Yes			West Branch DuPage River	CP401-1.9	6A	
Great Lakes	Chicago		Yes			West Branch DuPage River	CP401-3.3	6A	
Great Lakes	Chicago		Yes			West Branch DuPage River	CP401-4.2	6A	
Great Lakes	Chicago		Yes			West Branch DuPage River	CP401-5.4	6A	
Great Lakes			Yes			Boone Creek		6A	New Control Point
Great Lakes	Chicago		Yes			Boone Creek	CP365-2.1	6A	
Great Lakes	Chicago		Yes			Boone Creek	CP365-3.4	6A	
Great Lakes	Chicago		Yes			Boone Creek	CP365-5.2	6A	
Great Lakes	Chicago		Yes			Fox River	CP365-5.3N	6A	
Great Lakes	Chicago		Yes			Fox River	CP365-7.8	6A	
Great Lakes			Yes			Fox River		6A	New Control Point
Great Lakes	Chicago		Yes			Fox River	CP365-9.9	6A	
Great Lakes	Chicago		Yes			Fox River	CP365-14.6	6A	
Great Lakes	Chicago		Yes			Fox River	CP365-16.2	6A	
Great Lakes	Chicago		Yes			Fox River	CP365-20.3	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-3.3	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-4.9	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-6.3	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-7.4	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-8.2	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-9.3	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-11.5	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-12.1	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-13.5	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-16.3	6A	
Great Lakes	Chicago		Yes			Poplar Creek	CP388-3.6	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-20.1	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-25.1E	6A	
Great Lakes	Chicago		Yes			Fox River	CP377-25.1W	6A	
Great Lakes	Chicago		Yes			Newman Creek	CP357-5.4	6A	
Great Lakes	Chicago		Yes			Wonder Lake	CP357-3.3	6A	
Great Lakes	Chicago		Yes			Wonder Lake	CP357-4.6	6A	
Great Lakes	Chicago		Yes			Hickory Creek	CP447-2.0	6A & 64	
Great Lakes	Chicago		Yes			Hickory Creek	CP447-3.1	6A & 64	
Great Lakes	Chicago		Yes			Hickory Creek	CP447-4.9	6A & 64	
Great Lakes	Chicago		Yes			Hickory Creek	CP447-6.3	6A	
Great Lakes	Chicago		Yes			Hickory Creek	CP447-8.9	6A	
Great Lakes	Chicago		Yes			Hickory Creek	CP447-11.5	6A & 14	
Great Lakes	Chicago		Yes			Hickory Creek	CP447-12.9	6A & 14	
Great Lakes	Chicago		Yes			Marley Creek	CP438-1.6	6A	
Great Lakes	Chicago		Yes			Marley Creek	CP438-2.5	6A	
Great Lakes	Chicago		Yes			Marley Creek	CP438-3.5X	6A	
Great Lakes			Yes			Marley Creek		6A	New Control Point

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ CP Names	Pipeline(s)	Reason for Change
Great Lakes	Chicago		Yes			Marley Creek	CP438-4.6	6A	
Great Lakes	Chicago		Yes			Sauk Lake	CP454-0.5	6A & 64	
Great Lakes	Mid-Continent		Yes			Bishop Ford HWY DD	CP 70.56 - 0.09	78	
Great Lakes	Mid-Continent / Chicago Region		Yes			Bishop Ford DD	CP 70.56 - 0.88 / CP 71.24 - 0.09	78	
Great Lakes	Chicago Region		Yes			Bishop Ford DD	CP 71.24 - 0.60 / CP 71.56 - 0.26	78	
Great Lakes	Mid-Continent / Chicago Region		Yes			Bishop Ford DD	CP 70.56 - 2.31 / CP 71.56 - 1.25	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Bishop Ford DD	CP 71.24 - 1.63	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Deer Creek	CP 72.87 - 0.64	6A & 64	
Great Lakes	Chicago Region		Yes			Deer Creek	CP 71.24 - 2.73 / CP 71.56 - 2.33	6A & 64	
Great Lakes	Mid-Continent / Chicago Region		Yes			Deer Creek	CP 70.56 - 4.22 / CP 72.87 - 1.89 / CP458-2.0	6A & 64	
Great Lakes	Chicago		Yes			Deer Creek	CP458-3.5	6A & 64	
Great Lakes	Chicago		Yes			Deer Creek	CP458-4.3	6A & 64	
Great Lakes	Chicago Region		Yes			Deer Creek	CP 71.56 - 5.33 / CP 72.87 - 5.33 / CP458-6.4	6A & 64	
Great Lakes	Chicago Region		Yes			Deer Creek	CP 72.87 - 8.48	6A & 64	
Great Lakes	Chicago Region		Yes			North Creek	CP 74.71 - 0.73	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			North Creek	CP 74.71 - 2.23	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			North Creek	CP 74.71 - 4.01	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			North Creek	CP 74.71 - 4.76	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Plum Creek	CP 76.10 - 0.06	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Plum Creek	CP 76.10 - 0.86	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Plum Creek	CP 76.10 - 1.59 / CP 76.80 - 0.43 / CP 76.80 - 1.23 / CP462-1.5	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Deer Creek	CP 76.80 - 2.27	6A, 64 & 78	
Great Lakes	Chicago		Yes			Plum Creek	CP462-2.4	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Plum Creek	CP 76.10 - 2.30	6A, 64 & 78	
Great Lakes	Chicago		Yes			Plum Creek	CP462-3.1	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Plum Creek	CP 76.80 - 4.15 / CP462-4.2	6A, 64 & 78	
Great Lakes	Chicago Region		No			Deer Creek		6A, 64 & 78	Removed - Incorrect waterbody
Great Lakes	Chicago Region		Yes			Spring Creek	CP 79.07 - 0.13	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Spring Creek	CP 79.07 - 0.38	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Spring Creek	CP 79.07 - 1.38	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Spring Creek	CP 79.07 - 2.22	6A, 64 & 78	
Great Lakes	Chicago Region		Yes			Oak Street Pond	CP 79.67 - 0.01	6A, 64 & 78	
Great Lakes	Chicago		Yes			Turkey Creek	CP471-2.7	78	
Great Lakes	Chicago		Yes			Turkey Creek	CP471-4.4	78	
Great Lakes	Chicago		Yes			Salt Creek	CP484-2.7	78	
Great Lakes	Chicago		Yes			Salt Creek	CP484-6.1	78	
Great Lakes	Chicago		Yes			Salt Creek	CP484-8.7	78	
Great Lakes			Yes			Salt Creek		78	New Control Point
Great Lakes	Chicago		Yes			Brandywine Creek	CP536-1.6	78	
Great Lakes	Chicago		Yes			Brandywine Creek	CP536-2.9	78	
Great Lakes	Chicago		Yes			Saint Joseph River	CP533-2.0	78	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ CP Names	Pipeline(s)	Reason for Change
Great Lakes	Chicago		Yes			Saint Joseph River	CP533-2.7	78	
Great Lakes	Chicago		Yes			Saint Joseph River	CP533-7.0	78	
Great Lakes	Chicago		Yes			Saint Joseph River	CP533-11.2	78	
Great Lakes	Chicago		Yes			Saint Joseph River	CP533-21.0	78	
Great Lakes	Chicago		Yes			Rocky River	CP570-4.2	78	
Great Lakes	Chicago		Yes			Rocky River	CP570-6.0	78	
Great Lakes	Chicago		Yes			Rocky River	CP570-7.0N	78	
Great Lakes	Chicago		Yes			Rocky River	CP570-7.1S	78	
Great Lakes	Chicago		Yes			Portage River	CP577-2.8	78	
Great Lakes	Chicago		Yes			Portage River	CP577-4.3	78	
Great Lakes	Chicago		Yes			Portage River	CP577-5.9	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-1.3	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-1.6	78	
Great Lakes	Chicago		Yes			South Branch Rice Creek	CP618-9.3	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-4.3	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-6.8	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-7.1	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-7.4	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-7.8	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-9.4	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-11.1	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-11.4	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-11.9	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-13.3	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-14.1	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-14.6	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-15.1	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-15.3	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-16.8	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-17.4	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-19.6	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-20.1	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-20.7	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-21.0	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-21.2	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-21.4	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-22.5	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-23.3	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-26.6	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-28.9	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-30.2	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-30.8	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-31.3	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-32.0	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-37.1	78	
Great Lakes	Chicago		Yes			Kalamazoo River	CP611-38.5	78	
Great Lakes	Chicago		Yes			Morrow Lake	CP611-39.8	78	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Pipeline(s)	Reason for Change
Great Lakes	Chicago		Yes			Morrow Lake	CP611-40.6	78	
Great Lakes	Chicago		Yes			Morrow Lake	CP611-41.9	78	
Great Lakes	Chicago		Yes			South Branch Rice Creek	CP618-2.9	78	
Great Lakes	Chicago		Yes			South Branch Rice Creek	CP618-4.3	78	
Great Lakes	Chicago		Yes			South Branch Rice Creek	CP618-5.3	78	
Great Lakes	Chicago		Yes			South Branch Rice Creek	CP618-7.4	78	
Great Lakes	Chicago		Yes			South Branch Rice Creek	CP618-8.9	78	
Great Lakes	Chicago		Yes			Grand River	CP634--3.9	78	
Great Lakes	Chicago		Yes			Grand River	CP634-0.3	78	
Great Lakes	Chicago		Yes			Grand River	CP634-3.4	78	
Great Lakes	Chicago		Yes			Grand River	CP634-6.1	78	
Great Lakes	Chicago		Yes			Grand River	CP634-6.4	78	
Great Lakes	Chicago		Yes			Grand River	CP634-8.5	78	
Great Lakes	Chicago		Yes			Grand River	CP634-10.4	78	
Great Lakes	Chicago		Yes			Middle Branch Red Cedar River	CP662-2.0	78	
Great Lakes	Chicago		Yes			Red Cedar River	CP665-2.0	78	
Great Lakes	Chicago		Yes			Red Cedar River	CP665-3.3	78	
Great Lakes	Chicago		Yes			Red Cedar River	CP665-4.4	78	
Great Lakes	Chicago		Yes			Middle Branch Red Cedar River	CP662-4.2	78	
Great Lakes	Chicago		Yes			Middle Branch Red Cedar River	CP662-5.2	78	
Great Lakes	Chicago		Yes			Middle Branch Red Cedar River	CP662-7.1	78	
Great Lakes	Chicago		Yes			South Branch Shiawassee River	CP668-5.6	78	
Great Lakes	Chicago		Yes			South Branch Shiawassee River	CP668-8.0	78	
Great Lakes	Chicago		Yes			South Branch Shiawassee River	CP668-13.3	78	
Great Lakes	Chicago		Yes			South Branch Shiawassee River	CP668-14.9	78	
Great Lakes	Chicago		Yes			South Branch Shiawassee River	CP668-21.6	78	
Great Lakes	Chicago		Yes			Shannon lake	CP679-0.8	78	
Great Lakes	Chicago		Yes			Shannon Lake	CP679-2.2	78	
Great Lakes	Chicago		Yes			North Ore Creek	CP679-3.1	78	
Great Lakes	Chicago		Yes			North Ore Creek	CP679-4.4	78	
Great Lakes			Yes			Shiawassee River		78	New Control Point
Great Lakes	Chicago		Yes			Shiawassee River	CP691-0.0	78	
Great Lakes	Chicago		Yes			Stiffs Mill Pond	CP689-3.1	78	
Great Lakes	Chicago		Yes			Shiawassee River	CP689-4.0	78	
Great Lakes	Chicago		Yes			Shiawassee River	CP689-5.4	78	
Great Lakes	Chicago		Yes			South Branch Flint River	CP709-6.7	78	
Great Lakes	Chicago		Yes			South Branch Flint River	CP709-9.4	78	
Great Lakes	Chicago		Yes			South Branch Flint River	CP709-11.5	78	
Great Lakes	Chicago		Yes			South Branch Flint River	CP709-14.2	78	
Great Lakes	Chicago		Yes			South Branch Flint River	CP709-18.2	78	
Great Lakes	Chicago		Yes			North Branch Clinton River	CP723-9.8	78	
Great Lakes	Chicago		Yes			North Branch Clinton River	CP723-14.2	78	
Great Lakes	Chicago		Yes			North Branch Clinton River	CP723-16.6	78	
Great Lakes	Chicago		Yes			North Branch Clinton River	CP723-17.4	78	
Great Lakes	Chicago		Yes			North Branch Clinton River	CP723-21.7	78	
Great Lakes	Chicago		Yes			Belle River	CP737-8.4	78	
Great Lakes	Chicago		Yes			Belle River	CP737-13.7	78	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ CP Names	Pipeline(s)	Reason for Change
Great Lakes	Chicago		Yes			Belle River	CP737-20.9	78	
Great Lakes	Chicago		Yes			Belle River	CP737-27.5	78	
Great Lakes	Chicago		Yes			Pine River	CP1718-8.3	5	
Great Lakes	Chicago		Yes			Pine River	CP1718-10.5	5	
Great Lakes	Chicago		Yes			Pine River	CP1718-13.6	5	
Great Lakes	Chicago		Yes			Pine River	CP1718-16.3	5	
Great Lakes	Chicago		Yes			Pine River	CP1718-18.9	5	
Great Lakes	Chicago		Yes			Pine River	CP1718-21.9	5	
Great Lakes	Chicago		Yes			Pine River	CP1718-24.4	5	
Great Lakes	Chicago		Yes			Pine River	CP1718-26.2	5	
Great Lakes	Chicago		Yes			Pine River	CP1718-30.3	5	
Great Lakes	Chicago		Yes			Pine River	CP1718-31.5	5	
Great Lakes	Chicago		Yes			Pine River	CP745-1.1	5 & 78	
Great Lakes	Chicago		Yes			Pine River	CP745-3.7	5 & 78	
Great Lakes	Chicago		Yes			Pine River	CP745-5.7	5 & 78	
Great Lakes	Chicago		Yes			Pine River	CP745-8.7	5 & 78	
Great Lakes	Chicago		Yes			Pine River	CP745-13.3	5 & 78	
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes	Chicago		No			St. Clair River	CP1735-0.7	5 & 78	To be removed - unusable CP
Great Lakes	Chicago		No			St. Clair River	CP1735-6.3	5 & 78	To be removed - unusable CP
Great Lakes	Chicago		Yes			St. Clair River	CP1735-6.7	5 & 78	
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes	Chicago		Yes			St. Clair River	CP1735-8.5	5 & 78	
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes	Chicago		No			St. Clair River	CP1735-14.2	5 & 78	To be removed - unusable CP
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			Belle River		78	New Control Point
Great Lakes	Chicago		Yes			St. Clair River	CP1735-15.4	5 & 78	
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes	Chicago		Yes			St. Clair River	CP1735-19.3	5 & 78	
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes	Chicago		Yes			St. Clair River	CP1735-22.0	5 & 78	
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes	Chicago		Yes			St. Clair River	CP1735-23.4	5 & 78	
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Pipeline(s)	Reason for Change
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes	Chicago		Yes			St. Clair River	CP1735-24.0	5 & 78	
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes	Chicago		Yes			St. Clair River	CP1735-27.9	5 & 78	
Great Lakes	Chicago		Yes			St. Clair River	CP1735-26.1	5 & 78	
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes	Chicago		Yes			St. Clair River	CP1735-30.0	5 & 78	
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes	Chicago		Yes			St. Clair River	CP1735-30.4	5 & 78	
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes	Chicago		Yes			St. Clair River	CP1735-30.1	5 & 78	
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes			No			St. Clair River		5 & 78	To be removed - unusable CP
Great Lakes	Chicago		Yes			Buffalo River	CP1951-6.4	10	
Great Lakes	Chicago		Yes			Buffalo River	CP1951-7.8	10	
Great Lakes	Chicago		Yes			Niagara River	CP1933-2.4	10	
Great Lakes	Chicago		Yes			Niagara River	CP1928-5.0 / CP1933-7.8	10	
Great Lakes	Chicago		Yes			Niagara River	CP1928-15.3 / CP1933-21.9	10	
Great Lakes	Chicago		Yes			Niagara River	CP1928-21.6 / CP1933-28.0	10	
Great Lakes	Chicago		Yes			Niagara River	CP1928-4.0	10	
Great Lakes			Yes			St. Clair River		5 & 78	New Control Point
Great Lakes	Superior		Yes			Montreal River	CP1189-0.7W	5	
Great Lakes	Superior		Yes			Welch Creek	CP1191-0.3B	5	
Great Lakes	Superior		Yes			Welch Creek	CP1191-2.4B	5	
Great Lakes	Superior		Yes			Siemens Creek	CP1194-0.1W	5	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ CP Names	Pipeline(s)	Reason for Change
Great Lakes	Superior		Yes			Siemens Creek	CP1194-3.0B	5	
Great Lakes	Superior		Yes			Siemens Creek	CP1194-4.1B	5	
Great Lakes	Superior		Yes			Siemens Creek	CP1194-5.1B	5	
Great Lakes	Superior		Yes			Siemens Creek	CP1194-6.2B	5	
Great Lakes	Superior		Yes			Black River	CP1197-0.8B / CP1200-3.8B / CP1203-7.5B	5	
Great Lakes	Superior		Yes			Black River	CP1197-2.0B / CP1200-4.8B / CP1203-8.6B	5	
Great Lakes	Superior		Yes			Black River	CP1200-9.0W / CP1203-12.8W	5	
Great Lakes	Superior		Yes			Black River	CP1197-18.0W / CP1200-20.6W / CP1203-24.4W	5	
Great Lakes	Superior		Yes			Black River	CP1200-0.4B	5	
Great Lakes	Superior		Yes			Black River	CP1203-4.3S	5	
Great Lakes	Superior		Yes			Planter Creek	CP1203-0.3B	5	
Great Lakes	Superior		Yes			Planter Creek	CP1203-2.6W	5	
Great Lakes	Superior		Yes			Planter Creek	CP1203-3.1B	5	
Great Lakes	Superior		Yes			Presque Isle River	CP1217-1.6W	5	
Great Lakes	Superior		Yes			Presque Isle River	CP1217-2.1W	5	
Great Lakes	Superior		Yes			Presque Isle River	CP1217-3.4B	5	
Great Lakes	Superior		Yes			Presque Isle River	CP1217-5.0B	5	
Great Lakes	Superior		Yes			Presque Isle River	CP1217-18.1B	5	
Great Lakes	Superior		Yes			Presque Isle River	CP1217-28.0B	5	
Great Lakes	Superior		Yes			Presque Isle River	CP1217-36.2B	5	
Great Lakes	Superior		Yes			Presque Isle River	CP1217-37.1W	5	
Great Lakes	Superior		Yes			Lake Gogebic	CP1222-4.0W / CP1224-4.4W	5	
Great Lakes	Superior		Yes			Cisco Branch Ontonagon River	CP1232-0.7B	5	
Great Lakes	Superior		Yes			Cisco Branch Ontonagon River	CP1232-7.0B	5	
Great Lakes	Superior		Yes			Cisco Branch Ontonagon River	CP1232-17.3B	5	
Great Lakes	Superior		Yes			Cisco Branch Ontonagon River	CP1232-39.2E	5	
Great Lakes	Superior		Yes			Middle Branch Ontonagon River	CP1237-1.0B	5	
Great Lakes	Superior		Yes			Middle Branch Ontonagon River	CP1237-5.4B	5	
Great Lakes	Superior		Yes			Middle Branch Ontonagon River	CP1237-10.4S	5	
Great Lakes	Superior		Yes			Middle Branch Ontonagon River	CP1237-14.4B / CP1244-5.1B	5	
Great Lakes	Superior		Yes			Middle Branch Ontonagon River	CP1237-17.1B / CP1244-7.8B	5	
Great Lakes	Superior		Yes			Middle Branch Ontonagon River	CP1237-18.9B / CP1244-9.6B	5	
Great Lakes	Superior		Yes			Middle Branch Ontonagon River	CP1237-20.2E / CP1244-10.8E	5	
Great Lakes	Superior		Yes			Middle Branch Ontonagon River	CP1237-26.5B / CP1244-17.1B	5	
Great Lakes	Superior		Yes			Duck Creek	CP1244-0.7B	5	
Great Lakes	Superior		Yes			Duck Creek	CP1244-1.3B	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-0.3B	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-2.0W	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-5.2B	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-6.9B	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-11.1B	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-16.0B	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-18.7B / CP1260-6.7B	5	
Great Lakes	Superior		Yes			South Branch Paint River	CP1254-19.6B / CP1260-7.6B	5	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ CP Names	Pipeline(s)	Reason for Change
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-20.2E / CP1260-8.2E	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-22.2B / CP1260-10.2B	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-24.7N / CP1260-12.4W	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-26.8B / CP1260-14.7B	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1254-27.7B / CP1260-15.6B	5	
Great Lakes	Superior		Yes			S. Branch Paint River	CP1260-19.6N	5	
Great Lakes	Superior		Yes			Cooks Run	CP1260-0.7B	5	
Great Lakes	Superior		Yes			Cooks Run	CP1260-2.2S	5	
Great Lakes	Superior		Yes			Cooks Run	CP1260-3.0N	5	
Great Lakes	Superior		Yes			Cooks Run	CP1260-4.8B	5	
Great Lakes	Superior		Yes			South Branch Iron River	CP1268-0.3B	5	
Great Lakes	Superior		Yes			Iron River	CP1268-0.8B	5	
Great Lakes	Superior		Yes			Iron River	CP1268-2.0B / CP1270-0.8B	5	
Great Lakes	Superior		Yes			Iron River	CP1268-4.7B / CP1270-3.5B / CP1272-1.0B	5	
Great Lakes	Superior		Yes			Iron River	CP1268-6.4B / CP1270-5.0B / CP1272-2.8B	5	
Great Lakes	Superior		Yes			Iron River	CP1268-7.6B / CP1270-6.3B / CP1272-4.0B	5	
Great Lakes	Superior		Yes			Iron River	CP1268-8.6N / CP1270-7.3N / CP1272-5.0N	5	
Great Lakes	Superior		Yes			Iron River	CP1268-9.2W / CP1270-7.9W / CP1272-5.6W	5	
Great Lakes	Superior		Yes			Iron River	CP1268-10.4B / CP1270-9.2B / CP1272-7.0B	5	
Great Lakes	Superior		Yes			Iron River	CP1268-11.2N / CP1270-10.0N / CP1272-7.8N	5	
Great Lakes	Superior		Yes			Iron River	CP1268-12.3B / CP1270-11.0B / CP1272-8.8B	5	
Great Lakes	Superior		Yes			Iron River	CP1268-12.4B / CP1270-11.1B / CP1272-8.9B	5	
Great Lakes	Superior		Yes			Iron River	CP1268-18.4N / CP1270-17.2N / CP1272-14.9N	5	
Great Lakes	Superior		Yes			Iron River	CP1272-19.7B	5	
Great Lakes			Yes			Brule River		5	New Control Point
Great Lakes			Yes			Brule River		5	New Control Point
Great Lakes	Superior		Yes			Brule River	CP1290-12.9S	5	
Great Lakes	Superior		Yes			Briar Hill Creek	CP1285-1.2B	5	
Great Lakes	Superior		Yes			Briar Hill Creek	CP1285-3.4S	5	
Great Lakes	Superior		Yes			Briar Hill Creek	CP1285-4.0B	5	
Great Lakes	Superior		Yes			Paint River	CP1285-4.2E	5	
Great Lakes	Superior		Yes			Paint River	CP1290-0.2W	5	
Great Lakes	Superior		Yes			Paint River	CP1290-4.0W	5	
Great Lakes	Superior		Yes			Paint River	CP1290-6.9E	5	
Great Lakes	Superior		Yes			Paint River	CP1290-7.5W	5	
Great Lakes	Superior		Yes			Paint River	CP1290-8.0B	5	
Great Lakes	Superior		Yes			Paint River	CP1290-8.1W	5	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ CP Names	Pipeline(s)	Reason for Change
Great Lakes	Superior		Yes			Peavy Pond	CP1290-8.9N / CP1295-10.0N / CP1297-8.3N	5	
Great Lakes	Superior		Yes			Peavy Pond	CP1290-10.6E / CP1295-11.2E / CP1297-9.4E	5	
Great Lakes	Superior		Yes			Paint River	CP1290-10.8W	5	
Great Lakes	Superior		Yes			Michigamme River	CP1290-14.4E / CP1295-15.0E / CP1297-13.2E	5	
Great Lakes	Superior		Yes			Brule River	CP1290-15.0S	5	
Great Lakes	Superior		Yes			Michigamme River	CP1295-0.6W	5	
Great Lakes	Superior		Yes			Peavy Pond	CP1295-8.5N / CP1297-7.8N	5	
Great Lakes	Superior		Yes			Ford River	CP1316-2.0S	5	
Great Lakes	Superior		Yes			Ford River	CP1316-11.1B	5	
Great Lakes	Superior		Yes			Ford River	CP1316-15.4B	5	
Great Lakes	Superior		Yes			Ford River	CP1316-19.7B	5	
Great Lakes	Superior		Yes			Escanaba River Tributary	CP1337-0.5B	5	
Great Lakes	Superior		Yes			Escanaba River Tributary	CP1337-6.4W / CP1342-0.8W	5	
Great Lakes	Superior		Yes			Escanaba River	CP1342-8.8B	5	
Great Lakes	Superior		Yes			Escanaba River	CP1342-10.1S	5	
Great Lakes	Superior		Yes			Escanaba River	CP1342-19.3W	5	
Great Lakes	Superior		Yes			Escanaba River	CP1342-22.1W	5	
Great Lakes	Superior		Yes			Escanaba River	CP1342-23.2W	5	
Great Lakes	Superior		Yes			Escanaba River	CP1342-23.3B	5	
Great Lakes	Superior		Yes			Escanaba River	CP1342-24.8S	5	
Great Lakes	Superior		Yes			Tacoosh River	CP1353-1.0B	5	
Great Lakes	Superior		Yes			Tacoosh River	CP1353-4.0B	5	
Great Lakes	Superior		Yes			Tacoosh River	CP1353-5.7B	5	
Great Lakes	Superior		Yes			Tacoosh River	CP1353-6.3B	5	
Great Lakes	Superior		Yes			Tacoosh River	CP1353-7.2B	5	
Great Lakes	Superior		Yes			Tacoosh River	CP1353-7.5B	5	
Great Lakes	Superior		Yes			Rapid River	CP1353-8.7E / CP1357-2.7E / CP1358-3.9E	5	
Great Lakes	Superior		Yes			Rapid River	CP1357-0.7E	5	
Great Lakes	Superior		Yes			Rapid River	CP1357-1.5B	5	
Great Lakes	Superior		Yes			Whitefish River	CP1358-1.7B	5	
Great Lakes	Superior		Yes			Whitefish River	CP1358-2.9E	5	
Great Lakes	Superior		Yes			Sturgeon River	CP1370-0.4W	5	
Great Lakes	Superior		Yes			Sturgeon River	CP1370-6.2B	5	
Great Lakes	Superior		Yes			Sturgeon River	CP1370-7.7W	5	
Great Lakes	Superior		Yes			Sturgeon River	CP1370-10.5W	5	
Great Lakes	Superior		Yes			Sturgeon River	CP1370-13.3B	5	
Great Lakes	Superior		Yes			Sturgeon River	CP1370-14.2W	5	
Great Lakes	Superior		Yes			Sturgeon River	CP1370-14.7B	5	
Great Lakes	Superior		Yes			Sturgeon River	CP1370-14.9E	5	
Great Lakes	Superior		Yes			Lake Michigan	CP1370-15.2E	5	
Great Lakes	Superior		Yes			Indian River	CP1393-1.0W	5	
Great Lakes	Superior		Yes			Manistique River	CP1393-1.7N / CP1394-2.4N	5	
Great Lakes	Superior		Yes			Manistique River	CP1393-2.0S / CP1394-2.8S	5	
Great Lakes	Superior		Yes			Manistique River	CP1393-2.5W / CP1394-3.3W	5	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ CP Names	Pipeline(s)	Reason for Change
Great Lakes	Superior		Yes			Manistique River	CP1393-3.7W / CP1394-4.5W	5	
Great Lakes			Yes			Little Bear Creek		5	New Control Point
Great Lakes			Yes			Little Bear Creek		5	New Control Point
Great Lakes			Yes			Little Bear Creek		5	New Control Point
Great Lakes			Yes			Manistique River		5	New Control Point
Great Lakes			Yes			Manistique River		5	New Control Point
Great Lakes			Yes			Manistique River		5	New Control Point
Great Lakes			Yes			Manistique River		5	New Control Point
Great Lakes	Superior		Yes			Lower Millecoquins River	CP1434-4.6B	5	
Great Lakes	Superior		Yes			West Mile Creek	CP1436-1.6B	5	
Great Lakes	Superior		Yes			West Mile Creek	CP1436-1.7S	5	
Great Lakes	Superior		Yes			West Mile Creek	CP1436-3.1W / CP1439-8.9W	5	
Great Lakes	Superior		Yes			Black River	CP1439-3.1B	5	
Great Lakes	Superior		Yes			Black River	CP1439-3.3E	5	
Great Lakes	Superior		Yes			Davenport Creek	CP1444-2.7B	5	
Great Lakes	Superior		Yes			Lake Michigan	CP1444-3.3S	5	
Great Lakes	Superior		Yes			Cut River	CP1452-0.8S	5	
Great Lakes	Superior		Yes			Brevort River	CP1464-3.5B	5	
Great Lakes	Superior		Yes			Brevort River	CP1464-3.7S	5	
Great Lakes	Superior		Yes			Straits of Mackinac	CP1477-3.8E	5	
Great Lakes	Superior		Yes			Straits of Mackinac	CP1477-4.0E	5	
Great Lakes	Superior		Yes			Straits of Mackinac	CP1477-5.0E	5	
Great Lakes	Superior		Yes			Straits of Mackinac	CP1477-6.9E	5	
Great Lakes	Superior		Yes			Burt Lake	CP1508-1.2W US	5	
Great Lakes	Superior		Yes			Indian River	CP1508-0.3S US	5	
Great Lakes	Superior		Yes			Indian River	CP1508-2.3S	5	
Great Lakes	Superior		Yes			Indian River	CP1508-6.0W	5	
Great Lakes			Yes			Little Pigeon River		5	New Control Point
Great Lakes			Yes			Little Pigeon River		5	New Control Point
Great Lakes			Yes			Little Pigeon River		5	New Control Point
Great Lakes			Yes			Little Pigeon River		5	New Control Point
Great Lakes			Yes			Little Pigeon River		5	New Control Point
Great Lakes			Yes			Little Pigeon River		5	New Control Point
Great Lakes			Yes			Little Pigeon River		5	New Control Point
Great Lakes			Yes			Little Pigeon River		5	New Control Point
Great Lakes	Superior		Yes			Pigeon River	CP1529-2.0B	5	
Great Lakes	Superior		Yes			Pigeon River	CP1529-3.2B	5	
Great Lakes	Superior		Yes			Pigeon River	CP1529-6.8B	5	
Great Lakes	Superior		Yes			Pigeon River	CP1529-11.0B	5	
Great Lakes	Superior		Yes			Pigeon River	CP1529-13.2E	5	
Great Lakes	Superior		Yes			Pigeon River	CP1529-15.9B	5	
Great Lakes	Superior		Yes			Pigeon River	CP1529-17.5E	5	
Great Lakes	Superior		Yes			Pigeon River	CP1529-23.0B	5	
Great Lakes	Superior		Yes			Pigeon River	CP1529-25.9B	5	
Great Lakes	Superior		Yes			Pigeon River	CP1529-26.9B	5	
Great Lakes			Yes			Pigeon River		5	New Control Point
Great Lakes			Yes			Pigeon River		5	New Control Point

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ CP Names	Pipeline(s)	Reason for Change
Great Lakes	Chicago		Yes			East Branch Big Creek	CP1556-3.7	5	
Great Lakes	Chicago		Yes			East Branch Big Creek	CP1556-7.5	5	
Great Lakes	Chicago		Yes			East Branch Big Creek	CP1556-10.0	5	
Great Lakes	Chicago		Yes			Au Sable River	CP1562-1.2	5	
Great Lakes	Chicago		Yes			Au Sable River	CP1562-3.1	5	
Great Lakes	Chicago		Yes			Au Sable River	CP1562-5.5	5	
Great Lakes	Chicago		Yes			Au Sable River	CP1562-10.0	5	
Great Lakes	Chicago		Yes			Au Sable River	CP1562-10.8	5	
Great Lakes	Chicago		Yes			Au Sable River	CP1562-14.1	5	
Great Lakes	Chicago		Yes			West Branch Big Creek	CP1566-2.8	5	
Great Lakes	Chicago		Yes			West Branch Big Creek	CP1566-4.5	5	
Great Lakes	Chicago		Yes			Crapo Creek	CP1587-2.3	5	
Great Lakes	Chicago		Yes			Crapo Creek	CP1587-3.9	5	
Great Lakes	Chicago		Yes			Crapo Creek	CP1587-5.9	5	
Great Lakes	Chicago		Yes			Flowage Lake	CP1587-7.8	5	
Great Lakes	Chicago		Yes			West Branch Rifle River	CP1592-2.6	5	
Great Lakes	Chicago		Yes			West Branch Rifle River	CP1592-6.7	5	
Great Lakes	Chicago		Yes			West Branch Rifle River	CP1592-20.5	5	
Great Lakes	Chicago		Yes			Saganing Creek	CP1616-4.7	5	
Great Lakes	Chicago		Yes			Saganing Creek	CP1616-6.5	5	
Great Lakes	Chicago		Yes			Saganing Creek	CP1616-8.3	5	
Great Lakes	Chicago		Yes			Saganing Creek	CP1616-10.9	5	
Great Lakes	Chicago		Yes			Saganing Creek	CP1616-13.1	5	
Great Lakes	Chicago		Yes			Pinconning River	CP1621-1.7	5	
Great Lakes	Chicago		Yes			Pinconning River	CP1621-3.2	5	
Great Lakes	Chicago		Yes			Pinconning River	CP1621-5.3	5	
Great Lakes	Chicago		Yes			Pinconning River	CP1621-6.4	5	
Great Lakes	Chicago		Yes			Pinconning River	CP1621-7.8	5	
Great Lakes	Chicago		Yes			North Branch Kawkawlin River	CP1631-4.6	5	
Great Lakes	Chicago		Yes			North Branch Kawkawlin River	CP1631-5.8	5	
Great Lakes	Chicago		Yes			Kawkawlin River	CP1638-2.4	5	
Great Lakes	Chicago		Yes			Kawkawlin River	CP1638-4.4	5	
Great Lakes	Chicago		Yes			Kawkawlin River	CP1638-6.6	5	
Great Lakes	Chicago		Yes			Kawkawlin River	CP1638-7.6	5	
Great Lakes	Chicago		Yes			Dutch Creek	CP1643-2.0	5	
Great Lakes	Chicago		Yes			Saginaw River	CP1643-2.7	5	
Great Lakes	Chicago		Yes			Saginaw River	CP1643-2.7E	5	
Great Lakes	Chicago		Yes			Saginaw River	CP1643-3.9	5	
Great Lakes	Chicago		Yes			Saginaw River	CP1645-3.2	5	
Great Lakes	Chicago		Yes			Saginaw River	CP1645-4.9	5	
Great Lakes	Chicago		Yes			Saginaw River	CP1645-8.0	5	
Great Lakes	Chicago		Yes			Quanicassee River	CP1652-3.4	5	
Great Lakes	Chicago		Yes			Quanicassee River	CP1655-3.1	5	
Great Lakes	Chicago		Yes			Quanicassee River	CP1655-6.5	5	
Great Lakes	Chicago		Yes			Quanicassee River	CP1655-7.1	5	
Great Lakes	Chicago		Yes			Cass River	CP1669-2.6	5	
Great Lakes	Chicago		Yes			Cass River	CP1669-9.9	5	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region		Submitted	Longitude	Latitude	WaterCrossing	DOJ CP Names	Pipeline(s)	Reason for Change
Great Lakes	Chicago		Yes			North Branch Flint River	CP1688-4.7	5	
Great Lakes	Chicago		Yes			North Branch Flint River	CP1688-8.0	5	
Great Lakes	Chicago		Yes			North Branch Flint River	CP1688-9.7	5	
Great Lakes	Chicago		Yes			North Branch Flint River	CP1688-13.6	5	
Great Lakes			Yes			Indian River		5	New Control Point
Great Lakes	Mid Continent		Yes			Kankakee River	CP37-9.4W	78	
Great Lakes	Mid Continent		Yes			Kankakee River	CP37-9.3E	78	
Great Lakes			Yes			West Branch Rifle River		5	New Control Point
Great Lakes			Yes			Cass River		5	New Control Point
Great Lakes			Yes			Cass River		5	New Control Point
Great Lakes			Yes			South Branch Pine River		5	New Control Point
Great Lakes			Yes			South Branch Pine River		5	New Control Point
Great Lakes			Yes			South Branch Pine River		5	New Control Point
Great Lakes			Yes			South Branch Pine River		5	New Control Point
Great Lakes			Yes			South Branch Pine River		5	New Control Point
Great Lakes			Yes			Unnamed Creek		5	New Control Point
Great Lakes			Yes			Saganing River		5	New Control Point
Great Lakes			Yes			Saganing River		5	New Control Point
Great Lakes			Yes			Forest Lake		5	New Control Point
Great Lakes			Yes			West Branch Rifle River		5	New Control Point
Great Lakes			Yes			West Branch Rifle River		5	New Control Point
Great Lakes			Yes			West Branch Rifle River		5	New Control Point
Great Lakes			Yes			Moore Drain		5	New Control Point
Great Lakes			Yes			Moore Drain		5	New Control Point
Great Lakes			Yes			Fraser Garfield Drain Branch		5	New Control Point
Great Lakes			Yes			Fraser Garfield Drain Branch		5	New Control Point
Great Lakes			Yes			Fraser Garfield Drain Branch		5	New Control Point
Great Lakes			Yes			Fraser Garfield Drain Branch		5	New Control Point
Great Lakes			Yes			East Branch Coon Creek		78	New Control Point
Great Lakes			Yes			East Branch Coon Creek		78	New Control Point
Great Lakes			Yes			North Branch Clinton River		78	New Control Point
Great Lakes			Yes			Clinton River Spillway		78	New Control Point
Great Lakes			Yes			Lower Millecoquins River		5	New Control Point
Great Lakes			Yes			Lower Millecoquins River		5	New Control Point
Great Lakes			Yes			Lower Millecoquins River		5	New Control Point
Great Lakes			Yes			Railroad Drain		5	New Control Point
Great Lakes			Yes			Railroad Drain		5	New Control Point
Great Lakes			Yes			Railroad Drain		5	New Control Point
Great Lakes			Yes			Railroad Drain		5	New Control Point
Great Lakes			Yes			Whitefish River		5	New Control Point
Great Lakes			Yes			Victoria Reservoir		5	New Control Point
Great Lakes			Yes			Ontonagon River		5	New Control Point
Great Lakes			Yes			Ciso Branch Ontonagon River		5	New Control Point
Great Lakes			Yes			South Branch Ontonagon River		5	New Control Point
Great Lakes			Yes			Indian river		5	New Control Point
Great Lakes			Yes			Mullet Lake		5	New Control Point
Great Lakes			Yes			Black River		5	New Control Point

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Pipeline(s)	Reason for Change
Great Lakes			Yes			Rapid River		5	New Control Point
Great Lakes			Yes			Tebo Drain		5	New Control Point
Great Lakes			Yes			Tebo Drain		5	New Control Point
Great Lakes			Yes			Tebo Drain		5	New Control Point
Great Lakes			Yes			Tebo Drain		5	New Control Point
Great Lakes			Yes			Branch Number Two Johnson Drain		5	New Control Point
Great Lakes			Yes			Branch Number Two Johnson Drain		5	New Control Point
Great Lakes			Yes			Branch Number Two Johnson Drain		5	New Control Point
Great Lakes			Yes			Branch Number Two Johnson Drain		5	New Control Point
Great Lakes			Yes			White Feather Creek		5	New Control Point
Great Lakes			Yes			White Feather Creek		5	New Control Point
Great Lakes			Yes			White Feather Creek		5	New Control Point
Great Lakes			Yes			White Feather Creek		5	New Control Point
Great Lakes			Yes			Tributary to Butterfield Creek		6A & 64	New Control Point
Great Lakes			Yes			Tributary to Butterfield Creek		6A & 64	New Control Point
Great Lakes			Yes			Brewster Creek		6A	New Control Point
Great Lakes			Yes			Covel Creek		13 & 61	New Control Point
Great Lakes			Yes			Covel Creek		13 & 61	New Control Point
Great Lakes			Yes			Reynolds Creek		78	New Control Point
Great Lakes			Yes			Reynolds Creek		78	New Control Point
Great Lakes			Yes			Nippersink Creek		6A	New Control Point
Great Lakes			Yes			Otter Creek		13 & 61	New Control Point
Great Lakes			Yes			Otter Creek		13 & 61	New Control Point
Great Lakes			Yes			Otter Creek		13 & 61	New Control Point
Great Lakes			Yes			Otter Creek		13 & 61	New Control Point
Great Lakes			Yes			Tributary to W.Branch Du Page River		6A	New Control Point
Great Lakes			Yes			Tributary to W.Branch Du Page River		6A	New Control Point
Great Lakes			Yes			Tributary to W.Branch Du Page River		6A	New Control Point
Great Lakes			Yes			Nippersink Creek		6A	New Control Point
Great Lakes			Yes			Tributary to Nippersink Creek		6A	New Control Point
Great Lakes			Yes			Tributary to Butterfield Creek		6A & 64	New Control Point
Great Lakes			Yes			Butterfield Creek		6A & 64	New Control Point
Great Lakes			Yes			Tributary to Brewster Creek		6A	New Control Point

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest	Superior		Yes			Pembina River	CP776-0.8S	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-1.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-6.8B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-8.3B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-11.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-15.9S	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-18.0S	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-21.5B / CP786-8.0B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-25.9S / CP786-12.4S	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-26.7B / CP786-13.2B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-28.6B / CP786-15.1B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Pembina River	CP776-28.7W, CP786-15.2W	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Louden Coulee	CP781-0.4N	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			County Ditch No. 33	CP782-1.5B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			County Ditch No. 33	CP782-2.6B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tongue River Cutoff	CP783-0.5B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tongue River Cutoff	CP783-2.5B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tongue River	CP786-0.6B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tongue River	CP786-1.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tongue River	CP786-3.5E	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tongue River	CP786-4.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tongue River	CP786-6.3B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-0.1W US	81	
Midwest	Superior		Yes			Red River of the North	CP802-0.4E	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-1.3E	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-2.4W	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-2.7E	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-3.9W	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-5.1N	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-6.2E	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-7.3E	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-9.3E	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-12.9N	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-15.8E	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red River of the North	CP802-18.2E	1, 2, 3, 4, 13, 65, & 67	
Midwest			Yes			Red River of the North		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Red River of the North		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Red River of the North		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Red River of the North		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest	Superior		Yes			Tamarac River	CP829-2.0S	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tamarac River	CP829-3.5B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tamarac River	CP829-9.4B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tamarac River	CP829-11.2S	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tamarac River	CP829-12.2B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Tamarac River	CP829-15.1B	1, 2, 3, 4, 13, 65, & 67	
Midwest			Yes			Middle River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Middle River		1, 2, 3, 4, 13, 65, & 67	New Control Point

REDACTED SUBMITTAL -- PUBLIC COPY
Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest			Yes			Middle River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Middle River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Middle River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Middle River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest	Superior		Yes			Red Lake River	CP864-2.3B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red Lake River	CP864-3.2W	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red Lake River	CP864-4.7N	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red Lake River	CP864-9.6W	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red Lake River	CP864-21.5B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red Lake River	CP864-23.0B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red Lake River	CP864-25.6B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Red Lake River	CP864-26.3S / CP875-31.7E	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Clearwater River	CP875-0.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Clearwater River	CP875-2.2B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Clearwater River	CP875-6.3B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Clearwater River	CP875-13.8B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Clearwater River	CP875-23.3S	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Lost River	CP886-1.4N	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Lost River	CP886-2.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Lost River	CP886-4.5S	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Lost River	CP886-8.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Lost River	CP886-14.3B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Lost River	CP886-14.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	Superior		Yes			Lost River	CP904-2.3B	1, 2, 3, 4, 13, 65, 67 & 81	
Midwest	Superior		Yes			Lost River	CP904-2.5B	1, 2, 3, 4, 13, 65, 67 & 81	
Midwest	Superior		Yes			Lost River	CP904-3.5B	1, 2, 3, 4, 13, 65, 67 & 81	
Midwest	Superior		Yes			Lost River	CP904-3.7B	1, 2, 3, 4, 13, 65, 67 & 81	
Midwest	Superior		Yes			Lost River	CP904-3.8S	1, 2, 3, 4, 13, 65, 67 & 81	
Midwest	Superior		Yes			Lost River	CP904-6.5B	1, 2, 3, 4, 13, 65, 67 & 81	
Midwest	Superior		Yes			Lost River	CP904-6.8B	1, 2, 3, 4, 13, 65, 67 & 81	
Midwest	Superior		Yes			Lost River	CP904-7.2B	1, 2, 3, 4, 13, 65, 67 & 81	
Midwest	Superior		Yes			Lost River	CP904-8.7N	1, 2, 3, 4, 13, 65, 67 & 81	
Midwest	Superior		Yes			Lost River	CP904-9.2B	1, 2, 3, 4, 13, 65, 67 & 81	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest			Yes			Silver Creek		1, 2, 3, 4, 13, 65, 67 & 81	New Control Point
Midwest			Yes			Silver Creek		1, 2, 3, 4, 13, 65, 67 & 81	New Control Point
Midwest			Yes			Silver Creek		1, 2, 3, 4, 13, 65, 67 & 81	New Control Point
Midwest			Yes			Silver Creek		1, 2, 3, 4, 13, 65, 67 & 81	New Control Point
Midwest			Yes			Silver Creek		1, 2, 3, 4, 13, 65, 67 & 81	New Control Point
Midwest			Yes			Silver Creek		1, 2, 3, 4, 13, 65, 67 & 81	New Control Point
Midwest			Yes			Silver Creek		1, 2, 3, 4, 13, 65, 67 & 81	New Control Point
Midwest			Yes			Silver Creek		1, 2, 3, 4, 13, 65, 67 & 81	New Control Point
Midwest			Yes			Silver Creek		1, 2, 3, 4, 13, 65, 67 & 81	New Control Point
Midwest			Yes			Silver Creek		1, 2, 3, 4, 13, 65, 67 & 81	New Control Point
Midwest			Yes			Ruffy Brook		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Ruffy Brook		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Ruffy Brook		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Ruffy Brook		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Ruffy Brook		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Ruffy Brook		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Ruffy Brook		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Ruffy Brook		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Ruffy Brook		1, 2, 3, 4, 13 & 67	New Control Point
Midwest	Superior		Yes			Clearwater River	CP922-0.3B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Clearwater River	CP922-8.7B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Clearwater River	CP922-12.1E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Clearwater Lake	CP922-18.3W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Grant Creek	CP927-2.2B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Grant Creek	CP927-5.2B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Grant Creek	CP927-6.6B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Grant Creek	CP927-9.6B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Grant Creek	CP927-12.3B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Lake Irving	CP940-1.1E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Lake Irving Outlet Channel	CP940-1.4E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Lake Bemidji	CP940-1.6S	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Necktie River	CP945-1.3B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Necktie River	CP945-2.9B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Necktie River	CP945-5.9B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Necktie River	CP945-8.4B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Necktie River	CP945-11.4B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Necktie River	CP945-12.7B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Cass Lake	CP956-0.0W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Cass Lake	CP956-0.4W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Cass Lake - Pike Bay	CP956-0.5W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Cass Lake	CP956-0.6E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Pike Bay	CP956-3.0E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Cass Lake	CP956-3.5E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Pike Bay	CP956-3.5S	1, 2, 3, 4, 13 & 67	
Midwest			Yes			Cass Lake		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Cass Lake		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Cass Lake		1, 2, 3, 4, 13 & 67	New Control Point

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest			Yes			Cass Lake		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Cass Lake		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Cass Lake		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Allens Bay		1, 2, 3, 4, 13 & 67	New Control Point
Midwest	Superior		Yes			Sixmile Lake	CP975-3.8E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Unnamed Watercourse	CP981-0.2W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Unnamed Watercourse	CP981-0.6N	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP986-4.6N	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP986-4.7B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP986-7.9S	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP986-13.0E / CP989-8.0E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP986-17.1W / CP989-11.9W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP986-19.5W / CP989-14.0W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP986-23.7E / CP989-18.2E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP986-24.0B / CP989-18.5B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP1004-0.9N / CP989-27.4N	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			White Oak Lake	CP995-2.6N	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Bass Brook	CP1104-0.7W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP1004-3.4B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Prairie River	CP1011-0.1W	1, 4, 13 & 67	
Midwest	Superior		Yes			Prairie River	CP1011-0.5B	1, 4, 13 & 67	
Midwest	Superior		Yes			Prairie River	CP1011-1.4B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP1011-8.1N	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP1011-15.1W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP1011-17.5E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Mississippi River	CP1011-33.1W	1, 2, 3, 4, 13 & 67	
Midwest			Yes			Mississippi River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Mississippi River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Mississippi River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Mississippi River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Tributary to Mississippi River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest	Superior		Yes			Swan River	CP1024-1.5E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Swan River	CP1024-13.2B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Swan River	CP1024-14.7B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Swan River	CP1024-15.5B	1, 2, 3, 4, 13 & 67	
Midwest			Yes			Swan River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Swan River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest	Superior		Yes			Floodwood Station Ditch	CP1044-0.2B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Floodwood Station Ditch	CP1044-0.3B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Floodwood Station Ditch	CP1044-0.7W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Floodwood Station Ditch	CP1044-1.5B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Floodwood Station Ditch	CP1044-1.6W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Floodwood Station Ditch	CP1044-1.8N	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Saint Louis River	CP1044-12.8S / CP1046-11.9S	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			East Savannah River	CP1046-1.1B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Saint Louis River	CP1046-19.9S	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Saint Louis River	CP1046-22.4E	1, 2, 3, 4, 13 & 67	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest			Yes			McCarthy Creek		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Saint Louis River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Saint Louis River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Saint Louis River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Saint Louis River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Saint Louis River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Saint Louis River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			St Louis. Tributary River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Ahmik River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest	Superior		Yes			Stoney Brook	CP1062-0.1E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Stoney Brook	CP1062-3.4B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Stoney Brook	CP1062-5.7E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Stoney Brook	CP1062-10.3B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Stoney Brook	CP1062-10.8E	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Big Lake	CP1066-1.0W	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Big Lake	CP1066-2.0E	1, 2, 3, 4, 13 & 67	
Midwest			Yes			Little Otter Tributary		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Little Otter Tributary		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Little Otter Tributary		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Little Otter Tributary		1, 2, 3, 4, 13 & 67	New Control Point
Midwest	Superior		Yes			Little Otter Creek	CP1074-0.7S	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Little Otter Creek	CP1074-4.7B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Little Otter Creek	CP1074-5.6B	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Saint Louis River	CP1074-12.7N	1, 2, 3, 4, 13 & 67	
Midwest	Superior		Yes			Little Pokegama River	CP1090-1.1B	1, 2, 3, 4, 13, 67 & 93	
Midwest	Superior		Yes			Little Pokegama River	CP1090-5.8B	1, 2, 3, 4, 13, 67 & 93	
Midwest	Superior		Yes			Pokegama River	CP1094-1.2B	1, 2, 3, 4, 13, 67 & 93	
Midwest	Superior		Yes			Pokegama River	CP1094-1.8B	1, 2, 3, 4, 13, 67 & 93	
Midwest	Superior		Yes			Pokegama River	CP1094-2.8E	1, 2, 3, 4, 13, 67 & 93	
Midwest	Superior		Yes			Nemadji River	CP2-1.7N	6A, 13, 14 & 61	
Midwest	Superior		Yes			Nemadji River	CP1099-0.0N / CP2-3.0N	5, 13, 14, 61 & 6A	
Midwest	Superior		Yes			Nemadji River	CP1099-0.4N / CP2-3.4N	5, 13, 14, 61 & 6A	
Midwest	Superior		Yes			Nemadji River	CP1099-1.4N / CP2-4.4N	5, 13, 14, 61 & 6A	
Midwest	Superior		Yes			Nemadji River	CP1099-1.6B / CP2-4.6B	5, 13, 14, 61 & 6A	
Midwest	Superior		Yes			Nemadji River	CP1099-1.7B / CP2-4.7B	5, 13, 14, 61 & 6A	
Midwest	Superior		Yes			Lake Superior	CP1099-2.3W / CP2-5.3W	5, 13, 14, 61 & 6A	
Midwest	Superior		Yes			Bluff Creek	CP1101-0.6B	5	
Midwest	Superior		Yes			Bluff Creek	CP1101-0.8B	5	
Midwest	Superior		Yes			Allouez Bay	CP1101-1.0W / CP1102-2.5W	5	
Midwest	Superior		Yes			Allouez Bay	CP1101-1.7W / CP1102-2.8W	5	
Midwest	Superior		Yes			Bear Creek	CP1102-0.2W	5	
Midwest	Superior		Yes			Bear Creek	CP1102-0.4B	5	
Midwest	Superior		Yes			Bear Creek	CP1102-0.5E	5	
Midwest	Superior		Yes			Allouez Bay	CP1102-2.2N	5	
Midwest	Superior		Yes			Unnamed Watercourse	CP1104-1.9W	5	
Midwest	Superior		Yes			Morrison Creek	CP1105-2.2N	5	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest	Superior		Yes			Amnicon River	CP1107-0.1B	5	
Midwest	Superior		Yes			Amnicon River	CP1107-0.4W	5	
Midwest	Superior		Yes			Amnicon River	CP1107-4.3E	5	
Midwest	Superior		Yes			Amnicon River	CP1107-5.0E	5	
Midwest	Superior		Yes			Middle River	CP1111-0.4	5	
Midwest	Superior		Yes			Middle River	CP1111-0.7	5	
Midwest	Superior		Yes			Middle River	CP1111-5.6W	5	
Midwest	Superior		Yes			Poplar River	CP1112-1.1B	5	
Midwest	Superior		Yes			Poplar River	CP1112-6.4B	5	
Midwest	Superior		Yes			Poplar River	CP1112-7.2E	5	
Midwest	Superior		No			Bois Brule River	CP1121-0.1B	5	Was determined to be a non-viable CP - Comment in SAR3
Midwest	Superior		Yes			Bois Brule River	CP1121-0.8E	5	
Midwest	Superior		Yes			Bois Brule River	CP1121-5.5W	5	
Midwest	Superior		Yes			Bois Brule River	CP1121-5.6E	5	
Midwest	Superior		Yes			Bois Brule River	CP1121-7.6E	5	
Midwest	Superior		Yes			Bois Brule River	CP1121-8.6W	5	
Midwest	Superior		Yes			Bois Brule River	CP1121-12.4E	5	
Midwest	Superior		Yes			Bois Brule River	CP1121-13.6E	5	
Midwest	Superior		Yes			Iron River	CP1130-0.1B	5	
Midwest	Superior		Yes			Iron River	CP1130-5.3B	5	
Midwest	Superior		Yes			Iron River	CP1130-8.2E	5	
Midwest	Superior		Yes			Iron River	CP1130-9.7E	5	
Midwest	Superior		Yes			Iron River	CP1130-15.5E	5	
Midwest	Superior		Yes			Iron River	CP1130-15.9N	5	
Midwest	Superior		Yes			Iron River	CP1130-17.4E	5	
Midwest	Superior		Yes			North Fish Creek	CP1150-3.0B	5	
Midwest	Superior		Yes			North Fish Creek	CP1150-4.0B	5	
Midwest	Superior		Yes			North Fish Creek	CP1150-6.8W / CP1153-4.0W	5	
Midwest	Superior		Yes			South Fish Creek	CP1153-1.8B	5	
Midwest			Yes			South Fish Creek		5	New Control Point
Midwest	Superior		Yes			Bay City Creek	CP1157-1.0B	5	
Midwest	Superior		Yes			Bay City Creek	CP1157-3.7B	5	
Midwest	Superior		Yes			Bay City Creek	CP1157-5.0B	5	
Midwest	Superior		Yes			Lake Superior	CP1157-5.4W	5	
Midwest	Superior		Yes			Beartrap Creek	CP1160-3.6B	5	
Midwest	Superior		Yes			Beartrap Creek	CP1160-7.9B	5	
Midwest	Superior		Yes			Beartrap Creek	CP1160-10.4N	5	
Midwest	Superior		Yes			Lake Superior	CP1160-18.0W	5	
Midwest	Superior		Yes			Bad River	CP-1163-9.2W / CP1165-10.5W	5	
Midwest	Superior		Yes			Bad River	CP1163-10.0N / CP1165-11.2N	5	
Midwest	Superior		Yes			Bad River	CP1163-10.1E / CP1165-11.6E	5	
Midwest	Superior		Yes			Bad River	CP-1163-10.5E / CP1165-11.8E	5	
Midwest	Superior		Yes			Lake Superior	CP1163-14.6S / CP1165-15.5S	5	
Midwest	Superior		Yes			Bad River	CP1165-4.7W	5	
Midwest	Superior		Yes			Bad River	CP1165-9.4E	5	
Midwest	Superior		Yes			Denomie Creek	CP1172-9.8B	5	
Midwest	Superior		Yes			Denomie Creek	CP1172-10.5B	5	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest	Superior		Yes			Denomie Creek	CP1172-11.0W	5	
Midwest	Superior		Yes			Spoon Creek	CP1177-0.4E	5	
Midwest	Superior		Yes			Spoon Creek	CP1177/1178-5.0B	5	
Midwest	Superior		Yes			Spoon Creek	CP1177/1178-5.3W	5	
Midwest	Superior		Yes			Spoon Creek Tributary	CP1178-0.1W	5	
Midwest			Yes			West Branch Montreal River		5	New Control Point
Midwest	Superior		Yes			Montreal River	CP1189-9.1S / CP1191-11.8S / CP1194-13.7S	5	
Midwest	Superior		Yes			Montreal River	CP1189-18.5S / CP1191-21.3S / CP1194-23.1S	5	
Midwest	Superior		Yes			Montreal River	CP1189-22.2B	5	
Midwest	Superior		Yes			St. Croix River	CP33-0.2B / CP34-1.5B	13, 14, 61 & 6A	
Midwest	Superior		Yes			St. Croix Flowage	CP33-5.6N / CP34-6.8N	13, 14, 61 & 6A	
Midwest	Superior		Yes			St. Croix Flowage	CP33-7.6W / CP34-8.8W	13, 14, 61 & 6A	
Midwest	Superior		Yes			Eau Claire River	CP34-0.7B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Eau Claire River	CP34-1.1B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Totagatic River	CP41-1.5B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Totagatic River	CP41-8.0B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Totagatic River	CP41-9.9B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Totagatic River	CP41-10.5B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Totagatic River	CP41-17.5W	13, 14, 61 & 6A	
Midwest	Superior		Yes			Totagatic River	CP41-18.5W	13, 14, 61 & 6A	
Midwest	Superior		Yes			Totagatic River	CP41-20.0B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Minong Flowage	CP41-21.1N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Minong Flowage	CP41-22.2E	13, 14, 61 & 6A	
Midwest	Superior		Yes			Minong Flowage	CP41-23.3W	13, 14, 61 & 6A	
Midwest	Superior		Yes			Minong Flowage	CP41-25.0W	13, 14, 61 & 6A	
Midwest			Yes			Frog Creek		13, 14, 61 & 6A	New Control Point
Midwest	Superior		Yes			Namekagon River	CP54-1.7B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-3.9S	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-6.0B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-6.4S	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-8.9W	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-11.3W	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-15.0N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-16.5B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-19.0N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-19.6N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-19.8S	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-22.6S	13, 14, 61 & 6A	
Midwest	Superior		Yes			Namekagon River	CP54-24.9S	13, 14, 61 & 6A	
Midwest	Superior		Yes			Sand Creek	CP66-0.3N-US	13, 14, 61 & 6A	
Midwest	Superior		Yes			Sand Creek	CP66-0.2B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Sand Creek	CP66-1.1B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Whitefish Lake	CP66-1.6S	13, 14, 61 & 6A	
Midwest	Superior		Yes			Summit Creek	CP71-0.4B	13 & 61	
Midwest	Superior		Yes			Summit Creek	CP71-1.0B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Summit Creek	CP71-1.2B	13, 14, 61 & 6A	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest	Superior		Yes			Couderay River	CP71-3.6N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-3.9N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-4.3N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-6.1B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-7.3N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-7.8N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-8.3B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-8.5S	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-8.9N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-10.9B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-11.8B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-14.0S	13, 14, 61 & 6A	
Midwest	Superior		Yes			Couderay River	CP71-14.1B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Chippewa River	CP71-23.7E	13, 14, 61 & 6A	
Midwest	Superior		Yes			Big Weirgor Creek	CP85-1.2S	13, 14, 61 & 6A	
Midwest	Superior		Yes			Big Weirgor Creek	CP85-2.5B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Big Weirgor Creek	CP85-5.2B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Big Weirgor Creek	CP85-6.4B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Chippewa River	CP71-32.3W / CP85-7.6W	13, 14, 61 & 6A	
Midwest	Superior		Yes			Chippewa River	CP85-9.9B / CP88-2.4B	13, 14, 61 & 6A	
Midwest	Superior		Yes			Chippewa River	CP85-14.6E / CP88-7.0E	13, 14, 61 & 6A	
Midwest	Superior		Yes			Chippewa River	CP85-19.0S / CP88-11.5S / CP94-7.2S	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Chippewa River	CP85-25.3E / CP88-17.8E / CP94-13.6E	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Chippewa River	CP85-31.9E / CP88-24.4E / CP94-20.0E	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Chippewa River	CP85-37.5B / CP88-30.0B / CP94-26.1B	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Chippewa River	CP85-39.5N, CP88-32.0N, CP94-28.1N	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Chippewa River	CP88-36.7N	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Chippewa River	CP88-38.6W	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Chippewa River	CP88-39.5W	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Chippewa River	CP88-39.8S	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Chippewa River	CP88-40.4N	13, 14, 61 & 6A	
Midwest	Superior		Yes			Thornapple River	CP94-4.8B	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Flambeau River	CP100-2.8	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Flambeau River	CP100-3.4	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Flambeau River	CP100-3.7	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Flambeau River	CP100-7.0	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Jump River	CP110-1.4 / CP111-2.4	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Jump River	CP110-2.1 / CP111-3.1	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Jump River	CP110-7.4 / CP111-8.5	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Jump River	CP110-8.6 / CP111-9.5	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Yellow River	CP124-3.3	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Yellow River	CP124-6.1	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Yellow River	CP124-17.3	13, 14, 61 & 6A	
Midwest			Yes			Yellow River		13, 14, 61 & 6A	New Control Point

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest	Chicago		Yes			Yellow River	CP124-21.5	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Yellow River	CP124-24.9	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Eau Claire River North Fork	CP132-2.7	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Eau Claire River North Fork	CP132-5.5	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Eau Claire River North Fork	CP132-10.5	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Eau Claire River North Fork	CP132-13.5	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Eau Claire River North Fork	CP132-19.3	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Eau Claire River North Fork	CP132-24.4	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Eau Claire River North Fork	CP132-33.2	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Popple River	CP144-11.0	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Popple River	CP144-14.2	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Popple River	CP144-17.4	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Popple River	CP144-24.9	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Popple River	CP144-4.0	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Yellow River East Branch	CP169-2.6	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Yellow River East Branch	CP169-5.5	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Yellow River East Branch	CP169-15.8	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Yellow River East Branch	CP169-21.8	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Lake Dexter	CP169-27.2	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Wisconsin River	CP201-1.5	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Wisconsin River	CP201-2.0	13, 14, 61 & 6A	
Midwest			Yes			Petenwell Lake		13, 14, 61 & 6A	New Control Point
Midwest	Chicago		Yes			Wisconsin River	CP201-5.2	13, 14, 61 & 6A	
Midwest			Yes			Wisconsin River		13, 14, 61 & 6A	New Control Point
Midwest	Chicago		Yes			Fox River	CP253-0.4	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Fox River	CP253-3.8	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Fox River	CP253-7.6	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Fox River	CP253-11.0	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Fox River	CP261-2.1	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Fox River	CP261-3.7	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Crawfish River	CP279-5.9	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Crawfish River	CP279-9.7	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Crawfish River	CP279-17.3	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Crawfish River	CP279-21.4	13, 14, 61 & 6A	
Midwest			Yes			Crawfish River		13, 14, 61 & 6A	New Control Point
Midwest	Chicago		Yes			Mauneshia River	CP291-0.8	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Mauneshia River	CP291-5.9	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Mauneshia River	CP291-10.7	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Mauneshia River	CP291-14.4	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Rock River	CP313-0.7	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Rock River	CP313-2.2	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Rock River	CP313-2.8	13, 14, 61 & 6A	
Midwest	Chicago		Yes			Turtle Creek	CP337.3-2.2	6A, 13, 14 & 61	
Midwest	Chicago		Yes			Turtle Creek	CP337.3-4.0	6A, 13, 14 & 61	
Midwest	Chicago		Yes			Turtle Creek	CP337.3-7.8	6A, 13, 14 & 61	
Midwest	Chicago		Yes			Turtle Creek	CP337.3-9.0	6A, 13, 14 & 61	
Midwest	Chicago		Yes			Turtle Creek	CP337.3-17.5	6A, 13, 14 & 61	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest			Yes			Red River		81	New Control Point
Midwest			Yes			Red River		81	New Control Point
Midwest	Superior		Yes			Chippewa River	CP85-19.2B / CP88-11.7B / CP94-7.5B	13, 14, 61 & 6A	
Midwest			Yes			Red River Tributary		1, 2, 3, 4, 13, 65, & 67	New Control Point
Midwest			Yes			Cass Lake		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Grant Creek		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Grant Creek		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Mississippi River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Mississippi River		1, 2, 3, 4, 13 & 67	New Control Point
Midwest			Yes			Tributary to Bardon Creek		5	New Control Point
Midwest			Yes			Tributary to Bardon Creek		5	New Control Point
Midwest			Yes			Tributary to Bardon Creek		5	New Control Point
Midwest			Yes			Tributary to Bardon Creek		5	New Control Point
Midwest			Yes			Bardon Creek		5	New Control Point
Midwest			Yes			Bardon Creek		5	New Control Point
Midwest			Yes			Bardon Creek		5	New Control Point
Midwest			Yes			Bardon Creek		5	New Control Point
Midwest			Yes			Unnamed Watercourse		5	New Control Point
Midwest			Yes			Poplar River		5	New Control Point
Midwest			Yes			Poplar River		5	New Control Point
Midwest			Yes			Middle River		5	New Control Point
Midwest			Yes			Hanson Creek		5	New Control Point
Midwest			Yes			Hanson Creek		5	New Control Point
Midwest			Yes			Hanson Creek		5	New Control Point
Midwest			Yes			Wagner Creek		5	New Control Point
Midwest			Yes			Wagner Creek		5	New Control Point
Midwest			Yes			Miller Creek		5	New Control Point
Midwest			Yes			Miller Creek		5	New Control Point
Midwest			Yes			East Fork Moose River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Moose River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Moose River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Moose River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Dutchman Creek		5	New Control Point
Midwest			Yes			Dutchman Creek		5	New Control Point
Midwest			Yes			Dutchman Creek		5	New Control Point
Midwest			Yes			Unnamed Creek		5	New Control Point
Midwest			Yes			Unnamed Creek		5	New Control Point
Midwest			Yes			Yellow River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Hemlock Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Hemlock Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Hemlock Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Hemlock Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Dawes Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Dawes Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Hemlock Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Hemlock Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Allen Creek		13, 14, 61 & 6A	New Control Point

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control Points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Line(s)	Reason for Change
Midwest			Yes			Ten Mile Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Spring Brook		6A & 14	New Control Point
Midwest			Yes			Spring Brook		6A & 14	New Control Point
Midwest			Yes			Spring Brook		6A & 14	New Control Point
Midwest			Yes			Spring Brook		6A & 14	New Control Point
Midwest			Yes			Fisher River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Fisher River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Fisher River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Fisher River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Rock River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			DeChamps Creek		5	New Control Point
Midwest			Yes			Dead Horse Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Dead Horse Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Dead Horse Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Dead Horse Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			North Branch Duck Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			North Branch Duck Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			North Branch Duck Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			North Branch Duck Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Stony Brook		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Stony Brook		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Pearson Creek		5	New Control Point
Midwest			Yes			Pearson Creek		5	New Control Point
Midwest			Yes			Puff Creek		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Yellow River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Fisher River		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Stony Brook		13, 14, 61 & 6A	New Control Point
Midwest			Yes			Stony Brook		13, 14, 61 & 6A	New Control Point

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Pipeline(s)	Reason for Change
Southwest	Mid-Continent		Yes			Black Walnut Creek	CP 61.80 - 0.43	78	
Southwest	Mid-Continent		Yes			Black Walnut Creek	CP 61.80 - 2.76	78	
Southwest	Mid-Continent		Yes			Black Walnut Creek	CP 61.80 - 6.69	78	
Southwest	Mid-Continent		Yes			Black Walnut Creek	CP 61.80 - 12.97	78	
Southwest	Mid-Continent		Yes			Rock Creek	CP 57.31 - 0.43	78	
Southwest	Mid-Continent		Yes			Rock Creek	CP 57.31 - 2.70	78	
Southwest	Mid-Continent		Yes			Rock Creek	CP 57.31 - 4.85	78	
Southwest	Mid-Continent		Yes			Rock Creek	CP 52.11 - 0.81 / CP 57.31 - 6.55	78	
Southwest	Mid-Continent		Yes			Rock Creek	CP 52.11 - 3.90	78	
Southwest	Mid-Continent		Yes			Rock Creek	CP 52.11 - 8.55	78	
Southwest	Mid-Continent		Yes			Rock Creek	CP 52.11 - 13.20	78	
Southwest	Mid-Continent		Yes			South Branch Forked Creek	CP 48.40 - 1.12	78	
Southwest	Mid-Continent		Yes			South Branch Forked Creek	CP 48.40 - 3.16	78	
Southwest	Mid-Continent		Yes			South Branch Forked Creek	CP 48.40 - 4.63	78	
Southwest	Mid-Continent		Yes			W Kennedy Creek	CP 48.40 - 6.27	78	
Southwest	Mid-Continent		Yes			Rayns Creek	CP 40.60 - 1.28	78	
Southwest	Mid-Continent		Yes			Rayns Creek	CP 39.27 - 1.00 / CP 40.60 - 2.54	78	
Southwest	Mid-Continent		Yes			Rayns Creek	CP 38.33 - 1.32 / CP 39.27 - 1.35 / CP 39.27 - 2.45 / CP 40.60 - 3.65 / CP 40.60 - 5.23	78	
Southwest	Mid-Continent		Yes			Rayns Creek	CP 38.33 - 2.43 / CP 39.27 - 2.93	78	
Southwest	Mid-Continent		Yes			Mary Byron Creek	CP 38.33 - 0.15	78	
Southwest	Mid-Continent		Yes			Mary Byron Creek	CP 38.33 - 0.67	78	
Southwest	Mid-Continent		Yes			Kankakee River	CP 37.59 - 0.66	78	
Southwest	Mid-Continent		Yes			Kankakee River	CP37-0.85	78	
Southwest	Mid-Continent		Yes			Kankakee River	CP 37.59 - 2.63	78	
Southwest	Mid-Continent		Yes			Kankakee River	CP 37.59 - 3.08	78	
Southwest	Mid-Continent		Yes			Kankakee River	CP 37.59 - 4.77	78	
Southwest	Mid-Continent		Yes			West Horse Creek	CP 31.10 - 7.05	78	
Southwest	Mid-Continent		Yes			Kankakee River	CP37-5.45	78	
Southwest	Mid-Continent		Yes			Kankakee River	CP 37.59 - 5.49	78	
Southwest	Mid-Continent		Yes			Kankakee River	CP 37.59 - 6.87	78	
Southwest	Mid-Continent		Yes			Terry Creek	CP 35.10 - 0.74	78	
Southwest	Mid-Continent		Yes			Terry Creek	CP 35.10 - 1.79	78	
Southwest	Mid-Continent		Yes			Terry Creek	CP 35.10 - 2.68	78	
Southwest	Mid-Continent		Yes			West Horse Creek	CP 30.40 - 0.58 / CP 31.10 - 0.74	78	
Southwest	Mid-Continent		Yes			West Horse Creek	CP 31.10 - 2.39	78	
Southwest	Mid-Continent		Yes			West Horse Creek	CP 31.10 - 3.17	78	
Southwest	Mid-Continent		Yes			Granary Creek	CP 27.60 - 0.94	78	
Southwest	Mid-Continent		Yes			Granary Creek	CP 27.60 - 1.84	78	
Southwest	Mid-Continent		Yes			Granary Creek	CP 27.60 - 2.48	78	
Southwest	Mid-Continent		Yes			Crane Creek	CP 25.55 - 3.50 / CP 27.60 - 3.50	78	
Southwest	Mid-Continent		Yes			Crane Creek	CP 25.55 - 1.15	78	
Southwest	Mid-Continent		Yes			Crane Creek	CP 25.55 - 2.34	78	
Southwest	Mid-Continent		Yes			Crane Creek	CP 25.55 - 3.33	78	
Southwest	Mid-Continent		Yes			West Reddick Run	CP 24.10 - 0.90 / CP 24.70 - 0.74	78	
Southwest	Mid-Continent		Yes			West Reddick Run	CP 24.10 - 2.11	78	
Southwest	Mid-Continent		Yes			West Reddick Run	CP 24.10 - 3.32	78	
Southwest	Mid-Continent		Yes			West Reddick Run	CP 24.10 - 4.10	78	
Southwest	Mid-Continent		Yes			Ephemeral Creek	CP 23.10 - 0.56	78	

REDACTED SUBMITTAL -- PUBLIC COPY
 Concordance Table for 2020 Control Point Submission to the EPA - Consent Decree

Control points									
Region	Old Region	CP_ID	Submitted	Longitude	Latitude	WaterCrossing	DOJ_CP_Names	Pipeline(s)	Reason for Change
Southwest	Mid-Continent		Yes			Ephemeral Creek	CP 23.10 - 1.66	78	
Southwest	Mid-Continent		Yes			Ephemeral Creek	CP 23.10 - 3.22	78	
Southwest	Mid-Continent		Yes			Ephemeral Creek	CP 23.10 - 4.52	78	
Southwest	Mid-Continent		Yes			Gooseberry Creek	CP 19.60 - 0.44	78	
Southwest	Mid-Continent		Yes			East Fork Mazon River	CP 20.60 - 2.26	78	
Southwest	Mid-Continent		Yes			East Fork Mazon River	CP 20.60 - 3.82	78	
Southwest	Mid-Continent		Yes			East Fork Mazon River	CP 20.60 - 4.92	78	
Southwest	Mid-Continent		Yes			East Fork Mazon River	CP 20.60 - 6.67	78	
Southwest	Mid-Continent		Yes			Gooseberry Creek	CP 16.60 - 0.52	78	
Southwest	Mid-Continent		Yes			Gooseberry Creek	CP 16.60 - 1.75	78	
Southwest	Mid-Continent		Yes			Gooseberry Creek	CP 16.60 - 2.19	78	
Southwest	Mid-Continent		Yes			Gooseberry Creek	CP 16.60 - 4.02	78	
Southwest	Mid-Continent		Yes			Unnamed Creek	CP 13.60 - 0.13	78	
Southwest	Mid-Continent		Yes			Unnamed Creek	CP 13.60 - 1.45	78	
Southwest	Mid-Continent		Yes			Unnamed Creek	CP 13.60 - 2.14	78	
Southwest	Mid-Continent		Yes			Unnamed Creek	CP 13.60 - 3.08	78	
Southwest	Mid-Continent		Yes			Gooseberry Creek	CP 11.00 - 0.71	78	
Southwest	Mid-Continent		Yes			Gooseberry Creek	CP 11.00 - 1.87	78	
Southwest	Mid-Continent		Yes			Gooseberry Creek	CP 11.00 - 3.19	78	
Southwest	Mid-Continent		Yes			Gooseberry Creek	CP 11.00 - 3.41	78	
Southwest	Mid-Continent		Yes			Unnamed Creek	CP 9.00 - 0.67	78	
Southwest	Mid-Continent		Yes			Unnamed Creek	CP 9.00 - 1.02	78	
Southwest	Mid-Continent		Yes			Unnamed Creek	CP 9.00 - 2.19	78	
Southwest	Mid-Continent		Yes			Unnamed Creek	CP 9.00 - 3.60	78	
Southwest	Mid-Continent		Yes			Deer Creek	CP 2.20 - 0.10	78	
Southwest	Mid-Continent		Yes			Deer Creek	CP3.40 - 1.27	78	
Southwest	Mid-Continent		Yes			Deer Creek	CP3.40 - 1.37	78	
Southwest	Mid-Continent		Yes			Deer Creek	CP 2.20 - 1.64	78	
Southwest	Mid-Continent		Yes			Deer Creek	CP 2.20 - 2.90	78	
Southwest	Mid-Continent		Yes			Deer Creek	CP 2.20 - 4.04	78	
Southwest	Mid-Continent		Yes			Mud Creek	CP452-2.0W	61	
Southwest	Mid-Continent		Yes			Mud Creek	CP452-3.5E	61	
Southwest	Mid-Continent		Yes			Mud Creek	CP452-7.8E	61	
Southwest	Mid-Continent		Yes			Mud Creek	CP452-9.4S	61	
Southwest	Mid-Continent		Yes			Mud Creek	CP452-12.8E	61	
Southwest	Mid-Continent		Yes			Mud Creek	CP452-16.3E	61	
Southwest	Mid-Continent		Yes			Mud Creek	CP452-18.2E	61	

GPS (NAD 83) Decimal/Degree:	Latitude:	Upstream Control Point:		Upstream Valve Site /s:	
	Longitude:				
Distance to POE:	Upstream:	Downstream Control Point:		Downstream Valve Site /s:	
Objective:	Containment & Recovery/Collection				

Watercourse Information

Name:

Watercourse Depth:

Watercourse Width:

Watercourse Description:

Resources at Risk / Environmental Sensitive Areas**Safety Concerns****Implementation****Logistical Information**Site Access
Requirements:Staging Area
Location:Work Area
Location/
Comments:Boat Launch
Access:Site
Comments/
Restrictions:**Seasonal Considerations****Closest Equipment Cache to CP****Business / Landowner Contact Information**

Strategy Site Visited:

Strategy Updated:

Recommended Equipment	
Quantity	Description

Recommended Personnel	
Number	Description

Equipment Notes

Directions

Strategy Site Visited:

Strategy Updated:





AREA PHOTO 1



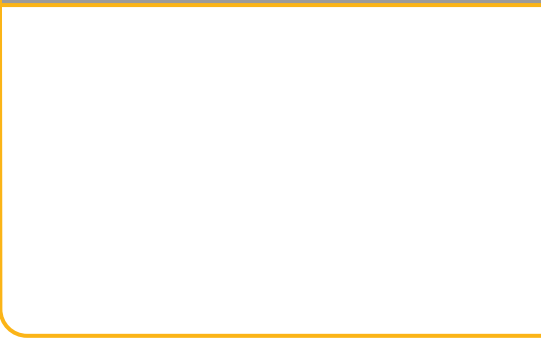
AREA PHOTO 2



AREA PHOTO 3



AREA PHOTO 4



Additional Comments

Strategy Site Visited:

Strategy Updated:



Appendix 5 – PHMSA Reports from Lakehead Discharges [146] and Update on Discharges from Lakehead System Pipelines [147]

Reporting Period: November 23, 2019 to May 22, 2020

NOTICE: This report is required by 49 CFR Part 195. Failure to report can result in a civil penalty not to exceed \$100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$1,000,000 as provided in 49 USC 60122.		OMB NO: 2137-0047 EXPIRATION DATE: 8/31/2020	
 U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration	Original Report Date:	05/29/2020	
	No.	20200151 - 33832 (DOT Use Only)	
ACCIDENT REPORT - HAZARDOUS LIQUID PIPELINE SYSTEMS			
A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0047. All responses to the collection of information are mandatory. Send comments regarding this burden or any other aspect of this collection of information, including suggestions for reducing the burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.			
INSTRUCTIONS			
Important: Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at http://www.phmsa.dot.gov/pipeline/library/forms.			
PART A - KEY REPORT INFORMATION			
Report Type: (select all that apply)	Original:	Supplemental:	Final:
	Yes		Yes
Last Revision Date:			
1. Operator's OPS-issued Operator Identification Number (OPID):		11169	
2. Name of Operator		ENBRIDGE ENERGY, LIMITED PARTNERSHIP	
3. Address of Operator:			
3a. Street Address		5400 WESTHEIMER COURT	
3b. City		HOUSTON	
3c. State		Texas	
3d. Zip Code		77056	
4. Local time (24-hr clock) and date of the Accident:		04/30/2020 07:53	
5. Location of Accident:			
Latitude:			
Longitude:			
6. National Response Center Report Number (if applicable):		NRC Notification Not Required	
7. Local time (24-hr clock) and date of initial telephonic report to the National Response Center (if applicable):			
8. Commodity released: (select only one, based on predominant volume released)		Crude Oil	
- Specify Commodity Subtype:			
- If "Other" Subtype, Describe:			
- 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			
9. Estimated volume of commodity released unintentionally (Barrels):		2.52	
10. Estimated volume of intentional and/or controlled release/blowdown (Barrels):			
11. Estimated volume of commodity recovered (Barrels):		2.52	
12. Were there fatalities?		No	
- If Yes, specify the number in each category:			
12a. Operator employees			
12b. Contractor employees working for the Operator			
12c. Non-Operator emergency responders			
12d. Workers working on the right-of-way, but NOT associated with this Operator			
12e. General public			
12f. Total fatalities (sum of above)			
13. Were there injuries requiring inpatient hospitalization?		No	
- If Yes, specify the number in each category:			
13a. Operator employees			
13b. Contractor employees working for the Operator			
13c. Non-Operator emergency responders			
13d. Workers working on the right-of-way, but NOT associated with this Operator			
13e. General public			

13f. Total injuries (sum of above)		
14. Was the pipeline/facility shut down due to the Accident?		Yes
- If No, Explain:		
- If Yes, complete Questions 14a and 14b: (use local time, 24-hr clock)		
14a. Local time and date of shutdown:		04/30/2020 07:58
14b. Local time pipeline/facility restarted:		04/30/2020 10:43
- Still shut down? (* Supplemental Report Required)		
15. Did the commodity ignite?		No
16. Did the commodity explode?		No
17. Number of general public evacuated:		0
18. Time sequence (use local time, 24-hour clock):		
18a. Local time Operator identified Accident - effective 7- 2014 changed to "Local time Operator identified failure":		04/30/2020 09:00
18b. Local time Operator resources arrived on site:		04/30/2020 07:53
PART B - ADDITIONAL LOCATION INFORMATION		
1. Was the origin of the Accident onshore?		Yes
<i>If Yes, Complete Questions (2-12)</i>		
<i>If No, Complete Questions (13-15)</i>		
- If Onshore:		
2. State:		Indiana
3. Zip Code:		46319
4. City		Griffith
5. County or Parish		Lake
6. Operator-designated location:		Milepost/Valve Station
Specify:		550
7. Pipeline/Facility name:		Griffith Terminal
8. Segment name/ID:		Tank 71
9. Was Accident on Federal land, other than the Outer Continental Shelf (OCS)?		No
10. Location of Accident:		Totally contained on Operator-controlled property
11. Area of Accident (as found):		Tank, including attached appurtenances
Specify:		
- If Other, Describe:		
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/ 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:		
- 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) - Specify:		
- Area:		
- Block #:		
15. Area of Accident:		
PART C - ADDITIONAL FACILITY INFORMATION		
1. Is the pipeline or facility:		Interstate
2. Part of system involved in Accident:		Onshore Breakout Tank or Storage Vessel, including Attached Appurtenances
- If Onshore Breakout Tank or Storage Vessel, Including Attached Appurtenances, specify:		Atmospheric or Low Pressure
3. Item involved in Accident:		Tank/Vessel
- If Pipe, specify:		

REDACTED SUBMITTAL -- PUBLIC COPY

3a. Nominal diameter of pipe (in):	
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. Year of manufacture:	
3h. Pipeline coating type at point of Accident, specify:	
- If Other, Describe:	
- If Weld, including heat-affected zone, specify. If Pipe Girth Weld, 3a through 3h above are required:	
- If Other, Describe:	
- If Valve, specify:	
- If Mainline, specify:	
- If Other, Describe:	
3i. Manufactured by:	
3j. Year of manufacture:	
- If Tank/Vessel, specify:	Roof/Roof Seal
- If Other - Describe:	
- If Other, describe:	
4. Year item involved in Accident was installed:	1970
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:	Other
- If Other, Describe:	Water weight on floating roof
- 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:	No
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: <i>(Select one or both)</i>	
- Private Well	
- Public Water Intake	
5b. Estimated amount released in or reaching water (Barrels):	
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)?	Yes
7a. If Yes, specify HCA type(s): <i>(Select all that apply)</i>	
- 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:	Yes
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	Yes
- 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	Yes
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	Yes
8. Estimated cost to Operator – effective 12-2012, changed to "Estimated Property 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	\$ [REDACTED]
8b. Estimated cost of commodity lost	\$ [REDACTED]
8c. Estimated cost of Operator's property damage & repairs	\$ [REDACTED]
8d. Estimated cost of Operator's emergency response	\$ [REDACTED]
8e. Estimated cost of Operator's environmental remediation	\$ [REDACTED]
8f. Estimated other costs	\$ [REDACTED]
Describe:	
8g. Estimated total costs (sum of above) – effective 12-2012, changed to "Total estimated property damage (sum of above)"	\$ [REDACTED]
PART E - ADDITIONAL OPERATING INFORMATION	
1. Estimated pressure at the point and time of the Accident (psig):	.00
2. Maximum Operating Pressure (MOP) at the point and time of the Accident (psig):	45.00
3. Describe the pressure on the system or facility relating to the Accident (psig):	Pressure did not exceed MOP
4. Not including pressure reductions required by PHMSA regulations (such as for repairs and pipe movement), 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?	
5. Was "Onshore Pipeline, Including Valve Sites" OR "Offshore Pipeline, Including Riser and Riser Bend" selected in PART C, Question 2?	No
- If Yes - (Complete 5a. – 5f below) effective 12-2012, changed to "(Complete 5.a – 5.e below)"	
5a. Type of upstream valve used to initially isolate release source:	
5b. Type of downstream valve used to initially isolate release source:	
5c. Length of segment isolated between valves (ft):	
5d. Is the pipeline configured to accommodate internal inspection tools?	
- If No, Which physical features limit tool accommodation? (select 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:	

5e. 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? <i>(select all that apply)</i>	
- 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:	
5f. Function of pipeline system:	> 20% SMYS Regulated Trunkline/Transmission
6. Was a Supervisory Control and Data Acquisition (SCADA)-based system in place on the pipeline or facility involved in the Accident?	Yes
If Yes -	
6a. Was it operating at the time of the Accident?	Yes
6b. Was it fully functional at the time of the Accident?	Yes
6c. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	No
6d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	No
7. Was a CPM leak detection system in place on the pipeline or facility involved in the Accident?	No
- If Yes:	
7a. Was it operating at the time of the Accident?	
7b. Was it fully functional at the time of the Accident?	
7c. 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?	
7d. 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?	
8. How was the Accident initially identified for the Operator?	Local Operating Personnel, including contractors
- If Other, Specify:	
8a. If "Controller", "Local Operating Personnel", including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 8, specify:	Operator employee
9. 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: <i>(provide an explanation for why the operator did not investigate)</i>	Lack of Control Center involvement
- If Yes, specify investigation result(s): <i>(select all that apply)</i>	
- 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 Yes:	
2a. Specify how many were tested:	
2b. Specify how many failed:	
PART G – APPARENT CAUSE	
<i>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 right. Describe secondary, contributing or root causes of the Accident in the narrative (PART H).</i>	
Apparent Cause:	G2 - Natural Force Damage
G1 - Corrosion Failure - only one sub-cause can be picked from shaded left-hand column	
Corrosion Failure – Sub-Cause:	
- If External Corrosion:	
1. Results of visual examination:	
- If Other, Describe:	
2. Type of corrosion: <i>(select all that apply)</i>	
- Galvanic	
- Atmospheric	
- Stray Current	
- Microbiological	
- Selective Seam	
- Other:	
- If Other, Describe:	
3. The type(s) of corrosion selected in Question 2 is based on the following: <i>(select all that apply)</i>	
- Field examination	
- Determined by metallurgical analysis	
- Other:	
- If Other, Describe:	
4. Was the failed item buried under the ground?	
- 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:	
- 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 <i>(select all that apply)</i> : -	
- 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>(select all that apply)</i> : -	
- Field examination	

REDACTED SUBMITTAL -- PUBLIC COPY

- Determined by metallurgical analysis	
- Other:	

- If Other, Describe:	
-----------------------	--

9. Location of corrosion (*select all that apply*): -

- Low point in pipe	
- Elbow	
- 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?

Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Tank/Vessel.

14. List the year of the most recent inspections:

14a. API Std 653 Out-of-Service Inspection	
- No Out-of-Service Inspection completed	
14b. API Std 653 In-Service Inspection	
- No In-Service Inspection completed	

Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.

15. Has one or more internal inspection tool collected data at the point of the Accident?

15a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: -

- Magnetic Flux Leakage Tool	Most recent year:
- Ultrasonic	Most recent year:
- Geometry	Most recent year:
- Caliper	Most recent year:
- Crack	Most recent year:
- Hard Spot	Most recent year:
- Combination Tool	Most recent year:
- Transverse Field/Triaxial	Most recent year:
- Other	Most recent year:
Describe:	

16. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?

If Yes -

Most recent year tested:	
Test pressure:	

17. Has one or more Direct Assessment been conducted on this segment?

- If Yes, and an investigative dig was conducted at the point of the Accident::

Most recent year conducted:	
-----------------------------	--

- If Yes, but the point of the Accident was not identified as a dig site:

Most recent year conducted:	
-----------------------------	--

18. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?

18a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:

- Radiography	Most recent year conducted:
- Guided Wave Ultrasonic	Most recent year conducted:
- Handheld Ultrasonic Tool	Most recent year conducted:
- Wet Magnetic Particle Test	Most recent year conducted:
- Dry Magnetic Particle Test	Most recent year conducted:

REDACTED SUBMITTAL -- PUBLIC COPY

Most recent year conducted:	
Describe:	

G2 - Natural Force Damage - only one **sub-cause** can be picked from shaded left-handed column

Natural Force Damage – Sub-Cause:	Heavy Rains/Floods
- If Earth Movement, NOT due to Heavy Rains/Floods:	
1. Specify:	
- If Other, Describe:	
- If Heavy Rains/Floods:	
2. Specify:	Other
- If Other, Describe:	Heavy rains caused displacement of the product under the external floating roof
- 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?	No
6a. If Yes, specify: <i>(select all that apply)</i>	
- 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 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
1. Has one or more internal inspection tool collected data at the point of the Accident?	
1a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: -	
- Magnetic Flux Leakage	Most recent year conducted:
- Ultrasonic	Most recent year conducted:
- Geometry	Most recent year conducted:
- Caliper	Most recent year conducted:
- Crack	Most recent year conducted:
- Hard Spot	Most recent year conducted:
- Combination Tool	Most recent year conducted:
- Transverse Field/Triaxial	Most recent year conducted:
- Other	Most recent year conducted:
Describe:	
2. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?	
3. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
4. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident:	

REDACTED SUBMITTAL -- PUBLIC COPY

Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
5. Has one or more non-destructive examination been conducted at the	

point of the Accident since January 1, 2002?	
5a. If Yes, for each examination, conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	Most recent year conducted:
- Guided Wave Ultrasonic	Most recent year conducted:
- Handheld Ultrasonic Tool	Most recent year conducted:
- Wet Magnetic Particle Test	Most recent year conducted:
- Dry Magnetic Particle Test	Most recent year conducted:
- Other	Most recent year conducted:
Describe:	

Complete the following if Excavation Damage by Third Party is selected as the sub-cause.

6. Did the operator get prior notification of the excavation activity?	
6a. If Yes, Notification received from: <i>(select all that apply)</i> -	
- One-Call System	
- Excavator	
- Contractor	
- Landowner	

Complete the following mandatory CGA-DIRT Program questions if any Excavation Damage sub-cause is selected.

7. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)?	
8. Right-of-Way where event occurred: <i>(select all that apply)</i> -	
- Public	
- If "Public", Specify:	
- Private	
- If "Private", Specify:	
- Pipeline Property/Easement	
- Power/Transmission Line	
- Railroad	
- Dedicated Public Utility Easement	
- Federal Land	
- Data not collected	
- Unknown/Other	
9. Type of excavator:	
10. Type of excavation equipment:	
11. Type of work performed:	
12. Was the One-Call Center notified?	
12a. If Yes, specify ticket number:	
12b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified:	
13. Type of Locator:	
14. Were facility locate marks visible in the area of excavation?	
15. Were facilities marked correctly?	
16. Did the damage cause an interruption in service?	
16a. If Yes, specify duration of the interruption (hours)	
17. Description of the CGA-DIRT Root Cause <i>(select only the one predominant first level CGA-DIRT Root Cause and then, where available as a choice, the one predominant second level CGA-DIRT Root Cause as well):</i>	
Root Cause:	
- If One-Call Notification Practices Not Sufficient, specify:	
- If Locating Practices Not Sufficient, specify:	
- If Excavation Practices Not Sufficient, specify:	
- If Other/None of the Above, explain:	

G4 - Other Outside Force Damage - only one sub-cause can be selected from the shaded left-hand column

Other Outside Force Damage - Sub-Cause:	
- If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation:	

REDACTED SUBMITTAL -- PUBLIC COPY

1. Vehicle/Equipment operated by:	
- If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Adrift or Which Have Otherwise Lost Their Mooring:	
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.	
3. Has one or more internal inspection tool collected data at the point of the Accident?	
3a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:	
- Magnetic Flux Leakage	Most recent year conducted:
- Ultrasonic	Most recent year conducted:
- Geometry	Most recent year conducted:
- Caliper	Most recent year conducted:
- Crack	Most recent year conducted:
- Hard Spot	Most recent year conducted:
- Combination Tool	Most recent year conducted:
- Transverse Field/Triaxial	Most recent year conducted:
- Other	Most recent year conducted:
Describe:	
4. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?	
5. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
6. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident:	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
7. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
7a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	Most recent year conducted:
- Guided Wave Ultrasonic	Most recent year conducted:
- Handheld Ultrasonic Tool	Most recent year conducted:
- Wet Magnetic Particle Test	Most recent year conducted:
- Dry Magnetic Particle Test	Most recent year conducted:
- Other	Most recent year conducted:
Describe:	
- If Intentional Damage:	
8. Specify:	
- If Other, Describe:	
- If Other Outside Force Damage:	

G5 - Material Failure of Pipe or Weld - only one sub-cause can be selected from the shaded left-hand column	
Use this section to report material failures ONLY IF the "Item Involved in Accident" (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: <i>(select all that apply)</i>	
- 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 Construction, Installation, or Fabrication-related:	
2. List contributing factors: <i>(select all that apply)</i>	
- 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 selected.	
4. Additional factors: <i>(select all that apply)</i> :	
- Dent	
- Gouge	
- Pipe Bend	
- Arc Burn	
- Crack	
- Lack of Fusion	
- Lamination	
- Buckle	
- Wrinkle	
- Misalignment	
- Burnt Steel	
- Other:	
- If Other, Describe:	
5. Has one or more internal inspection tool collected data at the point of the Accident?	
5a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:	
- Magnetic Flux Leakage	Most recent year run:
- Ultrasonic	Most recent year run:
- Geometry	Most recent year run:
- Caliper	Most recent year run:
- Crack	Most recent year run:
- Hard Spot	Most recent year run:
- Combination Tool	Most recent year run:
- Transverse Field/Triaxial	Most recent year run:
- Other	Most recent year run:
Describe:	
6. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	

REDACTED SUBMITTAL -- PUBLIC COPY

7. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident -	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site -	
Most recent year conducted:	
8. Has one or more non-destructive examination(s) been conducted at the point of the Accident since January 1, 2002?	
8a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most	

recent year the examination was conducted: -	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	

G6 – Equipment Failure - only one sub-cause can be selected from the shaded left-hand column

Equipment Failure – Sub-Cause:	
- If Malfunction of Control/Relief Equipment:	
1. Specify: <i>(select all that apply)</i> -	
- 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:	
5. Describe:	
Complete the following if any Equipment Failure sub-cause is selected.	
6. Additional factors that contributed to the equipment failure: <i>(select all that apply)</i>	
- Excessive vibration	
- Overpressurization	
- No support or loss of support	
- Manufacturing defect	
- Loss of electricity	
- Improper installation	
- 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	
- Other	
- If Other, Describe:	
G7 - Incorrect Operation - only one sub-cause can be selected from the shaded 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 shaded left-hand column	
Other Accident Cause – Sub-Cause:	
- If Miscellaneous:	
1. Describe:	
- If Unknown:	
2. Specify:	
PART H - NARRATIVE DESCRIPTION OF THE ACCIDENT	
On April 30, 2020 at 07:53 CDT, Griffith Terminal personnel notified the Edmonton Control Center (ECC) of a suspicious odor and the Terminal was shutdown. An investigation of the facility was initiated requiring all tanks to be climbed. It was determined that the odor originated from an open vent on Tank 76 due to high water on the roof while it was at working bottoms. The remainder of the tanks were climbed in order to give ECC approval to restart the Terminal. At approximately 09:00 CDT, a Griffith Terminal Maintainer climbed Tank 71 and discovered an active release on the tank roof. Following several heavy rains, the water on the external floating tank roof displaced the roof causing the pin holes on the top of the center tank legs to drop below the product level in the tank spilling oil onto the roof. The tank was isolated and locked out, and the approval to restart the Terminal was given to ECC. Pipeline Maintenance personnel were onsite and initiated cleanup of the tank roof. A triple filter system was installed on the roof drain to safely drain water from the roof. After cleanup was complete, Tank 71 was returned to service.	
PART I - PREPARER AND AUTHORIZED SIGNATURE	
Preparer's Name	██████████
Preparer's Title	Sr Compliance Analyst
Preparer's Telephone Number	██████████
Preparer's E-mail Address	████████████████████
Preparer's Facsimile Number	
Authorized Signer Name	██████████
Authorized Signer Title	Supervisor US Pipeline Compliance
Authorized Signer Telephone Number	██████████
Authorized Signer Email	████████████████████
Date	05/29/2020

REDACTED SUBMITTAL -- PUBLIC COPY

NOTICE: This report is required by 49 CFR Part 195. Failure to report can result in a civil penalty not to exceed \$100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed \$1,000,000 as provided in 49 USC 60122.		OMB NO: 2137-0047 EXPIRATION DATE: 8/31/2020	
 U.S Department of Transportation Pipeline and Hazardous Materials Safety Administration	Original Report Date:	08/02/2019	
	No.	20190242 - 33242 ----- (DOT Use Only)	
ACCIDENT REPORT - HAZARDOUS LIQUID PIPELINE SYSTEMS			
A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0047. All responses to the collection of information are mandatory. Send comments regarding this burden or any other aspect of this collection of information, including suggestions for reducing the burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.			
INSTRUCTIONS			
<i>Important: Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at http://www.phmsa.dot.gov/pipeline/library/forms.</i>			
PART A - KEY REPORT INFORMATION			
Report Type: (select all that apply)	Original:	Supplemental:	Final:
	Yes	Yes	Yes
Last Revision Date:	01/28/2020		
1. Operator's OPS-issued Operator Identification Number (OPID):	11169		
2. Name of Operator	ENBRIDGE ENERGY, LIMITED PARTNERSHIP		
3. Address of Operator:			
3a. Street Address	5400 WESTHEIMER COURT		
3b. City	HOUSTON		
3c. State	Texas		
3d. Zip Code	77056		
4. Local time (24-hr clock) and date of the Accident:	07/04/2019 21:50		
5. Location of Accident:			
Latitude:	[REDACTED]		
Longitude:	[REDACTED]		
6. National Response Center Report Number (if applicable):	1251072		
7. Local time (24-hr clock) and date of initial telephonic report to the National Response Center (if applicable):	07/05/2019 14:13		
8. Commodity released: (select only one, based on predominant volume released)	Crude Oil		
- Specify Commodity Subtype:			
- If "Other" Subtype, Describe:			
- 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			
9. Estimated volume of commodity released unintentionally (Barrels):	6.70		
10. Estimated volume of intentional and/or controlled release/blowdown (Barrels):			
11. Estimated volume of commodity recovered (Barrels):	6.70		
12. Were there fatalities?	No		
- If Yes, specify the number in each category:			
12a. Operator employees			
12b. Contractor employees working for the Operator			
12c. Non-Operator emergency responders			
12d. Workers working on the right-of-way, but NOT associated with this Operator			
12e. General public			
12f. Total fatalities (sum of above)			
13. Were there injuries requiring inpatient hospitalization?	No		
- If Yes, specify the number in each category:			
13a. Operator employees			
13b. Contractor employees working for the Operator			
13c. Non-Operator emergency responders			
13d. Workers working on the right-of-way, but NOT associated with this Operator			
13e. General public			

REDACTED SUBMITTAL -- PUBLIC COPY

13f. Total injuries (sum of above)	
14. Was the pipeline/facility shut down due to the Accident?	Yes
- If No, Explain:	
- If Yes, complete Questions 14a and 14b: (use local time, 24-hr clock)	
14a. Local time and date of shutdown:	07/04/2019 22:03
14b. Local time pipeline/facility restarted:	07/05/2019 04:17
- Still shut down? (* Supplemental Report Required)	
15. Did the commodity ignite?	No
16. Did the commodity explode?	No
17. Number of general public evacuated:	0
18. Time sequence (use local time, 24-hour clock):	
18a. Local time Operator identified Accident - effective 7- 2014 changed to "Local time Operator identified failure":	07/04/2019 22:30
18b. Local time Operator resources arrived on site:	07/04/2019 22:30
PART B - ADDITIONAL LOCATION INFORMATION	
1. Was the origin of the Accident onshore?	Yes
<i>If Yes, Complete Questions (2-12)</i>	
<i>If No, Complete Questions (13-15)</i>	
- If Onshore:	
2. State:	Minnesota
3. Zip Code:	55736
4. City	Floodwood
5. County or Parish	St. Louis
6. Operator-designated location:	Milepost/Valve Station
Specify:	1044
7. Pipeline/Facility name:	Floodwood Station
8. Segment name/ID:	Line 4 Unit 2
9. Was Accident on Federal land, other than the Outer Continental Shelf (OCS)?	No
10. Location of Accident:	Totally contained on Operator-controlled property
11. Area of Accident (as found):	Aboveground
Specify:	Inside a building
- If Other, Describe:	
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/ 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:	
- 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) - Specify:	
- Area:	
- Block #:	
15. Area of Accident:	
PART C - ADDITIONAL FACILITY INFORMATION	
1. Is the pipeline or facility:	Interstate
2. Part of system involved in Accident:	Onshore Pump/Meter Station Equipment and Piping
- If Onshore Breakout Tank or Storage Vessel, Including Attached Appurtenances, specify:	
3. Item involved in Accident:	Auxiliary Piping (e.g. drain lines)
- If Pipe, specify:	
3a. Nominal diameter of pipe (in):	

REDACTED SUBMITTAL -- PUBLIC COPY

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. Year of manufacture:	
3h. Pipeline coating type at point of Accident, specify:	
- If Other, Describe:	
- If Weld, including heat-affected zone, specify. If Pipe Girth Weld, 3a through 3h above are required:	
- If Other, Describe:	
- If Valve, specify:	
- If Mainline, specify:	
- If Other, Describe:	
3i. Manufactured by:	
3j. Year of manufacture:	
- If Tank/Vessel, specify:	
- If Other - Describe:	
- If Other, describe:	
4. Year item involved in Accident was installed:	1970
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:	Pinhole
- 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: <i>(Select one or both)</i>	
- Private Well	
- Public Water Intake	
5b. Estimated amount released in or reaching water (Barrels):	
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?	No
7. Did the released commodity reach or occur in one or more High Consequence Area (HCA)?	No
7a. If Yes, specify HCA type(s): <i>(Select all that apply)</i>	
- 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 Property 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	\$ [REDACTED]
8b. Estimated cost of commodity lost	\$ [REDACTED]
8c. Estimated cost of Operator's property damage & repairs	\$ [REDACTED]
8d. Estimated cost of Operator's emergency response	\$ [REDACTED]
8e. Estimated cost of Operator's environmental remediation	\$ [REDACTED]
8f. Estimated other costs	\$ [REDACTED]
Describe:	
8g. Estimated total costs (sum of above) – effective 12-2012, changed to "Total estimated property damage (sum of above)"	\$ [REDACTED]
PART E - ADDITIONAL OPERATING INFORMATION	
1. Estimated pressure at the point and time of the Accident (psig):	727.00
2. Maximum Operating Pressure (MOP) at the point and time of the Accident (psig):	879.00
3. Describe the pressure on the system or facility relating to the Accident (psig):	Pressure did not exceed MOP
4. Not including pressure reductions required by PHMSA regulations (such as for repairs and pipe movement), 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?	
5. Was "Onshore Pipeline, Including Valve Sites" OR "Offshore Pipeline, Including Riser and Riser Bend" selected in PART C, Question 2?	No
- If Yes - (Complete 5a. – 5f below) effective 12-2012, changed to "(Complete 5.a – 5.e below)"	
5a. Type of upstream valve used to initially isolate release source:	
5b. Type of downstream valve used to initially isolate release source:	
5c. Length of segment isolated between valves (ft):	
5d. Is the pipeline configured to accommodate internal inspection tools?	
- If No, Which physical features limit tool accommodation? (select 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:	
5e. 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)	

REDACTED SUBMITTAL -- PUBLIC COPY

- 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:	
5f. Function of pipeline system:	> 20% SMYS Regulated Trunkline/Transmission
6. Was a Supervisory Control and Data Acquisition (SCADA)-based system in place on the pipeline or facility involved in the Accident?	Yes
If Yes -	
6a. Was it operating at the time of the Accident?	Yes
6b. Was it fully functional at the time of the Accident?	Yes
6c. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	Yes
6d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	Yes
7. Was a CPM leak detection system in place on the pipeline or facility involved in the Accident?	Yes
- If Yes:	
7a. Was it operating at the time of the Accident?	Yes
7b. Was it fully functional at the time of the Accident?	Yes
7c. 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
7d. 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?	No
8. How was the Accident initially identified for the Operator?	CPM leak detection system or SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations)
- If Other, Specify:	
8a. If "Controller", "Local Operating Personnel", including contractors", "Air Patrol", or "Ground Patrol by Operator or its contractor" is selected in Question 8, specify:	
9. 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)	Actions from the Operator would not have had an impact on the event
- 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	

REDACTED SUBMITTAL -- PUBLIC COPY

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 Yes:	
2a. Specify how many were tested:	
2b. Specify how many failed:	
PART G – APPARENT CAUSE	
<i>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 right. Describe secondary, contributing or root causes of the Accident in the narrative (PART H).</i>	
Apparent Cause:	G6 - Equipment Failure
G1 - Corrosion Failure - only one sub-cause can be picked from shaded left-hand column	
Corrosion Failure – Sub-Cause:	
- If External Corrosion:	
1. Results of visual examination:	
- If Other, Describe:	
2. Type of corrosion: <i>(select all that apply)</i>	
- Galvanic	
- Atmospheric	
- Stray Current	
- Microbiological	
- Selective Seam	
- Other:	
- If Other, Describe:	
3. The type(s) of corrosion selected in Question 2 is based on the following: <i>(select all that apply)</i>	
- Field examination	
- Determined by metallurgical analysis	
- Other:	
- If Other, Describe:	
4. Was the failed item buried under the ground?	
- 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:	
- 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 <i>(select all that apply)</i> : -	
- 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>(select all that apply)</i> : -	
- Field examination	
- Determined by metallurgical analysis	
- Other:	

REDACTED SUBMITTAL -- PUBLIC COPY

- If Other, Describe:	
9. Location of corrosion (select all that apply): -	
- Low point in pipe	
- Elbow	
- 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?	
Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Tank/Vessel.	
14. List the year of the most recent inspections:	
14a. API Std 653 Out-of-Service Inspection	
- No Out-of-Service Inspection completed	
14b. API Std 653 In-Service Inspection	
- No In-Service Inspection completed	
Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
15. Has one or more internal inspection tool collected data at the point of the Accident?	
15a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: -	
- Magnetic Flux Leakage Tool	
Most recent year:	
- Ultrasonic	
Most recent year:	
- Geometry	
Most recent year:	
- Caliper	
Most recent year:	
- Crack	
Most recent year:	
- Hard Spot	
Most recent year:	
- Combination Tool	
Most recent year:	
- Transverse Field/Triaxial	
Most recent year:	
- Other	
Most recent year:	
Describe:	
16. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
If Yes -	
Most recent year tested:	
Test pressure:	
17. Has one or more Direct Assessment been conducted on this segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident::	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
18. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
18a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	

REDACTED SUBMITTAL -- PUBLIC COPY

G2 - Natural Force Damage - only one sub-cause can be picked from shaded left-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?	
6a. If Yes, specify: <i>(select all that apply)</i>	
- 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 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
1. Has one or more internal inspection tool collected data at the point of the Accident?	
1a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: -	
- Magnetic Flux Leakage	
Most recent year conducted:	
- Ultrasonic	
Most recent year conducted:	
- Geometry	
Most recent year conducted:	
- Caliper	
Most recent year conducted:	
- Crack	
Most recent year conducted:	
- Hard Spot	
Most recent year conducted:	
- Combination Tool	
Most recent year conducted:	
- Transverse Field/Triaxial	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
2. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?	
3. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
4. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident:	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
5. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	

REDACTED SUBMITTAL -- PUBLIC COPY

5a. If Yes, for each examination, conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	Most recent year conducted:
- Guided Wave Ultrasonic	Most recent year conducted:
- Handheld Ultrasonic Tool	Most recent year conducted:
- Wet Magnetic Particle Test	Most recent year conducted:
- Dry Magnetic Particle Test	Most recent year conducted:
- Other	Most recent year conducted:
Describe:	
Complete the following if Excavation Damage by Third Party is selected as the sub-cause.	
6. Did the operator get prior notification of the excavation activity?	
6a. If Yes, Notification received from: <i>(select all that apply)</i> -	
- One-Call System	
- Excavator	
- Contractor	
- Landowner	
Complete the following mandatory CGA-DIRT Program questions if any Excavation Damage sub-cause is selected.	
7. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)?	
8. Right-of-Way where event occurred: <i>(select all that apply)</i> -	
- Public	
- If "Public", Specify:	
- Private	
- If "Private", Specify:	
- Pipeline Property/Easement	
- Power/Transmission Line	
- Railroad	
- Dedicated Public Utility Easement	
- Federal Land	
- Data not collected	
- Unknown/Other	
9. Type of excavator:	
10. Type of excavation equipment:	
11. Type of work performed:	
12. Was the One-Call Center notified?	
12a. If Yes, specify ticket number:	
12b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified:	
13. Type of Locator:	
14. Were facility locate marks visible in the area of excavation?	
15. Were facilities marked correctly?	
16. Did the damage cause an interruption in service?	
16a. If Yes, specify duration of the interruption (hours)	
17. Description of the CGA-DIRT Root Cause <i>(select only the one predominant first level CGA-DIRT Root Cause and then, where available as a choice, the one predominant second level CGA-DIRT Root Cause as well):</i>	
Root Cause:	
- If One-Call Notification Practices Not Sufficient, specify:	
- If Locating Practices Not Sufficient, specify:	
- If Excavation Practices Not Sufficient, specify:	
- If Other/None of the Above, explain:	
G4 - Other Outside Force Damage - only one sub-cause can be selected from the shaded left-hand column	
Other Outside Force Damage - Sub-Cause:	
- If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation:	
1. Vehicle/Equipment operated by:	
- If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Adrift or Which Have Otherwise Lost Their Mooring:	
2. Select one or more of the following IF an extreme weather event was a factor:	
- Hurricane	
- Tropical Storm	
- Tornado	

REDACTED SUBMITTAL -- PUBLIC COPY

- 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.	
3. Has one or more internal inspection tool collected data at the point of the Accident?	
3a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:	
- Magnetic Flux Leakage	Most recent year conducted:
- Ultrasonic	Most recent year conducted:
- Geometry	Most recent year conducted:
- Caliper	Most recent year conducted:
- Crack	Most recent year conducted:
- Hard Spot	Most recent year conducted:
- Combination Tool	Most recent year conducted:
- Transverse Field/Triaxial	Most recent year conducted:
- Other	Most recent year conducted:
Describe:	
4. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?	
5. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
6. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident:	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
7. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
7a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	Most recent year conducted:
- Guided Wave Ultrasonic	Most recent year conducted:
- Handheld Ultrasonic Tool	Most recent year conducted:
- Wet Magnetic Particle Test	Most recent year conducted:
- Dry Magnetic Particle Test	Most recent year conducted:
- Other	Most recent year conducted:
Describe:	
- If Intentional Damage:	
8. Specify:	
- If Other, Describe:	
- If Other Outside Force Damage:	
9. Describe:	
G5 - Material Failure of Pipe or Weld - only one sub-cause can be selected from the shaded left-hand column	
Use this section to report material failures ONLY IF the "Item Involved in Accident" (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: <i>(select all that apply)</i>	

REDACTED SUBMITTAL -- PUBLIC COPY

- 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 Construction, Installation, or Fabrication-related:	
2. List contributing factors: <i>(select all that apply)</i>	
- 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 selected.	
4. Additional factors: <i>(select all that apply)</i> :	
- Dent	
- Gouge	
- Pipe Bend	
- Arc Burn	
- Crack	
- Lack of Fusion	
- Lamination	
- Buckle	
- Wrinkle	
- Misalignment	
- Burnt Steel	
- Other:	
- If Other, Describe:	
5. Has one or more internal inspection tool collected data at the point of the Accident?	
5a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:	
- Magnetic Flux Leakage	
Most recent year run:	
- Ultrasonic	
Most recent year run:	
- Geometry	
Most recent year run:	
- Caliper	
Most recent year run:	
- Crack	
Most recent year run:	
- Hard Spot	
Most recent year run:	
- Combination Tool	
Most recent year run:	
- Transverse Field/Triaxial	
Most recent year run:	
- Other	
Most recent year run:	
Describe:	
6. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
7. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident -	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site -	
Most recent year conducted:	
8. Has one or more non-destructive examination(s) been conducted at the point of the Accident since January 1, 2002?	
8a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted: -	

REDACTED SUBMITTAL -- PUBLIC COPY

- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
G6 – Equipment Failure - only one sub-cause can be selected from the shaded left-hand column	
Equipment Failure – Sub-Cause:	Defective or Loose Tubing or Fitting
- If Malfunction of Control/Relief Equipment:	
1. Specify: <i>(select all that apply)</i> -	
- 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:	
5. Describe:	
Complete the following if any Equipment Failure sub-cause is selected.	
6. Additional factors that contributed to the equipment failure: <i>(select all that apply)</i>	
- Excessive vibration	
- Overpressurization	
- No support or loss of support	
- Manufacturing defect	
- Loss of electricity	
- Improper installation	
- 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	
- Other	Yes
- If Other, Describe:	Mechanical damage
G7 - Incorrect Operation - only one sub-cause can be selected from the shaded 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 shaded left-hand column	
Other Accident Cause – Sub-Cause:	
- If Miscellaneous:	
1. Describe:	
- If Unknown:	
2. Specify:	
PART H - NARRATIVE DESCRIPTION OF THE ACCIDENT	
On July 4, 2019 at 9:50 PM CDT, the on call technician was dispatched by the Edmonton Control Center to the Floodwood Line 4 Station due to a gas alarm. While the technician was en route to the station, the Control Center received another gas alarm, initiating the Line 4 shut down at 10:03 PM CDT. Upon arriving at the station at 10:30 PM CDT, the technician confirmed oil on the pump room floor and the interior walls of the building. Additional personnel were dispatched to assist with clean up. It was discovered that the source of the crude oil was a pinhole leak on the 1/2" tubing on the Line 4 Unit 2 pump. The NRC was notified on July 5, 2019 at 2:13 PM CDT (#1251072) after the Unit 2 motor was found to have oil inside the housing unit and the costs were estimated to exceed the NRC reporting threshold to clean and repair the motor. A 48-hour update was made to the NRC on July 7, 2019 at 8:23 AM CDT (#1251215). The pump is currently locked out until the motor is cleaned and the piping replaced. Approximately three cubic yards of contaminated soil has been properly disposed of. A third-party metallurgical analysis determined that the failure was due to mechanical damage to the 1/2" tubing, at an unknown previous time, causing a protrusion into the tube. Eventually the tubing failed at the protrusion. The motor was sent in for an overall cleaning and the pump is in the process of being rebuilt. The unit will be placed back into service once all parts have been prepared for assembly.	
PART I - PREPARER AND AUTHORIZED SIGNATURE	
Preparer's Name	
Preparer's Title	Sr Compliance Analyst
Preparer's Telephone Number	
Preparer's E-mail Address	
Preparer's Facsimile Number	
Authorized Signer Name	
Authorized Signer Title	Supervisor US Pipeline Compliance
Authorized Signer Telephone Number	
Authorized Signer Email	
Date	01/28/2020