Enbridge Semi-Annual Report May 23, 2018 to November 22, 2018

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

ENBRIDGE

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Glossary

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

AIPR	Alternate Interim Pressure Restrictions
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
BIWP	Biota Investigation Work Plan
BIA	Bureau of Indian Affairs
CCO	Control Centre Operations
CD	Consent Decree
CF	Crack Field
CGR	Corrosion Growth Rate
CP	Cathodic Protection
CP CIS	Cathodic Protection Close Interval Survey
CRO	Control Room Operator
CRWP	Coating Repair Work Plan
DOJ	Department of Justice
DPR	Discharge Pressure Restriction
DQA	Data Quality Assessment
DQR	Data Quality Review
EA	Engineering Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEA	Finite Element Analysis
FEIS	Final Environmental Impact Statement
FMP	Fen Management Plan
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
IN	Indiana
IR	Information Request
ITP	Independent Third Party
IVP	Intelligent Valve Placement
L3R	US Line 3 Replacement
LDA	Leak Detection Analyst
MBS	Mass Balance System
MI	Michigan
MSCA	Mackinac Straits Corridor Authority
MN	Minnesota
MDA	Minnesota Department of Agriculture
MDEQ	Michigan Department of Environmental Quality
MDNR	Minnesota Department of Natural Resources

MFL	Magnetic Flux Leakage
MOP	Maximum Operating Pressure
MP	Milepost
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
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historical Properties
NWT	Nominal Wall Thickness
NY	New York
OD	Outside Diameter
OSRO	Oil Spill Response Organization
OMM	Operations & Maintenance Manual
PHMSA	Pipeline Hazardous Materials Safety Administration
PI	Pipeline Integrity
PN	Priority Notification
PPR	Point Pressure Restriction
POD	Probability of Detection
PR	Pressure Restriction
PRCI	Pipeline Research Council International
RCA	Root Cause Analysis
RDS	Rupture Detection System
ROA	Record of Alarms
ROV	Remote Operated Vehicle
ROW	Right of Way
RPR	Rupture Pressure Ratio
SAR	Semi-Annual Report
SCADA	Supervisory Control and Data Acquisition
SCC	Stress Crack Corrosion
SHPO	State Historic Preservation Office
SML	Subject Matter Lead
SMYS	Specified Minimum Yield Strength
SOA	Summary of Alarms
SoM	State of Michigan
SRB	Sulfate Reducing Bacteria
STA	Senior Technical Advisor
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
VCI	Vapor Corrosion Inhibitor
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
WWI	Wisconsin Wetland Inventory

Introduction

Enbridge[1] submits this third Semi-Annual Report (also referred to herein as "SAR" or "Report") in electronic and hard copy form in accordance with 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 third SAR is submitted in accordance with Paragraph (¶) 143, which requires Enbridge to submit a SAR documenting Enbridge's compliance with the Consent Decree for the third reporting period dated May 23, 2018 to November 22, 2018, no later than six months after the submittal of the second SAR. Enbridge's first SAR was submitted on January 18, 2018, the second on July 18, 2018, and this third SAR is to be submitted within six months of the second submission date (i.e., by January 18, 2019). As per Paragraph 150 of the Consent Decree, this third 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 third 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 third 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 third 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, problems encountered or anticipated in implementing the requirement (together with implemented or proposed solutions), 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.

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 further information on Enbridge's compliance with the Consent Decree, and/or include 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

The following summarize some of the activities undertaken by Enbridge, since the start of the Consent Decree, in order to demonstrate compliance:

- Responded to over 600 information request by the ITP
- Provided over 1700 individual documents demonstrating compliance to the ITP
- Over 100 Enbridge personnel directly involved in ITP compliance verification activities including interviews

[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.

- Completed nearly 70 high resolution in-line inspection programs
- Completed over 250 excavations
- Installed 8 new remotely controlled valves
- Completed 36 emergency response practice exercise activities in 2017 and 2018
- Completed 30 community outreach meetings in 2017 and 2018

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.

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 further below, Enbridge has successfully 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. Enbridge initiated its effort to obtain the MPUC approvals in 2015. The MPUC has held, and Enbridge participated in, numerous public hearings, consultations, and other regulatory proceedings at that agency. MPUC proceedings were prolonged in large measure by opposition to the Line 3 replacement project from certain environmental interest groups and others, but on June 28, 2018 the MPUC voted to grant a Certificate of Need and a Route Permit to Enbridge. Since the June 28, 2018 MPUC decisions, several additional regulatory milestones have been achieved as summarized below:

- Enbridge and the Fond du Lac Band entered into an agreement on August 31, 2018, enabling Enbridge to utilize the existing mainline corridor through the Fond du Lac reservation for the Line 3 Replacement Project.
- The MPUC issued a written order granting Enbridge the Line 3 Certificate of Need on September 5, 2018.
- The MPUC issued its written order granting Enbridge the Route Permit for Line 3 on October 26, 2018. The route authorized by the MPUC and agreed to by the Fond du Lac Band follows Enbridge's preferred route with a deviation at its southern end that avoids culturally sensitive sites in the Big Sandy Area and traverses the Fond du Lac Reservation.
- On November 19, 2018, the MPUC voted unanimously to deny petitions from project opponents to reconsider the MPUC's decision to grant the Certificate of Need. Prior to the vote to deny reconsideration, a commissioner remarked that their decision to grant Enbridge the Certificate of Need is supported by a very thorough and comprehensive record.
- On December 13, 2018, the MPUC voted unanimously to deny petitions from project opponents to reconsider the MPUC's decision to grant the Route Permit.

The status of primary permits and approvals for the Line 3 Replacement project are noted in Table 1 below:

Table 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	Application Submitted; Decision Pending Completion of Section 106 Process
USACE – St. Paul District	Section 408 Authorization	Authorizes crossing of USACE civil works projects	Authorization Request Submitted; Decision Pending Environmental Review
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 / ND: Consultation Ongoing WI: Clearance Received
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 Ongoing[1] ND: Consultation Complete WI: Consultation Complete

Table 1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)			
Unit of Government	**Type of Application**	**Reason Required**	**Permit Status**
	Bald Eagle Nest Disturbance Permit	Allows for disturbance of a known bald eagle nest in proximity to construction activities	ND: Application Submitted MN: Received
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	Application Submitted[1]
Minnesota Public Utilities Commission ("MPUC")	Certificate of Need	Determines need for the pipeline, including questions of size, type and timing	Written Order Granted September 5, 2018
	Route Permit	Authorizes construction of the pipeline along a specific route, subject to certain conditions	Written Order Granted October 26, 2018
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	Application Submitted
	License to Cross Public Lands	50-year license that allows for crossing of public lands with proposed utility	Application Submitted
	Long-term Lease – Access Roads	Authorizes use of MDNR-managed access roads during construction and/or operation	Application 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 1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)			
Unit of Government	**Type of Application**	**Reason Required**	**Permit Status**
	Individual Groundwater Appropriation Permit – Pipeline and Facilities	Authorizes withdrawal of groundwater associated with dewatering of excavations	Application Submitted
	Individual Surface Water Appropriation Permit – Pipeline	Authorizes withdrawal and use of water from surface sources to support horizontal directional drills ("HDDs"), hydrostatic testing, and dust suppression	Application Submitted
	Individual Surface Water Appropriation Permit at Gully 30 Calcareous Fen – Pipeline	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 Water Quality Certification ("WQC") and Antidegradation Assessment	Section 401 WQC required to issue the USACE Section 404/10 Permit; antidegradation assessment supports the Industrial Hydrostatic Test Discharge and Construction Stormwater Permitting processes	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	Authorizes discharge of water from hydrostatic testing activities	Application Submitted

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Table 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 – Pipeline and Facilities	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 as of January 3, 2019
	Temporary access/entrance	Authorizes access to private lands during construction from state	All submittals to MnDOT as of 12/15/2018; anticipate receipt of permits Q1 2019
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
	Temporary Water Permit / Water Withdrawal Permit	Coverage under a temporary water permit authorizes water use for HDDs, hydrostatic testing, and dust suppression	Received

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Table 1: Permits/Approvals Required for Line 3 Replacement Project (U.S.)			
Unit of Government	**Type of Application**	**Reason Required**	**Permit Status**
North Dakota Department of Health ("NDDH")	Section 401 WQC	Section 401 WQC required to issue the USACE Section 404/10 Permit	Application Submitted
	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")	Duncklee 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

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

TABLE NOTE:

[1] This Grant of Right-of-Way application would extend and modify an existing easement for Lakehead Lines 1, 2, 3, 4, and 67, 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 will submit cultural resources survey data, valuation appraisals, and allotment easement consents to BIA in support of the application.

Permitting:

Minnesota: Enbridge is awaiting the issuance of additional approvals necessary to replace Original US Line 3 in 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. At this time all permit applications have been filed and are under review.

Enbridge filed its applications for a Certificate of Need and Route Permit with the MPUC on April 24, 2015. Information filed by Enbridge and parties to those proceedings can be found at MPUC docket nos. 14-916 (for the Certificate of Need) and 15-137 (for the Route Permit).[2] The MPUC's procedure to process Certificate of Need and Route Permit applications consists of: (i) a determination of the adequacy of the Environmental Impact Statement prepared by the Minnesota Department of Commerce to assess the potential direct, indirect, and cumulative impacts that may result from the replacement of Line 3 in Minnesota; and (ii) a merits proceeding to assess the need for the proposed replacement pipeline and the most appropriate routing for the pipeline.

In connection with the environmental review, on May 1, 2018, the MPUC issued a decision finding that the Environmental Impact Statement for the Line 3 replacement project prepared by the Minnesota Department of Commerce was "adequate" under Minnesota law and thus will be considered by the MPUC in its forthcoming decision on the merits of the pipeline project and its routing. On May 21, 2018, several project opponents filed petitions with the MPUC seeking reconsideration of that adequacy decision by the MPUC. Those requests for reconsideration were denied by the MPUC's written decision dated July 3, 2018.

[2] The docket filings are available on the MPUC's website at https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showeDocketsSearch&searchType=new.

In connection with the merits review, on April 23, 2018, the Administrative Law Judge ("ALJ") assigned to the MPUC proceeding submitted a report to the MPUC containing proposed findings of fact, conclusions of law and a recommendation concerning the Certificate of Need and Route Permit applications. The ALJ's Report found that there is a need for the project, but only if Enbridge replaces Line 3 along the existing right-of-way for the Original US Line 3, rather than along the different routing preferred by Enbridge. While Enbridge agrees with the conclusion on need for the replacement, Enbridge disputed the route recommendation in May 9, 2018 exceptions to the ALJ's report. Other parties also filed exceptions raising a variety of issues with the ALJ report.

In its exceptions, Enbridge explained that the route proposed by the ALJ will cross the reservations of two Native American tribes, one of which (i.e., the Leech Lake Reservation) has made clear that it will not entertain a replacement pipeline constructed within the boundaries of its tribal lands. Enbridge's preferred route respects their wishes and represents the least impact on Tribes and their cultural resources. It also avoids a National Forest, high population areas, drinking water supplies, and other environmentally sensitive areas. Further, the routing approved by the ALJ would require closure of the existing pipeline for long periods and create other constructability issues.

The MPUC met on June 18, 19, 26, 27, and 28, 2018 to allow parties an opportunity to make final arguments and respond to MPUC questions regarding the potential approval of the pipeline project. As previously discussed, an oral decision was issued by the MPUC on June 28 granting the Certificate of Need and a Route Permit. Subsequent to the June 28 MPUC decisions, Enbridge and the Fond du Lac Band entered into an agreement on August 31, 2018, enabling Enbridge to utilize the existing mainline corridor through the Fond du Lac reservation; the MPUC issued a written order granting Enbridge the Line 3 Certificate of Need on September 5, 2018; the MPUC issued a written order granting Enbridge the Route Permit for Line 3 on October 26, 2018; the MPUC voted unanimously to deny petitions from project opponents to reconsider the MPUC's decision to grant the Certificate of Need on November 19, 2018. The MPUC then voted unanimously to deny petitions from project opponents to reconsider the MPUC's decision to grant the Route Permit on December 13, 2018. Enbridge anticipates that construction could commence and be completed by the end of 2019.

Parties that oppose the MPUC's finding that the EIS was adequate and its issuance of a Certificate of Need have filed separate court actions in the Minnesota Court of Appeals challenging the MPUC's finding that the EIS is adequate (cases filed August 22, 2018) and its issuance of a certificate of need (cases filed December 19, 2018). Enbridge has intervened in these cases to defend the MPUC's actions. The cases remain pending.

North Dakota: 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 remaining 12.3-mile segment of Line 3 in North Dakota as soon as practicable and, for logistical reasons, in coordination with the much longer portion of Line 3 in Minnesota. In order to proceed with that replacement, Enbridge will be required to file the necessary notifications with the NDPSC, informing the NDPSC that Enbridge intends to proceed with construction under the PSC's certification process. Most of the additional North Dakota Permits required for replacement of that segment have been obtained, except that the Section 401 water quality certification remains pending at the North Dakota Department of Health and consultations on seeding or other restoration matters remain pending with North Dakota Game and Fish. Enbridge plans to move forward to replace the small remaining portion of Line 3 in North Dakota in coordination with replacement of the Minnesota section of Line 3.

Wisconsin: 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 2 below 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 1 above that are required for construction.

Pipe procurement is nearly complete, with only a very small amount of pipe left to be manufactured or delivered. Eighty-six percent of the replacement pipe is already located in the United States. Of the remaining 14% of replacement pipe, approximately 6% will be shipped to the US from Saskatchewan and the other 8% will be manufactured in Florida. Delivery of the remaining pipe is scheduled to be completed in the first half of 2019.

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.

Table 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.	Completed Q1 2018	Some items are still being manufactured, but all purchase orders have been issued.
Line 3 Construction – Segment 18 Wisconsin	Completed Q1 2018	
Segment 18 Tie-in	May 25, 2018	Commissioning of pipe segment was completed May 25, 2018
Superior Terminal Construction Start	Q3 2018	
Execution of Mainline and Facilities Construction Contracts	2019	
Line 3 Construction Start – North Dakota + Minnesota	2019	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	Projected Q4 2019	

22.b [Line 3 Deactivation]

Deactivation work is planned to commence once the Line 3 Replacement is mechanically complete, and the final clean-out and decommissioning of Original US Line 3 will be complete within one year thereafter, in accordance with Subparagraph 22.b.

On May 22, 2018 the Wisconsin portion of Line 3 (i.e., Segment 18) underwent line purge in preparation for the tie-ins and line fill of the replacement portion. Specifically between May 24–26 tie-ins of Segment 18 were successfully completed and line fill occurred shortly thereafter. The deactivated Line 3 segment that was replaced by Segment 18 was then cleaned.

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 US Environmental Protection Agency ("EPA") with associated procedures and results. Enbridge has not exceeded the MOP values submitted to the EPA.

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.

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, and the identification, excavation and mitigation or repairs of all Features Requiring Excavation ("FREs") are described in detail in this SAR under Subsection VII.D: In-Line Inspection Based Spill Prevention Program.

Enbridge conducted quarterly cleaning and biocide treatment of Original US Line 3 in 2018. During the current reporting period, Enbridge conducted quarterly biocide treatments on the Original US Line 3 as set forth in the table below.

Table 3: Original US Line 3 Biocide Treatments

Segment	Type of Tool Run	Completion Date (MM/DD/YYYY)
Gretna to Clearbrook	Biocide treatment	6/4/2018
Clearbrook to Superior	Biocide treatment	6/6/2018
Gretna to Clearbrook	Biocide treatment	8/28/2018
Clearbrook to Superior	Biocide treatment	8/31/2018
Gretna to Clearbrook	Biocide treatment	10/30/2018
Clearbrook to Superior	Biocide treatment	10/18/2018

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

The Original US Line 3 continues to operate. 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 at all, including to transport oil, gas, diluent or any hazardous substances.

23 [Line 10 Replacement Evaluation]

Enbridge believes that its September 20, 2017 Line 10 Report, as updated by its April 16, 2018 Revised Line 10 Report, is compliant with the requirement in Paragraph 23 of the Decree. This paragraph requires Enbridge to submit a report evaluating replacement of the US portion of Line 10, including the segment of that pipeline that crosses the Niagara River. Enbridge's Report and update consist of such an evaluation undertaken consistent with Enbridge's integrity procedures governing repair versus replacement evaluations. As required by Paragraph 23, the Reports discuss the number, density, and severity of crack and corrosion features found on the US portion of Line 10 and compare these to the section of Line 10 to be replaced in Canada. Further, on April 16, 2018 Enbridge also submitted its responses to the ITP's Draft Preliminary Findings on the September 20, 2017 Line 10 Report.

During the reporting period for this SAR, Enbridge had continuing discussions on the evaluation of the replacement of the portion of Line 10 within the United States with the ITP. Certain supplemental information concerning threats to Line 10 was requested by the ITP and provided by Enbridge on October 26, 2018. The ITP submitted 15 Information Requests seeking further information on the October 26 submission on November 6, 2018. Enbridge provided a response to these Requests on December 6, 2018 (outside of this SAR 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 May 23, 2018 and November 22, 2018). Therefore, the requirements specified in Paragraphs 24, 25, and 26 were not triggered and are not applicable to this SAR.

Details of the hydrostatic pressure test conducted in June 2017 on the portion of Line 5 that spans the Straits of Mackinac were provided in the first SAR dated January 18, 2018.

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.

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

Enbridge conducted twenty (20) ILIs, per ILI tool technology, of nine segments of seven pipelines in the Lakehead System using appropriate ILI tools for the features of interest.

A complete list of ILI programs conducted during the reporting period for this SAR is provided in the table below.

Table 4: ILI Runs Completed During May 23, 2018 – November 22, 2018

Tool Run ID	Line	Segment	Tool Technology	Pull Date	Tool Type	Required Completion Date
4045	01	CR-PW	UT Metal Loss	8/18/2018	Corrosion	9/25/2018
4405	01	CR-PW	UT Crack Detection	9/18/2018	Crack	2/25/2019
6110[1]	01	CR-PW	MFL and Geometry	8/15/2018	Corrosion	8/17/2018
6110[1]	01	CR-PW	MFL and Geometry	8/15/2018	Geometry	8/17/2018
3829	03	CR-PW	MFL and Geometry	8/10/2018	Corrosion	8/20/2018
3829	03	CR-PW	MFL and Geometry	8/10/2018	Geometry	8/20/2018
3830	03	CR-PW	Circumferential MFL	7/23/2018	Corrosion	8/20/2018
3826	03	GF-CR	Circumferential MFL	6/28/2018	Corrosion	6/7/2019
3827	03	GF-CR	UT Crack Detection	7/30/2018	Crack	11/14/2018
4447	03	GF-CR	MFL and Geometry	8/27/2018	Corrosion	11/14/2018
4447	03	GF-CR	MFL and Geometry	8/27/2018	Geometry	11/14/2018
6099[2]	05	MA-BC	Circumferential Crack Detection	11/8/2018	Crack	12/31/2018
2305	6A	PE-AM	Circumferential Crack Detection	11/16/2018	Crack	12/31/2018
4107	10	EB-ENR	MFL and Geometry	6/5/2018	Corrosion	9/4/2018
4107	10	EB-ENR	MFL and Geometry	6/5/2018	Geometry	9/4/2018
4473	10	ENR-UT	UT Metal Loss	6/27/2018	Corrosion	8/20/2018
6095[3]	10	ENR-UT	MFL and Geometry	7/11/2018	Corrosion	8/20/2018
6091	67	GF-CR	GeoPig	6/6/2018	Geometry	4/18/2019
4487	78	GT-SK	MFL and Geometry	8/10/2018	Corrosion	10/9/2019
4487	78	GT-SK	MFL and Geometry	8/10/2018	Geometry	10/9/2019

TABLE NOTE:

[1] *Run ID 6110 was a re-run of a failed inspection (Run ID 2454). More detail is provided in Paragraph 28.c and Table 3.*

[2] *Run ID 6099 was a re-run of a failed inspection (Run ID 4464). More detail is provided in Paragraph 28.c and Table 3.*

[3] *Run ID 6095 was a corrosion re-run of a partially failed inspection (Run ID 4109). More detail is provided in Paragraph 28.c and Table 3.*

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 other than Line 2 crack inspections 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").

28.c [Incomplete or Invalid ILI]

Enbridge's contracts with vendors that are retained to conduct ILIs on the Lakehead System reference the ILI Reporting Profile Standard (the current version of this document is titled "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 of ILIMRR and In-Line Inspection Reporting Profile Standard. The ILI Reporting Profile Standard, current version 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 individually contracted through Enbridge's contract Work Order Process. Prior to the Effective Date of the Consent Decree, all existing, renewed, and new 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.

Notifications from vendors concerning three failed/partially failed ILI tool runs were received by Enbridge during this reporting period, as summarized in the following Table 5. The vendor followed proper protocol as specified in Enbridge's ILIMRR by promptly notifying Enbridge of the failed/partially failed ILI tool runs. Enbridge followed and will follow all necessary steps to complete a valid ILI within the timeframes specified in Paragraphs 65 and 66 of the Consent Decree. Paragraph 31 of this SAR includes detailed information about the incomplete or invalid ILI tool runs.

Table 5: Incomplete or Invalid ILIs and Rerun Dates[1]								
Tool Run ID	**Line**	**Segment**	**Tool**	**Inspection Deadline**	**Pull Date**	**Date of DQA Notification**	**Rerun Tool Run ID**	**Rerun Date**
2454	01	CR-PW	MFL4	8/17/2018	7/16/2018	7/25/2018	6110	8/15/2018
4464	05	MA-BC	UCc	12/31/2018	5/17/2018	5/25/2018	6099	11/8/2018
4109[2]	10	ENR-UT	MFL4	8/20/2018	5/17/2018	5/23/2018	6095	7/11/2018

TABLE NOTES:

1. ILI run failure notifications received after November 22, 2018, the end of the reporting period for this SAR, will be reported with more detail in the next SAR.

2. ILI run degraded inspection notification (Run ID 4109) was received on May 23, 2018. It was a combo tool and only the corrosion inspection was impacted; therefore the rerun (Tool Run ID 6095) was for corrosion inspection only.

29 [12-Month ILI Schedule]

The following table (Table 6) includes each ILI tool run that is scheduled to be initiated on any pipeline during the period from November 23, 2018 to November 22, 2019 (i.e., 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 and 66 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 has been working with ILI vendors to develop and test a new crack ILI tool to detect Line 2 cracking features, with a particular focus of the crack features on or adjacent to the pipeline's long seam weld.

An initial ILI using the new crack inspection tool is scheduled for the Line 2 Gretna-to-Clearbrook segment in Q2 of 2019 to validate that the new ILI crack tool technology will be able to accurately and reliably detect the cracking features on Line 2, as agreed in the ILI Stipulation. As per the stipulation, if analysis of the data confirms that the tool provides an acceptable level of reliability as applied to the detection and sizing of crack features on Line 2, Enbridge will submit a report to the EPA and ITP summarizing the evaluation of the new tool. Crack inspections are also scheduled for the remaining Line 2 segments of Clearbrook-to-Deer River and Deer River-to-Superior in later 2019 following confirmation of a successful Gretna-to-Clearbrook inspection.

Table 6: 12-Month Lakehead ILI Schedule (November 23, 2018 – November 22, 2019)[1]					
Run ID	**Line**	**Segment**	**Tool Technology**	**Threat Monitored**	**Required Completion Date[2]**
4501	01	GF-CR	GEMINI	Corrosion, Geometry	7/19/2019
4503	01	GF-CR	UCx	Crack	2/5/2020
4506	02	CR-DR	In Development	Crack	9/22/2020[3]
4507	02	DR-PW	In Development	Crack	9/21/2020[3]

Table 6: 12-Month Lakehead ILI Schedule (November 23, 2018 – November 22, 2019)[1]					
Run ID	**Line**	**Segment**	**Tool Technology**	**Threat Monitored**	**Required Completion Date[2]**
4508	02	GF-CR	In Development	Crack	9/14/2020[3]
4519	04	FW-WR	Kaliper K360	Geometry	2/11/2020
4532	05	ENO-EMA	MFL3	Corrosion	3/20/2019
4536	05	ENO-EMA	UCc	Crack	4/10/2019
4534	05	ENO-EMA	GeoPig	Geometry	3/20/2019
4537	05	MA-BC	UCx	Crack	9/25/2019
2724	05	PE-IR	UCc	Crack	10/15/2019
4538	05	PE-IR	GeoPig	Geometry	2/22/2023
4539	05	WNO-WMA	MFL3	Corrosion	3/20/2019
4543	05	WNO-WMA	UCc	Crack	4/11/2019
4541	05	WNO-WMA	GeoPig	Geometry	3/20/2019
4674	06A	AM-GT	USWM+	Corrosion	6/1/2020
5369	06A	AM-GT	Vectra	Corrosion	1/8/2020
4804	06A	AM-GT	DUO CD	Crack	5/18/2020
4452	06A	AM-GT	UCc	Crack	12/31/2018
4544	06A	PE-AM	Vectra	Corrosion	9/30/2019
4805	06A	PE-AM	UMP	Corrosion	4/22/2019
4676	06A	PE-AM	DUO CD	Crack	4/5/2021
4555	10	EB-ENR	USWM	Corrosion	4/15/2019
4610	61	PE-FN	GEMINI	Corrosion, Geometry	3/18/2019
4612	61	PE-FN	UCM	Crack	11/15/2019
4613	64	GL-GT	UC	Crack	12/10/2019
4614	67	GF-CR	UC	Crack	6/19/2019

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".*

Changes to Previous 12-Month ILI Schedule (November 23, 2017 to November 22, 2018)

The following table outlines changes to Tool Runs associated with the previous 12-month Lakehead ILI schedule (November 23, 2017 to November 22, 2018).

Table 7: Changes to Previous 12-Month ILI Schedule (November 23, 2017 to November 22, 2018)

Original Run ID	Revised Run ID	Line	Segment Name	Technology	Threat Monitored	Schedule Revision Comments
2454	6110	01	CR-PW	MFL4	Corrosion, Geometry	Failed run (Run ID 2454) from July 2018, rerun (Run ID 6110) was pulled on 8/15/2018.
4502	4501	01	GF-CR	MFL and Geometry	Corrosion, Geometry	Run ID was revised from 4502 to 4501, and tool was revised from GeoPig to Gemini. Tool (Run ID 4501) has been scheduled for May 2019.
4464	6099	05	MA-BC	UCc	Crack	Failed run (Run ID 4464) from May 2018, rerun (Run ID 6099) was pulled on 11/8/2018.
4109	6095	10	ENR-UT	MFL4	Corrosion	Partial failed run (Run ID4109) from May 2018, corrosion rerun (Run ID 6095) was pulled on 7/11/2018.
4611	4610	61	PE-FN	MFL and Geometry	Corrosion, Geometry	Run ID was revised from 4611 to 4610, and tool was revised from GeoPig to Gemini. Tool (Run ID 4610) has been rescheduled for January 2019.

30 [ILI Schedule Modification]

ILIs have been performed by Enbridge, as shown in Table 2 above, which is included in Enbridge's response to Subparagraphs 28.a-b. During this time period there were three failed / partially failed ILI runs that required a re-run, as discussed in Subparagraph 28.c of this SAR. The reruns of those ILIs have been described in Subparagraph 28.c, and the modifications are summarized in Table 3 above.

31 [ILI Compliance with Tool Specifications]

Enbridge reviewed vendor-provided Data Quality Assessment ("DQA") reports for each ILI performed and compared the reports against vendor tool specifications and other relevant information. Three ILIs did not meet vendor specifications during the current reporting period. The tables provided immediately below provide: (1) a summary of ILIs that did not meet ILI Vendor specifications for data quality; and (2) a detailed listing of each invalid ILI, including the reason it was deemed invalid and actions taken to prevent reoccurrence.

Table 8: Incomplete or Invalid ILIs and Rerun Dates[1]								
Tool Run ID	**Line**	**Segment**	**Tool**	**Inspection Deadline**	**Pull Date**	**Date of DQA Notification**	**Rerun Tool Run ID**	**Rerun Date**
2454	01	CR-PW	MFL4	8/17/2018	7/16/2018	7/25/2018	6110	8/15/2018
4464[2]	05	MA-BC	UCc	12/31/2018	5/17/2018	5/25/2018	6099	11/8/2018
4109[3]	10	ENR-UT	MFL4	8/20/2018	5/17/2018	5/23/2018	6095	7/11/2018

TABLE NOTE:

[1] ILI Tool failure notification(s) received after the reporting period for this SAR will be included in the next SAR.

[2] The tool pull date was May 17, 2018, and the tool failure notification was received on May 25, 2018. This run was included in SAR2 and detailed information is provided in this SAR3.

[3] The tool pull date was May 17, 2018, and the tool failure notification was received on May 23, 2018. This run was included in SAR2 and detailed information is provided in this SAR3.

Details of each deviation that occurred within the reporting period of this SAR are provided in the following tables.

Table 8-1: Tool Run 2454	
Category	**Description**
Line Number	1
Segment Start Trap	Clearbrook
Segment End Trap	Superior
Tool Technology	Geometry and MFL
Tool Run Launch Date	July 11, 2018
Tool Run Receipt Date	July 14, 2018
Tool Pull Date	July 16, 2018
Date of DQA Notification	July 25, 2018
Description of DQA Issue	24 main sensors and 3 ID/OD sensors intermittently failed through a portion of the run. 3 Caliper arms with degraded specification for the entire length of the run.
Cause of Issue	Unknown, failure analysis is underway
Corrective Action	Re-run
Tool Rerun Required?	Yes
Tool Re-Run Date	8/15/2018

Table 8-1: Tool Run 2454	
Category	**Description**

Table 8-2: Tool Run 4464	
Category	**Description**
Line Number	5
Segment Start Trap	Mackinaw
Segment End Trap	Bay City
Tool Technology	Circumferential Crack
Tool Run Launch Date	May 15, 2018
Tool Run Receipt Date	May 17, 2018
Tool Pull Date	May 17, 2018
Date of DQA Notification	June 1, 2018 (Initial notification was provided in late May, and all necessary information was provided on June 1, 2018).
Description of DQA Issue	Sensor liftoff at Girth Welds
Cause of Issue	Unknown, failure analysis is underway
Corrective Action	Re-run
Tool Rerun Required?	Yes
Tool Re-Run Date	November 8, 2018

Table 8-3: Tool Run 4109	
Category	**Description**
Line Number	10
Segment Start Trap	Niagara East
Segment End Trap	United
Tool Technology	Geometry and magnetic corrosion
Tool Run Launch Date	May 17, 2018
Tool Run Receipt Date	May 17, 2018

Table 8-3: Tool Run 4109	
Category	**Description**
Tool Pull Date	May 17, 2018
Date of DQA Notification	May 23, 2018
Description of DQA Issue	One faulty corrosion sensor arm (3 channels)
Cause of Issue	Unknown, failure analysis is underway
Corrective Action	Re-run for Corrosion only
Tool Rerun Required?	Yes (Corrosion only)
Tool Re-Run Date	July 11, 2018

(II) Review of ILI Data

32.a-c [Initial ILI Reports for Crack (120 days), Corrosion (90 days) and Geometric (60 days) Features]

The following table lists valid ILI tool runs for which the Initial ILI Reports were received between May 23, 2018 and November 22, 2018. Tool speed and tool performance were indicated in all reports listed.

Table 9: 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?**
4045	01	CR-PW	UMP	Corrosion	11/16/2018	11/15/2018	True
6110	01	CR-PW	MFL4	Corrosion	11/13/2018	11/9/2018	True
6110	01	CR-PW	MFL4	Geometry	10/15/2018	10/11/2018	True
3830	03	CR-PW	AFD	Corrosion	10/22/2018	10/19/2018	True
3829	03	CR-PW	MFL4	Corrosion	11/8/2018	11/8/2018	True
3831	03	CR-PW	DUO CD	Crack	8/6/2018	8/3/2018	True
3829	03	CR-PW	MFL4	Geometry	10/9/2018	10/5/2018	True
3826	03	GF-CR	AFD	Corrosion	9/26/2018	9/26/2018	True
4447	03	GF-CR	MFL4	Geometry	10/26/2018	10/25/2018	True
2351	04	DN-VG	DuDi UCM	Crack	6/7/2018	6/6/2018	True

Table 9: 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?**
2346	04	DR-FW	DuDi UCM	Corrosion	5/29/2018	5/28/2018	True
2346	04	DR-FW	DuDi UCM	Crack	6/27/2018	6/26/2018	True
2358	04	PL-CR	DuDi UCM	Crack	6/20/2018	6/19/2018	True
2323	04	VG-PL	DuDi UCM	Crack	6/14/2018	6/12/2018	True
2381	04	WR-PW	DuDi UCM	Corrosion	6/12/2018	6/7/2018	True
2381	04	WR-PW	DuDi UCM	Crack	7/12/2018	7/11/2018	True
6089	05	ENO-EMA	GEMINI	Corrosion	7/16/2018	6/17/2018	True
2371	05	ENO-EMA	MFL3	Corrosion	6/18/2018	6/15/2018	True
4449	05	ENO-EMA	UCc	Crack	8/8/2018	8/7/2018	True
6089	05	ENO-EMA	GEMINI	Geometry	6/18/2018	6/15/2018	True
2370	05	WNO-WMA	MFL3	Corrosion	6/19/2018	6/15/2018	True
6090	05	WNO-WMA	GEMINI	Corrosion	7/17/2018	6/17/2018	True
4450	05	WNO-WMA	UCc	Crack	8/9/2018	8/7/2018	True
6090	05	WNO-WMA	GEMINI	Geometry	6/18/2018	6/15/2018	True
4107	10	EB-ENR	GEMINI	Corrosion	9/4/2018	8/30/2018	True
4107	10	EB-ENR	GEMINI	Geometry	8/6/2018	8/3/2018	True
4473	10	ENR-UT	UMP	Corrosion	9/25/2018	9/18/2018	True
6095	10	ENR-UT	MFL4	Corrosion	10/9/2018	10/5/2018	True
4109	10	ENR-UT	MFL4	Geometry	7/16/2018	7/13/2018	True
4105	10	WNR-EB	MFL4	Corrosion	8/13/2018	8/10/2018	True
2411	10	WNR-EB	UCh	Crack	9/12/2018	9/12/2018	True
4105	10	WNR-EB	MFL4	Geometry	7/16/2018	7/12/2018	True
2369	67	GF-CR	MFL4	Corrosion	7/5/2018	6/29/2018	True
6091	67	GF-CR	GeoPig	Geometry	8/6/2018	8/3/2018	True
4487	78	GT-SK	GEMINI	Corrosion	11/8/2018	11/8/2018	True
4487	78	GT-SK	GEMINI	Geometry	10/9/2018	10/9/2018	True

TABLE NOTE:

The unsuccessful ILI runs that required reruns or partial reruns (for combo tool only) as discussed in Paragraph 31 of this SAR, have no report and are therefore not included in this table.

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. 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:

1. Features that the ILI Vendor may consider to be an immediate threat to the integrity of the pipeline.
2. Dent or geometric features greater than or equal to 5 percent of the outside diameter ("OD") of the pipe.
3. Metal loss features with peak depth greater than or equal to 75 percent of the nominal wall thickness of the pipe.
4. 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.
5. Metal loss features with an effective area RPR less than or equal to 0.85
6. Unmatched metal loss features with a depth greater than or equal to 50 percent of the nominal wall thickness or actual wall thickness.
7. Crack features that meet or exceed the saturation limit of the crack detection tool.
8. 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.
9. 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 IIMRR Table 3 below. As discussed in Section IX (Reporting Requirements), Enbridge, EPA and the ITP continue to discuss the appropriate application of Appendix A with regards to ovality features.

ILIMRR version 8.2 Table 3: 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

NPS (inch)	Actual OD (inch)	Actual OD (mm)	Min ID (inch)	Min ID (mm)
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

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. During the reporting period, some ovality features that met priority feature requirements specified by Enbridge were not reported by the vendor as required. Enbridge identified these omissions and the vendor has been contacted to prevent reoccurrence. Additional details can be found in paragraph 144 "Line 5 WNO-WMA Priority Notifications not Reported by ILI Vendor".

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

The following table (Table 10) identifies Priority Features for which Enbridge received notification from vendors during this reporting period. Each listed feature is then discussed in greater detail below the table. All priority features identified within this reporting period were reviewed timely and repair / mitigation actions were taken if required.

Table 10: 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	Pressure Restriction Required?	Date Pressure Restriction Imposed	Repair / Mitigation Deadline	Date of Repair / Mitigation
4468[1]	5	BC-RW	UCc	28640	2/8/2018	2/8/2018	2/12/2018	N	NA	2/12/2019	7/26/2018
4468[1]	5	BC-RW	UCc	103520	2/8/2018	2/8/2018	2/12/2018	N	NA	2/12/2019	6/20/2018
6110	1	CR-PW	MFL4 CAL	194040	10/9/2018	10/10/2018	NA	N	NA	NA	NA
6110	1	CR-PW	MFL4 CAL	194260	10/9/2018	10/10/2018	10/10/2018	N	NA	10/10/2019	FR
6110	1	CR-PW	MFL4 CAL	248920	10/9/2018	10/10/2018	NA	N	NA	NA	NA
4405	1	CR-PW	UC	58620	10/18/2018	10/24/2018	10/24/2018	Y	10/26/2018	11/8/2018	11/5/2018
4405	1	CR-PW	UC	170980	10/18/2018	10/24/2018	10/24/2018	N	NA	12/24/2018	FR
3831	3	CR-PW	DuoCD	28180	6/27/2018	6/29/2018	6/29/2018	Y	NA	7/30/2018	6/30/2018
3831	3	CR-PW	DuoCD	133790	7/12/2018	7/12/2018	NA	N	NA	NA	NA

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Table 10: 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**	**Pressure Restriction Required?**	**Date Pressure Restriction Imposed**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
3827	3	GF-CR	DuoCD	80670	11/13/2018	11/16/2018	11/16/2018	N	NA	12/17/2018	11/17/2018
3827	3	GF-CR	DuoCD	141580	11/13/2018	11/16/2018	NA	N	NA	NA	NA
3827	3	GF-CR	DuoCD	146510	11/13/2018	11/16/2018	11/16/2018	N	NA	11/16/2019	FR[2]
3827	3	GF-CR	DuoCD	149430	11/13/2018	11/16/2018	11/16/2018	N	NA	12/17/2018	FR
6090	5	WNO-WMA	GEMINI CAL	6080	5/30/2018	5/31/2018	NA	N	NA	NA	NA
6090	5	WNO-WMA	GEMINI CAL	6100	5/30/2018	5/31/2018	NA	N	NA	NA	NA

TABLE NOTE:

[1] The Priorities Notifications were received in SAR2, the Priorities Features were placed on DigList and the applicable PPRs were imposed in SAR2. The repair/mitigations were completed in the current reporting period of SAR3.

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

Line 1 CR-PW MFL4 CAL (Run ID 6110)

Girth Welds ("GW") 194040, 194260 and 248920: Priority Notifications (PN) for the three GWs were received on 10/9/2018, and the features were reviewed on 10/10/2018.

Prior to receipt of the PN, a validation dig package had been issued for GW 194040 based on re-assessment of 2013 BH GeoPig program with an excavation deadline of 2/9/2019. This feature was determined not to be an immediate threat, there was no interacting threat or stress concentrator reported with this feature and it was located in a non-HCA. No additional action is required for this feature and it will be mitigated as identified in the previous 2013 BH GeoPig program.

The reported dent feature on GW 194260 was also reported by the previous 2013 BH GeoPig program and analysis determined it is not interacting with other features and it does not meet any regulatory excavation criteria. A validation dig was issued due to the relatively large dent depth of 5%, with the mitigation deadline of 10/10/2019. The feature is not an immediate threat and no Point Pressure Restriction (PPR) was required.

Prior to the receipt of the PN, a validation dig package was issued for GW 248920 based on re-assessment of 2013 BH GeoPig program and the feature was sleeve repaired in September 2018. No additional action is required for this feature.

Line 1 CR-PW NDT UC (Run ID 4405)

Girth Welds ("GW") 58620 and 170980: PNs were received for the two GWs on 10/18/2018, and the features were reviewed and placed on Dig List on 10/24/2018. PPR was required on GW 58620; the PPR was imposed on 10/26/2018 and this GW was repaired on 11/5/2018. The repair deadline of GW 170980 is 12/23/2018 and a PPR was determined to not be required.

Line 3 CR-PW DuoCD (Run ID 3831)

Girth Weld ("GW") 28180: PN was received for this GW on 6/27/2018, and the feature was reviewed and placed on the Dig List on 6/29/2018. PPR would have been required within 2 days, however the feature was repaired on 6/30/2018, and the PPR imposition was no longer required post feature mitigation.

Girth Weld ("GW") 133790: PN was received for this GW on 7/12/2018, and the feature was reviewed on 7/12/2018. This feature did not meet any Consent Decree or Enbridge excavation criteria therefore no additional actions were required.

Line 3 GF-CR DuoCD (Run ID 3827)

Girth Welds ("GW") 80670, 141580, 146510 and 149430: PNs were received for the four GWs on 11/13/2018, and features were reviewed.

GW 80670 was placed on the Dig List on 11/16/2018 and no PPR was required. The target feature was mitigated on 11/17/2018.

Feature on GW 141580 was determined not to require any mitigation.

GW 146510 was placed on the Dig List on 11/16/2018, with dig deadline determined to be 11/16/2019, and no PPR was required.

GW 149430 was placed on the Dig List on 11/16/2018, with dig deadline determined to be 12/16/2018, and no PPR was required.

Line 5 WNO-WMA GEMINICAL (Run ID 6090)

Girth Welds ("GW") 6080 and 6110: PNs were received for the two GWs on 5/30/2018. The features were reviewed on 5/31/2018 and it was determined that no mitigation (excavation or PPR) was required.

It should be noted that the two PN features reported here are historic features present on this segment of Line 5. It is described in Section IX Reporting Requirements, Paragraph 144 below, that the ILI Vendor was not compliant in reporting these two PN features in the previous three ILI inspections.

34 [Data Quality Review]

Data quality reviews were completed within the timeframes required by the Consent Decree. ILI reports that did not meet Enbridge's quality standards are described below.

34.a [Preliminary Review of Initial ILI Report]

There were forty-six (46) Initial ILI reports reviewed between May 23, 2018 and November 22, 2018. The preliminary review of the Initial ILI reports received before October 22, 2018 was completed within the 30 day timeframe provided under the Consent Decree. Data concerns were identified with six Initial ILI reports. Details regarding these concerns appear below. The preliminary review of the Initial ILI reports received between October 23, 2018 and November 22, 2018 will be reported in the next Semi Annual Report.

The following table illustrates the Data Quality Review ("DQR") timeline versus requirements in Subparagraph 34.a of the Consent Decree.

Table 11: Preliminary Review of Initial ILI Reports[1]									
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?**
4045	01	CR-PW	UMP	11/15/2018	Corrosion	12/17/2018	FR	FR	No
6110	01	CR-PW	MFL4	11/9/2018	Corrosion	12/10/2018	FR	FR	No
6110	01	CR-PW	MFL4	10/11/2018	Geometry	11/13/2018	11/13/2018	Yes	No
4395	02	CR-DR	GEMINI	5/7/2018	Corrosion	6/6/2018	6/6/2018	Yes	No
3830	03	CR-PW	AFD	10/19/2018	Corrosion	11/19/2018	11/14/2018	Yes	Yes
3829	03	CR-PW	MFL4	11/8/2018	Corrosion	12/10/2018	FR	FR	No
3831	03	CR-PW	DUO CD	8/3/2018	Crack	9/4/2018	9/7/2018	No	No
3829	03	CR-PW	MFL4	10/5/2018	Geometry	11/5/2018	10/30/2018	Yes	Yes
3826	03	GF-CR	AFD	9/26/2018	Corrosion	10/26/2018	10/26/2018	Yes	Yes
4447	03	GF-CR	MFL4	10/25/2018	Geometry	11/26/2018	FR	FR	No
2351	04	DN-VG	DuDi UCM	5/8/2018	Corrosion	6/7/2018	6/7/2018	Yes	No
2351	04	DN-VG	DuDi UCM	6/6/2018	Crack	7/6/2018	7/6/2018	Yes	No
2346	04	DR-FW	DuDi UCM	5/28/2018	Corrosion	6/27/2018	6/26/2018	Yes	No
2346	04	DR-FW	DuDi UCM	6/26/2018	Crack	7/26/2018	7/26/2018	Yes	No
2358	04	PL-CR	DuDi UCM	5/18/2018	Corrosion	6/18/2018	6/18/2018	Yes	No
2358	04	PL-CR	DuDi UCM	6/19/2018	Crack	7/19/2018	7/18/2018	Yes	No
2323	04	VG-PL	DuDi UCM	5/15/2018	Corrosion	6/14/2018	6/14/2018	Yes	No
2323	04	VG-PL	DuDi UCM	6/12/2018	Crack	7/12/2018	7/12/2018	Yes	No
2381	04	WR-PW	DuDi UCM	6/7/2018	Corrosion	7/9/2018	7/9/2018	Yes	No

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Table 11: Preliminary Review of Initial ILI Reports[1]									
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?**
2381	04	WR-PW	DuDi UCM	7/11/2018	Crack	8/10/2018	8/10/2018	Yes	No
6089	05	ENO-EMA	GEMINI	6/17/2018	Corrosion	7/17/2018	7/11/2018	Yes	No
2371	05	ENO-EMA	MFL3	6/15/2018	Corrosion	7/16/2018	7/11/2018	Yes	No
4449	05	ENO-EMA	UCc	8/7/2018	Crack	9/6/2018	9/6/2018	Yes	Yes
6089	05	ENO-EMA	GEMINI	6/15/2018	Geometry	7/16/2018	7/12/2018	Yes	No
6087	05	ENO-EMA	GeoPig	4/23/2018	Geometry	5/23/2018	5/23/2018	Yes	No
6016	05	ENO-EMA	GeoPig	5/17/2018	Geometry	6/18/2018	6/15/2018	Yes	No
4213	05	PE-IR	GeoPig	4/23/2018	Geometry	5/23/2018	5/23/2018	Yes	No
6090	05	WNO-WMA	GEMINI	6/17/2018	Corrosion	7/17/2018	7/12/2018	Yes	No
2370	05	WNO-WMA	MFL3	6/15/2018	Corrosion	7/16/2018	7/12/2018	Yes	No
4450	05	WNO-WMA	UCc	8/7/2018	Crack	9/6/2018	9/6/2018	Yes	Yes
6090	05	WNO-WMA	GEMINI	6/15/2018	Geometry	7/16/2018	7/12/2018	Yes	No
6088	05	WNO-WMA	GeoPig	4/23/2018	Geometry	5/23/2018	5/23/2018	Yes	No
6017	05	WNO-WMA	GeoPig	5/17/2018	Geometry	6/18/2018	6/15/2018	Yes	No
4107	10	EB-ENR	GEMINI	8/30/2018	Corrosion	10/1/2018	9/21/2018	Yes	No
4107	10	EB-ENR	GEMINI	8/3/2018	Geometry	9/4/2018	8/13/2018	Yes	No
6095	10	ENR-UT	MFL4	10/5/2018	Corrosion	11/5/2018	11/5/2018	Yes	No
4473	10	ENR-UT	UMP	9/18/2018	Corrosion	10/18/2018	10/18/2018	Yes	Yes
4109	10	ENR-UT	MFL4	7/13/2018	Geometry	8/13/2018	8/13/2018	Yes	No

Table 11: Preliminary Review of Initial ILI Reports[1]									
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?**
4105	10	WNR-EB	MFL4	8/10/2018	Corrosion	9/10/2018	9/6/2018	Yes	No
2411	10	WNR-EB	UCh	9/12/2018	Crack	10/12/2018	10/12/2018	Yes	No
4105	10	WNR-EB	MFL4	7/12/2018	Geometry	8/13/2018	8/12/2018	No	No
2459	64	GL-GT	GEMINI	4/23/2018	Corrosion	5/23/2018	5/23/2018	Yes	No
2369	67	GF-CR	MFL4	6/29/2018	Corrosion	7/30/2018	7/30/2018	Yes	No
6091	67	GF-CR	GeoPig	8/3/2018	Geometry	9/4/2018	9/4/2018	Yes	No
4487	78	GT-SK	GEMINI	11/8/2018	Corrosion	12/10/2018	FR	FR	No
4487	78	GT-SK	GEMINI	10/9/2018	Geometry	11/8/2018	11/8/2018	Yes	No

TABLE NOTE:

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

ILI data issues encountered when performing the preliminary reviews of the Initial ILI Reports are listed in the table above and are analyzed and summarized below. Additional details are provided in the ILI Summary Document specific to each inspection, and made available to the ITP for verification activities:

Line 3 CR-PW AFD (Tool Run ID 3830) and Line 3 GF-CR AFD (Tool Run ID 3826)

The two Line 3 AFD ILI reports were re-issued because Enbridge identified during the DQR process that the ILI vendor has issues regarding incorrect feature association with seam welds. Enbridge also requested all axial slotting features with depth >=20% based on the AFD tool specification to be further reviewed and depth confirmed, and all geometric anomalies reviewed for presence or absence of metal loss, and size of metal loss where applicable.

The Issue 2 of the Line 3 CR-PW AFD ILI Report was received on 11/14/2018 and no additional revision is required.

The Issue 1.1 of the Line 3 GF-CR AFD ILI Report was received on 10/30/2018 and no additional revision is required.

Line 3 CR-PW MFL4 CAL (Tool Run ID 3829)

The Line 3 CR-PW MFL4 CAL ILI reports was re-issued because Enbridge identified during the DQR process that the ILI vendor had some erroneous depth sizing and incorrectly listed some geometric features associated with metal loss.

The Issue 1.1 of the Line 3 CR-PW MFL4 CAL Report was received on 11/1/2018 and no additional revision is required.

Line 5 ENO-EMA UCc (Tool Run ID 4449) and Line 5 WNO-WMA UCc (Tool Run ID 4450)

Due to the fact that UCc is a relatively new ILI technology and there is ongoing work between Enbridge and the ILI vendor to more reliably classify the features located within geometric features, particularly with features that are below the stated reporting threshold, NDT reviewed the Initial ILI Report for these features with additional considerations of previous field verification results. Based on this review, NDT has issued an updated report with revised feature comment. Features below ILI tool detection threshold were incorrectly classified and reported as crack-like features.

The Issue 3 of the Line 5 ENO-EMA UCc and Line 5 WNO-WMA UCc were both received on 10/8/2018, and Issue 4 of the Line 5 WNO-WMA UCc was received on 11/16/2018 to remove the features under ILI tool detection threshold and the ILI reporting requirement as a further revision.

Line 10 ENR-UT UMP (Tool Run ID 4473)

The Line 10 ENR-UT UMP ILI reports was re-issued because Enbridge identified during the DQR process that some joints had wrong pipe grade in the Pipeline Listing and Enbridge provided correct pipe grade information for the ILI vendor to correct the report.

The Issue 2 of the Line 10 ENR-UT UMP ILI Report was received on 11/1/2018 with corrected pipe grade information and no additional revision is required.

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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 according to the Lakehead System Integrity Remediation process. Table 15 in 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 Concerns]

For ILI runs with Data Quality Concerns that were identified during Enbridge's preliminary review of the Initial ILI Report, Enbridge completed the evaluations necessary to resolve all of the identified data quality concerns as expeditiously as practicable, as summarized in Table 12. ILI data issue details of the listed programs are discussed above in response to Subparagraph 34.a.

Table 12: Report with Data Quality Concerns

Tool Run ID	Line	Segment	Tool	Initial Report Received Date	Date Preliminary Review Required	Date Preliminary Review Completed	Data Quality Concerns Identified and Resolved
3830	03	CR-PW	AFD	10/19/2018	11/19/2018	11/14/2018	Yes
3829	03	CR-PW	MFL4	10/5/2018	11/5/2018	10/30/2018	Yes
3826	03	GF-CR	AFD	9/26/2018	10/26/2018	10/26/2018	Yes
4449	05	ENO-EMA	UCc	8/7/2018	9/6/2018	9/6/2018	Yes
4450	05	WNO-WMA	UCc	8/7/2018	9/6/2018	9/6/2018	Yes
4473	10	ENR-UT	UMP	9/18/2018	10/18/2018	10/18/2018	Yes

TABLE NOTE:

The re-issued Line 6A reports (4334 and 4443) resulted from the Data Quality Concerns were received in SAR3 as shown in Table under P34.d. Their Data Quality Concerns were discussed in SAR2.

34.d [ILI Data Quality Evaluation Timelines]

Enbridge procedures provide for analysts to complete all data quality evaluations of ILI data within 180 Days after the ILI tool is removed from the pipeline at the conclusion of any ILI investigation. During the reporting period of this SAR, all data was reviewed in a timely manner as provided by applicable procedures. As outlined in the below table, 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).

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Table 13: Data Quality Evaluation Timelines[1]							
Tool Run ID	**Line**	**Segment**	**Tool**	**Pull Date**	**Report Type**	**Deadline to Complete All ILI Data Quality Evaluations**	**Quality Evaluations Completed Within 180 Days?[2]**
4045	01	CR-PW	UMP	8/18/2018	Corrosion	2/14/2019	FR
4405	01	CR-PW	UC	9/18/2018	Crack	3/18/2019	FR
6110	01	CR-PW	MFL4	8/15/2018	Corrosion	2/11/2019	FR
6110	01	CR-PW	MFL4	8/15/2018	Geometry	2/11/2019	Yes
4395	02	CR-DR	GEMINI	2/7/2018	Corrosion	8/6/2018	Yes
4395	02	CR-DR	GEMINI	2/7/2018	Geometry	8/6/2018	Yes
4396	02	DR-PW	GEMINI	1/19/2018	Corrosion	7/18/2018	Yes
4396	02	DR-PW	GEMINI	1/19/2018	Geometry	7/18/2018	Yes
3829	03	CR-PW	MFL4	8/10/2018	Corrosion	2/6/2019	FR
3829	03	CR-PW	MFL4	8/10/2018	Geometry	2/6/2019	Yes
3829	03	CR-PW	MFL4	8/10/2018	Geometry (Issue 1.1)	2/6/2019	Yes
3830	03	CR-PW	AFD	7/23/2018	Corrosion	1/22/2019	Yes
3830	03	CR-PW	AFD	7/23/2018	Corrosion (Issue 2)	1/22/2019	Yes
3831	03	CR-PW	DUO CD	4/6/2018	Crack	10/3/2018	Yes
3826	03	GF-CR	AFD	6/28/2018	Corrosion	12/26/2018	Yes
3826	03	GF-CR	AFD	6/28/2018	Corrosion (Issue 1.1)	12/26/2018	Yes
3827	03	GF-CR	DUO CD	7/30/2018	Crack	1/28/2019	FR
4447	03	GF-CR	MFL4	8/27/2018	Corrosion	2/25/2019	Yes
4447	03	GF-CR	MFL4	8/27/2018	Geometry	2/25/2019	Yes
2351	04	DN-VG	DuDi UCM	2/7/2018	Corrosion	8/6/2018	Yes
2351	04	DN-VG	DuDi UCM	2/7/2018	Crack	8/6/2018	Yes
2346	04	DR-FW	DuDi UCM	2/27/2018	Corrosion	8/27/2018	Yes
2346	04	DR-FW	DuDi UCM	2/27/2018	Crack	8/27/2018	Yes
4466	04	FW-WR	DuDi UCM	12/12/2017	Corrosion	6/11/2018	Yes
4466	04	FW-WR	DuDi UCM	12/12/2017	Crack	6/11/2018	Yes

Table 13: Data Quality Evaluation Timelines[1]							
Tool Run ID	**Line**	**Segment**	**Tool**	**Pull Date**	**Report Type**	**Deadline to Complete All ILI Data Quality Evaluations**	**Quality Evaluations Completed Within 180 Days?[2]**
6013	04	GF-DN	DuDi UCM	12/8/2017	Corrosion	6/6/2018	Yes
6013	04	GF-DN	DuDi UCM	12/8/2017	Crack	6/6/2018	Yes
2358	04	PL-CR	DuDi UCM	2/20/2018	Corrosion	8/20/2018	Yes
2358	04	PL-CR	DuDi UCM	2/20/2018	Crack	8/20/2018	Yes
2323	04	VG-PL	DuDi UCM	2/14/2018	Corrosion	8/13/2018	Yes
2323	04	VG-PL	DuDi UCM	2/14/2018	Crack	8/13/2018	Yes
2381	04	WR-PW	DuDi UCM	3/14/2018	Corrosion	9/10/2018	Yes
2381	04	WR-PW	DuDi UCM	3/14/2018	Crack	9/10/2018	Yes
2689	04	WR-PW	GeoPig	2/6/2018	Geometry	8/6/2018	Yes
2371	05	ENO-EMA	MFL3	3/20/2018	Corrosion	9/17/2018	Yes
4449	05	ENO-EMA	UCc	4/10/2018	Crack	10/9/2018	Yes
4449	05	ENO-EMA	UCc	4/10/2018	Crack (Issue 3)	10/9/2018	Yes
6016	05	ENO-EMA	GeoPig	3/20/2018	Geometry	9/17/2018	Yes
6087	05	ENO-EMA	GeoPig	4/7/2018	Geometry	10/4/2018	Yes
6089	05	ENO-EMA	GEMINI	4/17/2018	Corrosion	10/15/2018	Yes
6089	05	ENO-EMA	GEMINI	4/17/2018	Geometry	10/15/2018	Yes
4406	05	MA-BC	AFD	1/12/2018	Corrosion	7/11/2018	Yes
6099	05	MA-BC	UCc	11/8/2018	Crack	5/7/2019	FR
4213	05	PE-IR	GeoPig	2/22/2018	Geometry	8/21/2018	Yes
2370	05	WNO-WMA	MFL3	3/21/2018	Corrosion	9/17/2018	Yes
4450	05	WNO-WMA	UCc	4/11/2018	Crack	10/9/2018	Yes
4450	05	WNO-WMA	UCc	4/11/2018	Crack (Issue 3)	10/9/2018	Yes
4450	05	WNO-WMA	UCc	4/11/2018	Crack (Issue 4)	10/9/2018	Yes
6017	05	WNO-WMA	GeoPig	3/20/2018	Geometry	9/17/2018	Yes
6088	05	WNO-WMA	GeoPig	4/7/2018	Geometry	10/4/2018	Yes

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Table 13: Data Quality Evaluation Timelines[1]							
Tool Run ID	**Line**	**Segment**	**Tool**	**Pull Date**	**Report Type**	**Deadline to Complete All ILI Data Quality Evaluations**	**Quality Evaluations Completed Within 180 Days?[2]**
6090	05	WNO-WMA	GEMINI	4/18/2018	Corrosion	10/15/2018	Yes
6090	05	WNO-WMA	GEMINI	4/18/2018	Geometry	10/15/2018	Yes
4334	06A	AM-GT	GEMINI	1/8/2018	Corrosion	7/9/2018	Yes
4334	06A	AM-GT	GEMINI	1/8/2018	Corrosion (Issue 2)	7/9/2018	Yes
4334	06A	AM-GT	GEMINI	1/8/2018	Geometry	7/9/2018	Yes
4443	06A	AM-GT	UMP	12/2/2017	Corrosion	5/31/2018	Yes
4443	06A	AM-GT	UMP	12/2/2017	Corrosion (Issue 2)	5/31/2018	Yes
4107	10	EB-ENR	GEMINI	6/5/2018	Corrosion	12/3/2018	Yes
4107	10	EB-ENR	GEMINI	6/5/2018	Geometry	12/3/2018	Yes
4109	10	ENR-UT	MFL4	5/17/2018	Geometry	11/13/2018	Yes
4473	10	ENR-UT	UMP	6/27/2018	Corrosion	12/24/2018	Yes
4473	10	ENR-UT	UMP	6/27/2018	Corrosion (Issue 2)	12/24/2018	Yes
6095	10	ENR-UT	MFL4	7/11/2018	Corrosion	1/7/2019	Yes
2411	10	WNR-EB	UCh	5/15/2018	Crack	11/13/2018	Yes
4105	10	WNR-EB	MFL4	5/15/2018	Corrosion	11/13/2018	Yes
4105	10	WNR-EB	MFL4	5/15/2018	Geometry	11/13/2018	Yes
2459	64	GL-GT	GEMINI	1/24/2018	Corrosion	7/23/2018	Yes
2459	64	GL-GT	GEMINI	1/24/2018	Geometry	7/23/2018	Yes
2369	67	GF-CR	MFL4	4/5/2018	Corrosion	10/2/2018	Yes
6091	67	GF-CR	GeoPig	6/6/2018	Geometry	12/3/2018	Yes
4487	78	GT-SK	GEMINI	8/10/2018	Corrosion	2/6/2019	FR
4487	78	GT-SK	GEMINI	8/10/2018	Geometry	2/6/2019	Yes
4489	78	SK-RW	UMP	1/12/2018	Corrosion	7/11/2018	Yes
4490	78	SK-RW	MFL4	1/10/2018	Corrosion	7/9/2018	Yes
4490	78	SK-RW	MFL4	1/10/2018	Geometry	7/9/2018	Yes

TABLE NOTE:

[1] Runs with reports received on or before November 22, 2017 and ILI Data Quality Review performed after November 22, 2017 are included.

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

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 16 below. A significant severity discrepancy is defined in the Consent Decree as: if at least 60% of the population of reported features are either (A) more severe than previously reported and more severe than predicted by the most recent assessment of anticipated feature growth, or (B) less severe than previously reported. A significant density discrepancy is defined in the Consent Decree as follows: if the number of reported features is at least 20% greater or 20% less than the number of features previously reported.

Table 14: Discrepancies between Two Successive ILI Runs

Tool Run ID	Line	Segment	Tool	Report Type	Severity Discrepancy?	Density Discrepancy?	Type of features Requiring Excavation Discrepancy?
3831	03	CR-PW	DUO CD	Crack	N	Y	N
3829	03	CR-PW	MFL4	Geometry	N	Y	N
2351	04	DN-VG	DuDi UCM	Corrosion	N	Y	N
2351	04	DN-VG	DuDi UCM	Crack	N	Y	N
2346	04	DR-FW	DuDi UCM	Corrosion	N	Y	N
2346	04	DR-FW	DuDi UCM	Crack	N	Y	N
2358	04	PL-CR	DuDi UCM	Corrosion	N	Y	N
2323	04	VG-PL	DuDi UCM	Crack	N	Y	N
2381	04	WR-PW	DuDi UCM	Crack	N	Y	N
6089	05	ENO-EMA	GEMINI	Corrosion	N	Y	N
2371	05	ENO-EMA	MFL3	Corrosion	N	Y	N
4449	05	ENO-EMA	UCc	Crack	N	Y	N
4213	5	PE-IR	GeoPig	Geometry	N	Y	N
6090	05	WNO-WMA	GEMINI	Corrosion	N	Y	N
2370	05	WNO-WMA	MFL3	Corrosion	N	Y	N

Table 14: Discrepancies between Two Successive ILI Runs							
Tool Run ID	**Line**	**Segment**	**Tool**	**Report Type**	**Severity Discrepancy?**	**Density Discrepancy?**	**Type of features Requiring Excavation Discrepancy?**
4450	05	WNO-WMA	UCc	Crack	N	Y	N
4107	10	EB-ENR	GEMINI	Corrosion	N	Y	N
6095	10	ENR-UT	MFL4	Corrosion	N	Y	N
4473	10	ENR-UT	UMP	Corrosion	N	Y	N
4105	10	WNR-EB	MFL4	Corrosion	N	Y	N

Line 3 CR-PW DUOCD (Run ID 3831)

The subject Line 3 report had decreased feature density compared to the previous report in 2015. The reasons for the discrepancy are:

1) A portion of Line 3 was replaced in 2018 (Segment 18)
2) Based on previous excavations, the ILI vendor classified some defects as manufacturing in the most recent report instead of crack-likes in the previous ILI report.

Line 3 CR-PW MFL4 Gemini Caliper (Run ID 3829)

The subject Line 3 report contained a discrepancy between data provided in the previous report related to a greater than 20% decrease in reported feature density. This change is due to the features that were reported in the previous report are now measured below the ILIMRR reporting threshold therefore not reported in the subject report. No additional actions were required based on the feature count review.

Line 4 DN-VG DuDi UCM Corrosion (Run ID 2351)

The subject Line 4 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density. All features over 40% NWT reported in 2018 were also reported in 2016 and the feature density increase of 22% (13 features) of a small sample size was reasonable and expected therefore no additional actions were required.

Line 4 DN-VG DuDi UCM Crack (Run ID 2351)

The subject Line 4 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density, due to the fact that the features were previously considered borderline (e.g. previously 46 mils thus reported, in 2018 detected as 35 mils thus no longer reported). These differences in depth are within tool measurement tolerances and therefore expected. No additional actions were required.

Line 4 DR-FW DuDi UCM Corrosion (Run ID 2346)

The subject Line 4 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density. Due to the fact that the change in density is caused by small sample size (approx. 10 features), the more than 20% feature density increase was reasonable and expected. Therefore no additional actions were required.

Line 4 DR-FW DuDi UCM Crack (Run ID 2346)

The subject Line 4 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density, due to the fact that the previous run reported a large number of features having no reported depths and below reporting threshold. After these features were removed from the previous ILI run report, the feature density increase was within 20%. Therefore no additional actions were required.

Line 4 PL-CR DuDi UCM Corrosion (Run ID 2358)

The subject Line 4 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density. Due to the fact that the change in density is caused by very small sample size (approx. 2-3 features), the more than 20% feature density increase was reasonable and expected. Therefore no additional actions were required.

Line 4 VG-PL DuDi UCM Crack (Run ID 2323)

The subject Line 4 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density, due to the fact that due to the fact that the features were previously considered borderline (e.g. previously 46 mils thus reported, in 2018 detected as 35 mils thus no longer reported). These differences in depth are within tool measurement tolerances and therefore expected. No additional actions were required.

Line 4 WR-PW DuDi UCM Crack (Run ID 2381)

The subject Line 4 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density, due to the fact that the change in density is caused by very small sample size (approx. 0-4 features), the more than 20% feature density increase was reasonable and expected. Therefore no additional actions were required.

Line 5 ENO-EMA MFL3 (Run ID 2371), GEMINI MFL (Run ID 6089)

The subject Line 5 reports contained a discrepancy between data provided in the previous reports related to a greater than 20% change in reported feature density. This discrepancy in reported manufacturing defects is attributed to the different technologies, and different feature detection and sizing specifications of the ILI technologies. The feature density difference was reasonable and expected. Therefore no additional actions were required.

Line 5 ENO-EMA UCc (Run ID 4449)

The subject Line 5 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density. Due to the fact that the features were misclassified and/or under ILI tool detection threshold and ILI reporting requirements, the feature density change was reasonable and expected. Therefore no additional actions were required.

Line 5 PE-IR GeoPig (Run ID 4213)

The subject Line 5 report contained a discrepancy between data provided in the previous report related to a greater than 20% decrease in reported feature density. This change is due to the features that were reported in the previous report are now measured below the ILIMRR reporting threshold therefore not reported in the subject report. No additional actions were required based on the feature count review.

Line 5 WNO-WMA MFL3 (Run ID 2370), GEMINI MFL (Run ID 6090)

The subject Line 5 reports contained a discrepancy between data provided in the previous reports related to a greater than 20% change in reported feature density. This discrepancy in reported manufacturing defects is attributed to the different technologies, and different feature detection and sizing specifications of the ILI technologies. The feature density difference was reasonable and expected. Therefore no additional actions were required.

Line 5 WNO-WMA UCc (Run ID 4450)

The subject Line 5 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density. Due to the fact that the features were misclassified and/or under ILI tool detection threshold and ILI reporting requirements, the feature density change was reasonable and expected. Therefore no additional actions were required.

Line 10 EB-ENR GEMINI MFL (Run ID 4107)

The subject Line 10 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density. Due to the fact that the change in external corrosion feature density is caused by small sample size (approx. 9-16 features), the more than 20% feature density decrease was reasonable and expected. Therefore no additional actions were required.

Line 10 ENR-UT GEMINI MFL (Run ID 6095)

The subject Line 10 report contained a discrepancy between data provided in the previous report (2015) related to a greater than 20% decrease in reported feature density. The feature density decrease is caused by:

1) Repair sleeves installed between tool runs.
2) Portion of features are reported below 40% by 2018 MFL due to the overcall of 2015 ILI run

Hence the feature density difference was reasonable and expected. No additional actions were required.

Line 10 ENR-UT UMP (Run ID 4473)

The subject Line 10 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density (>=40%). Tool feature counts between the two runs are within 20% difference. The more than 20% change in feature (>40%) density was due to the tool sizing uncertainty resulted from the tool tolerance at approx. 10%. The feature density difference was reasonable and expected. Therefore no additional actions were required.

Line 10 WNR-EB GEMINI MFL (Run ID 4105)

The subject Line 10 report contained a discrepancy between data provided in the previous report related to a greater than 20% increase in reported feature density (>=40%). Tool feature counts between the two runs are within 20% difference. The more than 20% change in feature (>40%) density was due to the tool sizing uncertainty resulted from the tool tolerance at approx. 10%. The feature density difference was reasonable and expected. Therefore no additional actions were required.

34.f-g [Investigative Digs]

No investigative digs were required during this reporting period.

(III) Identification of Features Requiring Excavation

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

Following each ILI tool run, Enbridge evaluated each feature identified in the Initial ILI Report to determine if the feature was a FRE in accordance with the Lakehead System Integrity Remediation process. The records of these evaluations were recorded in the Assessment Sheets for each ILI tool run and were referenced in the Compliance Registry Forms.

36 [Feature Requiring Excavation Definition]

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

- Enbridge estimates the lowest pressure at which the feature is predicted to rupture or leak (i.e. Predicted Burst Pressure) using the procedures set forth in Subsection VII.D.(IV) of the Consent Decree.
- Enbridge estimates the amount of time remaining until the feature is predicted to rupture or leak (i.e. Remaining Life) using the procedures set forth in Subsection VII.D.(VI) of the Consent Decree.
- Enbridge considers other unique characteristics of a feature using the criteria set forth in Subsection VII.D.(V) of the Consent Decree. These methods are outlined in the procedure, PI-37 Fitness for Service Calculations and the Lakehead System Integrity Remediation process. 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.

With respect to Geometric features, Enbridge considers unique characteristics of the feature using the criteria set forth in Subsection VII.D.(V) of the Consent Decree as interpreted by Enbridge.[3] This method is outlined in the procedure, PI-37 Fitness for Service Calculations. The records of this criteria being applied are in the Assessment Sheets for each ILI tool run and were referenced in the Compliance Registry Forms.

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 in accordance with the Lakehead System Integrity Remediation process. 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.

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 Report, in all cases where the preliminary review did not identify any data quality concerns related to the feature.

Table 17 below identifies the FREs that were identified during the reporting period of this SAR. Priority notifications are excluded from these tables as they are included in Paragraph 33 of this SAR. ILI tool runs that did not discover any FREs are excluded from this table. Details on the process to identify FREs are included within the ILI Assessment Sheets.

[3] As discussed in Sec. IX (Pars. 144 and 145), Enbridge and EPA have identified a potential disagreement between the parties regarding interpretation of Subsection VII.D.(V) as applied to certain interacting or intersecting features addressed by Pars. 58 & 59 and Table 5. The discussion of Enbridge's compliance activities here and in the following paragraphs is based on Enbridge's interpretation of requirements for intersecting or interacting features. The ITP's interpretation of these provisions is set forth in the Independent Third Party Verification Report dated September 24, 2018.

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Table 15: Deadlines for Placing Features Requiring Excavation on the Dig List												
Tool Run ID	**Line**	**Seg-ment**	**Tool**	**Threat Type**	**Pull Date**	**Burst Pressure Calculation Date**	**Remaining Life Calculation Date**	**Other Features Identified Date**	**Number of Features Identified**	**Date All Features Added to Dig List**	**Within 180 Days of Tool Pull Date?**	**Within 5 Days of Calculations?**
6110	L0001	CR - PW	MFL4CAL	Geometry	8/15/2018	NA	NA	11/13/2018	8	11/16/2018	Yes	NA
3831	L0003	CR - PW	DUOCD	Crack	4/6/2018	9/7/2018	9/7/2018	9/7/2018	1	9/10/2018	Yes	Yes
3826	L0003	GF - CR	AFD	Axial Grooving	6/28/2018	10/26/2018	10/26/2018	10/26/2018	1	10/30/2018	Yes	Yes
3826	L0003	GF - CR	AFD	Corrosion	6/28/2018	10/26/2018	10/26/2018	10/26/2018	4	10/30/2018	Yes	Yes
2351	L0004	DN - VG	UCMUTWM	Corrosion	2/7/2018	6/7/2018	6/7/2018	6/7/2018	4	6/12/2018	Yes	Yes
2346	L0004	DR - FW	UCMUTCD	Crack	2/27/2018	7/26/2018	7/26/2018	7/26/2018	3	8/21/2018	Yes	No*
2346	L0004	DR - FW	UCMUTCD	Interacting	2/27/2018	7/26/2018	7/26/2018	7/26/2018	10	7/31/2018	Yes	Yes
2358	L0004	PL - CR	UCMUTWM	Corrosion	2/20/2018	6/25/2018	6/25/2018	6/18/2018	1	6/25/2018	Yes	Yes
2323	L0004	VG - PL	UCMUTCD	Interacting	2/14/2018	7/12/2018	7/12/2018	7/12/2018	1	7/17/2018	Yes	Yes
2323	L0004	VG - PL	UCMUTWM	Corrosion	2/14/2018	6/18/2018	6/18/2018	6/14/2018	4	6/18/2018	Yes	Yes
6087	L0005	ENO - EMA	GEOPIG	Geometry	4/7/2018	NA	NA	5/23/2018	1	5/31/2018	Yes	NA
6088	L0005	WNO - WMA	GEOPIG	Geometry	4/7/2018	NA	NA	5/23/2018	2	5/31/2018**	Yes	NA
4334	L0006A	AM - GT	GEMINI MFL	Corrosion	1/8/2018	7/5/2018	7/5/2018	NA	3	7/5/2018	Yes	Yes
4334	L0006A	AM - GT	GEMINI MFL	Corrosion	1/8/2018	7/5/2018	7/5/2018	NA	9	7/6/2018	Yes	Yes

Table 15: Deadlines for Placing Features Requiring Excavation on the Dig List												
Tool Run ID	**Line**	**Seg-ment**	**Tool**	**Threat Type**	**Pull Date**	**Burst Pressure Calculation Date**	**Remaining Life Calculation Date**	**Other Features Identified Date**	**Number of Features Identified**	**Date All Features Added to Dig List**	**Within 180 Days of Tool Pull Date?**	**Within 5 Days of Calculations?**
4443	L0006A	AM - GT	UMP	Corrosion	12/2/2017	5/29/2018	5/29/2018	NA	1	5/29/2018	Yes	Yes
4473	L0010	ENR - UT	UMP	Corrosion	6/27/2018	10/18/2018	10/18/2018	10/18/2018	2	10/22/2018	Yes	Yes
6095	L0010	ENR - UT	MFL4MFL	Corrosion	7/11/2018	11/5/2018	11/5/2018	11/5/2018	1	11/7/2018	Yes	Yes
2369	L0067	GF - CR	MFL4MFL	Corrosion	4/5/2018	8/3/2018	8/3/2018	NA	1	8/3/2018	Yes	Yes

TABLE NOTES:

**Discussed in Section IX Reporting Requirements, Paragraph 145*

***Field assessment and repair work began in April 2018, following anchor strike on Line 5 prior to the creation of the administrative creation of the formal Dig List referenced in this table*.

38 [Dig List Actions]

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

38.a [Excavation and Repair Deadlines]

For each FRE placed on the Dig List, Enbridge established excavation and repair deadlines that accounted for the level of threat posed by the feature and that complied with the dig criteria deadlines specified in Subsection VII.D.(V) of the Consent Decree. If a feature met more than one dig-selection criteria, Enbridge set the excavation and repair deadline in accordance with the shortest applicable timetable set forth in Subsection VII.D.(V) of the Consent Decree. This requirement is outlined in the Lakehead System Integrity Remediation process and deadlines can be found in the approved PI Listing for each ILI tool run.

38.b [Establish Pressure Restrictions if Required]

Enbridge's Lakehead System Integrity Remediation process and procedure PI-04 (Impose, Revise and Remove Pressure Restrictions) outline how any PRs required for FREs are established pursuant to Subsection VII.D.(V) of the Consent Decree.

In any case that a 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 "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.

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

The process to adhere to the requirements of Paragraph 39 is documented in Enbridge Operations & Maintenance Manuals ("OMMs") Book 3 sections B3_05-01-01 through B3_05-03-08.

The process to adhere to the requirement in Subparagraph 39.a is documented in "Step 12", Page 17 of the Lakehead System Integrity Remediation process.

During the reporting period of this SAR, Enbridge followed its OMMs to field assess all crack and geometry features, and all corrosion features greater than 10%. Ten percent (10%) is the general corrosion ILI tool detection threshold.

Enbridge followed the Lakehead System Integrity Remediation process to excavate and repair or mitigate all identified FREs on the pipeline that were the subject of the ILI, in accordance with Subsection VII.D.(V) of the Consent Decree.

During excavations for FRE 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 the approved Non-destructive examination ("NDE") reports are 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.b were not applicable for this SAR.

During this SAR reporting period, the FREs repaired and planned for repair are listed in Table 16 below.

Table 16: FREs Repaired and Planned for Repair

Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair / Mitigation	Crack Fea-tures	Cor-rosion Features	Axial Groo-ving Features	Geomet ric Feature s	Inter-acting Features
24576	L0001	CR - PW	54200	6110	FR				1	
24578	L0001	CR - PW	111730	6110	FR				1	
24581	L0001	CR - PW	202380	6110	FR				1	
24584	L0001	CR - PW	204600	6110	FR				1	
24585	L0001	CR - PW	208770	6110	FR				1	
24586	L0001	CR - PW	213040	6110	FR				1	
24587	L0001	CR - PW	214610	6110	FR				1	
24589	L0001	CR - PW	239090	6110	FR				1	
23120	L0002	GF - CR	20820	4494	7/14/2018				1	
23274	L0002	GF - CR	11030	4494	6/15/2018		1			
23275	L0002	GF - CR	62790	4494	10/20/2018		2			
23276	L0002	GF - CR	66850	4494	11/13/2018		1			
23280	L0002	GF - CR	177030	4494	9/29/2018		1			
24406	L0003	CR - PW	132420	3831	FR	1				
23402	L0003	GF - CR	42500	3711	6/8/2018		1			
23403	L0003	GF - CR	49840	3711	6/12/2018		1			
23404	L0003	GF - CR	129350	3711	8/15/2018		1			
23405	L0003	GF - CR	130610	3711	8/15/2018		1			
23769	L0003	GF - CR	60750	3711	9/8/2018	1				
23770	L0003	GF - CR	64890	3711	10/2/2018	1				
23771	L0003	GF - CR	153060	3711	8/21/2018	1				
23772	L0003	GF - CR	156870	3711	9/15/2018	1				
23773	L0003	GF - CR	158200	3711	9/22/2018	1				
24520	L0003	GF - CR	152910	3826	FR		1			
24521	L0003	GF - CR	161860	3826	FR			1		
24522	L0003	GF - CR	183800	3826	FR		1			
24523	L0003	GF - CR	186530	3826	FR		1			
23254	L0004	CR - CS	32820	2254	FR					1
23255	L0004	CR - CS	39160	2254	FR					1
23491	L0004	CS - DR	27690	4465	FR	1				
23492	L0004	CS - DR	27990	4465	FR	1				

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Table 16: FREs Repaired and Planned for Repair										
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair / Mitigation	Crack Fea-tures	Cor-rosion Features	Axial Groo-ving Features	Geomet ric Feature s	Inter-acting Features
23493	L0004	CS - DR	28050	4465	FR	1				
23494	L0004	CS - DR	28060	4465	FR	1				
23495	L0004	CS - DR	28070	4465	FR	1				
23496	L0004	CS - DR	28120	4465	FR	1				
23497	L0004	CS - DR	28220	4465	FR	1				
23498	L0004	CS - DR	28950	4465	FR	1				
23499	L0004	CS - DR	30540	4465	FR	1				
23500	L0004	CS - DR	30770	4465	FR	1				
23501	L0004	CS - DR	30790	4465	FR	1				
23502	L0004	CS - DR	32380	4465	FR	1				
24057	L0004	DN - VG	36900	2351	8/14/2018		1			
24058	L0004	DN - VG	38290	2351	8/30/2018		1			
24059	L0004	DN - VG	39450	2351	9/6/2018		1			
24061	L0004	DN - VG	45430	2351	9/18/2018		1			
24269	L0004	DR - FW	29630	2346	FR					1
24270	L0004	DR - FW	29670	2346	FR					1
24271	L0004	DR - FW	30600	2346	FR					1
24272	L0004	DR - FW	31080	2346	11/17/2018					1
24273	L0004	DR - FW	32780	2346	FR					3
24274	L0004	DR - FW	33340	2346	FR					1
24275	L0004	DR - FW	34160	2346	11/5/2018					1
24276	L0004	DR - FW	36000	2346	10/16/2018					1
24317	L0004	DR - FW	29730	2346	FR	1				
24318	L0004	DR - FW	32790	2346	FR	1				
24319	L0004	DR - FW	33420	2346	FR	1				
23510	L0004	FW - WR	25700	4466	10/25/2018		1			
23897	L0004	FW - WR	16340	4466	FR	1				
23898	L0004	FW - WR	19250	4466	FR	1				
23899	L0004	FW - WR	26600	4466	11/17/2018	1				
23901	L0004	FW - WR	28430	4466	11/18/2018	1				
23902	L0004	FW - WR	29000	4466	11/17/2018	1				
23505	L0004	GF - DN	48150	6013	6/21/2018		1			
23507	L0004	GF - DN	54670	6013	8/27/2018		1			
23508	L0004	GF - DN	54690	6013	8/30/2018		1			

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Table 16: FREs Repaired and Planned for Repair										
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair / Mitigation	Crack Fea-tures	Cor-rosion Features	Axial Groo-ving Features	Geomet ric Feature s	Inter-acting Features
23852	L0004	GF - DN	47390	6013	6/13/2018	1				
24081	L0004	PL - CR	4240	2358	8/25/2018		1			
24064	L0004	VG - PL	35390	2323	8/24/2018		2			
24065	L0004	VG - PL	36190	2323	9/10/2018		1			
24066	L0004	VG - PL	39700	2323	9/22/2018		1			
24244	L0004	VG - PL	37520	2323	10/29/2018					1
23045	L0005	BC - RW	10	2215	9/20/2018		1			
23046	L0005	BC - RW	610	2215	6/14/2018		1			
23047	L0005	BC - RW	4070	2215	6/28/2018		1			
23049	L0005	BC - RW	13220	2215	6/11/2018		1			
23051	L0005	BC - RW	26290	2215	8/23/2018		1			
23054	L0005	BC - RW	56740	2215	6/1/2018		1			
23055	L0005	BC - RW	63420	2215	8/28/2018		1			
23873	L0005	BC - RW	12760	4468	8/13/2018	1				
24030	L0005	ENO - EMA	3570	6087	7/11/2018				1	
23727	L0005	IR - NO	30650	4356	8/1/2018	1				
23728	L0005	IR - NO	65420	4356	8/6/2018	1				
23979	L0005	MA - BC	10010	4406	8/16/2018		1			
23980	L0005	MA - BC	33700	4406	8/6/2018		2			
23981	L0005	MA - BC	91290	4406	8/11/2018		1			
23982	L0005	MA - BC	95630	4406	9/10/2018		1			
23983	L0005	MA - BC	138790	4406	8/15/2018		1			
23018	L0005	PE - IR	127420	2150	6/11/2018	1				2
23019	L0005	PE - IR	152550	2150	7/23/2018					2
23077	L0005	PE - IR	20520	2140	7/14/2018			1		
23078	L0005	PE - IR	33020	2140	8/24/2018			1		
23079	L0005	PE - IR	81930	2140	6/14/2018			1		
23080	L0005	PE - IR	116480	2140	6/22/2018			2		
23081	L0005	PE - IR	116930	2140	6/23/2018			1		
23082	L0005	PE - IR	148130	2140	6/19/2018			1		
23084	L0005	PE - IR	230050	2140	6/23/2018			2		
23085	L0005	PE - IR	245260	2140	6/22/2018			1		
24029	L0005	WNO - WMA	3540	6088	7/23/2018				2	

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Table 16: FREs Repaired and Planned for Repair										
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair / Mitigation	Crack Fea-tures	Cor-rosion Features	Axial Groo-ving Features	Geomet ric Feature s	Inter-acting Features
23672	L0006A	AM - GT	8370	4443	9/22/2018		1			
23673	L0006A	AM - GT	20580	4443	8/15/2018		1			
23676	L0006A	AM - GT	77030	4443	8/10/2018		1			
23677	L0006A	AM - GT	89180	4443	FR		1			
23678	L0006A	AM - GT	99630	4443	8/24/2018		1			
23679	L0006A	AM - GT	100680	4443	8/28/2018		1			
23680	L0006A	AM - GT	106240	4443	8/23/2018		1			
23682	L0006A	AM - GT	111040	4443	8/28/2018		1			
23683	L0006A	AM - GT	112090	4443	9/19/2018		1			
23685	L0006A	AM - GT	130890	4443	9/21/2018		1			
23686	L0006A	AM - GT	136750	4443	FR		1			
23687	L0006A	AM - GT	140880	4443	8/1/2018		1			
23688	L0006A	AM - GT	147990	4443	9/25/2018		1			
23689	L0006A	AM - GT	148420	4443	9/29/2018		1			
23690	L0006A	AM - GT	151570	4443	9/17/2018		1			
23691	L0006A	AM - GT	153530	4443	9/20/2018		1			
23692	L0006A	AM - GT	157490	4443	10/2/2018		1			
23694	L0006A	AM - GT	163690	4443	10/9/2018		1			
23695	L0006A	AM - GT	165800	4443	9/20/2018		1			
23696	L0006A	AM - GT	178150	4443	6/14/2018		1			
23697	L0006A	AM - GT	198680	4443	6/26/2018		1			
23699	L0006A	AM - GT	206940	4443	6/22/2018		1			
23700	L0006A	AM - GT	207050	4443	6/25/2018		1			
23701	L0006A	AM - GT	241040	4443	FR		1			
23702	L0006A	AM - GT	243240	4443	FR		1			
23703	L0006A	AM - GT	255130	4443	FR		1			
23704	L0006A	AM - GT	257720	4443	10/4/2018		1			
23705	L0006A	AM - GT	261430	4443	10/5/2018		1			
23706	L0006A	AM - GT	273260	4443	8/24/2018		1			
23707	L0006A	AM - GT	273330	4443	8/27/2018		1			
23708	L0006A	AM - GT	274200	4443	9/11/2018		1			
23709	L0006A	AM - GT	274947	4443	FR		1			
23710	L0006A	AM - GT	277560	4443	9/17/2018		1			
23711	L0006A	AM - GT	279270	4443	8/18/2018		1			

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Table 16: FREs Repaired and Planned for Repair										
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair / Mitigation	Crack Fea-tures	Cor-rosion Features	Axial Groo-ving Features	Geomet ric Feature s	Inter-acting Features
23712	L0006A	AM - GT	279280	4443	8/18/2018		1			
23713	L0006A	AM - GT	286210	4443	FR		1			
23716	L0006A	AM - GT	288040	4443	8/6/2018		1			
23717	L0006A	AM - GT	288150	4443	7/12/2018		1			
23718	L0006A	AM - GT	288710	4443	9/8/2018		1			
23719	L0006A	AM - GT	289390	4443	9/6/2018		1			
23720	L0006A	AM - GT	295160	4443	10/16/2018		1			
23721	L0006A	AM - GT	298130	4443	9/26/2018		1			
23723	L0006A	AM - GT	299890	4443	8/22/2018		1			
23724	L0006A	AM - GT	304370	4443	FR		2			
23844	L0006A	AM - GT	57390	4334	9/12/2018				1	
23845	L0006A	AM - GT	86020	4334	9/17/2018				1	
23846	L0006A	AM - GT	115870	4334	9/24/2018				1	
23931	L0006A	AM - GT	79740	4334	FR		1			
23932	L0006A	AM - GT	81970	4334	11/3/2018		1			
23933	L0006A	AM - GT	83110	4334	10/29/2018		1			
23934	L0006A	AM - GT	112360	4334	9/22/2018		1			
23935	L0006A	AM - GT	129350	4334	10/8/2018		1			
23936	L0006A	AM - GT	129910	4334	9/30/2018		2			
23937	L0006A	AM - GT	191340	4334	6/20/2018		1			
23938	L0006A	AM - GT	203070	4334	11/3/2018		1			
23939	L0006A	AM - GT	255160	4334	11/7/2018		1			
23940	L0006A	AM - GT	255760	4334	10/29/2018		1			
23941	L0006A	AM - GT	256490	4334	FR		1			
23942	L0006A	AM - GT	257370	4334	8/25/2018		1			
23943	L0006A	AM - GT	268130	4334	9/6/2018		1			
23944	L0006A	AM - GT	288420	4334	9/25/2018					1
23945	L0006A	AM - GT	290170	4334	7/18/2018		1			
23946	L0006A	AM - GT	300010	4334	8/21/2018		1			
23947	L0006A	AM - GT	300310	4334	8/14/2018		1			
23948	L0006A	AM - GT	303870	4334	11/1/2018		1			
23949	L0006A	AM - GT	305530	4334	11/6/2018		1			
24027	L0006A	AM - GT	294380	4443	11/16/2018		1			
24100	L0006A	AM - GT	265390	4334	10/27/2018		1			

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Table 16: FREs Repaired and Planned for Repair										
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair / Mitigation	Crack Fea-tures	Cor-rosion Features	Axial Groo-ving Features	Geomet ric Feature s	Inter-acting Features
24102	L0006A	AM - GT	288100	4334	8/7/2018		1			
24106	L0006A	AM - GT	329780	4334	FR		1			
24095	L0006A	AM - GT	72030	4334	11/13/2018		1			
24096	L0006A	AM - GT	86600	4334	FR		1			
24097	L0006A	AM - GT	87890	4334	FR		1			
24098	L0006A	AM - GT	226360	4334	FR		1			
24099	L0006A	AM - GT	255100	4334	FR		1			
24101	L0006A	AM - GT	266590	4334	10/16/2018		1			
24103	L0006A	AM - GT	295880	4334	10/22/2018		1			
24104	L0006A	AM - GT	299220	4334	FR		1			
24105	L0006A	AM - GT	304990	4334	11/20/2018		1			
23175	L0006A	PE - AM	1050	4182	6/16/2018		1			
23176	L0006A	PE - AM	20060	4182	6/13/2018		1			
23178	L0006A	PE - AM	24530	4182	10/1/2018		1			
23179	L0006A	PE - AM	45350	4182	FR		1			
23182	L0006A	PE - AM	95470	4182	6/27/2018		1			
23183	L0006A	PE - AM	109130	4182	8/3/2018		1			
23184	L0006A	PE - AM	117210	4182	FR		1			
23186	L0006A	PE - AM	142960	4182	7/24/2018		1			
23187	L0006A	PE - AM	148400	4182	8/13/2018		2			
23188	L0006A	PE - AM	155370	4182	8/15/2018		1			
23189	L0006A	PE - AM	157390	4182	6/28/2018		1			
23190	L0006A	PE - AM	165720	4182	6/22/2018		1			
23191	L0006A	PE - AM	178590	4182	9/14/2018		1			
23192	L0006A	PE - AM	186710	4182	FR		1			
23195	L0006A	PE - AM	216510	4182	8/28/2018		1			
23196	L0006A	PE - AM	218410	4182	7/12/2018		1			
23197	L0006A	PE - AM	221970	4182	9/18/2018		1			
23198	L0006A	PE - AM	223520	4182	9/17/2018		1			
23199	L0006A	PE - AM	226760	4182	7/10/2018		1			
23200	L0006A	PE - AM	226790	4182	7/10/2018		1			
23201	L0006A	PE - AM	227710	4182	9/13/2018		1			
23202	L0006A	PE - AM	230360	4182	8/22/2018		1			
23204	L0006A	PE - AM	235290	4182	11/8/2018		1			

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Table 16: FREs Repaired and Planned for Repair										
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair / Mitigation	Crack Fea-tures	Cor-rosion Features	Axial Groo-ving Features	Geomet ric Feature s	Inter-acting Features
23205	L0006A	PE - AM	236100	4182	11/1/2018		1			
23206	L0006A	PE - AM	237970	4182	10/25/2018		1			
23207	L0006A	PE - AM	240960	4182	9/17/2018		1			
23208	L0006A	PE - AM	244040	4182	8/18/2018		1			
23209	L0006A	PE - AM	244050	4182	8/20/2018		1			
23210	L0006A	PE - AM	244490	4182	8/13/2018		1			
23211	L0006A	PE - AM	249090	4182	FR		1			
23212	L0006A	PE - AM	250760	4182	9/22/2018		1			
23213	L0006A	PE - AM	252450	4182	9/24/2018		1			
23214	L0006A	PE - AM	253910	4182	10/1/2018		1			
23215	L0006A	PE - AM	255750	4182	9/17/2018		1			
23216	L0006A	PE - AM	257200	4182	7/21/2018		1			
23218	L0006A	PE - AM	271270	4182	8/1/2018		1			
23221	L0006A	PE - AM	301610	4182	9/27/2018		1			
23309	L0006A	PE - AM	1810	3809	8/8/2018	1				
23311	L0006A	PE - AM	7250	3809	6/19/2018	2				
23312	L0006A	PE - AM	13370	3809	7/21/2018	1				
23313	L0006A	PE - AM	14060	3809	6/13/2018	1				
23314	L0006A	PE - AM	14750	3809	7/13/2018	1				
23315	L0006A	PE - AM	32610	3809	6/25/2018	1				
23316	L0006A	PE - AM	64390	3809	FR	1				
23317	L0006A	PE - AM	64440	3809	FR	1				
23318	L0006A	PE - AM	64650	3809	FR	1				
23319	L0006A	PE - AM	65160	3809	FR	1				
23320	L0006A	PE - AM	65300	3809	FR	1				
23321	L0006A	PE - AM	65830	3809	FR	1				
23322	L0006A	PE - AM	68870	3809	FR	1				
23323	L0006A	PE - AM	91150	3809	6/23/2018	1				
23324	L0006A	PE - AM	102240	3809	7/26/2018	1				
23325	L0006A	PE - AM	104330	3809	7/19/2018	1				
23327	L0006A	PE - AM	105780	3809	7/28/2018	1				
23330	L0006A	PE - AM	148440	3809	8/17/2018	1				
23333	L0006A	PE - AM	154650	3809	8/24/2018	1				
23334	L0006A	PE - AM	164110	3809	8/10/2018	1				

Table 16: FREs Repaired and Planned for Repair										
Dig ID	Line	Segment	Girth Weld	Tool Run ID	Date of Repair / Mitigation	Crack Fea-tures	Cor-rosion Features	Axial Groo-ving Features	Geomet ric Feature s	Inter-acting Features
23335	L0006A	PE - AM	167090	3809	6/20/2018	1				
23336	L0006A	PE - AM	169660	3809	8/10/2018	1				
23337	L0006A	PE - AM	170290	3809	8/4/2018	2				
23338	L0006A	PE - AM	173380	3809	7/31/2018	1				
23339	L0006A	PE - AM	173450	3809	7/31/2018	1				
23340	L0006A	PE - AM	173540	3809	8/6/2018	1				
23341	L0006A	PE - AM	173790	3809	8/15/2018	1				
23342	L0006A	PE - AM	174300	3809	6/8/2018	1				
23343	L0006A	PE - AM	193860	3809	7/21/2018	1				
23344	L0006A	PE - AM	194100	3809	7/24/2018	1				
23345	L0006A	PE - AM	216150	3809	8/30/2018	1				
23346	L0006A	PE - AM	219110	3809	8/18/2018	1				
23347	L0006A	PE - AM	219830	3809	8/17/2018	1				
23350	L0006A	PE - AM	257870	3809	7/25/2018	1				
23351	L0006A	PE - AM	262700	3809	8/29/2018	1				
23352	L0006A	PE - AM	283440	3809	8/4/2018	1				
23353	L0006A	PE - AM	295120	3809	8/6/2018	1				
23354	L0006A	PE - AM	299650	3809	7/18/2018	1				
23355	L0006A	PE - AM	322910	3809	8/20/2018	1				
24499	L0010	ENR - UT	18080	4473	FR		1			
24500	L0010	ENR - UT	21460	4473	FR		1			
24550	L0010	ENR - UT	10860	6095	FR		1			
24285	L0067	GF - CR	78130	2369	FR		1			
Total: 273						**72**	**157**	**11**	**15**	**18**

40 [Field Data Comparison to ILI Data]

The process to adhere to the requirements of Paragraph 40 and Subparagraphs 40.a, 40.b, 40.c, is documented in “Step 13.0” on Page 18 of the Lakehead System Integrity Remediation process. Complete ILI programs with the associated Consent Decree digs completed within the reporting period for this SAR are listed in the table below.

Within 30 days after completing excavation of all features requiring excavation identified on a pipeline based on Initial ILI Report, Enbridge completed the required analysis of the field data obtained during all excavations for all Consent Decree Digs.

Table 17: ILI Programs with Feature Requiring Excavation Repaired/Mitigated					
Tool Run ID	**Line**	**Segment**	**Tool**	**Report Type**	**Last NDE Report Approved Date**
4396	L0002	DR-PW	GEMINI	Geometry	5/14/2018
4494	L0002	GF-CR	GEMINICAL	CALIPER	7/23/2018
3712	L0003	CR-PW	USWM+	Corrosion	3/13/2018
3711	L0003	GF-CR	UCMPUTCD	UTCD	10/25/2018
3711	L0003	GF-CR	UCMPUTWM	UTWM	9/18/2018
2351	L0004	DN-VG	UCMUTWM	UTWM	10/24/2018
4466	L0004	FW-WR	UCMUTWM	UTWM	11/7/2018
6013	L0004	GF-DN	UCMUTCD	UTCD	8/31/2018
6013	L0004	GF-DN	UCMUTWM	UTWM	10/11/2018
2358	L0004	PL-CR	UCMUTWM	UTWM	9/20/2018
2323	L0004	VG-PL	UCMUTCD	UTCD	11/13/2018
2323	L0004	VG-PL	UCMUTWM	UTWM	10/24/2018
4468	L0005	BC-RW	UCC	UTCD	10/24/2018
2215	L0005	BC-RW	GEMINIMFL	MFL	10/25/2018
6087	L0005	ENO-EMA	GEOPIG	CALIPER	9/20/2018
4356	L0005	IR-NO	UCC	UTCD	10/1/2018
4406	L0005	MA-BC	AFD	CMFL	10/19/2018
2140	L0005	PE-IR	AFD	CMFL	9/14/2018
2150	L0005	PE-IR	CD+	UTCD	9/27/2018
3662	L0005	PE-IR	USWM+	Corrosion	5/3/2018
6088	L0005	WNO-WMA	GEOPIG	CALIPER	9/19/2018
4334	L0006A	AM-GT	GEMINICAL	CALIPER	10/25/2018

Within 30 days after completing the field investigations of the FREs, Enbridge completed the analysis of the field investigations of the ILI programs listed in the above table. The ILI tool performance was validated in accordance with Paragraph 40, and no further action was required regarding the excavation programs.

41 [ILI Electronic Records]

Appendix B to the Lakehead System Integrity Program Logistics Exception process includes a table summarizing the electronic record repositories to meet the 14 criteria listed in Paragraph 41. These were uploaded to OneSource as per Subparagraph 78.a, further summarized in the Section F Report below.

For each ILI investigation conducted during this reporting period, Enbridge maintained electronic records relating to ILI data, including but not limited to all 14 categories of information listed in Paragraph 41 of the Consent Decree.

Enbridge procedures require that such ILI data records be maintained for at least 5 years after termination of the Consent Decree.

(IV) Predicted Burst Pressure/Fitness for Service

42 [Predicted Burst Pressure]

Enbridge calculated the Predicted Burst Pressure of all Crack and Corrosion features identified by ILI tools, in accordance with the requirements of Subsection VII.D.(IV) of the Consent Decree. These requirements are reflected in “Step 7.1” on Pages 11 & 12 of the Lakehead System Integrity Remediation process.

43 [Predicted Burst Pressure Definition]

The Lakehead System Integrity Remediation process defines the Predicted Burst Pressure of a feature as the lowest pressure area in the pipeline at the location of the feature that is predicted to result in failure of the feature.

Enbridge calculated the Predicted Burst Pressure of features in accordance with the inputs and procedures in Appendix B of the Consent Decree, which is consistent with procedures outlined in the Lakehead System Integrity Remediation process.

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

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

The following table summarizes the timelines for completing initial Predicted Burst Pressure calculations and initial Remaining Life calculations for all Crack or Corrosion features identified in reports that were received prior to April 22, 2018. Refer to Table 11 for a list of all valid ILI runs with reports received within the reporting period.

Table 18: 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
4395	02	CR-DR	GEMINI	Corrosion	2/7/2018	6/6/2018	No	8/1/2018	8/1/2018	6/6/2018	6/6/2018
3830	03	CR-PW	AFD	Corrosion	7/23/2018	11/14/2018	Yes	1/14/2019	1/14/2019	11/14/2018	11/14/2018
3831	03	CR-PW	DUO CD	Crack	4/6/2018	9/7/2018	No	11/2/2018	9/28/2018	9/7/2018	9/7/2018
3826	03	GF-CR	AFD	Corrosion	6/28/2018	10/26/2018	Yes	12/21/2018	12/20/2018	10/26/2018	10/26/2018
2351	04	DN-VG	DuDi UCM	Corrosion	2/7/2018	6/7/2018	No	8/2/2018	8/1/2018	6/7/2018	6/7/2018
2351	04	DN-VG	DuDi UCM	Crack	2/7/2018	7/6/2018	No	8/31/2018	8/1/2018	7/6/2018	7/6/2018
2346	04	DR-FW	DuDi UCM	Corrosion	2/27/2018	6/26/2018	No	8/21/2018	8/21/2018	6/26/2018	6/26/2018
2346	04	DR-FW	DuDi UCM	Crack	2/27/2018	7/26/2018	No	9/20/2018	8/21/2018	7/26/2018	7/26/2018
2358	04	PL-CR	DuDi UCM	Corrosion	2/20/2018	6/18/2018	No	8/13/2018	8/14/2018	6/25/2018	6/25/2018
2358	04	PL-CR	DuDi UCM	Crack	2/20/2018	7/18/2018	No	9/12/2018	8/14/2018	7/18/2018	7/18/2018
2323	04	VG-PL	DuDi UCM	Corrosion	2/14/2018	6/14/2018	No	8/9/2018	8/8/2018	6/18/2018	6/18/2018
2323	04	VG-PL	DuDi UCM	Crack	2/14/2018	7/12/2018	No	9/6/2018	8/8/2018	7/12/2018	7/12/2018
2381	04	WR-PW	DuDi UCM	Corrosion	3/14/2018	7/9/2018	No	9/4/2018	9/5/2018	7/9/2018	7/9/2018
2381	04	WR-PW	DuDi UCM	Crack	3/14/2018	8/10/2018	No	10/5/2018	9/5/2018	8/10/2018	8/10/2018
2371	05	ENO-EMA	MFL3	Corrosion	3/20/2018	7/11/2018	No	9/5/2018	9/11/2018	7/11/2018	7/11/2018

Table 18: 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**
4449	05	ENO-EMA	UCc	Crack	4/10/2018	9/6/2018	Yes	11/1/2018	10/2/2018	9/6/2018	9/6/2018
6089	05	ENO-EMA	GEMINI	Corrosion	4/17/2018	7/11/2018	No	9/5/2018	10/9/2018	7/11/2018	7/11/2018
2370	05	WNO-WMA	MFL3	Corrosion	3/21/2018	7/12/2018	No	9/6/2018	9/12/2018	7/12/2018	7/12/2018
4450	05	WNO-WMA	UCc	Crack	4/11/2018	9/6/2018	Yes	11/1/2018	10/3/2018	9/6/2018	9/6/2018
6090	05	WNO-WMA	GEMINI	Corrosion	4/18/2018	7/12/2018	No	9/6/2018	10/10/2018	7/12/2018	7/12/2018
4107	10	EB-ENR	GEMINI	Corrosion	6/5/2018	9/21/2018	No	11/16/2018	11/27/2018	9/21/2018	9/21/2018
4473	10	ENR-UT	UMP	Corrosion	6/27/2018	10/18/2018	Yes	12/13/2018	12/19/2018	10/18/2018	10/18/2018
6095	10	ENR-UT	MFL4	Corrosion	7/11/2018	11/5/2018	No	12/31/2018	1/2/2019	11/5/2018	11/5/2018
2411	10	WNR-EB	UCh	Crack	5/15/2018	10/12/2018	No	12/7/2018	11/6/2018	10/12/2018	10/12/2018
4105	10	WNR-EB	MFL4	Corrosion	5/15/2018	9/6/2018	No	11/1/2018	11/6/2018	9/6/2018	9/6/2018
2459	64	GL-GT	GEMINI	Corrosion	1/24/2018	5/23/2018	No	7/18/2018	7/18/2018	5/23/2018	5/23/2018
2369	67	GF-CR	MFL4	Corrosion	4/5/2018	7/30/2018	No	9/24/2018	9/27/2018	7/30/2018	7/30/2018

As shown in the Table above, 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.

45 [Retention of Electronic Records]

As outlined in the Lakehead System Integrity Remediation process, Enbridge procedures require that the company maintain electronic records documenting all Predicted Burst Pressure calculations, and all Remaining Life calculations, including inputs and dates the calculations were completed with respect to particular features, until five years after termination of the Consent Decree.

(V) Dig Selection Criteria

46 [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 19 below.

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 also 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 also repaired or mitigated the features based on an analysis of field measurement values for feature length and depth or other field observations, despite being placed on the Dig List based on an analysis of ILI-reported values for feature length and depth.

During this reporting period, Enbridge followed the Lakehead System Integrity Remediation process, which meets requirements set out in Paragraph 46 of the Consent Decree.

The feature repair and mitigation of the Priority Notification features are reported in Subparagraphs 33.c-d and therefore are not included in the table below.

Table 19: Identified Digs

Dig ID	Line	Seg-ment	Girth Weld	Tool Run ID	Technology	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation
24576	L0001	CR - PW	54200	6110	CALIPER	11/16/2018	11/18/2019	FR
24578	L0001	CR - PW	111730	6110	CALIPER	11/16/2018	5/15/2019	FR
24581	L0001	CR - PW	202380	6110	CALIPER	11/16/2018	11/18/2019	FR

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Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
24584	L0001	CR - PW	204600	6110	CALIPER	11/16/2018	11/18/2019	FR
24585	L0001	CR - PW	208770	6110	CALIPER	11/16/2018	11/18/2019	FR
24586	L0001	CR - PW	213040	6110	CALIPER	11/16/2018	11/18/2019	FR
24587	L0001	CR - PW	214610	6110	CALIPER	11/16/2018	11/18/2019	FR
24589	L0001	CR - PW	239090	6110	CALIPER	11/16/2018	11/18/2019	FR
23120	L0002	GF - CR	20820	4494	CALIPER	1/18/2018	1/18/2019	7/14/2018
23274	L0002	GF - CR	11030	4494	MFL	3/1/2018	3/1/2019	6/15/2018
23275	L0002	GF - CR	62790	4494	MFL	3/1/2018	3/1/2019	10/20/2018
23276	L0002	GF - CR	66850	4494	MFL	3/1/2018	3/1/2019	11/13/2018
23280	L0002	GF - CR	177030	4494	MFL	3/1/2018	3/1/2019	9/29/2018
24406	L0003	CR - PW	132420	3831	PHASED ARRAY	9/10/2018	9/10/2019	FR
23402	L0003	GF - CR	42500	3711	UTWM	3/19/2018	9/17/2018	6/8/2018
23403	L0003	GF - CR	49840	3711	UTWM	3/19/2018	3/19/2019	6/12/2018
23404	L0003	GF - CR	129350	3711	UTWM	3/19/2018	9/17/2018	8/15/2018
23405	L0003	GF - CR	130610	3711	UTWM	3/19/2018	9/17/2018	8/15/2018
23769	L0003	GF - CR	60750	3711	UTCD	4/16/2018	4/16/2019	9/8/2018
23770	L0003	GF - CR	64890	3711	UTCD	4/16/2018	4/16/2019	10/2/2018
23771	L0003	GF - CR	153060	3711	UTCD	4/16/2018	4/16/2019	8/21/2018
23772	L0003	GF - CR	156870	3711	UTCD	4/16/2018	4/16/2019	9/15/2018
23773	L0003	GF - CR	158200	3711	UTCD	4/16/2018	4/16/2019	9/22/2018
24520	L0003	GF - CR	152910	3826	CMFL	10/30/2018	11/29/2018	FR
24521	L0003	GF - CR	161860	3826	CMFL	10/30/2018	4/29/2019	FR

Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
24522	L0003	GF - CR	183800	3826	CMFL	10/30/2018	4/29/2019	FR
24523	L0003	GF - CR	186530	3826	CMFL	10/30/2018	10/30/2019	FR
23254	L0004	CR - CS	32820	2254	UTWM	2/15/2018	2/15/2019	FR
23255	L0004	CR - CS	39160	2254	UTWM	2/15/2018	2/15/2019	FR
23491	L0004	CS - DR	27690	4465	UTCD	3/21/2018	3/21/2019	FR
23492	L0004	CS - DR	27990	4465	UTCD	3/21/2018	3/21/2019	FR
23493	L0004	CS - DR	28050	4465	UTCD	3/21/2018	3/21/2019	FR
23494	L0004	CS - DR	28060	4465	UTCD	3/21/2018	3/21/2019	FR
23495	L0004	CS - DR	28070	4465	UTCD	3/21/2018	3/21/2019	FR
23496	L0004	CS - DR	28120	4465	UTCD	3/21/2018	3/21/2019	FR
23497	L0004	CS - DR	28220	4465	UTCD	3/21/2018	3/21/2019	FR
23498	L0004	CS - DR	28950	4465	UTCD	3/21/2018	3/21/2019	FR
23499	L0004	CS - DR	30540	4465	UTCD	3/21/2018	3/21/2019	FR
23500	L0004	CS - DR	30770	4465	UTCD	3/21/2018	3/21/2019	FR
23501	L0004	CS - DR	30790	4465	UTCD	3/21/2018	3/21/2019	FR
23502	L0004	CS - DR	32380	4465	UTCD	3/21/2018	3/21/2019	FR
24057	L0004	DN - VG	36900	2351	UTWM	6/12/2018	6/12/2019	8/14/2018
24058	L0004	DN - VG	38290	2351	UTWM	6/12/2018	6/12/2019	8/30/2018
24059	L0004	DN - VG	39450	2351	UTWM	6/12/2018	6/12/2019	9/6/2018
24061	L0004	DN - VG	45430	2351	UTWM	6/12/2018	6/12/2019	9/18/2018
24269	L0004	DR - FW	29630	2346	UTCD	7/31/2018	7/31/2019	FR
24270	L0004	DR - FW	29670	2346	UTCD	7/31/2018	7/31/2019	FR

Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
24271	L0004	DR - FW	30600	2346	UTCD	7/31/2018	7/31/2019	FR
24272	L0004	DR - FW	31080	2346	UTCD	7/31/2018	7/31/2019	11/17/2018
24273	L0004	DR - FW	32780	2346	UTCD	7/31/2018	1/28/2019	FR
24274	L0004	DR - FW	33340	2346	UTCD	7/31/2018	7/31/2019	FR
24275	L0004	DR - FW	34160	2346	UTCD	7/31/2018	7/31/2019	11/5/2018
24276	L0004	DR - FW	36000	2346	UTCD	7/31/2018	7/31/2019	10/16/2018
24317	L0004	DR - FW	29730	2346	UTCD	8/21/2018	7/31/2019	FR
24318	L0004	DR - FW	32790	2346	UTCD	8/21/2018	7/31/2019	FR
24319	L0004	DR - FW	33420	2346	UTCD	8/21/2018	7/31/2019	FR
23510	L0004	FW - WR	25700	4466	UTWM	3/22/2018	3/22/2019	10/25/2018
23897	L0004	FW - WR	16340	4466	UTCD	5/8/2018	5/8/2019	FR
23898	L0004	FW - WR	19250	4466	UTCD	5/8/2018	5/8/2019	FR
23899	L0004	FW - WR	26600	4466	UTCD	5/8/2018	5/8/2019	11/17/2018
23901	L0004	FW - WR	28430	4466	UTCD	5/8/2018	5/8/2019	11/18/2018
23902	L0004	FW - WR	29000	4466	UTCD	5/8/2018	5/8/2019	11/17/2018
23505	L0004	GF - DN	48150	6013	UTWM	3/22/2018	3/22/2019	6/21/2018
23507	L0004	GF - DN	54670	6013	UTWM	3/22/2018	3/22/2019	8/27/2018
23508	L0004	GF - DN	54690	6013	UTWM	3/22/2018	3/22/2019	8/30/2018
23852	L0004	GF - DN	47390	6013	UTCD	4/23/2018	4/18/2019	6/13/2018
24081	L0004	PL - CR	4240	2358	UTWM	6/25/2018	6/25/2019	8/25/2018
24064	L0004	VG - PL	35390	2323	UTWM	6/18/2018	6/18/2019	8/24/2018
24065	L0004	VG - PL	36190	2323	UTWM	6/18/2018	6/18/2019	9/10/2018

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Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
24066	L0004	VG - PL	39700	2323	UTWM	6/18/2018	12/17/2018	9/22/2018
24244	L0004	VG - PL	37520	2323	UTCD	7/17/2018	1/14/2019	10/29/2018
23045	L0005	BC - RW	10	2215	MFL	12/18/2017	12/13/2018	9/20/2018
23046	L0005	BC - RW	610	2215	MFL	12/18/2017	6/18/2018	6/14/2018
23047	L0005	BC - RW	4070	2215	MFL	12/18/2017	12/18/2018	6/28/2018
23049	L0005	BC - RW	13220	2215	MFL	12/18/2017	6/18/2018	6/11/2018
23051	L0005	BC - RW	26290	2215	MFL	12/18/2017	12/18/2018	8/23/2018
23054	L0005	BC - RW	56740	2215	MFL	12/18/2017	6/18/2018	6/1/2018
23055	L0005	BC - RW	63420	2215	MFL	12/18/2017	12/18/2018	8/28/2018
23873	L0005	BC - RW	12760	4468	UTCD	5/1/2018	10/29/2018	8/13/2018
24030	L0005	ENO - EMA	3570	6087	CALIPER	5/31/2018	7/30/2018	7/11/2018
23727	L0005	IR - NO	30650	4356	UTCD	4/10/2018	4/10/2019	8/1/2018
23728	L0005	IR - NO	65420	4356	UTCD	4/10/2018	10/9/2018	8/6/2018
23979	L0005	MA - BC	10010	4406	CMFL	5/17/2018	5/17/2019	8/16/2018
23980	L0005	MA - BC	33700	4406	CMFL	5/17/2018	5/17/2019	8/6/2018
23981	L0005	MA - BC	91290	4406	CMFL	5/17/2018	5/17/2019	8/11/2018
23982	L0005	MA - BC	95630	4406	CMFL	5/17/2018	11/13/2018	9/10/2018
23983	L0005	MA - BC	138790	4406	CMFL	5/17/2018	5/17/2019	8/15/2018
23077	L0005	PE - IR	20520	2140	CMFL	12/26/2017	12/26/2018	7/14/2018
23078	L0005	PE - IR	33020	2140	CMFL	12/26/2017	12/26/2018	8/24/2018
23079	L0005	PE - IR	81930	2140	CMFL	12/26/2017	6/25/2018	6/14/2018
23080	L0005	PE - IR	116480	2140	CMFL	12/26/2017	6/25/2018	6/22/2018

Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23081	L0005	PE - IR	116930	2140	CMFL	12/26/2017	6/25/2018	6/23/2018
23082	L0005	PE - IR	148130	2140	CMFL	12/26/2017	6/25/2018	6/19/2018
23084	L0005	PE - IR	230050	2140	CMFL	12/26/2017	6/25/2018	6/23/2018
23085	L0005	PE - IR	245260	2140	CMFL	12/26/2017	6/25/2018	6/22/2018
23018	L0005	PE - IR	127420	2150	UTCD	12/14/2017	6/12/2018	6/11/2018
23019	L0005	PE - IR	152550	2150	UTCD	12/14/2017	12/14/2018	7/23/2018
24029	L0005	WNO - WMA	3540	6088	CALIPER	5/31/2018	7/30/2018	7/23/2018
23844	L0006A	AM - GT	57390	4334	CALIPER	4/20/2018	4/17/2019	9/12/2018
23845	L0006A	AM - GT	86020	4334	CALIPER	4/20/2018	4/17/2019	9/17/2018
23846	L0006A	AM - GT	115870	4334	CALIPER	4/20/2018	4/17/2019	9/24/2018
23931	L0006A	AM - GT	79740	4334	MFL	5/11/2018	5/13/2019	FR
23932	L0006A	AM - GT	81970	4334	MFL	5/11/2018	5/13/2019	11/3/2018
23933	L0006A	AM - GT	83110	4334	MFL	5/11/2018	5/13/2019	10/29/2018
23934	L0006A	AM - GT	112360	4334	MFL	5/11/2018	5/13/2019	9/22/2018
23935	L0006A	AM - GT	129350	4334	MFL	5/11/2018	5/13/2019	10/8/2018
23936	L0006A	AM - GT	129910	4334	MFL	5/11/2018	5/13/2019	9/30/2018
23937	L0006A	AM - GT	191340	4334	MFL	5/11/2018	11/7/2018	6/20/2018
23938	L0006A	AM - GT	203070	4334	MFL	5/11/2018	11/7/2018	11/3/2018
23939	L0006A	AM - GT	255160	4334	MFL	5/11/2018	11/7/2018	11/7/2018
23940	L0006A	AM - GT	255760	4334	MFL	5/11/2018	11/7/2018	10/29/2018
23941	L0006A	AM - GT	256490	4334	MFL	5/11/2018	7/17/2020	FR
23942	L0006A	AM - GT	257370	4334	MFL	5/11/2018	11/7/2018	8/25/2018

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Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23943	L0006A	AM - GT	268130	4334	MFL	5/11/2018	11/7/2018	9/6/2018
23944	L0006A	AM - GT	288420	4334	MFL	5/11/2018	5/13/2019	9/25/2018
23945	L0006A	AM - GT	290170	4334	MFL	5/11/2018	11/7/2018	7/18/2018
23946	L0006A	AM - GT	300010	4334	MFL	5/11/2018	11/7/2018	8/21/2018
23947	L0006A	AM - GT	300310	4334	MFL	5/11/2018	11/7/2018	8/14/2018
23948	L0006A	AM - GT	303870	4334	MFL	5/11/2018	11/7/2018	11/1/2018
23949	L0006A	AM - GT	305530	4334	MFL	5/11/2018	11/7/2018	11/6/2018
24095	L0006A	AM - GT	72030	4334	MFL	7/6/2018	7/6/2019	11/13/2018
24096	L0006A	AM - GT	86600	4334	MFL	7/6/2018	7/8/2019	FR
24097	L0006A	AM - GT	87890	4334	MFL	7/6/2018	7/8/2019	FR
24098	L0006A	AM - GT	226360	4334	MFL	7/6/2018	1/2/2019	FR
24099	L0006A	AM - GT	255100	4334	MFL	7/6/2018	1/2/2019	FR
24100	L0006A	AM - GT	265390	4334	MFL	7/5/2018	7/5/2019	10/27/2018
24101	L0006A	AM - GT	266590	4334	MFL	7/6/2018	1/2/2019	10/16/2018
24102	L0006A	AM - GT	288100	4334	MFL	7/5/2018	7/5/2019	8/7/2018
24103	L0006A	AM - GT	295880	4334	MFL	7/6/2018	1/2/2019	10/22/2018
24104	L0006A	AM - GT	299220	4334	MFL	7/6/2018	1/2/2019	FR
24105	L0006A	AM - GT	304990	4334	MFL	7/6/2018	1/2/2019	FR
24106	L0006A	AM - GT	329780	4334	MFL	7/5/2018	1/2/2019	FR
23672	L0006A	AM - GT	8370	4443	UTWM	4/9/2018	4/9/2019	9/22/2018
23673	L0006A	AM - GT	20580	4443	UTWM	4/9/2018	4/9/2019	8/15/2018
23676	L0006A	AM - GT	77030	4443	UTWM	4/9/2018	4/9/2019	8/10/2018

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Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23677	L0006A	AM - GT	89180	4443	UTWM	4/9/2018	4/9/2019	FR
23678	L0006A	AM - GT	99630	4443	UTWM	4/9/2018	4/9/2019	8/24/2018
23679	L0006A	AM - GT	100680	4443	UTWM	4/9/2018	4/9/2019	8/28/2018
23680	L0006A	AM - GT	106240	4443	UTWM	4/9/2018	4/9/2019	8/23/2018
23682	L0006A	AM - GT	111040	4443	UTWM	4/9/2018	4/9/2019	8/28/2018
23683	L0006A	AM - GT	112090	4443	UTWM	4/9/2018	4/9/2019	9/19/2018
23685	L0006A	AM - GT	130890	4443	UTWM	4/9/2018	4/9/2019	9/21/2018
23686	L0006A	AM - GT	136750	4443	UTWM	4/9/2018	4/9/2019	FR
23687	L0006A	AM - GT	140880	4443	UTWM	4/9/2018	4/9/2019	8/1/2018
23688	L0006A	AM - GT	147990	4443	UTWM	4/9/2018	4/9/2019	9/25/2018
23689	L0006A	AM - GT	148420	4443	UTWM	4/9/2018	4/9/2019	9/29/2018
23690	L0006A	AM - GT	151570	4443	UTWM	4/9/2018	4/9/2019	9/17/2018
23691	L0006A	AM - GT	153530	4443	UTWM	4/9/2018	10/9/2018	9/20/2018
23692	L0006A	AM - GT	157490	4443	UTWM	4/9/2018	4/9/2019	10/2/2018
23694	L0006A	AM - GT	163690	4443	UTWM	4/9/2018	4/9/2019	10/9/2018
23695	L0006A	AM - GT	165800	4443	UTWM	4/9/2018	4/9/2019	9/20/2018
23696	L0006A	AM - GT	178150	4443	UTWM	4/9/2018	4/9/2019	6/14/2018
23697	L0006A	AM - GT	198680	4443	UTWM	4/9/2018	10/6/2018	6/26/2018
23699	L0006A	AM - GT	206940	4443	UTWM	4/9/2018	4/9/2019	6/22/2018
23700	L0006A	AM - GT	207050	4443	UTWM	4/9/2018	4/9/2019	6/25/2018
23701	L0006A	AM - GT	241040	4443	UTWM	4/9/2018	4/9/2019	FR
23702	L0006A	AM - GT	243240	4443	UTWM	4/9/2018	4/9/2019	FR

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Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23703	L0006A	AM - GT	255130	4443	UTWM	4/9/2018	4/9/2019	FR
23704	L0006A	AM - GT	257720	4443	UTWM	4/9/2018	10/9/2018	10/4/2018
23705	L0006A	AM - GT	261430	4443	UTWM	4/9/2018	10/9/2018	10/5/2018
23706	L0006A	AM - GT	273260	4443	UTWM	4/9/2018	10/9/2018	8/24/2018
23707	L0006A	AM - GT	273330	4443	UTWM	4/9/2018	10/9/2018	8/27/2018
23708	L0006A	AM - GT	274200	4443	UTWM	4/9/2018	10/9/2018	9/11/2018
23709	L0006A	AM - GT	274947	4443	UTWM	4/9/2018	4/9/2019	FR
23710	L0006A	AM - GT	277560	4443	UTWM	4/9/2018	10/9/2018	9/17/2018
23711	L0006A	AM - GT	279270	4443	UTWM	4/9/2018	10/9/2018	8/18/2018
23712	L0006A	AM - GT	279280	4443	UTWM	4/9/2018	10/9/2018	8/18/2018
23713	L0006A	AM - GT	286210	4443	UTWM	4/9/2018	4/9/2019	FR
23716	L0006A	AM - GT	288040	4443	UTWM	4/9/2018	10/9/2018	8/6/2018
23717	L0006A	AM - GT	288150	4443	UTWM	4/9/2018	4/9/2019	7/12/2018
23718	L0006A	AM - GT	288710	4443	UTWM	4/9/2018	4/9/2019	9/8/2018
23719	L0006A	AM - GT	289390	4443	UTWM	4/9/2018	4/9/2019	9/6/2018
23720	L0006A	AM - GT	295160	4443	UTWM	4/9/2018	4/9/2019	10/16/2018
23721	L0006A	AM - GT	298130	4443	UTWM	4/9/2018	10/9/2018	9/26/2018
23723	L0006A	AM - GT	299890	4443	UTWM	4/9/2018	4/9/2019	8/22/2018
23724	L0006A	AM - GT	304370	4443	UTWM	4/9/2018	4/9/2019	FR
24027	L0006A	AM - GT	294380	4443	UTWM	5/29/2018	11/26/2018	11/16/2018
23309	L0006A	PE - AM	1810	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/8/2018

Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23311	L0006A	PE - AM	7250	3809	PHASED ARRAY	3/9/2018	9/5/2018	6/19/2018
23312	L0006A	PE - AM	13370	3809	PHASED ARRAY	3/9/2018	9/5/2018	7/21/2018
23313	L0006A	PE - AM	14060	3809	PHASED ARRAY	3/9/2018	9/5/2018	6/13/2018
23314	L0006A	PE - AM	14750	3809	PHASED ARRAY	3/9/2018	9/5/2018	7/13/2018
23315	L0006A	PE - AM	32610	3809	PHASED ARRAY	3/9/2018	9/5/2018	6/25/2018
23316	L0006A	PE - AM	64390	3809	PHASED ARRAY	3/9/2018	3/4/2019	FR
23317	L0006A	PE - AM	64440	3809	PHASED ARRAY	3/9/2018	3/4/2019	FR
23318	L0006A	PE - AM	64650	3809	PHASED ARRAY	3/9/2018	3/4/2019	FR
23319	L0006A	PE - AM	65160	3809	PHASED ARRAY	3/9/2018	3/4/2019	FR
23320	L0006A	PE - AM	65300	3809	PHASED ARRAY	3/9/2018	3/4/2019	FR
23321	L0006A	PE - AM	65830	3809	PHASED ARRAY	3/9/2018	3/4/2019	FR
23322	L0006A	PE - AM	68870	3809	PHASED ARRAY	3/9/2018	3/4/2019	FR
23323	L0006A	PE - AM	91150	3809	PHASED ARRAY	3/9/2018	9/5/2018	6/23/2018
23324	L0006A	PE - AM	102240	3809	PHASED ARRAY	3/9/2018	9/5/2018	7/26/2018

Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23325	L0006A	PE - AM	104330	3809	PHASED ARRAY	3/9/2018	9/5/2018	7/19/2018
23327	L0006A	PE - AM	105780	3809	PHASED ARRAY	3/9/2018	3/4/2019	7/28/2018
23330	L0006A	PE - AM	148440	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/17/2018
23333	L0006A	PE - AM	154650	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/24/2018
23334	L0006A	PE - AM	164110	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/10/2018
23335	L0006A	PE - AM	167090	3809	PHASED ARRAY	3/9/2018	9/5/2018	6/20/2018
23336	L0006A	PE - AM	169660	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/10/2018
23337	L0006A	PE - AM	170290	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/4/2018
23338	L0006A	PE - AM	173380	3809	PHASED ARRAY	3/9/2018	9/5/2018	7/31/2018
23339	L0006A	PE - AM	173450	3809	PHASED ARRAY	3/9/2018	9/5/2018	7/31/2018
23340	L0006A	PE - AM	173540	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/6/2018
23341	L0006A	PE - AM	173790	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/15/2018
23342	L0006A	PE - AM	174300	3809	PHASED ARRAY	3/9/2018	9/5/2018	6/8/2018
23343	L0006A	PE - AM	193860	3809	PHASED ARRAY	3/9/2018	9/5/2018	7/21/2018

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Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23344	L0006A	PE - AM	194100	3809	PHASED ARRAY	3/9/2018	9/5/2018	7/24/2018
23345	L0006A	PE - AM	216150	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/30/2018
23346	L0006A	PE - AM	219110	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/18/2018
23347	L0006A	PE - AM	219830	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/17/2018
23350	L0006A	PE - AM	257870	3809	PHASED ARRAY	3/9/2018	9/5/2018	7/25/2018
23351	L0006A	PE - AM	262700	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/29/2018
23352	L0006A	PE - AM	283440	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/4/2018
23353	L0006A	PE - AM	295120	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/6/2018
23354	L0006A	PE - AM	299650	3809	PHASED ARRAY	3/9/2018	9/5/2018	7/18/2018
23355	L0006A	PE - AM	322910	3809	PHASED ARRAY	3/9/2018	9/5/2018	8/20/2018
23175	L0006A	PE - AM	1050	4182	MFL	2/5/2018	2/5/2019	6/16/2018
23176	L0006A	PE - AM	20060	4182	MFL	2/5/2018	2/5/2019	6/13/2018
23178	L0006A	PE - AM	24530	4182	MFL	2/5/2018	2/5/2019	10/1/2018
23179	L0006A	PE - AM	45350	4182	MFL	2/5/2018	2/5/2019	FR
23182	L0006A	PE - AM	95470	4182	MFL	2/5/2018	2/5/2019	6/27/2018
23183	L0006A	PE - AM	109130	4182	MFL	2/5/2018	2/5/2019	8/3/2018
23184	L0006A	PE - AM	117210	4182	MFL	2/5/2018	2/5/2019	FR

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Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23186	L0006A	PE - AM	142960	4182	MFL	2/5/2018	8/6/2018	7/24/2018
23187	L0006A	PE - AM	148400	4182	MFL	2/5/2018	2/5/2019	8/13/2018
23188	L0006A	PE - AM	155370	4182	MFL	2/5/2018	2/5/2019	8/15/2018
23189	L0006A	PE - AM	157390	4182	MFL	2/5/2018	2/5/2019	6/28/2018
23190	L0006A	PE - AM	165720	4182	MFL	2/5/2018	2/5/2019	6/22/2018
23191	L0006A	PE - AM	178590	4182	MFL	2/5/2018	2/5/2019	9/14/2018
23192	L0006A	PE - AM	186710	4182	MFL	2/5/2018	2/5/2019	FR
23195	L0006A	PE - AM	216510	4182	MFL	2/5/2018	2/5/2019	8/28/2018
23196	L0006A	PE - AM	218410	4182	MFL	2/5/2018	2/5/2019	7/12/2018
23197	L0006A	PE - AM	221970	4182	MFL	2/5/2018	2/5/2019	9/18/2018
23198	L0006A	PE - AM	223520	4182	MFL	2/5/2018	2/5/2019	9/17/2018
23199	L0006A	PE - AM	226760	4182	MFL	2/5/2018	2/5/2019	7/10/2018
23200	L0006A	PE - AM	226790	4182	MFL	2/5/2018	2/5/2019	7/10/2018
23201	L0006A	PE - AM	227710	4182	MFL	2/5/2018	2/5/2019	9/13/2018
23202	L0006A	PE - AM	230360	4182	MFL	2/5/2018	2/5/2019	8/22/2018
23204	L0006A	PE - AM	235290	4182	MFL	2/5/2018	2/5/2019	11/8/2018
23205	L0006A	PE - AM	236100	4182	MFL	2/5/2018	2/5/2019	11/1/2018
23206	L0006A	PE - AM	237970	4182	MFL	2/5/2018	2/5/2019	10/25/2018
23207	L0006A	PE - AM	240960	4182	MFL	2/5/2018	2/5/2019	9/17/2018
23208	L0006A	PE - AM	244040	4182	MFL	2/5/2018	2/5/2019	8/18/2018
23209	L0006A	PE - AM	244050	4182	MFL	2/5/2018	2/5/2019	8/20/2018
23210	L0006A	PE - AM	244490	4182	MFL	2/5/2018	2/5/2019	8/13/2018

Table 19: Identified Digs								
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23211	L0006A	PE - AM	249090	4182	MFL	2/5/2018	2/5/2019	FR
23212	L0006A	PE - AM	250760	4182	MFL	2/5/2018	2/5/2019	9/22/2018
23213	L0006A	PE - AM	252450	4182	MFL	2/5/2018	2/5/2019	9/24/2018
23214	L0006A	PE - AM	253910	4182	MFL	2/5/2018	2/5/2019	10/1/2018
23215	L0006A	PE - AM	255750	4182	MFL	2/5/2018	2/5/2019	9/17/2018
23216	L0006A	PE - AM	257200	4182	MFL	2/5/2018	2/5/2019	7/21/2018
23218	L0006A	PE - AM	271270	4182	MFL	2/5/2018	2/5/2019	8/1/2018
23221	L0006A	PE - AM	301610	4182	MFL	2/5/2018	2/5/2019	9/27/2018
24499	L0010	ENR - UT	18080	4473	UTWM	10/22/2018	4/22/2019	FR
24500	L0010	ENR - UT	21460	4473	UTWM	10/22/2018	4/22/2019	FR
24550	L0010	ENR - UT	10860	6095	MFL	11/7/2018	5/6/2019	FR
24285	L0067	GF - CR	78130	2369	MFL	8/3/2018	8/5/2019	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.*

As listed in the table below, seventeen digs were cancelled in the SAR3 period after review confirmed that the features reported on these joints had previously been repaired/mitigated; or in one case, the feature was incorporated into a subsequent program, with a shorter deadline.

Table 20: Cancelled Digs						
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Reason for Dig Cancellation**
23089	L0003	CR - PW	249650	3712	UTWM	This joint is within the area of Line 3 Section 18 Replacement (MP 1084.94 to MP 1098.00), which was put in service as of May 24, 2018. This dig is no longer required.
24519	L0003	GF - CR	132830	3826	CMFL	GW 132830 has been cancelled as it was excavated in Sept 2018 as part of the 2016 MFL dig program. NDE record is available under GW132840.
23509	L0004	GF - DN	54970	6013	UTWM	The target feature was previously excavated in 2013. The most recent ILI tool calls are within the range of the previous NDE measurement. There is no indication of corrosion growth, therefore this dig no longer required.
22938	L0006A	AM - GT	119550	4148	PHASEDARRAY	A dig package was issued at the same location (GW) for the same feature in April 2017. The feature was recoated in Sept, 2017. Therefore this dig is cancelled.
23674	L0006A	AM - GT	37040	4443	UTWM	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.
23681	L0006A	AM - GT	109420	4443	UTWM	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.
23684	L0006A	AM - GT	123180	4443	UTWM	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.

Table 20: Cancelled Digs						
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Reason for Dig Cancellation**
23693	L0006A	AM - GT	162900	4443	UTWM	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.
23698	L0006A	AM - GT	201190	4443	UTWM	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.
23714	L0006A	AM - GT	286240	4443	UTWM	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.
23715	L0006A	AM - GT	286560	4443	UTWM	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.
23722	L0006A	AM - GT	299220	4443	UTWM	This dig is transferred to the 2018 BH Gemini MFL Issue 2 Program, which establishes a more stringent dig deadline and PPR requirement for this feature.
23725	L0006A	AM - GT	334010	4443	UTWM	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.
23726	L0006A	AM - GT	334200	4443	UTWM	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.

Table 20: Cancelled Digs						
Dig ID	**Line**	**Seg-ment**	**Girth Weld**	**Tool Run ID**	**Technology**	**Reason for Dig Cancellation**
23174	L0006A	PE - AM	530	4182	MFL	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.
23219	L0006A	PE - AM	297940	4182	MFL	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.
23220	L0006A	PE - AM	298790	4182	MFL	It is confirmed that the feature is located in a pressure containing appurtenance (such as a stopple, valve), therefore this dig is no longer required.

Where applicable, Enbridge established pressure restriction requirements and imposed PPRs in accordance with Consent Decree requirements as summarized in the following table. 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.

The Priority Notification features for which Enbridge imposed PPRs are reported in Subparagraphs 33.c-d and are therefore not included in the table below.

Eight corrosion PPRs for Line 6A AM-GT joints with Upstream Girth Weld numbers of 81970, 83110, 112360, 129350, 129910, 300010, 300310, and 303870 were imposed one day later than the requirements prescribed in the Consent Decree. This issue is described further in SAR2 Paragraph 145.

Seven crack PPRs for Line 6A PE-AM joints with Upstream Girth Weld numbers of 64390, 64440, 64650, 65160, 65300, 65830, 68870 that need to be revised after the dig deadlines were extended from September 2018 to March 2019 were administratively implemented eight days later than the requirements prescribed in the Consent Decree. This issue is described in Paragraph 145 in this SAR.

Table 21: PPRs

PR ID	Line	Segment	Girth Weld	Date of Discovery	Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)	PPR Imposition Date	Repair / Mitigation Date	PPR Removal Date[1]
27100	L0003	CR - PW	239920	12/26/2017	6/25/2018	12/28/2017	1/26/2018	FR
28124	L0004	DN - VG	39450	6/12/2018	6/12/2019	6/8/2018	9/6/2018	FR
28145	L0004	DR - FW	32780	7/31/2018	1/28/2019	8/2/2018		FR
27954	L0004	FW - WR	25700	3/22/2018	3/22/2019	3/23/2018	10/25/2018	FR
27955	L0004	GF - DN	48150	3/22/2018	3/22/2019	3/23/2018	6/21/2018	FR
28144	L0004	VG - PL	37520	7/17/2018	1/14/2019	7/18/2018	10/29/2018	FR
27060	L0005	BC - RW	610	12/18/2017	6/18/2018	12/19/2017	6/14/2018	6/26/2018
27061	L0005	BC - RW	9500	12/18/2017	6/18/2018	12/19/2017	5/18/2018	6/26/2018
27062	L0005	BC - RW	13220	12/18/2017	6/18/2018	12/19/2017	6/11/2018	FR

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Table 21: PPRs								
PR ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery**	**Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)**	**PPR Imposition Date**	**Repair / Mitigation Date**	**PPR Removal Date[1]**
27063	L0005	BC - RW	22170	12/18/2017	6/18/2018	12/19/2017	5/22/2018	6/26/2018
27064	L0005	BC - RW	26290	12/18/2017	12/18/2018	12/19/2017	8/23/2018	FR
27065	L0005	BC - RW	37600	12/18/2017	6/18/2018	12/19/2017	5/17/2018	6/26/2018
27066	L0005	BC - RW	56740	12/18/2017	6/18/2018	12/19/2017	6/1/2018	6/26/2018
27067	L0005	BC - RW	63420	12/18/2017	12/18/2018	12/19/2017	8/28/2018	FR
28067	L0005	BC - RW	12760	5/1/2018	10/29/2018	5/2/2018	8/13/2018	FR
27979	L0005	ENO - EMA	3570	5/31/2018	7/30/2018	4/13/2018	7/11/2018	7/30/2018
27978	L0005	IR - NO	65420	4/10/2018	10/9/2018	4/11/2018	8/6/2018	FR
27024	L0005	PE - IR	242570	10/27/2017	4/25/2018	10/30/2017	3/2/2018	FR
27056	L0005	PE - IR	114300	12/14/2017	6/12/2018	12/18/2017	5/19/2018	6/26/2018
27057	L0005	PE - IR	127420	12/14/2017	6/12/2018	12/18/2017	6/11/2018	6/26/2018
27058	L0005	PE - IR	154730	12/14/2017	6/12/2018	12/18/2017	2/23/2018	6/26/2018
27059	L0005	PE - IR	195900	12/14/2017	6/12/2018	12/18/2017	5/22/2018	6/26/2018
27097	L0005	PE - IR	81930	12/26/2017	6/25/2018	12/27/2017	6/14/2018	6/26/2018
27098	L0005	PE - IR	116930	12/26/2017	6/25/2018	12/27/2017	6/23/2018	FR

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Table 21: PPRs								
PR ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery**	**Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)**	**PPR Imposition Date**	**Repair / Mitigation Date**	**PPR Removal Date[1]**
27099	L0005	PE - IR	230050	12/26/2017	6/25/2018	12/27/2017	6/23/2018	FR
27980	L0005	WNO - WMA	3540	5/31/2018	7/30/2018	4/13/2018	7/23/2018	7/30/2018
27956	L0006A	AM - GT	72020	4/9/2018	4/9/2019	4/10/2018	5/22/2018	FR
27957	L0006A	AM - GT	89180	4/9/2018	4/9/2019	4/10/2018	FR	FR
27958	L0006A	AM - GT	99630	4/9/2018	4/9/2019	4/10/2018	8/24/2018	FR
27959	L0006A	AM - GT	100680	4/9/2018	4/9/2019	4/10/2018	8/28/2018	FR
27960	L0006A	AM - GT	111040	4/9/2018	4/9/2019	4/10/2018	8/28/2018	FR
27961	L0006A	AM - GT	130890	4/9/2018	4/9/2019	4/10/2018	9/21/2018	FR
27962	L0006A	AM - GT	151570	4/9/2018	4/9/2019	4/10/2018	9/17/2018	FR
27963	L0006A	AM - GT	153530	4/9/2018	10/9/2018	4/10/2018	9/20/2018	FR
27964	L0006A	AM - GT	157490	4/9/2018	4/9/2019	4/10/2018	10/2/2018	FR
27965	L0006A	AM - GT	163690	4/9/2018	4/9/2019	4/10/2018	10/9/2018	FR
27966	L0006A	AM - GT	165800	4/9/2018	4/9/2019	4/10/2018	9/20/2018	FR
27967	L0006A	AM - GT	198680	4/9/2018	10/9/2018	4/10/2018	6/26/2018	FR
27968	L0006A	AM - GT	257720	4/9/2018	10/9/2018	4/10/2018	10/4/2018	FR

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Table 21: PPRs								
PR ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery**	**Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)**	**PPR Imposition Date**	**Repair / Mitigation Date**	**PPR Removal Date[1]**
27969	L000 6A	AM - GT	261430	4/9/2018	10/9/2018	4/10/2018	10/5/2018	FR
27970	L000 6A	AM - GT	273260	4/9/2018	10/9/2018	4/10/2018	8/24/2018	FR
27971	L000 6A	AM - GT	273330	4/9/2018	10/9/2018	4/10/2018	8/27/2018	FR
27972	L000 6A	AM - GT	274200	4/9/2018	10/9/2018	4/10/2018	9/11/2018	FR
27973	L000 6A	AM - GT	277560	4/9/2018	10/9/2018	4/10/2018	9/17/2018	FR
27974	L000 6A	AM - GT	279270	4/9/2018	10/9/2018	4/10/2018	8/18/2018	FR
27975	L000 6A	AM - GT	279280	4/9/2018	10/9/2018	4/10/2018	8/18/2018	FR
27976	L000 6A	AM - GT	288040	4/9/2018	10/9/2018	4/10/2018	8/6/2018	FR
28088	L000 6A	AM - GT	81970	5/11/2018	5/13/2019	5/15/2018	11/3/2018	FR
28089	L000 6A	AM - GT	83110	5/11/2018	5/13/2019	5/15/2018	10/29/2018	FR
28090	L000 6A	AM - GT	112360	5/11/2018	5/13/2019	5/15/2018	9/22/2018	FR
28091	L000 6A	AM - GT	129350	5/11/2018	5/13/2019	5/15/2018	10/8/2018	FR
28092	L000 6A	AM - GT	129910	5/11/2018	5/13/2019	5/15/2018	9/30/2018	FR
28093	L000 6A	AM - GT	300010	5/11/2018	11/7/2018	5/15/2018	8/21/2018	FR
28094	L000 6A	AM - GT	300310	5/11/2018	11/7/2018	5/15/2018	8/14/2018	FR

Table 21: PPRs								
PR ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery**	**Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)**	**PPR Imposition Date**	**Repair / Mitigation Date**	**PPR Removal Date[1]**
28095	L000 6A	AM - GT	303870	5/11/2018	11/7/2018	5/15/2018	11/1/2018	FR
28130	L000 6A	AM - GT	72030	7/6/2018	7/8/2019	7/6/2018	11/13/2018	FR
28131	L000 6A	AM - GT	86600	7/6/2018	7/8/2019	7/6/2018	FR	FR
28132	L000 6A	AM - GT	87890	7/6/2018	7/8/2019	7/6/2018	FR	FR
28133	L000 6A	AM - GT	226360	7/6/2018	1/2/2019	7/6/2018	FR	FR
28134	L000 6A	AM - GT	255100	7/6/2018	1/2/2019	7/6/2018	FR	FR
28135	L000 6A	AM - GT	266590	7/6/2018	1/2/2019	7/6/2018	10/16/2018	FR
28136	L000 6A	AM - GT	295880	7/6/2018	1/2/2019	7/6/2018	10/22/2018	FR
28137	L000 6A	AM - GT	299220	7/6/2018	1/2/2019	7/6/2018	FR	FR
28138	L000 6A	AM - GT	304990	7/6/2018	1/2/2019	7/6/2018	11/20/2018	FR
27828	L000 6A	PE - AM	24530	2/5/2018	2/5/2019	2/7/2018	10/1/2018	FR
27829	L000 6A	PE - AM	63000	2/5/2018	2/5/2019	2/7/2018	3/3/2018	FR
27830	L000 6A	PE - AM	117210	2/5/2018	2/5/2019	2/7/2018	FR	FR
27831	L000 6A	PE - AM	135390	2/5/2018	2/5/2019	2/7/2018	2/24/2018	FR
27832	L000 6A	PE - AM	142960	2/5/2018	8/6/2018	2/7/2018	7/24/2018	FR

Table 21: PPRs								
PR ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery**	**Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)**	**PPR Imposition Date**	**Repair / Mitigation Date**	**PPR Removal Date[1]**
27833	L000 6A	PE - AM	148400	2/5/2018	2/5/2019	2/7/2018	8/13/2018	FR
27834	L000 6A	PE - AM	216510	2/5/2018	2/5/2019	2/7/2018	8/28/2018	FR
27835	L000 6A	PE - AM	223520	2/5/2018	2/5/2019	2/7/2018	9/17/2018	FR
27836	L000 6A	PE - AM	226760	2/5/2018	2/5/2019	2/7/2018	7/10/2018	FR
27837	L000 6A	PE - AM	226790	2/5/2018	2/5/2019	2/7/2018	7/10/2018	FR
27838	L000 6A	PE - AM	230360	2/5/2018	2/5/2019	2/7/2018	8/22/2018	FR
27839	L000 6A	PE - AM	233390	2/5/2018	2/5/2019	2/7/2018	2/28/2018	6/5/2018
27840	L000 6A	PE - AM	236100	2/5/2018	2/5/2019	2/7/2018	11/1/2018	FR
27841	L000 6A	PE - AM	271270	2/5/2018	2/5/2019	2/7/2018	8/1/2018	FR
27916	L000 6A	PE - AM	1810	3/9/2018	9/5/2018	3/12/2018	8/8/2018	FR
27917	L000 6A	PE - AM	7250	3/9/2018	9/5/2018	3/12/2018	6/19/2018	FR
27918	L000 6A	PE - AM	13370	3/9/2018	9/5/2018	3/12/2018	7/21/2018	FR
27919	L000 6A	PE - AM	14060	3/9/2018	9/5/2018	3/12/2018	6/13/2018	FR
27920	L000 6A	PE - AM	14750	3/9/2018	9/5/2018	3/12/2018	7/13/2018	FR
27921	L000 6A	PE - AM	32610	3/9/2018	9/5/2018	3/12/2018	6/25/2018	FR

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Table 21: PPRs								
PR ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery**	**Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)**	**PPR Imposition Date**	**Repair / Mitigation Date**	**PPR Removal Date[1]**
27922	L000 6A	PE - AM	64390	3/9/2018	3/4/2019	3/12/2018	FR	FR
27923	L000 6A	PE - AM	64440	3/9/2018	3/4/2019	3/12/2018	FR	FR
27924	L000 6A	PE - AM	64650	3/9/2018	3/4/2019	3/12/2018	FR	FR
27925	L000 6A	PE - AM	65160	3/9/2018	3/4/2019	3/12/2018	FR	FR
27926	L000 6A	PE - AM	65300	3/9/2018	3/4/2019	3/12/2018	FR	FR
27927	L000 6A	PE - AM	65830	3/9/2018	3/4/2019	3/12/2018	FR	FR
27928	L000 6A	PE - AM	68870	3/9/2018	3/4/2019	3/12/2018	FR	FR
27929	L000 6A	PE - AM	91150	3/9/2018	9/5/2018	3/12/2018	6/23/2018	FR
27930	L000 6A	PE - AM	102240	3/9/2018	9/5/2018	3/12/2018	7/26/2018	FR
27931	L000 6A	PE - AM	104330	3/9/2018	9/5/2018	3/12/2018	7/19/2018	FR
27932	L000 6A	PE - AM	148440	3/9/2018	9/5/2018	3/12/2018	8/17/2018	FR
27933	L000 6A	PE - AM	154650	3/9/2018	9/5/2018	3/12/2018	8/24/2018	FR
27934	L000 6A	PE - AM	164110	3/9/2018	9/5/2018	3/12/2018	8/10/2018	FR
27935	L000 6A	PE - AM	167090	3/9/2018	9/5/2018	3/12/2018	6/20/2018	FR
27936	L000 6A	PE - AM	169660	3/9/2018	9/5/2018	3/12/2018	8/10/2018	FR

Table 21: PPRs								
PR ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery**	**Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)**	**PPR Imposition Date**	**Repair / Mitigation Date**	**PPR Removal Date[1]**
27937	L000 6A	PE - AM	170290	3/9/2018	9/5/2018	3/12/2018	8/4/2018	FR
27938	L000 6A	PE - AM	173380	3/9/2018	9/5/2018	3/12/2018	7/31/2018	FR
27939	L000 6A	PE - AM	173450	3/9/2018	9/5/2018	3/12/2018	7/31/2018	FR
27940	L000 6A	PE - AM	173540	3/9/2018	9/5/2018	3/12/2018	8/6/2018	FR
27941	L000 6A	PE - AM	173790	3/9/2018	9/5/2018	3/12/2018	8/15/2018	FR
27942	L000 6A	PE - AM	174300	3/9/2018	9/5/2018	3/12/2018	6/8/2018	FR
27943	L000 6A	PE - AM	193860	3/9/2018	9/5/2018	3/12/2018	7/21/2018	FR
27944	L000 6A	PE - AM	194100	3/9/2018	9/5/2018	3/12/2018	7/24/2018	FR
27945	L000 6A	PE - AM	216150	3/9/2018	9/5/2018	3/12/2018	8/30/2018	FR
27946	L000 6A	PE - AM	219110	3/9/2018	9/5/2018	3/12/2018	8/18/2018	FR
27947	L000 6A	PE - AM	219830	3/9/2018	9/5/2018	3/12/2018	8/17/2018	FR
27948	L000 6A	PE - AM	257870	3/9/2018	9/5/2018	3/12/2018	7/25/2018	FR
27949	L000 6A	PE - AM	262700	3/9/2018	9/5/2018	3/12/2018	8/29/2018	FR
27950	L000 6A	PE - AM	283440	3/9/2018	9/5/2018	3/12/2018	8/4/2018	FR
27951	L000 6A	PE - AM	295120	3/9/2018	9/5/2018	3/12/2018	8/6/2018	FR

Table 21: PPRs								
PR ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery**	**Repair / Mitigation Deadline (specified in Tables 1 to 5 of the Consent Decree)**	**PPR Imposition Date**	**Repair / Mitigation Date**	**PPR Removal Date[1]**
27952	L000 6A	PE - AM	299650	3/9/2018	9/5/2018	3/12/2018	7/18/2018	FR
27953	L000 6A	PE - AM	322910	3/9/2018	9/5/2018	3/12/2018	8/20/2018	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.

46.e [Alternate Plans and Alternate Pressure Restrictions]

Enbridge implemented one alternate plan which will extend a corrosion dig repair/mitigation timeline during the reporting period of this SAR.

46.f [Saturated Signal Crack Feature]

The alternate plan that implemented an extended dig deadline for a corrosion FRE was not for saturated signal crack features that present a rupture threat. None of the features had ILI-measured length equal to or longer than the leak-rupture boundary as determined in accordance PR-218-05404. For purposes of this Consent Decree, the leak-rupture boundary equals two times the value of the variable "c" as determined in equation numbers 9 and 10 at p. 25 of PR-218-05404 (May 2011).

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

Enbridge has complied with the requirements of Subparagraph 46.g as described below. During the period covered by this SAR, Enbridge submitted one Alternate Plan as authorized by Subparagraph 46.d. which details of the Alternate Plan are summarized in Tables 22.

As described in Semi Annual Report (SAR) 2 Paragraph 49, Enbridge identified a corrosion feature meeting the Consent Decree excavation criteria on the Line 6A Adams to Griffith (AM-GT) segment with Upstream Girth Weld number of 256490. This feature was located under a toll highway. The local agency with authority over the toll highway where the feature is located denied Enbridge's plan to repair the feature via "open-cut." As a result, Enbridge assessed the feasibility of using Horizontal Directional Drilling (HDD) as the required mitigation methodology. This assessment included communicating with relevant permitting agencies and Right-of-Way (ROW) stakeholders. Due to the extraordinary scope and complexity of the HDD pipe replacement project,

Enbridge submitted an Alternate Plan to describe why the original feature deadline will not be feasible and the timetables of the proposed HDD mitigation.

Enbridge submitted to the EPA in writing of the Alternate Plan within the time specified in Subparagraph 46.g.(2). As set forth in Table 22, the written notification provided to EPA included a copy of the Detailed Feature Review prepared as provided in Subparagraph 46.g(1) and Subparagraph 46.g(2).d, demonstrating that Enbridge will achieve a level of safety for the FRE covered by the Alternate Plan that is greater than or equal to the safety factor intended to be achieved through compliance with the requirements of this Subsection VII.D.(V) applicable to such feature or features.

46.h [Alternate Plans and Temporary Pressure Restrictions]

The Alternate Plan submitted contained as one element of the Plan a proposed temporary pressure restriction, consistent with Paragraph 46/h.

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

The Alternate Plan implemented complies with applicable laws and regulations.

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

Enbridge has begun implementing the Alternate Plan as described in the written notifications submitted to EPA pursuant to Subparagraph 46.g(2). The initial notification was submitted on October 29, 2018, and has since been supplemented following additional communications with EPA and the ITP.

46.k [Documentation Maintenance]

Enbridge has maintained all documentation relating to the selection and implementation of the Alternate Plan. 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 [Description of Alternate Plans and Alternate Pressure Restrictions]

Enbridge implemented one Alternate Plan during the reporting period of this SAR. Details are shown in Table 22 below.

Table 22: Alternate Plans and Alternate Pressure Restrictions	
46.e. Alternate Plan or Alternate Pressure Restrictions submitted from effective date to the end of this SAR reporting period:	3 of maximum 40
46.e. Cumulative Excavations of Joints	3 of maximum 200
46.e. Maximum number of contiguous joints	1 of maximum 10

Table 22-1: Alternate Plan Details Line 6A AM-GT GW 256490	
Alternate Plan Line	6A
Alternate Plan Tool Run	AM-GT 2018-01 BH GEMINI MFL
Alternate Plan Joint	256490
46.l. (iv) Date Engineering Assessment was Completed OR the original feature repair/mitigation deadline	November 7, 2018
46.l.(vii) Alternate Plan Implementation Date	November 7, 2018
46.l.(iv) Alternate Plan Reporting/Notification Date	October 29, 2018
Notification was within 10 days of EA completion or 10 days before Original Feature Mitigation Deadline	Yes
Recommended Alternative(s) to Repair/Mitigate the FRE	The target corrosion FRE is located underneath a toll highway. This pipe segment will be replaced by Horizontal Directional Drilling (HDD) and the forecast HDD In-Service Date (ISD) is in July 2020.
Number of Features Requiring Excavation covered by the Alternate Plan	1
46.c.(1) Extraordinary Scope or Complexity	Yes
46.c.(2) Replacement of Segment	Yes
46.c.(3) Alternate Plan submitted for 46.c.(1)(2)	Yes
46.d.(i) Significantly Impair Operability	No
46.d.(ii) Significant Adverse Effect on Pipeline Integrity	No
46.l(i) Alternate Plan Detailed Description: This Alternate Plan (AP) is prepared as provided in Paragraph 46.c of the Consent Decree. The Alternate Plan addresses issues relating to the excavation and mitigation of a Feature Requiring Excavation as defined in Paragraph 36 of the Consent Decree. The subject feature was issued for excavation with a Date of Discovery of May 11, 2018, and an original Excavation Deadline of November 7, 2018. The subject feature is located underneath the US I-88 Tollway; Enbridge is not authorized under the Utility Permit to conduct the repair work and the Toll Authority believes that it cannot authorize Enbridge to excavate and repair the Feature located under the pavement of I-88. Hence, Enbridge has established an alternate mitigation plan for this feature, requiring pipe replacement installed by Horizontal Directional Drill (HDD) techniques.	
46.l.(iii) Basis for selection of the Alternate Plan and alternate timetables Due to the location of the target FRE, pipe replacement installed by HDD techniques is determined to be the alternate mitigation methodology to address the feature in question. The ability of Enbridge to use HDD to repair the Feature will be confirmed once a third-party HDD feasibility report that includes geotechnical analysis to verify that the soil underneath I-88 will support	

HDD. The HDD project is forecast to follow the schedule (alternate timetables) as described in the Alternate Plan which Enbridge submitted to the EPA on October 29, 2018.

Milestone	Start Date	Tentative Completion Date
Regulatory Permits and Landowner Permission	8/30/2018	1/17/2020
Engineering	9/21/2018	4/17/2019
Construction	5/11/2020	8/14/2020
Project Close-Out and In-Service Date	8/10/2020	12/07/2020

46.l(iv) detailed description of the analysis comparing the level of safety achieved by each such Alternate Plan with the level of safety that would be achieved through compliance with the requirements of Subsection VII.D.(V)

The feature in question has stable to static corrosion growth rate, and is assessed to have safety factor of 1.5 when the feature is expected to be mitigated by the HDD pipe replacement. The level of safety achieved by the Alternate Plan is acceptable compared to the level of safety that would be achieved through the compliance with the requirements of Subsection VII.D.(V). Detailed analysis is presented in the Alternate Plan which was submitted to the EPA on October 29, 2018.

46.l.(vi) description of activities undertaken by Enbridge during the reporting period to implement Alternate Plan

In SAR3 reporting period, the activities undertaken by Enbridge are summarized as:

- May 25, 2018 – issued dig package to Enbridge Projects Execution team for execution
- June 4, 2018 – completed construction workspace surveys related to HDD scope
- June 20, 2018 – Toll authority indicates permit will not be issued for open-cut excavation
- July 2018 – Dig-extension engineering review and assessment completed
- July 13, 2018 – Planned soil boring activities
- July 24, 2018 – Finished pre-planning HDD meeting with contractor
- August 9, 2018 – Developed HDD option environment studies and surveys
- August 10, 2018 – Lands and Right-Of-Way (ROW) groups identified ROW delays and challenges with project which impact the overall project duration
- September 24, 2018 – Obtained HDD project approval and funding
- October 9, 2018 – Geotechnical exploration and soil boring completed
- November 7, 2018 – Wetland delineation completed at I-88 north workspace
- November 16, 2018 – Geotechnical report received

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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. The following tables summarize the segments containing each Crack feature that meets the above criteria.

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.[4] For more information about these interacting features, see Paragraph 59 in this SAR. These features are not included in Tables 23 and 24.

Table 23: Crack Features Requiring Excavation

Dig ID	Line	Segment	Girth Weld	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation
24406	L0003	CR - PW	132420	9/10/2018	9/10/2019	FR
23769	L0003	GF - CR	60750	4/16/2018	4/16/2019	9/8/2018
23770	L0003	GF - CR	64890	4/16/2018	4/16/2019	10/2/2018
23771	L0003	GF - CR	153060	4/16/2018	4/16/2019	8/21/2018
23772	L0003	GF - CR	156870	4/16/2018	4/16/2019	9/15/2018
23773	L0003	GF - CR	158200	4/16/2018	4/16/2019	9/22/2018
23491	L0004	CS - DR	27690	3/21/2018	3/21/2019	FR
23492	L0004	CS - DR	27990	3/21/2018	3/21/2019	FR
23493	L0004	CS - DR	28050	3/21/2018	3/21/2019	FR
23494	L0004	CS - DR	28060	3/21/2018	3/21/2019	FR
23495	L0004	CS - DR	28070	3/21/2018	3/21/2019	FR
23496	L0004	CS - DR	28120	3/21/2018	3/21/2019	FR
23497	L0004	CS - DR	28220	3/21/2018	3/21/2019	FR
23498	L0004	CS - DR	28950	3/21/2018	3/21/2019	FR
23499	L0004	CS - DR	30540	3/21/2018	3/21/2019	FR

[4] As discussed in Sec. IX (Pars. 144 and 145), Enbridge and EPA have identified a potential disagreement regarding interpretation of Subsection VII.D.(V) as applied to certain interacting or intersecting features addressed by Par. 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. The ITP's interpretation of these provisions is set forth in the Independent Third Party Verification Report dated September 24, 2018.

Table 23: Crack Features Requiring Excavation						
Dig ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23500	L0004	CS - DR	30770	3/21/2018	3/21/2019	FR
23501	L0004	CS - DR	30790	3/21/2018	3/21/2019	FR
23502	L0004	CS - DR	32380	3/21/2018	3/21/2019	FR
24317	L0004	DR - FW	29730	8/21/2018	7/31/2019	FR
24318	L0004	DR - FW	32790	8/21/2018	7/31/2019	FR
24319	L0004	DR - FW	33420	8/21/2018	7/31/2019	FR
23897	L0004	FW - WR	16340	5/8/2018	5/8/2019	FR
23898	L0004	FW - WR	19250	5/8/2018	5/8/2019	FR
23899	L0004	FW - WR	26600	5/8/2018	5/8/2019	11/17/2018
23901	L0004	FW - WR	28430	5/8/2018	5/8/2019	11/18/2018
23902	L0004	FW - WR	29000	5/8/2018	5/8/2019	11/17/2018
23852	L0004	GF - DN	47390	4/23/2018	4/18/2019	6/13/2018
23873	L0005	BC - RW	12760	5/1/2018	10/29/2018	8/13/2018
23727	L0005	IR - NO	30650	4/10/2018	4/10/2019	8/1/2018
23728	L0005	IR - NO	65420	4/10/2018	10/9/2018	8/6/2018
23018	L0005	PE - IR	127420	12/14/2017	6/12/2018	6/11/2018
23309	L0006A	PE - AM	1810	3/9/2018	9/5/2018	8/8/2018
23311	L0006A	PE - AM	7250	3/9/2018	9/5/2018	6/19/2018
23312	L0006A	PE - AM	13370	3/9/2018	9/5/2018	7/21/2018
23313	L0006A	PE - AM	14060	3/9/2018	9/5/2018	6/13/2018
23314	L0006A	PE - AM	14750	3/9/2018	9/5/2018	7/13/2018
23315	L0006A	PE - AM	32610	3/9/2018	9/5/2018	6/25/2018
23316	L0006A	PE - AM	64390	3/9/2018	3/4/2019	FR
23317	L0006A	PE - AM	64440	3/9/2018	3/4/2019	FR
23318	L0006A	PE - AM	64650	3/9/2018	3/4/2019	FR
23319	L0006A	PE - AM	65160	3/9/2018	3/4/2019	FR
23320	L0006A	PE - AM	65300	3/9/2018	3/4/2019	FR
23321	L0006A	PE - AM	65830	3/9/2018	3/4/2019	FR

Table 23: Crack Features Requiring Excavation						
Dig ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation**
23322	L0006A	PE - AM	68870	3/9/2018	3/4/2019	FR
23323	L0006A	PE - AM	91150	3/9/2018	9/5/2018	6/23/2018
23324	L0006A	PE - AM	102240	3/9/2018	9/5/2018	7/26/2018
23325	L0006A	PE - AM	104330	3/9/2018	9/5/2018	7/19/2018
23327	L0006A	PE - AM	105780	3/9/2018	3/4/2019	7/28/2018
23330	L0006A	PE - AM	148440	3/9/2018	9/5/2018	8/17/2018
23333	L0006A	PE - AM	154650	3/9/2018	9/5/2018	8/24/2018
23334	L0006A	PE - AM	164110	3/9/2018	9/5/2018	8/10/2018
23335	L0006A	PE - AM	167090	3/9/2018	9/5/2018	6/20/2018
23336	L0006A	PE - AM	169660	3/9/2018	9/5/2018	8/10/2018
23337	L0006A	PE - AM	170290	3/9/2018	9/5/2018	8/4/2018
23338	L0006A	PE - AM	173380	3/9/2018	9/5/2018	7/31/2018
23339	L0006A	PE - AM	173450	3/9/2018	9/5/2018	7/31/2018
23340	L0006A	PE - AM	173540	3/9/2018	9/5/2018	8/6/2018
23341	L0006A	PE - AM	173790	3/9/2018	9/5/2018	8/15/2018
23342	L0006A	PE - AM	174300	3/9/2018	9/5/2018	6/8/2018
23343	L0006A	PE - AM	193860	3/9/2018	9/5/2018	7/21/2018
23344	L0006A	PE - AM	194100	3/9/2018	9/5/2018	7/24/2018
23345	L0006A	PE - AM	216150	3/9/2018	9/5/2018	8/30/2018
23346	L0006A	PE - AM	219110	3/9/2018	9/5/2018	8/18/2018
23347	L0006A	PE - AM	219830	3/9/2018	9/5/2018	8/17/2018
23350	L0006A	PE - AM	257870	3/9/2018	9/5/2018	7/25/2018
23351	L0006A	PE - AM	262700	3/9/2018	9/5/2018	8/29/2018
23352	L0006A	PE - AM	283440	3/9/2018	9/5/2018	8/4/2018
23353	L0006A	PE - AM	295120	3/9/2018	9/5/2018	8/6/2018
23354	L0006A	PE - AM	299650	3/9/2018	9/5/2018	7/18/2018
23355	L0006A	PE - AM	322910	3/9/2018	9/5/2018	8/20/2018

As per the Lakehead System Integrity Program Logistics Exception process, Enbridge established PRs within the timeframes identified in Table 1 and specified in Paragraph 47 of the Consent Decree.

The following table lists the pressure restrictions imposed due to these criteria as applicable to this SAR.

Table 24: 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]
28067	L0005	BC - RW	12760	5/1/2018	10/29/2018	687	5/2/2018	8/13/2018	FR[2]
27978	L0005	IR - NO	65420	4/10/2018	10/9/2018	657	4/11/2018	8/6/2018	FR
27056	L0005	PE - IR	114300	12/14/2017	6/12/2018	616	12/18/2017	5/19/2018	6/26/2018
27057	L0005	PE - IR	127420	12/14/2017	6/12/2018	839	12/18/2017	6/11/2018	6/26/2018
27058	L0005	PE - IR	154730	12/14/2017	6/12/2018	654	12/18/2017	2/23/2018	6/26/2018
27059	L0005	PE - IR	195900	12/14/2017	6/12/2018	660	12/18/2017	5/22/2018	6/26/2018
27916	L0006A	PE - AM	1810	3/9/2018	9/5/2018	823	3/12/2018	8/8/2018	FR
27917	L0006A	PE - AM	7250	3/9/2018	9/5/2018	805	3/12/2018	6/19/2018	FR
27918	L0006A	PE - AM	13370	3/9/2018	9/5/2018	671	3/12/2018	7/21/2018	FR
27919	L0006A	PE - AM	14060	3/9/2018	9/5/2018	654	3/12/2018	6/13/2018	FR
27920	L0006A	PE - AM	14750	3/9/2018	9/5/2018	663	3/12/2018	7/13/2018	FR
27921	L0006A	PE - AM	32610	3/9/2018	9/5/2018	618	3/12/2018	6/25/2018	FR
27922	L0006A	PE - AM	64390	3/9/2018	3/4/2019	601	3/12/2018	FR	FR

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Table 24: 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]**
27923	L000 6A	PE - AM	64440	3/9/2018	3/4/2019	614	3/12/2018	FR	FR
27924	L000 6A	PE - AM	64650	3/9/2018	3/4/2019	597	3/12/2018	FR	FR
27925	L000 6A	PE - AM	65160	3/9/2018	3/4/2019	612	3/12/2018	FR	FR
27926	L000 6A	PE - AM	65300	3/9/2018	3/4/2019	611	3/12/2018	FR	FR
27927	L000 6A	PE - AM	65830	3/9/2018	3/4/2019	615	3/12/2018	FR	FR
27928	L000 6A	PE - AM	68870	3/9/2018	3/4/2019	586	3/12/2018	FR	FR
27929	L000 6A	PE - AM	91150	3/9/2018	9/5/2018	581	3/12/2018	6/23/2018	FR
27930	L000 6A	PE - AM	102240	3/9/2018	9/5/2018	557	3/12/2018	7/26/2018	FR
27931	L000 6A	PE - AM	104330	3/9/2018	9/5/2018	576	3/12/2018	7/19/2018	FR
27932	L000 6A	PE - AM	148440	3/9/2018	9/5/2018	595	3/12/2018	8/17/2018	FR
27933	L000 6A	PE - AM	154650	3/9/2018	9/5/2018	598	3/12/2018	8/24/2018	FR
27934	L000 6A	PE - AM	164110	3/9/2018	9/5/2018	613	3/12/2018	8/10/2018	FR
27935	L000 6A	PE - AM	167090	3/9/2018	9/5/2018	616	3/12/2018	6/20/2018	FR
27936	L000 6A	PE - AM	169660	3/9/2018	9/5/2018	618	3/12/2018	8/10/2018	FR
27937	L000 6A	PE - AM	170290	3/9/2018	9/5/2018	568	3/12/2018	8/4/2018	FR

ENBRIDGE

Table 24: 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]**
27938	L000 6A	PE - AM	173380	3/9/2018	9/5/2018	609	3/12/2018	7/31/2018	FR
27939	L000 6A	PE - AM	173450	3/9/2018	9/5/2018	582	3/12/2018	7/31/2018	FR
27940	L000 6A	PE - AM	173540	3/9/2018	9/5/2018	588	3/12/2018	8/6/2018	FR
27941	L000 6A	PE - AM	173790	3/9/2018	9/5/2018	602	3/12/2018	8/15/2018	FR
27942	L000 6A	PE - AM	174300	3/9/2018	9/5/2018	605	3/12/2018	6/8/2018	FR
27943	L000 6A	PE - AM	193860	3/9/2018	9/5/2018	578	3/12/2018	7/21/2018	FR
27944	L000 6A	PE - AM	194100	3/9/2018	9/5/2018	597	3/12/2018	7/24/2018	FR
27945	L000 6A	PE - AM	216150	3/9/2018	9/5/2018	605	3/12/2018	8/30/2018	FR
27946	L000 6A	PE - AM	219110	3/9/2018	9/5/2018	614	3/12/2018	8/18/2018	FR
27947	L000 6A	PE - AM	219830	3/9/2018	9/5/2018	618	3/12/2018	8/17/2018	FR
27948	L000 6A	PE - AM	257870	3/9/2018	9/5/2018	600	3/12/2018	7/25/2018	FR
27949	L000 6A	PE - AM	262700	3/9/2018	9/5/2018	609	3/12/2018	8/29/2018	FR
27950	L000 6A	PE - AM	283440	3/9/2018	9/5/2018	600	3/12/2018	8/4/2018	FR
27951	L000 6A	PE - AM	295120	3/9/2018	9/5/2018	614	3/12/2018	8/6/2018	FR
27952	L000 6A	PE - AM	299650	3/9/2018	9/5/2018	607	3/12/2018	7/18/2018	FR

Table 24: 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]**
27953	L000 6A	PE - AM	322910	3/9/2018	9/5/2018	616	3/12/2018	8/20/2018	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.

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, as outlined in the Lakehead System Integrity Remediation process.

49 [Dig Timeline Extensions]

During this reporting period, Enbridge extended the dig deadline from 180 days to 365 days for seven (7) crack features on Line 6A Superior to Adams (PE-AM). As indicated in SAR2, Enbridge Pipeline Integrity (PI) received a request from the project execution team on May 16, 2018 to extend the integrity dig deadlines from September 2018 to March 2019 in order to reduce adverse environmental impacts by allowing digs to occur in the winter. These seven digs with Upstream Girth Weld number of 64390, 64440, 64650, 65160, 65300, 65830, and 68870 are all located in a Chittamo, Wisconsin wetland, which is mapped in the Wisconsin Wetland Inventory ("WWI"). Winter construction is advantageous since the wetland ground disturbance will be reduced in the winter timeframe.

PI followed Paragraph 49.c.(1) requirements when evaluating the request, recalculated the Burst Pressure of these features and determined that the existing Discharge Pressure Restriction ("DPR") has been limiting the maximum operating pressure at the feature locations lower than the required Point Pressure Restrictions (PPR). The deadline extension to March 2019 was approved on June 25, 2018.

Table 25: Dig Deadline Extension Table									
Dig ID	**Line**	**Segment**	**Girth weld**	**Date of Discovery**	**Status**	**Original Excavation Deadline**	**Extended Excavation Deadline**	**Reason for Extension**	**Extension Approval**
23316	L0006A	PE - AM	64390	3/9/2018	Active	9/5/2018	3/4/2019	Wetland impact	6/25/2018
23317	L0006A	PE - AM	64440	3/9/2018	Active	9/5/2018	3/4/2019	Wetland impact	6/25/2018
23318	L0006A	PE - AM	64650	3/9/2018	Active	9/5/2018	3/4/2019	Wetland impact	6/25/2018
23319	L0006A	PE - AM	65160	3/9/2018	Active	9/5/2018	3/4/2019	Wetland impact	6/25/2018
23320	L0006A	PE - AM	65300	3/9/2018	Active	9/5/2018	3/4/2019	Wetland impact	6/25/2018
23321	L0006A	PE - AM	65830	3/9/2018	Active	9/5/2018	3/4/2019	Wetland impact	6/25/2018
23322	L0006A	PE - AM	68870	3/9/2018	Active	9/5/2018	3/4/2019	Wetland impact	6/25/2018

50 [Corrosion Features]

Enbridge has set schedules for the excavation and repair or mitigation of each Corrosion feature that meets one (or more) of the Dig Selection Criteria set forth in Table 2 of the Consent Decree, in accordance with the timeframes specified in column 2 of Table 2 for corrosion features located in any HCA, and the timeframes specified in column 3 of Table 2 for corrosion features not located within an HCA. The following table summarizes the segments containing each Corrosion feature that meets the above criteria.

Table 26: Corrosion Features Requiring Excavation						
Dig ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation[1]**
23274	L0002	GF - CR	11030	3/1/2018	3/1/2019	6/15/2018
23275	L0002	GF - CR	62790	3/1/2018	3/1/2019	10/20/2018
23276	L0002	GF - CR	66850	3/1/2018	3/1/2019	11/13/2018
23280	L0002	GF - CR	177030	3/1/2018	3/1/2019	9/29/2018
23402	L0003	GF - CR	42500	3/19/2018	9/17/2018	6/8/2018
23403	L0003	GF - CR	49840	3/19/2018	3/19/2019	6/12/2018
23404	L0003	GF - CR	129350	3/19/2018	9/17/2018	8/15/2018
23405	L0003	GF - CR	130610	3/19/2018	9/17/2018	8/15/2018

Table 26: Corrosion Features Requiring Excavation						
Dig ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation[1]**
24520	L0003	GF - CR	152910	10/30/2018	11/29/2018	FR
24522	L0003	GF - CR	183800	10/30/2018	4/29/2019	FR
24523	L0003	GF - CR	186530	10/30/2018	10/30/2019	FR
24057	L0004	DN - VG	36900	6/12/2018	6/12/2019	8/14/2018
24058	L0004	DN - VG	38290	6/12/2018	6/12/2019	8/30/2018
24059	L0004	DN - VG	39450	6/12/2018	6/12/2019	9/6/2018
24061	L0004	DN - VG	45430	6/12/2018	6/12/2019	9/18/2018
23510	L0004	FW - WR	25700	3/22/2018	3/22/2019	10/25/2018
23505	L0004	GF - DN	48150	3/22/2018	3/22/2019	6/21/2018
23507	L0004	GF - DN	54670	3/22/2018	3/22/2019	8/27/2018
23508	L0004	GF - DN	54690	3/22/2018	3/22/2019	8/30/2018
24081	L0004	PL - CR	4240	6/25/2018	6/25/2019	8/25/2018
24064	L0004	VG - PL	35390	6/18/2018	6/18/2019	8/24/2018
24065	L0004	VG - PL	36190	6/18/2018	6/18/2019	9/10/2018
24066	L0004	VG - PL	39700	6/18/2018	12/15/2018	9/22/2018
23045	L0005	BC - RW	10	12/18/2017	12/13/2018	9/20/2018
23046	L0005	BC - RW	610	12/18/2017	6/18/2018	6/14/2018
23047	L0005	BC - RW	4070	12/18/2017	12/18/2018	6/28/2018
23049	L0005	BC - RW	13220	12/18/2017	6/18/2018	6/11/2018
23051	L0005	BC - RW	26290	12/18/2017	12/18/2018	8/23/2018
23054	L0005	BC - RW	56740	12/18/2017	6/18/2018	6/1/2018
23055	L0005	BC - RW	63420	12/18/2017	12/18/2018	8/28/2018
23979	L0005	MA - BC	10010	5/17/2018	5/17/2019	8/16/2018
23980	L0005	MA - BC	33700	5/17/2018	5/17/2019	8/6/2018
23981	L0005	MA - BC	91290	5/17/2018	5/17/2019	8/11/2018
23982	L0005	MA - BC	95630	5/17/2018	11/13/2018	9/10/2018
23983	L0005	MA - BC	138790	5/17/2018	5/17/2019	8/15/2018
23672	L0006A	AM - GT	8370	4/9/2018	4/9/2019	9/22/2018
23673	L0006A	AM - GT	20580	4/9/2018	4/9/2019	8/15/2018

Table 26: Corrosion Features Requiring Excavation						
Dig ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation[1]**
23676	L0006A	AM - GT	77030	4/9/2018	4/9/2019	8/10/2018
23677	L0006A	AM - GT	89180	4/9/2018	4/9/2019	FR
23678	L0006A	AM - GT	99630	4/9/2018	4/9/2019	8/24/2018
23679	L0006A	AM - GT	100680	4/9/2018	4/9/2019	8/28/2018
23680	L0006A	AM - GT	106240	4/9/2018	4/9/2019	8/23/2018
23682	L0006A	AM - GT	111040	4/9/2018	4/9/2019	8/28/2018
23683	L0006A	AM - GT	112090	4/9/2018	4/9/2019	9/19/2018
23685	L0006A	AM - GT	130890	4/9/2018	4/9/2019	9/21/2018
23686	L0006A	AM - GT	136750	4/9/2018	4/9/2019	FR
23687	L0006A	AM - GT	140880	4/9/2018	4/9/2019	8/1/2018
23688	L0006A	AM - GT	147990	4/9/2018	4/9/2019	9/25/2018
23689	L0006A	AM - GT	148420	4/9/2018	4/9/2019	9/29/2018
23690	L0006A	AM - GT	151570	4/9/2018	4/9/2019	9/17/2018
23691	L0006A	AM - GT	153530	4/9/2018	10/9/2018	9/20/2018
23692	L0006A	AM - GT	157490	4/9/2018	4/9/2019	10/2/2018
23694	L0006A	AM - GT	163690	4/9/2018	4/9/2019	10/9/2018
23695	L0006A	AM - GT	165800	4/9/2018	4/9/2019	9/20/2018
23696	L0006A	AM - GT	178150	4/9/2018	4/9/2019	6/14/2018
23697	L0006A	AM - GT	198680	4/9/2018	10/9/2018	6/26/2018
23699	L0006A	AM - GT	206940	4/9/2018	4/9/2019	6/22/2018
23700	L0006A	AM - GT	207050	4/9/2018	4/9/2019	6/25/2018
23701	L0006A	AM - GT	241040	4/9/2018	4/9/2019	FR
23702	L0006A	AM - GT	243240	4/9/2018	4/9/2019	FR
23703	L0006A	AM - GT	255130	4/9/2018	4/9/2019	FR
23704	L0006A	AM - GT	257720	4/9/2018	10/9/2018	10/4/2018
23705	L0006A	AM - GT	261430	4/9/2018	10/9/2018	10/5/2018
23706	L0006A	AM - GT	273260	4/9/2018	10/9/2018	8/24/2018
23707	L0006A	AM - GT	273330	4/9/2018	10/9/2018	8/27/2018
23708	L0006A	AM - GT	274200	4/9/2018	10/9/2018	9/11/2018

Table 26: Corrosion Features Requiring Excavation						
Dig ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation[1]**
23709	L0006A	AM - GT	274947	4/9/2018	4/9/2019	FR
23710	L0006A	AM - GT	277560	4/9/2018	10/9/2018	9/17/2018
23711	L0006A	AM - GT	279270	4/9/2018	10/9/2018	8/18/2018
23712	L0006A	AM - GT	279280	4/9/2018	10/9/2018	8/18/2018
23713	L0006A	AM - GT	286210	4/9/2018	4/9/2019	FR
23716	L0006A	AM - GT	288040	4/9/2018	10/9/2018	8/6/2018
23717	L0006A	AM - GT	288150	4/9/2018	4/9/2019	7/12/2018
23718	L0006A	AM - GT	288710	4/9/2018	4/9/2019	9/8/2018
23719	L0006A	AM - GT	289390	4/9/2018	4/9/2019	9/6/2018
23720	L0006A	AM - GT	295160	4/9/2018	4/9/2019	10/16/2018
23721	L0006A	AM - GT	298130	4/9/2018	10/9/2018	9/26/2018
23723	L0006A	AM - GT	299890	4/9/2018	4/9/2019	8/22/2018
23724	L0006A	AM - GT	304370	4/9/2018	4/9/2019	FR
23931	L0006A	AM - GT	79740	5/11/2018	5/13/2019	FR
23932	L0006A	AM - GT	81970	5/11/2018	5/13/2019	11/3/2018
23933	L0006A	AM - GT	83110	5/11/2018	5/13/2019	10/29/2018
23934	L0006A	AM - GT	112360	5/11/2018	5/13/2019	9/22/2018
23935	L0006A	AM - GT	129350	5/11/2018	5/13/2019	10/8/2018
23936	L0006A	AM - GT	129910	5/11/2018	5/13/2019	9/30/2018
23937	L0006A	AM - GT	191340	5/11/2018	11/7/2018	6/20/2018
23938	L0006A	AM - GT	203070	5/11/2018	11/7/2018	11/3/2018
23939	L0006A	AM - GT	255160	5/11/2018	11/7/2018	11/7/2018
23940	L0006A	AM - GT	255760	5/11/2018	11/7/2018	10/29/2018
23941	L0006A	AM - GT	256490	5/11/2018	7/17/2020	FR
23942	L0006A	AM - GT	257370	5/11/2018	11/7/2018	8/25/2018
23943	L0006A	AM - GT	268130	5/11/2018	11/7/2018	9/6/2018
23945	L0006A	AM - GT	290170	5/11/2018	11/7/2018	7/18/2018
23946	L0006A	AM - GT	300010	5/11/2018	11/7/2018	8/21/2018
23947	L0006A	AM - GT	300310	5/11/2018	11/7/2018	8/14/2018

Table 26: Corrosion Features Requiring Excavation						
Dig ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation[1]**
23948	L0006A	AM - GT	303870	5/11/2018	11/7/2018	11/7/2018
23949	L0006A	AM - GT	305530	5/11/2018	11/7/2018	11/6/2018
24027	L0006A	AM - GT	294380	5/29/2018	11/26/2018	11/16/2018
24095	L0006A	AM - GT	72030	7/6/2018	7/8/2019	11/13/2018
24096	L0006A	AM - GT	86600	7/6/2018	7/8/2019	FR
24097	L0006A	AM - GT	87890	7/6/2018	7/8/2019	FR
24098	L0006A	AM - GT	226360	7/6/2018	1/2/2019	FR
24099	L0006A	AM - GT	255100	7/6/2018	1/2/2019	FR
24100	L0006A	AM - GT	265390	7/5/2018	7/5/2019	10/27/2018
24101	L0006A	AM - GT	266590	7/6/2018	1/2/2019	10/16/2018
24102	L0006A	AM - GT	288100	7/5/2018	7/5/2019	8/7/2018
24103	L0006A	AM - GT	295880	7/6/2018	1/2/2019	10/22/2018
24104	L0006A	AM - GT	299220	7/6/2018	1/2/2019	FR
24105	L0006A	AM - GT	304990	7/6/2018	1/2/2019	FR
24106	L0006A	AM - GT	329780	7/5/2018	1/2/2019	FR
23175	L0006A	PE - AM	1050	2/5/2018	2/5/2019	6/16/2018
23176	L0006A	PE - AM	20060	2/5/2018	2/5/2019	6/13/2018
23178	L0006A	PE - AM	24530	2/5/2018	2/5/2019	10/1/2018
23179	L0006A	PE - AM	45350	2/5/2018	2/5/2019	FR
23182	L0006A	PE - AM	95470	2/5/2018	2/5/2019	6/27/2018
23183	L0006A	PE - AM	109130	2/5/2018	2/5/2019	8/3/2018
23184	L0006A	PE - AM	117210	2/5/2018	2/5/2019	FR
23186	L0006A	PE - AM	142960	2/5/2018	8/6/2018	7/24/2018
23187	L0006A	PE - AM	148400	2/5/2018	2/5/2019	8/13/2018
23188	L0006A	PE - AM	155370	2/5/2018	2/5/2019	8/15/2018
23189	L0006A	PE - AM	157390	2/5/2018	2/5/2019	6/28/2018
23190	L0006A	PE - AM	165720	2/5/2018	2/5/2019	6/22/2018
23191	L0006A	PE - AM	178590	2/5/2018	2/5/2019	9/14/2018
23192	L0006A	PE - AM	186710	2/5/2018	2/5/2019	FR

Table 26: Corrosion Features Requiring Excavation						
Dig ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation[1]**
23195	L0006A	PE - AM	216510	2/5/2018	2/5/2019	8/28/2018
23196	L0006A	PE - AM	218410	2/5/2018	2/5/2019	7/12/2018
23197	L0006A	PE - AM	221970	2/5/2018	2/5/2019	9/18/2018
23198	L0006A	PE - AM	223520	2/5/2018	2/5/2019	9/17/2018
23199	L0006A	PE - AM	226760	2/5/2018	2/5/2019	7/10/2018
23200	L0006A	PE - AM	226790	2/5/2018	2/5/2019	7/10/2018
23201	L0006A	PE - AM	227710	2/5/2018	2/5/2019	9/13/2018
23202	L0006A	PE - AM	230360	2/5/2018	2/5/2019	8/22/2018
23204	L0006A	PE - AM	235290	2/5/2018	2/5/2019	11/8/2018
23205	L0006A	PE - AM	236100	2/5/2018	2/5/2019	11/1/2018
23206	L0006A	PE - AM	237970	2/5/2018	2/5/2019	10/25/2018
23207	L0006A	PE - AM	240960	2/5/2018	2/5/2019	9/17/2018
23208	L0006A	PE - AM	244040	2/5/2018	2/5/2019	8/18/2018
23209	L0006A	PE - AM	244050	2/5/2018	2/5/2019	8/20/2018
23210	L0006A	PE - AM	244490	2/5/2018	2/5/2019	8/13/2018
23211	L0006A	PE - AM	249090	2/5/2018	2/5/2019	FR
23212	L0006A	PE - AM	250760	2/5/2018	2/5/2019	9/22/2018
23213	L0006A	PE - AM	252450	2/5/2018	2/5/2019	9/24/2018
23214	L0006A	PE - AM	253910	2/5/2018	2/5/2019	10/1/2018
23215	L0006A	PE - AM	255750	2/5/2018	2/5/2019	9/17/2018
23216	L0006A	PE - AM	257200	2/5/2018	2/5/2019	7/21/2018
23218	L0006A	PE - AM	271270	2/5/2018	2/5/2019	8/1/2018
23221	L0006A	PE - AM	301610	2/5/2018	2/5/2019	9/27/2018
24499	L0010	ENR - UT	18080	10/22/2018	4/22/2019	FR
24500	L0010	ENR - UT	21460	10/22/2018	4/22/2019	FR
24550	L0010	ENR - UT	10860	11/7/2018	5/6/2019	FR
24285	L0067	GF - CR	78130	8/3/2018	8/5/2019	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.*

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 Consent Decree.[5] For more information about these interacting features, see Paragraph 59 in this SAR. These features are not included in the above table.

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, as outlined in the Lakehead System Integrity Remediation process.

52 [Corrosion Feature Pressure Restrictions]

As per the Lakehead System Integrity Program Logistics Exception process, Enbridge established PRs within the timeframes identified in 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 feature had a depth greater than 80 percent of the wall thickness of the joint where the feature is located, or within 2 days after determining that any feature had a RPR less than 1.00 or a Predicted Burst Pressure that is less than 1.39 x MOP).

The following table 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 weekend or United States Federal holiday, the imposition deadlines was moved to the following business day in accordance with Definition (Par. 10.m) of the Consent Decree.

Table 27: Corrosion Feature Pressure Restrictions

PR ID	Line	Seg-ment	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]
28124	L0004	DN - VG	39450	6/12/2018	6/12/2019	615	6/8/2018	9/6/2018	FR

[5] As discussed in the preceding footnote, Enbridge and EPA have identified a potential disagreement regarding interpretation of Subsection VII.D.(V) as applied to certain interacting or intersecting features addressed by Par. 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.

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Table 27: Corrosion Feature Pressure Restrictions									
PR ID	**Line**	**Seg-ment**	**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]**
27954	L0004	FW - WR	25700	3/22/2018	3/22/2019	602	3/23/2018	10/25/2018	FR
27955	L0004	GF - DN	48150	3/22/2018	3/22/2019	630	3/23/2018	6/21/2018	FR
27060	L0005	BC - RW	610	12/18/2017	6/18/2018	770	12/19/2017	6/14/2018	6/26/2018
27061	L0005	BC - RW	9500	12/18/2017	6/18/2018	646	12/19/2017	5/18/2018	6/26/2018
27062	L0005	BC - RW	13220	12/18/2017	6/18/2018	731	12/19/2017	6/11/2018	FR
27063	L0005	BC - RW	22170	12/18/2017	6/18/2018	770	12/19/2017	5/22/2018	6/26/2018
27064	L0005	BC - RW	26290	12/18/2017	12/18/2018	680	12/19/2017	8/23/2018	FR
27065	L0005	BC - RW	37600	12/18/2017	6/18/2018	701	12/19/2017	5/17/2018	6/26/2018
27066	L0005	BC - RW	56740	12/18/2017	6/18/2018	701	12/19/2017	6/1/2018	6/26/2018
27067	L0005	BC - RW	63420	12/18/2017	12/18/2018	617	12/19/2017	8/28/2018	FR
27024	L0005	PE - IR	242570	10/27/2017	4/25/2018	696	10/30/2017	3/2/2018	FR
27956	L0006A	AM - GT	72020	4/9/2018	4/9/2019	599	4/10/2018	5/22/2018	FR
27957	L0006A	AM - GT	89180	4/9/2018	4/9/2019	599	4/10/2018	FR	FR
27958	L0006A	AM - GT	99630	4/9/2018	4/9/2019	596	4/10/2018	8/24/2018	FR
27959	L0006A	AM - GT	100680	4/9/2018	4/9/2019	601	4/10/2018	8/28/2018	FR

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Table 27: Corrosion Feature Pressure Restrictions									
PR ID	**Line**	**Seg-ment**	**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]**
27960	L000 6A	AM - GT	111040	4/9/2018	4/9/2019	614	4/10/2018	8/28/2018	FR
27961	L000 6A	AM - GT	130890	4/9/2018	4/9/2019	610	4/10/2018	9/21/2018	FR
27962	L000 6A	AM - GT	151570	4/9/2018	4/9/2019	614	4/10/2018	9/17/2018	FR
27963	L000 6A	AM - GT	153530	4/9/2018	10/9/2018	595	4/10/2018	9/20/2018	FR
27964	L000 6A	AM - GT	157490	4/9/2018	4/9/2019	596	4/10/2018	10/2/2018	FR
27965	L000 6A	AM - GT	163690	4/9/2018	4/9/2019	605	4/10/2018	10/9/2018	FR
27966	L000 6A	AM - GT	165800	4/9/2018	4/9/2019	588	4/10/2018	9/20/2018	FR
27967	L000 6A	AM - GT	198680	4/9/2018	10/9/2018	614	4/10/2018	6/26/2018	FR
27968	L000 6A	AM - GT	257720	4/9/2018	10/9/2018	601	4/10/2018	10/4/2018	FR
27969	L000 6A	AM - GT	261430	4/9/2018	10/9/2018	607	4/10/2018	10/5/2018	FR
27970	L000 6A	AM - GT	273260	4/9/2018	10/9/2018	610	4/10/2018	8/24/2018	FR
27971	L000 6A	AM - GT	273330	4/9/2018	10/9/2018	602	4/10/2018	8/27/2018	FR
27972	L000 6A	AM - GT	274200	4/9/2018	10/9/2018	617	4/10/2018	9/11/2018	FR
27973	L000 6A	AM - GT	277560	4/9/2018	10/9/2018	614	4/10/2018	9/17/2018	FR
27974	L000 6A	AM - GT	279270	4/9/2018	10/9/2018	583	4/10/2018	8/18/2018	FR

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Table 27: Corrosion Feature Pressure Restrictions									
PR ID	**Line**	**Seg-ment**	**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]**
27975	L000 6A	AM - GT	279280	4/9/2018	10/9/2018	588	4/10/2018	8/18/2018	FR
27976	L000 6A	AM - GT	288040	4/9/2018	10/9/2018	612	4/10/2018	8/6/2018	FR
28088	L000 6A	AM - GT	81970	5/11/2018	5/13/2019	610	5/15/2018	11/3/2018	FR
28089	L000 6A	AM - GT	83110	5/11/2018	5/13/2019	611	5/15/2018	10/29/2018	FR
28090	L000 6A	AM - GT	112360	5/11/2018	5/13/2019	610	5/15/2018	9/22/2018	FR
28091	L000 6A	AM - GT	129350	5/11/2018	5/13/2019	614	5/15/2018	10/8/2018	FR
28092	L000 6A	AM - GT	129910	5/11/2018	5/13/2019	609	5/15/2018	9/30/2018	FR
28093	L000 6A	AM - GT	300010	5/11/2018	11/7/2018	584	5/15/2018	8/21/2018	FR
28094	L000 6A	AM - GT	300310	5/11/2018	11/7/2018	607	5/15/2018	8/14/2018	FR
28095	L000 6A	AM - GT	303870	5/11/2018	11/7/2018	576	5/15/2018	11/9/2018	FR
28130	L000 6A	AM - GT	72030	7/6/2018	7/8/2019	605	7/6/2018	11/13/2018	FR
28131	L000 6A	AM - GT	86600	7/6/2018	7/8/2019	617	7/6/2018	FR	FR
28132	L000 6A	AM - GT	87890	7/6/2018	7/8/2019	617	7/6/2018	FR	FR
28133	L000 6A	AM - GT	226360	7/6/2018	1/2/2019	615	7/6/2018	FR	FR
28134	L000 6A	AM - GT	255100	7/6/2018	1/2/2019	613	7/6/2018	FR	FR

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Table 27: Corrosion Feature Pressure Restrictions									
PR ID	**Line**	**Seg-ment**	**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]**
28135	L000 6A	AM - GT	266590	7/6/2018	1/2/2019	614	7/6/2018	10/16/2018	FR
28136	L000 6A	AM - GT	295880	7/6/2018	1/2/2019	616	7/6/2018	10/22/2018	FR
28137	L000 6A	AM - GT	299220	7/6/2018	1/2/2019	616	7/6/2018	FR	FR
28138	L000 6A	AM - GT	304990	7/6/2018	1/2/2019	617	7/6/2018	11/20/2018	FR
27828	L000 6A	PE - AM	24530	2/5/2018	2/5/2019	604	2/7/2018	10/1/2018	FR
27829	L000 6A	PE - AM	63000	2/5/2018	2/5/2019	615	2/7/2018	3/3/2018	FR
27830	L000 6A	PE - AM	117210	2/5/2018	2/5/2019	596	2/7/2018	FR	FR
27831	L000 6A	PE - AM	135390	2/5/2018	2/5/2019	616	2/7/2018	2/24/2018	FR
27832	L000 6A	PE - AM	142960	2/5/2018	8/6/2018	595	2/7/2018	7/24/2018	FR
27833	L000 6A	PE - AM	148400	2/5/2018	2/5/2019	614	2/7/2018	8/13/2018	FR
27834	L000 6A	PE - AM	216510	2/5/2018	2/5/2019	615	2/7/2018	8/28/2018	FR
27835	L000 6A	PE - AM	223520	2/5/2018	2/5/2019	616	2/7/2018	9/17/2018	FR
27836	L000 6A	PE - AM	226760	2/5/2018	2/5/2019	609	2/7/2018	7/10/2018	FR
27837	L000 6A	PE - AM	226790	2/5/2018	2/5/2019	609	2/7/2018	7/10/2018	FR
27838	L000 6A	PE - AM	230360	2/5/2018	2/5/2019	609	2/7/2018	8/22/2018	FR

Table 27: Corrosion Feature Pressure Restrictions									
PR ID	**Line**	**Seg-ment**	**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]**
27839	L000 6A	PE - AM	233390	2/5/2018	2/5/2019	599	2/7/2018	2/28/2018	6/5/2018
27840	L000 6A	PE - AM	236100	2/5/2018	2/5/2019	606	2/7/2018	11/1/2018	FR
27841	L000 6A	PE - AM	271270	2/5/2018	2/5/2019	603	2/7/2018	8/1/2018	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.

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 the table below.

Table 28: Dig Selection Criteria 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]**
24521	L0003	GF - CR	161860	10/30/2018	4/29/2019	FR
23077	L0005	PE - IR	20520	12/26/2017	12/26/2018	7/14/2018
23078	L0005	PE - IR	33020	12/26/2017	12/26/2018	8/24/2018
23079	L0005	PE - IR	81930	12/26/2017	6/25/2018	6/14/2018
23080	L0005	PE - IR	116480	12/26/2017	6/25/2018	6/22/2018

Table 28: Dig Selection Criteria 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]**
23081	L0005	PE - IR	116930	12/26/2017	6/25/2018	6/23/2018
23082	L0005	PE - IR	148130	12/26/2017	6/25/2018	6/19/2018
23084	L0005	PE - IR	230050	12/26/2017	6/25/2018	6/23/2018
23085	L0005	PE - IR	245260	12/26/2017	6/25/2018	6/22/2018

TABLE NOTES:

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

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

During this reporting period, PRs required as a result of Axial Slotting, Axial Grooving, Selective Seam Corrosion features and Seam Weld anomaly A/B features were imposed, as identified in Table 28 below, in accordance with Table 3 of the Consent Decree.

Table 29: 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 (specified in Tables 1 to 5 of the Consent Decree)**	**PPR Set (psi)**	**PPR Imposition Date**	**Repair / Mitigation Date**	**PPR Removal Date[1]**
27097	L0005	PE - IR	81930	12/26/2017	6/25/2018	694	12/27/2017	6/14/2018	6/26/2018
27098	L0005	PE - IR	116930	12/26/2017	6/25/2018	677	12/27/2017	6/23/2018	FR[2]
27099	L0005	PE - IR	230050	12/26/2017	6/25/2018	654	12/27/2017	6/23/2018	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.*

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

As outlined in the Lakehead System Remediation Exceptions process and documented in the ILI Assessment Sheets, Enbridge will excavate and repair or mitigate each dent that met one or more of the Dig Selection Criteria set forth in Table 4 of the Consent Decree, and establish pressure restrictions for identified interacting dents as provided in Paragraph 57. Enbridge will meet with 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 for features not located within an HCA.

56 [Dent Mitigation Timelines]

As outlined in the Lakehead System Remediation Exceptions process and documented in the ILI Assessment Sheets, Enbridge procedures provide that Enbridge will determine the deadline of a dent feature repair or mitigation as the shortest deadline. The same process provides that Enbridge will establish the lowest operating pressure at the location of the feature that was subject to more than one pressure restriction.

As discussed in SAR2 Paragraph 37, three Line 6A dents were placed on the Dig List 4 days late. Their repair/mitigation deadlines, however, were determined to be the 365 days after the date by when they should have been discovered (April 17, 2018). Enbridge completed repair/mitigation of these features before their repair / mitigation deadline as shown in the table below.

Table 30: Dent Mitigation Timelines

Dig ID	Line	Segment	Girth Weld	Date of Discovery / Feature Added to Dig List	Repair / Mitigation Deadline	Date of Repair / Mitigation[1]
24576	L0001	CR - PW	54200	11/16/2018	11/18/2019	FR
24578	L0001	CR - PW	111730	11/16/2018	11/18/2019	FR
24581	L0001	CR - PW	202380	11/16/2018	11/18/2019	FR
24584	L0001	CR - PW	204600	11/16/2018	11/18/2019	FR
24585	L0001	CR - PW	208770	11/16/2018	11/18/2019	FR
24586	L0001	CR - PW	213040	11/16/2018	11/18/2019	FR
24587	L0001	CR - PW	214610	11/16/2018	11/18/2019	FR
24589	L0001	CR - PW	239090	11/16/2018	11/18/2019	FR
23120	L0002	GF - CR	20820	1/18/2018	1/18/2019	7/14/2018
24030	L0005	ENO - EMA	3570	5/31/2018	7/30/2018	7/11/2018
24029	L0005	WNO - WMA	3540	5/31/2018	7/30/2018	7/23/2018
23844	L0006A	AM - GT	57390	4/20/2018	4/17/2019	9/12/2018
23845	L0006A	AM - GT	86020	4/20/2018	4/17/2019	9/17/2018

Table 30: Dent Mitigation Timelines						
Dig ID	**Line**	**Segment**	**Girth Weld**	**Date of Discovery / Feature Added to Dig List**	**Repair / Mitigation Deadline**	**Date of Repair / Mitigation[1]**
23846	L0006A	AM - GT	115870	4/20/2018	4/17/2019	9/24/2018

TABLE NOTE:

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

57 [Dent Feature Pressure Restrictions]

There were no dent features requiring PRs during the reporting period of this SAR.

As outlined in the Lakehead System Remediation Exceptions process and documented in the ILI Assessment Sheets, Enbridge procedures provide that Enbridge will establish PRs for interacting dents within the timeframes identified in Paragraph 57 of the Consent Decree:

a) Within 2 days after determining that any dent feature had a depth greater than 6 percent of nominal pipeline diameter (i.e. whether the dent was located on the top or bottom of the pipeline), Enbridge limited the operating pressure at the location of the dent to not more than 80 percent of the highest actual operating pressure at that location during the last 60 days.

b) After identifying any dent features located on the top of the pipeline that had a depth that was greater than or equal to 3 percent of the nominal diameter of the pipeline; in the case of a pipeline with a nominal diameter greater than or equal to 12 inches, or 0.250 inches; in the case of any pipeline with a nominal diameter less than 12 inches; Enbridge limited the operating pressure at the location of the feature to not more than 80 percent of the highest actual operating pressure at that location during the last 60 days if the feature was not repaired or mitigated within the applicable timeframe specified in Table 4 of the Consent Decree.

Table 31: Dent 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 / Mitiga-tion Date**	**PPR Re-moval Date**
27979	L0005	ENO - EMA	3570	5/31/2018	7/30/2018	380	4/13/2018	7/11/2018	7/30/2018
27980	L0005	WNO - WMA	3540	5/31/2018	7/30/2018	380	4/13/2018	7/23/2018	7/30/2018

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.[6] 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 and in the discussion of Paragraphs 144-45 of Section IX.

The following table lists the intersecting/interacting features that were identified for excavation.

[6] As discussed above, Enbridge and EPA have identified a potential disagreement regarding interpretation of Subsection VII.D.(V) as applied to certain interacting or intersecting features addressed by Pars. 58, 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.

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Table 32: 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]**
23254	L0004	CR - CS	32820	UTWM	1/24/2018	1/25/2018	2/15/2018	2/15/2019	2013 NDT UCMUTCD	FR
23255	L0004	CR - CS	39160	UTWM	1/24/2018	1/25/2018	2/15/2018	2/15/2019	2013 NDT UCMUTCD	FR
24269	L0004	DR - FW	29630	UTCD	6/26/2018	6/28/2018	7/31/2018	7/31/2019	2018 NDT UCMUTWM	FR
24270	L0004	DR - FW	29670	UTCD	6/26/2018	6/28/2018	7/31/2018	7/31/2019	2018 NDT UCMUTWM	FR
24271	L0004	DR - FW	30600	UTCD	6/26/2018	6/28/2018	7/31/2018	7/31/2019	2018 NDT UCMUTWM	FR
24272	L0004	DR - FW	31080	UTCD	6/26/2018	6/28/2018	7/31/2018	7/31/2019	2018 NDT UCMUTWM	11/17/2018
24273	L0004	DR - FW	32780	UTCD	6/26/2018	6/28/2018	7/31/2018	1/28/2019	2018 NDT UCMUTWM	FR
24274	L0004	DR - FW	33340	UTCD	6/26/2018	6/28/2018	7/31/2018	7/31/2019	2018 NDT UCMUTWM	FR
24275	L0004	DR - FW	34160	UTCD	6/26/2018	6/28/2018	7/31/2018	7/31/2019	2018 NDT UCMUTWM	11/5/2018
24276	L0004	DR - FW	36000	UTCD	6/26/2018	6/28/2018	7/31/2018	7/31/2019	2018 NDT UCMUTWM	10/16/2018
24244	L0004	VG - PL	37520	UTCD	6/12/2018	6/13/2018	7/17/2018	1/14/2019	2018 NDT UCMUTWM	10/29/2018

Table 32: 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]**
23019	L0005	PE - IR	152550	UTCD	11/16/2017	11/16/2017	12/14/2017	12/14/2018	2017 USWM+	7/23/2018
23944	L0006A	AM - GT	288420	MFL	4/6/2018	4/9/2018	5/11/2018	5/13/2019	2017 DUO CD	9/25/2018

TABLE NOTE:

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

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59 [Pressure Restrictions for Interacting Features]

Except as 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.[7] 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. 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 80 percent of the highest actual operating pressure at the location of the feature over the last 60 days.

Table 33: Interacting Features Pressure Restrictions

PR ID	Line	Seg-ment	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]
27100	L0003	CR - PW	239920	12/26/2017	6/25/2018	322	12/28/2017	1/26/2018	FR[2]
28145	L0004	DR - FW	32780	7/31/2018	1/28/2019	622	8/2/2018	FR[2]	FR
28144	L0004	VG - PL	37520	7/17/2018	1/14/2019	613	7/18/2018	10/29/2018	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.

[7] As discussed above and in Sec. IX (Pars. 144 and 145), Enbridge and EPA have identified a potential disagreement regarding interpretation of Subsection VII.D.(V) as applied to certain interacting or intersecting features addressed by Par. 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. The ITP's interpretation of these provisions is set forth in the Independent Third Party Verification Report dated September 24, 2018.

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(VI) Remaining Life Determinations/Re-inspection Intervals

60 [Remaining Life]

Enbridge completed the Remaining Life calculation for all detected crack and corrosion features that did not meet any of the dig selection criteria. These calculations are in the ILI Assessment Sheets. Paragraph 44 of the Consent Decree discusses how all calculations are completed within the required timeframes. The following table summarizes the remaining life calculations completed during this reporting period.

Table 34: Remaining Life Calculations

Tool Run ID	Line	Segment	Tool	Report Type	Remaining Life Calculation Completion Date
4395	02	CR-DR	GEMINI	Corrosion	6/6/2018
3830	03	CR-PW	AFD	Corrosion	11/14/2018
3831	03	CR-PW	DUO CD	Crack	9/7/2018
3826	03	GF-CR	AFD	Corrosion	10/26/2018
2351	04	DN-VG	DuDi UCM	Corrosion	6/7/2018
2351	04	DN-VG	DuDi UCM	Crack	7/6/2018
2346	04	DR-FW	DuDi UCM	Corrosion	6/26/2018
2346	04	DR-FW	DuDi UCM	Crack	7/26/2018
2358	04	PL-CR	DuDi UCM	Corrosion	6/25/2018
2358	04	PL-CR	DuDi UCM	Crack	7/18/2018
2323	04	VG-PL	DuDi UCM	Corrosion	6/18/2018
2323	04	VG-PL	DuDi UCM	Crack	7/12/2018
2381	04	WR-PW	DuDi UCM	Corrosion	7/9/2018
2381	04	WR-PW	DuDi UCM	Crack	8/10/2018
6089	05	ENO-EMA	GEMINI	Corrosion	7/11/2018
2371	05	ENO-EMA	MFL3	Corrosion	7/11/2018
4449	05	ENO-EMA	UCc	Crack	9/6/2018
6090	05	WNO-WMA	GEMINI	Corrosion	7/12/2018
2370	05	WNO-WMA	MFL3	Corrosion	7/12/2018
4450	05	WNO-WMA	UCc	Crack	9/6/2018
4107	10	EB-ENR	GEMINI	Corrosion	9/21/2018
4473	10	ENR-UT	UMP	Corrosion	10/18/2018

Table 34: Remaining Life Calculations					
Tool Run ID	**Line**	**Segment**	**Tool**	**Report Type**	**Remaining Life Calculation Completion Date**
6095	10	ENR-UT	MFL4	Corrosion	11/5/2018
4105	10	WNR-EB	MFL4	Corrosion	9/6/2018
2411	10	WNR-EB	UCh	Crack	10/12/2018
2459	64	GL-GT	GEMINI	Corrosion	5/23/2018
2369	67	GF-CR	MFL4	Corrosion	7/30/2018

61 [Remaining Life Clarifications]

There are no injunctive measures associated with this Paragraph.

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

Enbridge monitors and records the actual operating parameters of pipeline or pipeline segment pressure monthly to be used in the Crack feature Remaining Life Calculation as outlined in the Lakehead System Integrity Remediation process listed below:

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 immediate 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 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”) growth model, and determined the remaining life with the model yielding the fastest projected growth rate and the shortest Remaining Life as documented in the Lakehead System Integrity Remediation process Table 2, Step 7.2.

The application of fatigue crack growth model and an SCC growth model to yield the fastest projected growth rate and the shortest Remaining Life is illustrated in the ILI Assessment sheets.

Paragraph 44 of the Consent Decree discusses how all calculations are completed within the required timeframes. The following table summarizes the remaining life calculations completed during this reporting period.

Table 35: Crack Feature Remaining Life Calculations					
Tool Run ID	**Line**	**Segment**	**Tool**	**Report Type**	**Remaining Life Calculation Completion Date**
3831	03	CR-PW	DUO CD	Crack	9/7/2018
2351	04	DN-VG	DuDi UCM	Crack	7/6/2018
2346	04	DR-FW	DuDi UCM	Crack	7/26/2018
2358	04	PL-CR	DuDi UCM	Crack	7/18/2018
2323	04	VG-PL	DuDi UCM	Crack	7/12/2018
2381	04	WR-PW	DuDi UCM	Crack	8/10/2018
4449	05	ENO-EMA	UCc	Crack	9/6/2018
4450	05	WNO-WMA	UCc	Crack	9/6/2018
2411	10	WNR-EB	UCh	Crack	10/12/2018

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 segment 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 segment with no less than 0.005 inch per year, is illustrated in more detail in the ILI Assessment sheets.

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

Other than crack inspections for Line 2, all crack and corrosion ILIs required as of the end of the reporting period for this SAR that date under Paragraphs 65 of the Consent Decree have been completed. Crack inspections for Line 2 are governed by the Stipulation filed with the Court on May 2, 2018. Under the Stipulation, no crack inspections on Line 2 are due until 2020.

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 which do not exceed 5 years for all Lakehead pipeline segments. The 12-month ILI schedule (November 23, 2018 – November 22, 2019) is included in Paragraph 29 of this SAR and the ILI runs completed during the reporting period of this SAR are included in Paragraph 28. Crack inspections for Line 2 are governed by the Stipulation filed with the Court on May 2, 2018. Under the Stipulation, no crack inspections on Line 2 are due until 2020.

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]

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

Protection from Currents, Ice, Spans

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 flows do not form and are buried near the shoreline areas, which eliminates the potential for impairment of the integrity of the Dual Pipelines caused by ice.

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.

In addition to ensuring the Dual Pipelines are not threatened by ice flows, 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 potential impairment of the integrity of the Dual Pipelines caused by currents. As mentioned above, Enbridge performs periodic visual inspections of the Dual Pipelines every two years to assure that span lengths do not exceed prescribed thresholds.

The results of the 2016 visual inspection were reported in the first SAR. The 2016 anchor installation program was implemented to provide continued compliance with the 75' maximum span criteria included in the easement based on the results of previous underwater inspections.

In accordance with Enbridge's span management program and the requirements of the Consent Decree Subparagraph 68.f to complete "All such re-inspections…by July 31 of the year in which the inspection is required", Enbridge completed its 2018 ROV visual inspections between July 16, 2018 and July 24, 2018 and its 2018 AUV visual inspections between June 27, 2018 and July 22, 2018. Enbridge's contractor, Ballard Marine Construction (Ballard), concluded in their September 5, 2018 report that "Upon the completion of the 2018 AUV and ROV inspection and data review process, no spans in excess of the 75 ft. in length were observed. Furthermore, the ROV video inspection and AUV data collection confirmed that the pipeline remains in stable condition."

Following receipt of the inspection report from Enbridge's third party contractor, Ballard, Enbridge analyzed data collected by Ballard to determine whether spans have developed that would require installation of additional

anchors to comply with the Third Proposed Modification of the Consent Decree, once that Modification is approved by the Court. Enbridge's analysis identified that three additional anchor supports would be required under the Third Modification (assuming that it is approved as submitted to the Court), to comply with Subparagraph 68.b(2)a requirements for installation of anchors in any area where a span exceeds 65 feet and in any area where spans are separated by a "touchdown length" (where the pipeline rests on a sandy lake bottom for a distance) of less than 40 feet. Enbridge submitted applications for permits to install these three identified anchors on September 21, 2018. However, because Enbridge was not confident that the permits would be received in time to install these anchors by October 1, 2018, Enbridge communicated to the Environmental Protection Agency (EPA) that these additional anchors should be considered requirements under Consent Decree Subparagraph 68 and therefore part of its June 1, 2018 Force Majeure notification to the EPA. EPA approved Enbridge's request to invoke Force Majeure on September 21, 2018, thereby extending Enbridge's timeline to install "any screw anchors required pursuant to Paragraph 68" to October 1, 2019.

Accordingly, Enbridge's current anchor installation program scope of work includes the now-completed installation of 19 anchors installed in 2018, and an additional 51 anchors that are planned to be installed in 2019, per an agreement between EPA and Enbridge set forth in the proposed third modification to the Decree, and three proposed anchors based on the 2018 visual inspection data collected, also per the proposed third modification to the Decree. The yet-to-be installed 54 (51 + 3) anchors are planned to be installed in 2019, assuming timely issuance of required USACE permits, for which Enbridge submitted applications on March 15, 2018 (51 anchors) and September 21, 2018 (3 anchors). USACE requested certain additional information from Enbridge on October 19, 2018, to which Enbridge responded on November 19, 2018. Enbridge has been advised by USACE that individual permits will be needed rather than a nationwide permit, thus extending the timeline for the permitting process.

The planned installation schedule falls beyond the third SAR reporting period ending November 22, 2018. Enbridge's ongoing planning and preparation activities, including the management of permit application information requests, will continue into the SAR 4 reporting period with installation activities possibly resuming shortly before or after the commencement of the SAR 5 reporting period (May 2019).

This is further discussed below in Subparagraph 68.b to f.

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. This is accomplished through a variety of strategies including:

- In addition to the burial of the Dual Pipelines in water less than 65 feet deep, "DO NOT ANCHOR" signage is located on the north side of the Straits of Mackinac to warn vessels of the existence of infrastructure under the lake.
- Enbridge Operations Department maintains a relationship with the US Coast Guard ("USCG") at Sault Ste. Marie and attends meetings to support public outreach and other discussions. Enbridge also attends Northern Michigan Area Committee planning meetings that are facilitated by the USCG and include the EPA as a stakeholder.
- In addition to the requirements in Paragraph 68, Enbridge continues to conduct annual ILIs on the Dual Pipelines including Geometry ILIs, in compliance with the federal Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2016 ("Pipes Act"). These inspections would identify mechanical damage such as anchor damage to the integrity of the pipelines.
- On November 27, 2017, Enbridge implemented an additional risk mitigation measure focused on spill consequence reduction. A procedure has been developed as per an agreement with the State of

Michigan, to monitor, report and shutdown operations of the Straits crossings during sustained adverse weather conditions, where wave heights near the crossing exceed eight feet.

- Processes to notify State of Michigan authorities of any times where Enbridge is required to shut down the line as a result of any wave height exceedances are also in place.

During the SAR 3 reporting period, on June 28, 2018, Enbridge submitted to the State of Michigan a report on options to mitigate the risk of a vessel's anchors puncturing, dragging or otherwise damaging Enbridge's Dual Pipelines across the Straits, pursuant to the requirements of its November 27, 2017 Agreement with the State of Michigan. The *Mitigating Potential Vessel Anchor Strike to Line 5 at the Straits of Mackinac* report (Anchor Strike report) has been posted on Enbridge's website and a copy was submitted as a matter of information to the EPA on June 29, 2018.

As part of the Anchor Strike report, Enbridge agreed to assess the following two options:

1. Measures to enhance shipping communication and warning technologies.
2. The use of protective barriers to further protect the Dual Pipelines from any risks posed by a vessel anchor coming in direct contact with the dual pipelines.

To assess and report on measures that could be taken to enhance shipping communication and warning technologies in the Straits, Enbridge formed an internal team consisting of subject-matter experts who worked in collaboration with State representatives (the Team).

The Team concluded that there are "several communication measures that could potentially reduce the risk of an anchor hitting the Dual Pipelines. The measures can be divided into two categories:

- holistic opportunities to enhance the safety of all the existing pipelines and cables located within the Straits' lakebed utilities corridor, including Line 5; and
- those that are focused specifically on enhancing the safety of Line 5."

Regarding the Straits as a whole, the report states that Enbridge would actively support any of the holistic safety initiatives designed to enhance the safety of all the existing pipelines and cables located within the Straits' utilities corridor. Potential holistic safety initiatives identified during the Team's brainstorming sessions included:

- A coordinated Public Awareness Campaign to educate the public—and specifically mariners—about the location of all utilities crossing the Straits.
- Signage on the Mackinac Bridge to warn vessels.
- Floating marker buoys with 'No Anchor' warnings in the shipping channel.
- Dedicated patrol vessels or drones deployed in the Straits.
- Mandatory checkpoints and anchor inspection before vessels cross the Straits.
- Collaborate with the U.S. Coast Guard (USCG) to investigate opportunities to enhance current policies and procedures that vessels are required to follow before proceeding to cross the Straits.

Prior to and since the publication of Enbridge's Anchor Strike report, Enbridge has supported a number of initiatives aimed at reducing the risk of a vessel anchor strike impairing utilities within the Straits corridor. Enbridge met with ITP/EPA on October 19, 2018, regarding ITP's verification of Consent Decree Subparagraph 68.a Integrity Protection from Currents, Ice, Vessel Anchors, and Spans. During this online, teleconference meeting Enbridge presented (via slides) the initiatives that it has supported, or is currently engaged with, related to reducing the risk of a vessel anchor strike impairing the Dual Pipelines. Enbridge outlined four areas of activity:

Operations, Technology, Regulatory, and Agreements with State of Michigan, with each area having discrete initiatives completed or underway aimed at reducing both the likelihood and consequence of anchor strikes occurring. Below is a summary of activities completed, in progress, and ongoing:

Table 36: Line 5 Straits – Dual Pipelines Anchor Strike Mitigation Initiatives		
Initiative Area	**Activity Description**	**Activity Status**
Operations	Markup of pipeline on National Oceanic and Atmospheric Administration's marine navigation maps	Complete
	Enbridge's engagement with the Great Lakes' mariner associations	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 Target Testing: Q1/Q2 2019
	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)	Installed December 2017. Functional in test mode. Additional "Mark" and "Prevent" functions to be installed pending USCG desired approach to Straits protection.
	Investigation of Distributed Acoustic Sensing ("DAS") system – use of fiber optic cables to detect line strikes	Technical Request for Information (RFI) to be complete in Q4 2018.
Regulatory	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 impacting 33 CFR Part 165. The Final Rule restricts the deployment of anchors by vessels in the regulated navigation area.	Complete: Final Rule Effective October 31, 2018. Enbridge commentary submitted August 31, 2018
	Collaboration with the State of Michigan legislature towards new marine navigation legislation for the Straits	Ongoing

Table 36: Line 5 Straits – Dual Pipelines Anchor Strike Mitigation Initiatives		
Initiative Area	**Activity Description**	**Activity Status**
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 2nd Line 5 Agreement executed October 3, 2018. As part of the Second Agreement, Enbridge has committed to providing up to $200,000 for video cameras to monitor compliance with the USCG restricted navigation area rules restricting the deployment of vessel anchors in the Straits.	Ongoing

Focusing specifically on the Dual Pipelines, Enbridge evaluated shipping communication technologies and identified Vesper Marine's web-based *Guardian:protect* system as a potential tool to actively monitor and communicate with vessels in the Straits when they are in close proximity to the Dual Pipelines. Please refer to the Enbridge Anchor Strike report for details of Enbridge's evaluation of the *Guardian:protect* system. Enbridge has already installed the *Guardian:protect* system hardware at the Enbridge Mackinaw Station on the south shore of the Straits. The system is currently functioning in a test mode. Enbridge has not fully configured its *Guardian:protect* system to be able to communicate with vessels yet, as a decision needs to be made, in consultation with the USCG, the Federal Communications Commission ("FCC") and other key stakeholders, on whether the Enbridge system should communicate with vessels directly and the nature of the messaging. Enbridge anticipates further direction from the USCG on the matter in 2019, after USCG has determined if it would prefer to install a more universal communication system that USCG would operate on behalf of all of the Straits utility corridor users or if it would prefer individual operators to install and use their own vessel communication systems.

Enbridge's assessment of the use of protective barriers to further protect the Dual Pipelines from any risks posed by a vessel anchor coming in direct contact with the Dual Pipelines concluded that an engineered gravel/rock protective cover would be the most effective barrier for protecting the Dual Pipelines against an anchor strike.

Enbridge evaluated two protective barrier design options:

Option 1 - Engineered protective cover made of gravel and rock.

Option 2 - Placement of two rock berms next to each pipeline; allowing visual inspection of the dual pipelines.

Enbridge determined that Option 2 would be the least effective method because it would provide only partial protection against anchor drag and no protection in the event of a direct anchor drop over the pipelines.

The engineered protective cover (Option 1) can be expected to result in a 99 percent reduction in the combined probability of an anchor hitting or hooking the pipeline to approximately 8×10^{-6} per year.

Should the engineered gravel/rock protective cover be constructed to cover the entire length of the dual Line 5 pipelines across the Straits (11,000 feet for the east pipeline and 12,000 feet for the west pipeline), the estimated cost would be approximately $150 million.

The project to build a protective barrier covering the Dual Pipelines remains under consideration, but may be redundant, considering Enbridge's plan to replace the Dual Pipelines in the Straits with a new pipeline inside of a tunnel. The tunnel project was addressed in a series of agreements entered into between Enbridge and the State of Michigan in December 2018 and in legislation enacted by the State in December 2018. This legislation establishes a new Mackinac Straits Corridor Authority to oversee the construction and operation a new tunnel that would house Line 5 and potentially other utility cables and lines. These developments, previously reported to EPA and the ITP, are outside the reporting period for this SAR and will be addressed in further detail in the next SAR.

Enbridge will continue to keep the ITP/EPA informed of next steps regarding implementation of any new anchor strike mitigation measures.

April 2018 Third Party Anchor Strike

On April 1, 2018, the Dual Pipelines sustained damage as a result from what Enbridge believes to be a vessel anchor strike. The anchor strike resulted in damage to the American Transmission Company's ("ATC") submarine power transmission cables, and that incident was reported by ATC to the USCG. Enbridge was also notified of the ATC cable damage on April 3, 2018. As a precautionary measure Enbridge shut down Line 5 for a period of time as detailed in SAR2. Since the time of notification of the incident, Enbridge has supported the USCG investigation, and has taken steps to ensure the ongoing safe operation of the Dual Pipelines. Enbridge has also provided regular updates to stakeholders (including PHMSA, EPA and Michigan state agencies) regarding Enbridge's response to the anchor strike incident.

A summary of the actions taken by Enbridge in response to the event during the second SAR period was presented in the SAR2 report. In the current reporting period, the Dual Pipelines continued to operate safely under the Pressure Restrictions imposed as a result of the anchor strike, until final repairs were completed and the PPR's were removed and the pipelines returned to normal service on July 30, 2018. A summary of related activities completed during the third SAR period is as follows:

- June 11 & 13 - Received USACOE and Michigan DEQ permits, respectively, that were required prior to initiating composite wrap repair activities for the three dent features that had resulted from the third party anchor strike
- June 20 to July 27 – Composite wrap repair processes were completed, included excavation of surrounding soils, removal of existing coating, preparation of pipe surface, application of filler material, installation of composite wrap and testing to ensure proper cure was obtained for the epoxy used for the repair.
- June 30 – repair records were reviewed with PHMSA and approval to remove the PPR's that were imposed as a result of the third party anchor strike was received following that review. The PPR's were subsequently removed and the two pipelines returned to normal operations that day.

The USCG investigation into the third party anchor strike remains open.

68.b [Screw Anchor Support]

As reported in the first SAR, Enbridge and EPA filed with the Court the "First Modification" to the Consent Decree on June 1, 2017. The First Modification revised the deadline for installing screw anchors to account for the

data/information generated as a result of the 2016 visual inspection. The First Modification states that Enbridge has until October 1, 2018, to install screw anchors on uncovered portions of the Dual Pipelines that: (1) are located in water deeper than 65 feet; and (2) are not subject to requirements applicable to portions of the Dual Pipelines where the pipe is suspended above the lakebed without supports for more than 75 feet.

Enbridge reported the results of the 2016 anchor installation program in the first SAR, confirming that the distance between screw anchor supports on the Dual Pipelines complies with the 75-foot maximum span length criteria set forth in the Easement issued by the State of Michigan.

As a preventative measure to minimize the potential for the unsupported spans on the Dual Pipelines to exceed the 75-foot maximum span length criteria, Enbridge and EPA agreed to criteria for the installation of additional screw anchor supports. The scope, schedule, and associated procedures for the installation of those additional screw anchor supports is described in the 2018 Screw Anchor Work Plan (SAWP) that was submitted to EPA on May 17, 2018, and approved by the EPA on May 22, 2018.

Some of the work described in the 2018 Screw Anchor Work Plan was originally planned to be completed in 2017, but was postponed due to permitting delays and to allow for such work to be completed at the same time as the planned installation of additional screw anchors in 2018. As a result, a total of 70 anchors had been planned for installation in 2018.

Within the reporting period of the second SAR, Enbridge received federal and state permits required for the installation of 19 screw anchors; however, USACE's approval to install the additional 51 anchors remained pending. In accordance with Paragraph 175 of the Consent Decree, Enbridge notified EPA on May 22, 2018, that the USACE's issuance of permits required to install the additional 51 screw anchors may be delayed. Enbridge's notification to EPA was submitted as a result of the USACE informing Enbridge on May 17 that it has "determined that the project does not qualify for nationwide permit authorization, and we will review it under our standard permit process." The USACE re-confirmed its position to Enbridge during a June 4, 2018 meeting in Detroit to discuss Enbridge's permit application.

Within the third SAR reporting period, in addition to Enbridge's May 22, 2018 notification of potential delay and in response to EPA inquiry, Enbridge provided EPA additional information regarding the USACE permitting process via correspondence from Steptoe & Johnson LLP (Steptoe) on May 25, 2018.

Further to Enbridge's May 22, 2018 notification of possible delay, Enbridge issued a letter to EPA on June 1, 2018 requesting that EPA confirm that "any delay beyond October 1, 2018 resulting from the Army Corps' refusal to permit the installation of required screw anchors results from an event arising from causes beyond the control of Enbridge, and qualifies as a Force Majeure event under ¶¶ 174 and 175 of the Consent Decree". EPA approved Enbridge's request to invoke Force Majeure on September 21, 2018, thereby extending Enbridge's timeline to install "any screw anchors required pursuant to Paragraph 68" to October 1, 2019.

Anchor installation for the 2018 program began May 22, 2018 with a target program completion date of October 1, 2018. This schedule was established based on the assumption that all required permitting for 70 anchors would be received by July 15, 2018. The proposed specific locations of the anchors to be installed in 2018 were provided to the marine contractor, Ballard, as well as the Independent Third Party (ITP) prior to commencement of work. Following consultation with the ITP, two screw anchors were installed more than 5 ft. from the initially planned locations. The screw anchor installation locations can be referenced in the 2018 Screw Anchor Work Plan Interim Report (2018 SAWP Interim Report) submitted to EPA on August 31, 2018 and revised on September 21, 2018.

Per Paragraph 68.e. of the Consent Decree, Enbridge was required to submit a final report to the EPA within 60 days of completion of the SAWP, summarizing the findings of the underwater visual inspections and associated repair work (anchor installations). As Enbridge had received federal and state permits for only 19 of the planned 70 screw anchors at the time of construction kickoff, the installation of 51 of the planned screw anchors and

resultant completion of the SAWP was in jeopardy of being delayed to 2019. Accordingly, EPA allowed Enbridge, to satisfy Paragraph 68.e. requirements, to prepare an interim report outlining the screw anchor installation work completed to date, including any deviations from the 2018 SAWP. The 2018 SAWP Interim Report would then be supplemented with a final report following the completion of the screw anchor installations in 2019.

Following the May 22 commencement of construction, Enbridge completed the installation of the 19 permitted anchors by July 2, 2018 and submitted the 2018 Interim Report to EPA on August 31, 2018. The Interim Report was re-issued to EPA on September 21, 2018 to capture revisions clarifying information provided in a table summarizing screw anchor installation locations, as agreed to during a September 13, 2018 conference call between EPA, ITP, and Enbridge.

Coating inspections were performed prior to screw anchor installation to ensure that saddles were not installed directly on calcareous deposits. Enbridge chose to complete coating repairs at two locations prior to the anchor installations due to calcareous deposits being discovered at the desired landing locations.

Despite the program delays associated with obtaining federal permits for 51 screw anchors, to date, Enbridge has installed a total of 19 of the 70 planned screw anchors referenced in the 2018 SAWP. The installation of the remaining 51 screw anchors has been deferred to 2019 due to delays in Enbridge receiving permitting as described above.

68.c [Periodic Visual Inspections]

Enbridge's compliance with Subparagraph 68.c was previously reported in Enbridge's first SAR. As such, this section of the SAR 3 focuses on the span management requirements of Paragraph 68.c. Biota inspection results are discussed under Paragraph 69 of this document.

Enbridge executed visual underwater inspections in 2018 using ROV between July 16, 2018 and July 24, 2018 and using AUV between June 27, 2018 and July 22, 2018 to confirm that the Dual Pipelines located within 65-feet of water or less are continuously covered on the floor of the Straits and to identify whether unsupported spans of more than 75 feet had developed in the Straits since the last ROV inspection in 2016.

Enbridge's marine consultant, Ballard, conducted its initial review of data in August 2018 and finalized its 2018 Straits of Mackinac Pipeline Inspection Report (2018 Ballard Report) on September 5, 2018. The 2018 Ballard Report indicated that no spans of more than 75 feet were observed by Ballard. Enbridge submitted a copy of the Ballard Report to EPA via correspondence from Steptoe on September 21, 2018. Detailed span information can be found in the 2018 Ballard Report attachments (ROV Span Data East/West Legs; Coverage Details).

68.d [Underwater Inspection Repairs]

Anchor installation for the 2018 program began May 22, 2018 with a target program completion date of October 1, 2018. This schedule was established based on the assumption that all required permitting for 70 anchors would be received by July 15, 2018. The proposed specific locations of the anchors to be installed in 2018 were provided to the marine contractor, Ballard, as well as the Independent Third Party (ITP) prior to commencement of work. Following consultation with the ITP, two screw anchors were installed more than 5 ft. from the initially planned locations. The screw anchor installation locations can be referenced in the 2018 Screw Anchor Work Plan Interim Report (2018 SAWP Interim Report) submitted to EPA on August 31, 2018 and revised on September 21, 2018.

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68.e [Screw Anchor Report]

Per Paragraph 68.e. of the Consent Decree, Enbridge is required to submit a final report to the EPA within 60 days of completion of the SAWP, summarizing the findings of the underwater visual inspections and associated repair work (anchor installations). As Enbridge had received federal and state permits for only 19 of the planned 70 screw anchors at the time of construction kickoff, the installation of 51 of the planned screw anchors and resultant completion of the SAWP was in jeopardy of being delayed to 2019. Accordingly, EPA allowed Enbridge, to satisfy Paragraph 68.e. requirements, to prepare an interim report outlining the screw anchor installation work completed to date, including any deviations from the 2018 SAWP. The 2018 SAWP Interim Report would then be supplemented with a final report following the completion of the screw anchor installations in 2019.

Accordingly, pursuant to 68.b, Enbridge completed the installation of the 19 permitted anchors by July 2, 2018 and pursuant to 68.e, submitted the 2018 SAWP Interim Report to EPA on August 31, 2018. The SAWP Interim Report was re-issued to EPA on September 21, 2018 to capture revisions clarifying information provided in a table summarizing screw anchor installation locations, as agreed to during a September 13, 2018 conference call between EPA, ITP, and Enbridge.

As reported above under Section 68.c, Enbridge executed visual underwater inspections in 2018 using ROV between July 16, 2018 and July 24, 2018 and using AUV between June 27, 2018 and July 22, 2018 to determine if any additional screw anchor installations may be required pursuant to Paragraph 68.d.

Following receipt of the Ballard Report, Enbridge analyzed data collected by Ballard to determine whether spans have developed that would require installation of additional anchors to comply with the Third Proposed Modification of the Decree, once that Modification is approved by the Court. Enbridge's analysis showed that three additional anchors would be required under the Third Modification, assuming that it is approved as submitted to the Court:

Table 37: Line 5 Straits – 2018 Additional Anchor Installation Locations

Proposed Anchor (per Third Modification)	Chainage at Anchor (ft.)	Requirement Criteria
EAP-29	2000311.71	Compliance with Subparagraph 68.b.(2)(A) of the Third Modification: installation of anchors in any area where spans are separated by a "touchdown length" where the pipeline rests on a sandy lake bottom for a distance of less than 40 feet
EAP-30	2007996.76	Compliance with Subparagraph 68.b.(2).(A) of the Third Modification: installation of anchors in any area where a span exceeds 65 feet.
WAP-21	2005083.24	Compliance with Subparagraph 68.b.(2).(A) of the Third Modification: installation of anchors in any area where spans are separated by a "touchdown length" where the pipeline rests on a sandy lake bottom for a distance of less than 40 feet

Enbridge submitted federal applications for permits to install the three newly identified screw anchors on September 21, 2018. As Enbridge had strong reason to believe that permits for installation of these three screw anchors would not be issued in time for installation by October 1, 2018, Enbridge requested that EPA consider these additional screw anchors be part of its pending June 1, 2018 force majeure request pursuant to 'i['i[17 4-75 of the Decree. EPA approved Enbridge's request for invocation of force majeure on September 21, 2018 and as a result, extended the deadline for installation of any screw anchors required pursuant to Paragraph 68 to October 1, 2019.

Following the 2018 ROV inspection, the current scope of the Screw Anchor Work Plan is summarized as follows:

Table 38: Line 5 Straits – Screw Anchor Work Plan Scope Summary

Scope Description	East Span	West Span	Total
Anchors installed in 2018	5	14	19
Anchors Proposed in 2017 (to be installed in 2019)	28	23	51
New Anchors Proposed Based on ROV Results	2	1	3
TOTAL	**35**	**38**	**73**

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.

69.a [Biota Investigation]

On August 14, 2017, Enbridge initiated implementation of the biota investigation work in accordance with the schedule set out in the Biota Investigation Work Plan ("BIWP"), as described in Subparagraph 69.b and approved by the EPA on June 13, 2017. The BIWP identified the necessary steps for Enbridge to further study the impact of biota and mussels on the Dual Pipelines. This work included review of the potential for the biota to create a corrosive environment and the potential impact of the weight of the biomass on the pipelines.

The timing of Enbridge's implementation of the BIWP is discussed in more detail in Subparagraph 69.c, including Enbridge's submission of the final Biota Investigation report to EPA.

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]

Enbridge implemented the BIWP in accordance with the schedule approved by EPA, as reported in the first SAR. In accordance with Subparagraph 69.c, Enbridge submitted a final report to EPA on March 29, 2018, summarizing the results of the Biota Investigation.

The final Biota Investigation report concludes that mussels and other biota have not impaired the Dual Pipelines; therefore, Enbridge is not required under Subparagraph 68.c to supplement the final Biota Investigation report with a proposed work plan.

On May 31, 2018, Enbridge provided responses to subsequent ITP information requests related to the Biota Investigation issued on May 3, 2018. As a matter of information, a copy of the final Biota Inspection report was provided to the State of Michigan on April 6, 2018.

The ITP issued a report, dated July 27, 2018, documenting their final review of the Enbridge BIWP Report, submitted March 29. The ITP included a recommendation that the EPA approve the Enbridge report upon one of the following conditions:

- *That Enbridge provide additional factual evidence, along with an explanation of the technical basis, for the conclusion that there is no evidence that the biota is providing a more hospitable environment for the colonization of SRBs on the external coating of the pipelines*
- *That Enbridge revise their conclusions to align more accurately with the facts.*

Enbridge is currently in the process of amending and finalizing a revised report to align with the ITP's recommendation.

Coating Repair Work Plan ("CRWP")

Enbridge executed the coating repairs specified in CRWP and completed 7 repairs in the 2017 construction season as reported in the SAR2 Report. One coating repair remained outstanding following closure of the 2017 field program. That outstanding repair, located at EAS-4, was completed on September 12, 2018. A final report documenting the completion of the CRWP was submitted by Enbridge to the EPA on October 12, 2018.

In addition, as a matter of information and not related to any provision of the Consent Decree, and as reported in the SAR2 Report, Enbridge submitted to the State of Michigan on June 29, 2018 a report entitled "Evaluation of Technologies to Assess the condition of pipe coating on Line 5." This report, prepared in coordination with third party experts and the State of Michigan, was prepared pursuant to the November 27, 2017 Agreement between Enbridge and the State of Michigan. The report, which has been posted on Enbridge's website and a copy of which was provided to EPA on June 29, 2018, concluded that the only one of the feasible studied technologies for assessing coating damage is Cathodic Protection Close Interval Survey ("CP CIS"). Enbridge completed a CP CIS in 2018 on the Dual Pipelines. The survey was completed on all exposed sections of the Dual Pipelines and some buried sections in 2018, confirming adequate levels of cathodic protection throughout. Completion of the remaining buried sections and final reporting is planned for 2019.

While outside the scope of the Consent Decree, the following information is provided as a matter of information: under the Second Agreement between Enbridge and the State of Michigan entered on October 2, 2018, Enbridge has agreed to conduct a CIS every two years as long as the Dual Pipelines remain in operation. Also, under the Third Agreement between Enbridge and the State of Michigan entered in December 2018, beyond the reporting period of this SAR, Enbridge will conduct CIS annually, with intervals not to exceed 15 months, beginning in 2024 for as long as the Dual Pipelines remain in place thereafter). That Third Agreement also sets forth other provisions regarding coating inspection and repair that will be further addressed as a matter of information in the next SAR.

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 the first SAR. As indicated in the first SAR, Enbridge completed a hydrostatic pressure test. 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 the first SAR. 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. Further reporting specific to the ILI inspections and corresponding assessment and results is included in SAR3, Section D.

73 [Quarterly Inspections Using Acoustic Leak Detection Tool]

During this SAR reporting period, 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.

Table 39: Acoustic Leak Detection

Segment	Quarter	Leak Detection Tool Run Date
Dual Pipelines (West and East)	Q3	9/18/2018
Dual Pipelines (West and East)	Q4	11/7/2018

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 the first SAR.

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. The most recent demonstration occurred on August 10, 2018. Examples of schematic images are generated through OneSource applications including feature match macro, joint fact sheet and dig packages for FREs.

76 [Successive ILI Data Sets]

Enbridge's compliance with this Paragraph is fully explained in Enbridge's first SAR, and Enbridge's compliance with Paragraph 76 has not changed since the submission of the first SAR. As explained in the first SAR, with respect to each type of ILI Tool, the 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]

Enbridge's compliance with this Paragraph is explained in Enbridge's first SAR, and Enbridge's compliance with Paragraph 77 has not changed since the submission of the first SAR. Enbridge provided a demonstration of compliance in regards to Paragraph 77 on October 23, 2018. Enbridge completed all field investigations of the Consent Decree excavations related to the particular ILI Tool Runs and uploaded NDE reports into OneSource within 60 days after the field investigation report was quality reviewed and approved by Enbridge as summarized in the following table.

Table 40: OneSource NDE Updates

Tool Run ID	Line	Segment	Tool	Report Type	Last NDE Report Approved Date	OneSource Load Date
4494	L0002	GF-CR	GEMINICAL	CALIPER	7/23/2018	7/30/2018
3712	L0003	CR-PW	USWM+	UTWM	3/13/2018	4/6/2018
3711	L0003	GF-CR	UCMPUTCD	UTCD	10/25/2018	10/31/2018
3711	L0003	GF-CR	UCMPUTWM	UTWM	9/18/2018	10/5/2018
2351	L0004	DN-VG	UCMUTWM	UTWM	10/24/2018	10/31/2018
4466	L0004	FW-WR	UCMUTWM	UTWM	11/7/2018	11/27/2018
6013	L0004	GF-DN	UCMUTCD	UTCD	8/31/2018	9/5/2018
6013	L0004	GF-DN	UCMUTWM	UTWM	10/11/2018	10/18/2018
2358	L0004	PL-CR	UCMUTWM	UTWM	9/20/2018	10/6/2018
2323	L0004	VG-PL	UCMUTCD	UTCD	11/13/2018	12/3/2018

Table 40: OneSource NDE Updates						
Tool Run ID	**Line**	**Segment**	**Tool**	**Report Type**	**Last NDE Report Approved Date**	**OneSource Load Date**
2323	L0004	VG-PL	UCMUTWM	UTWM	10/24/2018	10/31/2018
4468	L0005	BC-RW	UCC	UTCD	10/24/2018	11/1/2018
2215	L0005	BC-RW	GEMINIMFL	MFL	10/25/2018	11/1/2018
6087	L0005	ENO-EMA	GEOPIG	CALIPER	9/20/2018	Note 1
4356	L0005	IR-NO	UCC	UTCD	10/1/2018	10/12/2018
4406	L0005	MA-BC	AFD	CMFL	10/19/2018	10/23/2018
2140	L0005	PE-IR	AFD	CMFL	9/14/2018	9/19/2018
2150	L0005	PE-IR	CD+	UTCD	9/27/2018	10/10/2018
6088	L0005	WNO-WMA	GEOPIG	CALIPER	9/19/2018	Note 1
4334	L0006A	AM-GT	GEMINICAL	CALIPER	10/25/2018	11/1/2018

TABLE NOTE:

Note 1: The features were repaired in the Straits of Mackinaw, and the NDE report for these digs is a different format that is not compatible with the standard fields in OneSource. A copy of the NDE report was provided to the ITP via the ShareDrive.

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

78.a [OneSource ILI Updates]

All new ILI reports have been uploaded to OneSource within 29 days after Enbridge's receipt of the Initial ILI report. The dates upon which the various ILI reports were received by Enbridge and uploaded to OneSource during this third SAR reporting period are listed in the following table.

Table 41: OneSource ILI Updates						
Tool Run ID	**Line**	**Segment**	**Tool**	**Report Type**	**Report Received Date**	**OneSource Load Date**
4045	01	CR-PW	UMP	Corrosion	11/15/2018	11/19/2018
6110	01	CR-PW	MFL4	Corrosion	11/9/2018	11/13/2018
6110	01	CR-PW	MFL4	Geometry	10/11/2018	10/17/2018
3829	03	CR-PW	MFL4	Corrosion	11/8/2018	11/8/2018
3829	03	CR-PW	MFL4	Geometry	10/5/2018	10/5/2018

Table 41: OneSource ILI Updates						
Tool Run ID	**Line**	**Segment**	**Tool**	**Report Type**	**Report Received Date**	**OneSource Load Date**
3830	03	CR-PW	AFD	Corrosion	10/19/2018	10/19/2018
3831	03	CR-PW	DUO CD	Crack	8/3/2018	8/3/2018
4447	03	GF-CR	MFL4	Geometry	10/25/2018	10/25/2018
2351	04	DN-VG	DuDi UCM	Crack	6/6/2018	6/6/2018
2346	04	DR-FW	DuDi UCM	Corrosion	5/28/2018	5/29/2018
2346	04	DR-FW	DuDi UCM	Crack	6/26/2018	6/28/2018
2358	04	PL-CR	DuDi UCM	Crack	6/19/2018	6/19/2018
2323	04	VG-PL	DuDi UCM	Crack	6/12/2018	6/13/2018
2381	04	WR-PW	DuDi UCM	Corrosion	6/7/2018	6/7/2018
2381	04	WR-PW	DuDi UCM	Crack	7/11/2018	7/12/2018
2371	05	ENO-EMA	MFL3	Corrosion	6/15/2018	6/21/2018
4449	05	ENO-EMA	UCc	Crack	8/7/2018	8/8/2018
6089	05	ENO-EMA	GEMINI	Corrosion	6/17/2018	6/21/2018
6089	05	ENO-EMA	GEMINI	Geometry	6/15/2018	6/21/2018
2370	05	WNO-WMA	MFL3	Corrosion	6/15/2018	6/21/2018
4450	05	WNO-WMA	UCc	Crack	8/7/2018	8/8/2018
6090	05	WNO-WMA	GEMINI	Corrosion	6/17/2018	6/21/2018
6090	05	WNO-WMA	GEMINI	Geometry	6/15/2018	6/21/2018
4107	10	EB-ENR	GEMINI	Corrosion	8/30/2018	8/31/2018
4107	10	EB-ENR	GEMINI	Geometry	8/3/2018	8/4/2018
4109	10	ENR-UT	MFL4	Geometry	7/13/2018	7/13/2018
4473	10	ENR-UT	UMP	Corrosion	9/18/2018	9/19/2018
6095	10	ENR-UT	MFL4	Corrosion	10/5/2018	10/9/2018
2411	10	WNR-EB	UCh	Crack	9/12/2018	9/13/2018
4105	10	WNR-EB	MFL4	Corrosion	8/10/2018	8/13/2018
4105	10	WNR-EB	MFL4	Geometry	7/12/2018	7/13/2018
2369	67	GF-CR	MFL4	Corrosion	6/29/2018	7/3/2018
6091	67	GF-CR	GeoPig	Geometry	8/3/2018	8/4/2018
4487	78	GT-SK	GEMINI	Corrosion	11/8/2018	11/9/2018
4487	78	GT-SK	GEMINI	Geometry	10/9/2018	10/11/2018

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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. The following table summarizes the reviews completed during this reporting period.

Table 42: Interacting Feature Reviews

Tool Run ID	Line	Segment	Tool	Report Type	Pull Date	Interacting Feature Review
6110	01	CR-PW	MFL4	Geometry	8/15/2018	11/13/2018
4395	02	CR-DR	GEMINI	Corrosion	2/7/2018	6/6/2018
3829	03	CR-PW	MFL4	Geometry	8/10/2018	10/30/2018
3830	03	CR-PW	AFD	Corrosion	7/23/2018	11/14/2018
3831	03	CR-PW	DUO CD	Crack	4/6/2018	9/7/2018
3826	03	GF-CR	AFD	Corrosion	6/28/2018	10/26/2018
2351	04	DN-VG	DuDi UCM	Corrosion	2/7/2018	6/7/2018
2351	04	DN-VG	DuDi UCM	Crack	2/7/2018	7/6/2018
2346	04	DR-FW	DuDi UCM	Corrosion	2/27/2018	6/26/2018
2346	04	DR-FW	DuDi UCM	Crack	2/27/2018	7/26/2018
2358	04	PL-CR	DuDi UCM	Corrosion	2/20/2018	6/18/2018
2358	04	PL-CR	DuDi UCM	Crack	2/20/2018	7/18/2018
2323	04	VG-PL	DuDi UCM	Corrosion	2/14/2018	6/14/2018
2323	04	VG-PL	DuDi UCM	Crack	2/14/2018	7/12/2018
2381	04	WR-PW	DuDi UCM	Corrosion	3/14/2018	7/9/2018
2381	04	WR-PW	DuDi UCM	Crack	3/14/2018	8/10/2018
2371	05	ENO-EMA	MFL3	Corrosion	3/20/2018	7/11/2018
4449	05	ENO-EMA	UCc	Crack	4/10/2018	9/6/2018
6016	05	ENO-EMA	GeoPig	Geometry	3/20/2018	6/15/2018
6087	05	ENO-EMA	GeoPig	Geometry	4/7/2018	5/23/2018
6089	05	ENO-EMA	GEMINI	Corrosion	4/17/2018	7/11/2018
6089	05	ENO-EMA	GEMINI	Geometry	4/17/2018	7/12/2018
4213	05	PE-IR	GeoPig	Geometry	2/22/2018	5/23/2018

Table 42: Interacting Feature Reviews						
Tool Run ID	**Line**	**Segment**	**Tool**	**Report Type**	**Pull Date**	**Interacting Feature Review**
2370	05	WNO-WMA	MFL3	Corrosion	3/21/2018	7/12/2018
4450	05	WNO-WMA	UCc	Crack	4/11/2018	9/6/2018
6017	05	WNO-WMA	GeoPig	Geometry	3/20/2018	6/15/2018
6088	05	WNO-WMA	GeoPig	Geometry	4/7/2018	5/23/2018
6090	05	WNO-WMA	GEMINI	Corrosion	4/18/2018	7/12/2018
6090	05	WNO-WMA	GEMINI	Geometry	4/18/2018	7/12/2018
4107	10	EB-ENR	GEMINI	Corrosion	6/5/2018	9/21/2018
4107	10	EB-ENR	GEMINI	Geometry	6/5/2018	8/13/2018
4109	10	ENR-UT	MFL4	Geometry	5/17/2018	8/13/2018
4473	10	ENR-UT	UMP	Corrosion	6/27/2018	10/18/2018
6095	10	ENR-UT	MFL4	Corrosion	7/11/2018	11/5/2018
2411	10	WNR-EB	UCh	Crack	5/15/2018	10/12/2018
4105	10	WNR-EB	MFL4	Corrosion	5/15/2018	9/6/2018
4105	10	WNR-EB	MFL4	Geometry	5/15/2018	8/12/2018
2459	64	GL-GT	GEMINI	Corrosion	1/24/2018	5/23/2018
2369	67	GF-CR	MFL4	Corrosion	4/5/2018	7/30/2018
6091	67	GF-CR	GeoPig	Geometry	6/6/2018	9/4/2018
4487	78	GT-SK	GEMINI	Geometry	8/10/2018	11/8/2018

Section G – Leak Detection and Control Room Operations

(I) Assessment of Alternative Leak Detection Technologies

79-80 [Create and Submit ALD Report]

On November 5, 2018, the ITP provided its Review and Evaluation of Enbridge Submittal: Report on Enbridge Second Semi-Annual Report, whereby, under Appendix C: SAR2 Evaluation Summary, Table 7 - RS 21 ALD Technology Report, this CD Paragraph was assessed as “Compliant”. Enbridge considers this to be complete and no further reporting is required for this SAR.

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

81-83 [Create and Submit ALD Mackinac Report]

On November 5, 2018, the ITP provided its Review and Evaluation of Enbridge Submittal: Report on Enbridge Second Semi-Annual Report, whereby, under Appendix C: SAR2 Evaluation Summary, Table 7 - RS 22. Straits of Mackinac – ALD Report, this CD Paragraph was assessed as "Compliant". Enbridge considers this to be complete and no further reporting is required for this SAR.

(III) Requirements for New Lakehead Pipelines and Replacement Segments

84 [Applicability]

The Line 3 Replacement project ("L3R") has progressed since the second semi-annual report (SAR2), with the design engineering being substantially complete. Details of L3R project status are outlined in Section B, Paragraph 22.a.

As defined in Paragraph 84.a, L3R is considered a "New Lakehead Pipeline." Design requirements set forth in Subsection VII.G.(III) were applied to Enbridge's mainline leak detection equipment standard, which is being followed during the design engineering phase of the project.

Other than the ongoing L3R project, there is no other Replacement Segments or New Lakehead Pipelines planned during this reporting period.

85 [Installation of Flowmeters]

At the time of SAR3 development, Enbridge used currently available L3R project's design drawings to confirm compliance to the mainline leak detection equipment standard. Enbridge confirmed that flow meters 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 on the new US Line 3, they will be commissioned on the Supervisory Control and Data Acquisition ("SCADA") system, and integrated into the MBS and the Rupture Detection System ("RDS"), to continuously monitor flow data under all conditions, including during Startup and Shutdown.

Enbridge will conduct the appropriate tuning and optimization of the MBS in order to meet the sensitivity targets set forth in Paragraph 89.a including MBS segments with volume of oil exceeding 45,000 m^3 as defined in Paragraph 88. Enbridge will perform the appropriate analysis and planning to demonstrate compliance to the leak detection sensitivity design and construction requirements according to the requirements and timelines defined in Paragraph 90.

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]

As indicated above (Paragraph 85), the leak detection group also reviewed other leak detection instrumentation defined in Paragraph 87 for L3R project:

- 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 on the SCADA system, and integrated on the MBS and the 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 a volume of oil exceeding 45,000 m3. Enbridge has and will continue to use 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. Enbridge will conduct the appropriate tuning and optimization of the MBS in order to meet and demonstrate the sensitivity targets set forth in Paragraph 89a including MBS segments with volume of oil exceeding 45,000 m3 on the new US Line 3.

89 [Leak Detection Sensitivity Requirements]

The new US Line 3 has routing changes that will result in changes to the MBS segments. Enbridge will continue to use criteria set forth in API 1149 to estimate the ability of the MBS Leak Detection System to achieve each of the steady state targets defined in Paragraph 89.a. As part of design and construction, Enbridge will conduct the appropriate tuning and optimization of the MBS in order to meet the sensitivity targets set forth in Paragraph 89.a.

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 design and construction of the new US Line 3 is complete. 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 as defined in Paragraph 90.

As mentioned previously, 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 design and construction of the new US Line 3 is complete. Also, other than the L3R project, there are no Replacement Segments or New Lakehead Pipelines for this reporting period.

Once Enbridge's 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 provided under Paragraph 93. Enbridge's continuous and uninterrupted leak detection capability is achieved through a number of 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 followed 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 Appendix 1 for a list of occurrences of each type of instrumentation outages 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 1130-compliant 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.

96 [Reporting of MBS Outages]

There is nothing to report for this reporting period as there was no event that exceeded the time to restore MBS segment to operation for any of the reasons for instrumentation outage outlined in Paragraph 97.

Enbridge ensures that it restores leak detection capability as soon as practicable following any outage in an MBS segment. This is achieved by following Enbridge procedures and using operating tools to track and manage planned and unplanned flow meter outage, and in-line inspection ("ILI") tool runs, that result in temporary loss or suspension of leak detection on the affected segment.

97 [Reporting Requirements]

Refer to Appendix 1 for a table identifying the number of occurrences by type where MBS was temporarily suspended, none of which exceeded the time period to restore affected MBS segment to operation, as specified in the table provided under this Paragraph. Accordingly, the reporting requirements specified under Paragraph 96 were inapplicable during this reporting period.

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) during any occurrence of an unplanned shutdown during the in-line tool run. The tolling period applied by Enbridge begins when the pipeline is shutdown, 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 unscheduled shutdowns that occurred during the ILI tool bypass for this reporting period.

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

In June 2018, Enbridge completed development of a document entitled "Interpretation of Consent Decree Paragraphs 99, 100, 124," (hereinafter referred to as "the interpretation document") in order to clarify expectations and requirements of additional instrument installation. Clarification involved the following as defined in this section of the Consent Decree: what is a remote-controlled valve, what constitutes an excavation, emergency vs. planned excavations, functionally identical equipment, and associated applicability to remote operation by Enbridge's control room. This interpretation document was reviewed and agreed upon with the ITP on July 3, 2018.

It was identified in August 2018 that one US MLP dig on Line 5 at MP 1645 that was backfilled in June 2018 triggered the Paragraph 99 requirement. Upon release of the interpretation document, a review of all digs backfilled since the Consent Decree became effective was conducted, and this was the only one conducted near a mainline valve, in the area where pressure and temperature transmitters would be installed, without the need to first conduct any further excavation. The instruments were installed at this location in December 2018.

Instrument installation for the Nushka Lake project, on Line 4 at MP 974, was in progress at the time of SAR3 reporting.

100 [Requirements for Valve Excavation]

As of the publication of this report, no projects, other than those described under Paragraph 99, require the installation of additional instrumentation, based on the criteria set forth in Paragraph 100 and in alignment with the interpretation document.

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 the Effective Date of the Consent Decree. Enbridge considers this to be complete and no further reporting is required for this SAR.

102 [Rupture Detection System Alarm]

Enbridge continuously operates its Rupture Detection System ("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.

Within this reporting period, Enbridge has been in discussion with the EPA/ITP in regard to the interpretation of Subparagraph 102.a, specifically on the question of whether Enbridge was obligated to include a factor based on an abnormal increase in flow rate into account in designing its RDS. In connection with the discussion, EPA issued an information request to which Enbridge responded on November 28, 2018. In addition, Enbridge obtained ITP's first Verification Report dated September 24, 2018. Enbridge submitted its response to this report as it relates to RDS on December 24, 2018.

As stated in Enbridge's response to the information request and in its response to the Verification Report, Enbridge is prepared to coordinate with the ITP on evaluating potentially feasible options that could provide for the initiation of immediate shutdown upon an MBS alarm caused by an abnormal increase in flow rate, as opposed to being subject to a 10-minute evaluation period. This planned coordination responds directly to an ITP recommendation in its September 24 Verification Report. Enbridge will further report on the status of this matter in the fourth SAR.

103 ["24-hour" Alarm]

Enbridge implemented the 24-hour volume balance alarm as part of Enbridge's SCADA system in advance of the 270-day deadline specified in Paragraph 103. The 24-hour alarm applies to all Lakehead System Pipelines and is active at all times, including during steady state and transient state operations. The 24-hour alarm was designed and is implemented in accordance with Subparagraphs 103.a-b. In accordance with Subparagraph 103.c, Enbridge will complete the required study and report the results of that study to EPA. The events described in Subparagraphs 103.d-g have not occurred, and thus the requirements under these Subparagraphs were not triggered during this reporting period.

On August 8, 2018 it was discovered that there were misconfigurations in the Line 67 24-hour alarm software configuration model. The misconfiguration of the model would have prevented some AVB Automated Volume Balance ("AVB") warnings and leak alarms from being triggered and subsequently displaying the alarm to each member of the Alarm Response Team ("ART"). The two misconfiguration events occurred separately during two separate incidents with the net result being that the FW-PW (Floodwood to Superior) section would not have been able to display an AVB alarm from December 13, 2017 to the date it was corrected on August 08, 2018. Enbridge

checked the December 13, 2017 to August 8, 2018 time period to verify if any alarms were actually missed. The verification confirmed that no AVB alarms were missed during the said time period.

The two misconfiguration events that led to this issue were:

1. Upon initial deployment of the AVB code on Line 67, an incorrect naming for Donaldson was used.
2. During an update of the MBS model, an instance of the Superior station abbreviation “PR” was not correctly replaced with “PW”.

The following remedial and preventative actions have been completed:

- correcting and re-testing model misconfigurations;
- revised the commissioning procedure to trigger alarms by adjusting thresholds rather than changing alarm flags to check internal mappings
- simplified the script associated with model configuration reviews
- instituted a peer review of model changes
- enhanced the MOC procedure with additional checks and review associated with model changes

Additionally, Enbridge plans to implement an AVB coverage alarm which is expected to be completed by the end of Q1 2019.

(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. The ART responds to all leak alarms, and the team is composed of the Control Room Operator (“CRO”), the Leak Detection Analyst (“LDA”), and the Senior Technical Advisor (“STA”).

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. In the event that any ART members have not electronically-acknowledged the alarm within two minutes after its onset, the remote notification system will notify those ART members with an automated remote telephone call that includes the alarms details (including the type of alarm, the time of its occurrence and the MBS segment that precipitated the alarm).

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. MBS and RDS alarms are automatically annunciated in an alarm window for all members of the ART. Alarms have a visual pulse accompanied by a strong beeping sound, indicating that an alarm requires attention. The pulse continues and beeping repeats every five seconds until the alarm is

acknowledged by the ART member. ART members are trained to ensure that the alarm window remains open on their screens at all times. Unassessed alarms remain visible on their screens until assessments from ART members are complete upon execution of the alarm clearance procedures. If the assessment is not complete within the 10-minute timeframe, an audible and visual alert is generated to notify Alarm Recipients that the 10-minute period for evaluating the alarm has lapsed and a pipeline shutdown is required.

108 [Alarm Clearance Procedures]

Enbridge implemented the Alarm Clearance procedures required under Paragraph 108 within 180 days of the Effective Date of the Consent Decree. Alarm Clearance procedures have been employed and adhered to as described in Enbridge's response to Subparagraphs 108.a-f 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 [Unscheduled Shutdown in Response to an Alarm]

Within 50 days after the Effective Date of the Consent Decree, Enbridge implemented all of the procedures specified in Subparagraphs 109.a-d, as explained in more detail in the sections that follow.

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.b

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 manager 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]

Following the shutdown of a pipeline, Enbridge executes a procedural control and electronic recording measure process that: identifies the root cause of a leak alarm, verifies that applicable emergency procedures have been completed and electronically validated by the appropriate accountable parties, and generates a record of how the cause of the Alarm was determined and/or how the integrity of the line was verified, including the critical information that was considered in this decision-making process. In accordance with Subparagraph 109.e, Enbridge will not resume or restart pipeline operations until the procedural controls are executed and the recording of electronic information is validated by appropriate accountable parties. Electronic records of compliance with this Subparagraph are available as of December 31, 2016. 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 as Appendix 2. 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 2. 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 time, Enbridge has complied with the Ten-Minute Rule and other requirements in Subsection VII.G. (V) when responding to leak detection system alarms.

There are no non-compliances to report and no corrective actions 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 those non-compliances specifically listed in the SOA.

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 Appendix 3 to this SAR: Lakehead System Pipeline Incident Reporting.

Section H – Spill Response and Preparedness

113 [Immediate Action to Confirmed Pipeline Leak or Rupture]

Enbridge has not had any confirmed pipeline leaks or ruptures on the Lakehead System within the reporting period of more than one barrel or of any harmful quantity that reached the waters of the United States or adjoining shorelines.

During the reporting period, five releases occurred on the Lakehead System that triggered PHMSA reporting requirements. The releases were reported to PHMSA in accordance with 49 C.F.R. § 195.50(e), not due to quantity discharged, but rather due to the fact that 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 each release, Enbridge proceeded without delay to dispatch trained personnel to the location of the rupture or 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 releases from Lakehead System Pipelines 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]

In accordance with Paragraph 115, Enbridge conducted a functional exercise as part of the Cass Lake Agreed Exercise in 2017, and completed the field/equipment deployment portion of that Agreed Exercise in October 2018. Enbridge has also conducted the Des Plaines Agreed Exercise in September 2018. Planning is underway for the Wisconsin River Agreed exercise which is scheduled to occur in September 2019. Additional information regarding each of these Agreed Exercises is provided below.

Cass Lake Agreed Exercise

Enbridge and the United States mutually agreed to a non-material second modification of the Consent Decree ("Second Modification") to modify the timing for the completion of activities associated with the Cass Lake Agreed Exercise. Specifically, the parties agreed through the Second Modification that was filed with the court on July 14, 2017, (Doc. No. 16) that the Cass Lake Agreed Exercise is to be completed by Enbridge in two parts. The Second Modification requires that, in 2017, Enbridge was to conduct a functional exercise with mobilization and deployment of Enbridge's local Incident Management Team and a functioning command post employing the Incident Command System ("ICS") in 2017. The Second Modification requires that, in 2018, Enbridge conduct a field exercise with equipment deployment at or near Cass Lake in accordance with the requirements of Subparagraph 115.a.

Enbridge fulfilled the functional exercise requirement of the Second Modification by conducting the Cass Lake Agreed Exercise on September 26 and 27, 2017. Details about the planning and implementation of the Cass Lake Agreed Exercise can be found in the first and second SAR. In accordance with Subparagraph 115.i, Enbridge distributed the Cass Lake After Action Report to the planning team on August 14, 2018, which was within 90 days of receiving the EPA comments on May 17, 2018.

In accordance with the Second Modification, Enbridge conducted a field exercise with equipment deployment at Cass Lake on October 3, 2018. Three planning meetings were held with federal, local and tribal representatives. The specific dates of the planning meetings are as follows:

- Initial Planning Meeting on May 10, 2018;
- Mid-Planning Meeting on June 21, 2018; and
- Final Planning Meeting on September 13, 2018.

On October 30, 2018 an After Action Meeting was held with planning participants. Based on the information provided at this meeting an After Action Report for the field portion was submitted to EPA on November 30, 2018.

Des Plaines Agreed Exercise

In accordance with Subparagraph 115.b(2), Enbridge held the Des Plaines Agreed Exercise on September 27, 2018. Additional details about the planning and implementation of the Des Plaines Agreed Exercise can be found in the second SAR. The specific dates of the planning meetings held during this reporting period are as follows:

- Master Scenario Events List Meeting on June 13, 2018; and
- Final Planning Meeting on July 13, 2018.

In accordance with Subparagraph 115.h, Enbridge organized and conducted an After Action Meeting on September 28, 2018, to review the Des Plaines Agreed Exercise for the purpose of identifying "lessons learned," and to make recommendations to improve future Agreed Exercises and response actions. As required under Subparagraph 115.h, Enbridge invited each planning participant to partake in that after-action review.

In accordance with Subparagraph 115.i, Enbridge submitted the Draft Des Plaines Agreed Exercise After Action Report to EPA on November 27, 2018. That After Action Report set forth Enbridge's findings and conclusions regarding the Des Plaines Agreed Exercise.

Wisconsin River Agreed Exercise

In accordance with Subparagraph 115.b(3), Enbridge has scheduled the Wisconsin River Agreed Exercise to occur on September 19, 2019. Planning for the Wisconsin River Agreed Exercise was initiated in July 2018. In October 2018, and in accordance with Subparagraph 115.d and e(2), Enbridge sent 28 planning team invitations to local, state, federal, and tribal representatives (including EPA, PHMSA, Area committee and Sub-Area committee representatives) to attend planning meetings for the Wisconsin River Agreed Exercise. In accordance with Subparagraph 115.e(1), the first of the planning meetings was conducted on November 14, 2018, more than 10 months before the Wisconsin River 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 Wisconsin River Agreed Exercise. The specific dates of the planning meetings are as follows:

- Concept and Objectives on July 16, 2018; and
- Initial Planning Meeting on November 14, 2018.

Based on input provided by the initial planning meeting attendees, Enbridge prepared a draft exercise plan for the Wisconsin River Agreed Exercise, which includes the scope, objectives, scenario, and participant list for the exercise. In accordance with Subparagraph 115.e(4), Enbridge submitted the Draft Wisconsin River Exercise Plan to EPA on November 28, 2018.

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 Exercises during this reporting period:

- Marenisco, MI on May 23;
- Superior, WI on June 6;
- Milbrook, IL on June 6;
- Gordon, WI on July 12;
- Manistique, MI on August 1; and
- Wilmington, IL on September 12.

In accordance with Subparagraph 116.a, Enbridge conducted the following Table Top Exercises during this reporting period:

- Manistique, MI on July 31;
- Ashland, WI on October 10;
- University Park, IL on November 1; and
- Grand Rapids, MN on November 1.

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. 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.

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 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.

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 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. The invitations provided recipients with notice of the exercise at least four weeks prior to the date in which 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. Further, in accordance with Subparagraph 116.d, on December 20, 2017, Enbridge provided EPA with notice of all the Field and Table Top exercises to be conducted in 2018.

116.e [Community Outreach Sessions]

In accordance with Subparagraph 116.e, Enbridge conducted the following Community Outreach sessions during this reporting period:

- Ashland, WI on May 23;
- Superior, WI on May 24;
- Iron River, MI on July 17;
- Iron Mountain, MI on July 18;
- Escanaba, MI on July 19;
- Loyal, WI on August 7;
- Janesville, WI on August 8;
- West Branch, MI on October 9;
- Bay City, MI on October 10; and
- North Branch, MI on October 11.

For the Community Outreach sessions identified above, a total of 29,442 invitations were sent to landowners, elected officials, media, the general public, and community leaders. Each Community Outreach session was conducted in an open-house format with manned booths that provided attendees with valuable information on pipeline operations, product information, safety, preventative maintenance, integrity, emergency response, public awareness, damage prevention / right-of-way, and Enbridge's involvement in local communities. The information conveyed at each of the Community Outreach sessions also included the following:

- 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.

117 [Control Point Plans]

In accordance with Subparagraph 117.a, Enbridge is preparing to have updated and maintained within three years after the Effective Date of the Consent Decree information for the Control Point locations set forth in

Appendix D that identify containment and recovery points, as well as staging locations and other response-related locations, along the waters that could be impacted by a spill from a Lakehead System Pipeline. The Control Point information will include the specifics from Subparagraph 117.b, and will be organized in a format that is consistent with the example Control Point information that is provided as Appendix E to the Consent Decree.

In accordance with Subparagraph 117.c, Control Points for the Straits of Mackinac were submitted to EPA on May 23, 2018. The Control Point information submitted to date by Enbridge to EPA was provided in the electronic formats that are specified in Subparagraph 117.e.

In accordance with Subparagraph 117.d, Control Points for the Wisconsin River Agreed Exercise were submitted to EPA on May 23, 2018. The Control Point information submitted to date by Enbridge to EPA was provided in the electronic formats that are specified in Subparagraph 117.e.

In accordance with Subparagraph 117.f, Enbridge is notifying EPA of proposed changes to the Control Points identified in Appendix D of the Decree. The changes are based on 2018 field work that resulted in 85 new Control Points and the retirement of 1 control point along the Lakehead System. Appendix 4 of this Semi-Annual Report provides a full list of the Control Points with the proposed changes.

118 [Response Time]

In accordance with Paragraph 118, Enbridge has hired a contractor to conduct a review of Enbridge and Oil Spill Response Organization (“OSRO”) personnel and equipment available to respond to an oil spill from the Lakehead System within three years after the Effective Date of the Consent Decree.

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:

- Sault Ste. Marie Sub-Area Committee Meeting on June 14;
- Duluth/Houghton Sub-Area Committee Meetings on October 9 and October 11; and
- Detroit Sub Area Committee Meeting on October 30.

Enbridge is a formal member of the Sault Ste. Marie Sub-Area Committee and has been working with the U.S. Coast Guard on in-situ burn planning and research for the Great Lakes.

119.b [Sub-Area Activities Participation]

Enbridge’s participation in Sub-Area activities is discussed in its response to Subparagraphs 119.b(1) and 119.b(2) below.

119.b(1) [Field Exercise Participation]

In accordance with Subparagraph 119.b(1), Enbridge attended the following Sub-Area Committee field exercise during this reporting period:

- Sault Ste. Marie Sub-Area Committee – Sector SSM PREP Full Scale Exercise on September 19.

119.b(2) [Other Training Events Participation]

In accordance with Subparagraph 119.b(2), Enbridge attended the following Sub-Area Committee training event during this reporting period:

- Detroit Sub-Area Committee – Bay City Prep Table Top Exercise on August 29.

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. 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 during this reporting period to meet and discuss response planning strategies to ensure consistency with the Area Plan. Thus, Enbridge had no obligation under Subparagraph 119.d to schedule and attend a meeting with EPA, PHMSA, USCG, tribal representatives, and/or state or local authorities during this reporting period.

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.

119.h [Emergency Response Equipment]

Enbridge continues to maintain, in good working order, its prepositioned emergency response equipment and materials. During this reporting period, no equipment was used or expired and thus replacement of the materials was not warranted or required. Enbridge has purchased additional prepositioned equipment for the Straits of Mackinac and provided electronic written notice of these additions to EPA and the listed Area and Sub-Area Committees on December 14, 2018.

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/.

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.

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;
- All emergency management department personnel: ICS 100B – 300 training within 90 days of being assigned;
- Any person designated as Vice President of U.S. Operations, or in an equivalent capacity: ICS 402 training; and
- 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.

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, all four 2018 valves were installed, and three of the four were commissioned. Enbridge obtained all permits necessary from the appropriate agencies to install the remotely-controlled valves on schedule.

Table 43: 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	2 sites, Line 6A 2 sites, Line 14	427, 459 412, 430
2020	2 sites, Line 6A	80, 196

The valve installations completed in 2018 were installed near the milepost ("MP") locations specified under Paragraph 122. During this reporting period, the remotely-controlled valves at MPs 1416 and 1518 were successfully commissioned, on August 22, 2018, and the valve at MP 1429 was successfully commissioned on October 18, 2018. The valve at MP 1621 was not commissioned during the reporting period.

123. [Enbridge Computer Modeling for Valve Locations]

The locations for the installation of all remotely-controlled valves, including those identified in the table above, 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 by 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 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. Enbridge inspectors were present to witness the shop closure timing test and confirmed that the valves closed within the specified time, prior to shipment and delivery. The valves purchased, installed, and commissioned in 2018 were of the same type, size, and design as those in 2017. During wet commissioning of the valves at MP 1416, 1518, and 1429, timing tests were conducted, and all three valves fully closed and sealed within three minutes of the operator engaging the valve-closure mechanism, complying with the Consent Decree requirement.

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

- Installation of valves on Line 5 at MP 1416, 1518, 1429, and 1621
- Commissioning of Valves at MP 1416, 1518, and 1429
- Finalizing of construction punch list items for MP 1416, 1518, and 1429
- Commencement of 2019 material procurement activities
- Submittal of all long-lead environmental permit applications for 2019 construction activities
- Completion of 30% IFR drawings for 2019 execution plan
- Initiation of 2019 construction contract for 2019 execution plan
- Close out of all 2017 environmental permitting, and 2018 permits for sites MP 1416 and 1518
- Continued monitoring of the site at MP 1429 and reports to the County, per information described in SAR2. Monitoring of MP 1621 will begin after valve commissioning.

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. Enbridge considers *Task 1 – Initial Project Planning Meeting with Region 5 in Chicago* to be complete and will no longer report on compliance with Subparagraph 132.a in future SARs.

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). The ITP provided the first such report on September 24, 2018. Enbridge's response to the Verification Report was submitted in December 2018 (outside the current reporting period) and Enbridge will address the response and subsequent developments regarding the Verification Report in the fourth SAR.

134.l [General Requirements – ITP Annual Certification]

On January 4, 2018, the ITP provided its annual certification to the United States, verifying that it complies with the General Requirements of Subparagraph 132.l.

135. [Enbridge Enforcement of the Agreement]

As reported in the first and second SARs, Enbridge continues to enforce the terms of its written agreement with the ITP to ensure compliance with Section VII.J of the Consent Decree.

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 Reporting Period 3, pursuant to Paragraph 144.

Problems Encountered

Line 6A AM-GT NDT UMp Program NDE Assessment

A problem was identified during the NDE Report Review and Quality Assurance Process of the NDE report for a Line 6A AM-GT NDT UMp corrosion feature on GW279280. A Corrosion Feature Requiring Excavation was identified, with a Safety Factor <1.39, based on the Line 6A AM-GT UMp Corrosion Program. The feature was placed on the Dig List on 4/9/2018, and a dig package was issued on this joint (upstream Girth Weld of GW 279280) to the field on 4/20/2018 with the dig deadline of 10/6/2018.

During field Non-Destructive Examination (NDE) on 8/16/2018 – 8/17/2018, the target feature with Safety Factor <1.39 was repaired by installing a Type B sleeve (the repair started on the upstream joint of GW 279270, overlapped part of joint of GW 279280, and covered the target feature).

During field NDE, other corrosion features were also exposed and measured. The NDE vendor communicated to Pipeline Integrity that all other corrosion features on joint of GW 279280 had field calculated Rupture Pressure Ratio (RPR) greater than 1 therefore recoat was authorized to be the acceptable repair for the remainder of features on this joint. The joint was recoated on 8/18/2018 and the site was backfilled on 8/20/2018.

The Enbridge NDE report Review and Quality Assurance process for GW 279280 was completed in September 2018. The process identified that the NDE vendor did not comply with Enbridge procedures. The vendor utilized incorrect calculations and photos were missing from the report. This resulted in questioning whether or not the appropriate repair methodology was selected. Per Enbridge process, the NDE vendor was directed to re-perform the correct calculations. After completing the calculations, it was confirmed that features requiring a sleeve repair were properly repaired in the field and no further action was required.

Given the atypical nature of the errors identified during the Enbridge NDE Review and Quality Assurance process, Enbridge proactively decided to re-issue the excavation. Pipeline Integrity directed the dig execution group to re-

excavate this joint on 9/24/2018. A new dig package was issued with a dig deadline of 10/6/2018 (the original 180 days deadline required for the Consent Decree). Another NDE vendor was contracted to perform the re-assessment, and an additional 11 SCC indications (none of which met Consent Decree criteria as FRE) that the first NDE vendor did not assess and report, in accordance with CD Paragraph 39, were identified and repaired on 10/5/2018. The SCC features were minor in severity, with lengths and depths below ILI reporting specifications, and the lowest field-verified safety factor of 1.68, as compared to MOP.

Enbridge has identified potential causes for the incorrect calculation and reporting to identify recommendations for corrective actions. Resulting actions taken to date include:

- recorded the non-conformance to Enbridge requirements,
- met with NDE vendor to review and clarify the issues,
- requested the NDE vendor review all related reports for calculation errors,
- issued a corrective action request to the vendor,
- provided additional training at NDE vendor office,
- increased on-site auditing of the particular NDE vendor dig sites,
- added a laser scan standard template for field technicians, and
- Initiated an assessment of the adequacy of laser scan qualifications requirements.

Enbridge is continuing to review the implications of this problem encountered, particularly in reviewing Consent Decree joints previously assessed by this NDE vendor. To date, the NDE vendor has complied with all requests and corrective actions implemented to prevent re-occurrence.

Line 1 CR-PW NDT UC GW 58620 and GW 170980 Priority Feature Review

As noted in the Table under Paragraph 33.c-d, two In-Line Inspection Minimum Reporting Requirements defined priority notifications were reported on Line 1 CR-PW GWs 58620 and 170980 based on the NDT UC crack ILI run. The notifications were received on 10/18/2018 and features were reviewed and placed on the Dig List on 10/24/2018. Although the review process and subsequent placement of the feature on the dig list were completed within the required Consent Decree timelines, the standard documentation email process was not strictly followed with respect to timelines. Enbridge is currently in the process of identifying ways to simplify the administrative process of documenting completion of the relative activities.

Line 3 GF-CR DuoCD GW 80670, GW 141580, GW 146510 and GW 149430 Priority Feature Review

As noted in the Table under Paragraph 33.c-d, four In-Line Inspection Minimum Reporting Requirements defined priority notifications were reported on Line 3 GF-CR GWs 80670, 141580, 146510, and 149430 based on the DuoCD crack ILI run. The notifications were received on 11/13/2018 and features were reviewed and if required, placed on the DigList on 11/16/2018. Although the review process and subsequent placement of the feature on the dig list were completed within the required Consent Decree timelines, the standard documentation email process was not strictly followed with respect to timelines. Enbridge is currently in the process of identifying ways to simplify the administrative process of documenting completion of the relative activities.

Delays in Administrative Approval Documentation for Dig Lists with no FREs

Line 4 DN-VG Dig List Approval Delay

No Features Requiring Excavation (FREs) were required based on the Line 4 DN-VG 2018 NDT DuDi UCM crack ILI inspection; 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 criteria. In this case, the approval was completed 5 days later than stipulated in the table in Paragraph 37 of the Consent Decree had there been features that met FRE criteria.

Line 5 PE-IR Validation Dig List Approval Delay

No Features Requiring Excavation (FREs) were required based on the Line 5 PE-IR 2018 BH Geopig ILI inspection; 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 criteria. In this case, Data Quality Review and identification of potential FRE's was completed on 5/23/2018, but the approval was completed at a later date, 6/19/2018, once a dig program was finalized to assess features meeting additional Enbridge excavation criteria (validation digs).

Line 10 EB-ENR Validation Dig List Approval Delay

No Features Requiring Excavation (FREs) were required based on the Line 10 EB-ENR 2018 Gemini CAL geometry ILI inspection, 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 criteria. In this case, Data Quality Review and identification of potential FRE's was completed on 8/13/2018, but the approval was completed on 8/29/2018.

Line 3 CR-PW Priority Notification Validation Dig List Approval Delay

An In-Line Inspection Minimum Reporting Requirements defined priority notification was reported on Line 3 CR-PW GW133790 based on the DUO CD crack ILI run. The feature was reviewed and confirmed not to be a priority feature and did not meet FRE criteria per the Consent Decree. The feature had a remaining life of >9 years, and a safety factor >1.25 MOP. An email was sent by the SML; however, the SME did not document the approval as per Enbridge normal practice. Although no action was required, Enbridge did not complete the normal practice of documenting the approval of the priority notification dig list, with 0 digs, within target timelines.

Line 5 WNO-WMA Priority Notifications not Reported by ILI Vendor

As mentioned in Paragraph 33.c-d, three successive Line 5 WNO-WMA segment ILI Consent Decree geometry runs did not report two ovality features as priority notifications, as required by the Enbridge Inline Inspection contracting requirements, in accordance with Paragraph 33. The two ovality features have been historically reported by ILI and analysis determined that these features do not require mitigation; nonetheless, the reported dimensions do meet priority notification criteria and should have been reported accordingly. The three subject inspections are as follows:

- April 2017 Gemini geometry ILI (pre-dates the effective date of the Consent Decree)
- March 2018 Geopig geometry ILI
- April 2018 Geopig geometry ILI

Enbridge has reaffirmed the reporting requirements with the ILI Vendor for all features meeting Priority Notification reporting criteria as per the Consent Decree. Subsequently, the ILI vendor appropriately reported priority notification of these features in the April 2018 Gemini geometry ILI.

Current Delays Caused by Force Majeure Events

On May 22, 2018, Enbridge notified EPA of a potential delay in the installation of Line 5 Straits of Mackinac screw anchors under the schedule agreed to by the Parties. EPA approved Enbridge's assertion of a claim of force majeure for this delay by letter dated September 21, 2018. Additional detail regarding the process for installation of additional screw anchors is discussed in Section E above.

Pending Modifications of the Decree

The parties filed with the Court a notice of proposed modification of provisions relating the installation of screw anchors on August 8, 2018. The United States then solicited and received public comments on the proposed modification. Enbridge understands that the United States anticipates responding in early 2019 to the comments received, at which point the proposed modification will be considered ready for review and approval by the District Court.

Other Notices of Potential Delay (Par. 175)

As provided in Par. 175, Enbridge submitted, on August 3, 2018, an initial notice of potential delay for a feature located under the I-88 Tollway in Illinois. Enbridge subsequently submitted an Alternate Plan for addressing this feature. Details are provided in Par. 46 above. EPA informed Enbridge by letter dated November 6, 2018, that the new date of performance established under the Alternate Plan made it unnecessary for EPA to address issues relating to a claim of force majeure for the feature at that time.

On December 12, 2018, which is not within the reporting period of this SAR, Enbridge submitted a notice of potential delay in the performance of obligations under the Decree regarding a feature located at approximately MP 384 on Line 6A. Although this Notice pursuant to Paragraph 175 occurred outside the time period for this report, efforts to obtain needed permits were initiated during the reporting period. The notice that resulted from delays during the reporting period is thus being listed here.

Status of Permit Applications for FREs

Permit application issues during the reporting period resulted in the preparation and submission of one Alternate Plan in this reporting period that was required to extend excavation deadlines. Enbridge was unable to adhere to the excavation deadline required under the Consent Decree due to indication from permit authorities that Enbridge would not receive an open-cut excavation permits for a dig located under Tollway I-88. The FRE is a Line 6A AM-GT corrosion feature reported by the 2018 BH Gemini MFL (Issue 1) on GW 256490 under the I-88 tollway.

The feature under the I-88 tollway required an Alternate Plan as the State tollway authority informed Enbridge in June 2018 that the authority would not agree to permit an open-cut permit repair (which would have allowed

Enbridge to comply with applicable Consent Decree deadlines). As a result, the use of horizontal directional drilling ("HDD") will be required to mitigate the Consent Decree Feature Requiring Excavation ("FRE") for the feature on GW 256490 (the Consent Decree FRE).

Although not within the reporting period of this SAR, a feature under Higgins Road (Route 72) near Elgin, Illinois at MP 384 also requires an Alternate Plan. The feature is a Line 6A AM-GT corrosion feature reported by the 2018 BH Gemini MFL (Issue 2.1) on GW 226360. A notification of potential delay was sent to the EPA and ITP on 12/12/2018, as described above. The Illinois Department of Transportation has not rejected an application for an open-cut excavation, however; they have not yet accepted Enbridge's proposal for the excavation plan, or issued a permit. Enbridge is currently exploring other options such as a pull-through or HDD, and based on permitting delays, the feature was not mitigated by the 1/2/2019 deadline, thus requiring an Alternate Plan. The Alternate Plan, which was submitted to the EPA on 12/21/2018, will be reported on further in SAR4.

Status of Permit Applications for Installation of Screw Anchors

Enbridge's application for a permit for installation of screw anchors remains pending before the U.S. Army Corps of Engineers. The Corps published on June 29, 2018, a public notice of the proposed installation of anchors. The Corps has received comments on the proposed installation. The Corps has not informed Enbridge of an expected date of decision on the pending application. The specifics of the proposed installations are set forth in more detail in Section E (Measures to Prevent Spills in the Straits of Mackinac) above.

Enbridge's parallel application to the Michigan MDEQ for installation of additional screw anchors remained pending during the reporting period. On November 30, 2018 (outside the reporting period), MDEQ approved issuance of the needed permits. MDEQ's approval has been challenged administratively by groups opposed to the installation. Enbridge has intervened in the administrative proceeding and intends to participate in support of upholding MDEQ's approval of the permits. That administrative challenge remains pending before MDEQ as of the date of this Report.

Reports to and Agreements with State Agencies

Please refer to section E for additional information regarding reports to State Agencies.

On October 3, 2018, Enbridge and the State of Michigan entered into an agreement (termed the Second Agreement) that sets forth additional measures to enhance the safety of Line 5 in Michigan. That Second Agreement, which supersedes the First Agreement that was previously entered into by Enbridge and the State of Michigan on November 27, 2017, contemplated a variety of measures, including temporary cessation of the operation of Line 5 during defined severe weather events; enhanced Dual Pipelines inspection measures; and funding for video monitoring of the Dual Pipelines as an anti-vessel anchor strike measure. In addition, the Second Agreement provided that the parties would pursue further agreements to address the future of Line 5 Dual Pipelines' crossing of the Straits of Mackinac. Enbridge made copies of the Second Agreement available to EPA and/or the ITP by email dated October 3, 2018.

Although outside the reporting period for this SAR, Enbridge will here provide certain information about subsequent agreements that it has entered with the State of Michigan and a new Michigan agency. Specifically, in furtherance of the commitment set forth in the Second Agreement, Enbridge and the State of Michigan on December 19, 2018, entered into a Third Agreement, which sets forth integrity- and safety-related requirements for the operation of the existing Dual Pipelines until such time that a replacement to the Dual Pipelines is constructed and placed into service within a utility tunnel that is to be constructed by Enbridge beneath the Straits. Under the terms of the Third Agreement, the Dual Pipelines are to be decommissioned by Enbridge once

the tunnel and replacement pipeline are completed and the replacement line is operational. In addition to the Third Agreement with the State, Enbridge on December 19, 2018, entered into other agreements with the newly-formed, three-member Mackinac Straits Corridor Authority ("MSCA"), which was established pursuant to new Michigan legislation signed into law on December 12, 2018. The Enbridge/MSCA agreements set forth: (i) the requirements for Enbridge's construction of the utility tunnel to house a replacement Line 5 and other utilities that might choose to use the tunnel, including milestones for the planning, construction and completion of the tunnel under MSCA oversight; (ii) Enbridge's rights to use State lands to construct the tunnel, and the requirements to convey ownership of the tunnel to the MSCA upon completion; (iii) the terms under which the MSCA, as the tunnel owner, will lease the utility tunnel back to Enbridge for a 99-year term to allow Enbridge to construct, operate, and maintain the replacement to the Dual Pipelines; and (iv) the terms under which third-party utilities may obtain access to the tunnel. Enbridge made unexecuted, draft copies of these agreements available to EPA and/or the ITP by email dated December 13, 2018.

Outstanding Discussion Items with EPA/ITP

Paragraphs 58 and 59 and Table 5 of the Decree establish requirements for addressing certain interacting or intersecting features. The parties to the Decree have potentially different interpretations of the applicable requirements under these provisions. As a practical matter, the disagreement relates primarily to small geometric features that have an indication of metal loss. The Verification Report dated September 24, 2018, and prepared by the ITP reflects the ITP's conclusion that Enbridge's interpretation of these provisions is not consistent with the ITP's interpretation. The parties and the ITP have engaged in extensive discussions and exchange of technical materials in order to resolve existing differences and to establish a mutually agreeable set of requirements going forward. Those discussions have been productive, and it is likely that the parties will be able to reach agreement on applicable standards in upcoming months. Implementation of agreed-upon measures now appears likely to require a future modification of the Decree (although no final decision regarding modification has yet been reached).

The parties similarly have potentially different interpretations of certain other provisions that relate to other types of geometric features. These include the ILI vendor notification of certain ovalities as priority features (based on the language of Appendix A) and the treatment of features on girth welds on Line 61 (which is addressed in Table 4). These issues similarly have been discussed by the parties and the ITP, and appear to be capable of resolution.

Any significant changes or issues since the previous SAR

L67 24-hr alarm misconfiguration Floodwood to Superior

In SAR2, we reported that the 24-hour volume balance alarm was designed and implemented in accordance with paragraphs 103a-b, with 103d-g not occurring. On August 8, 2018 it was discovered that for the segment between Floodwood to Superior on L67, the model was misconfigured, resulting in a loss of alarming capability as required in P103a. Enbridge checked the affected time period to verify if any alarms may have been missed, and confirmed that no AVB alarms were missed. Both P103 and P145 outline the details of the event, including recognition, remediation, and future prevention of this and any potentially similar issues.

145. [Non-Compliance]

Line 4 FRE Delay placing 3 features on the Dig List

Three features from the Line 4 DR-FW NDT UCM UTCD Crack program were added to the Dig List 21 days after the remaining life calculation date, which is later than the 5 days required by the Consent Decree. All of these features have safety factor >1.25x MOP and a calculated remaining life greater than 2x the re-inspection interval and do not pose an immediate safety threat. Details of the features are included in the table below.

Table 44: Line 4 FRE Delay placing 3 features on the Dig List

Girthweld Number	Feature ID	Feature Type	Calculated Remaining Life	Calculated Burst Pressure/MOP
29730	206602	Crack-field	4.7	1.40
32790	236809	Crack-field	4.7	1.31
33420	242650	Crack-field	4.5	1.33

It was identified that features were overlooked when the re-inspection interval was changed. This program was originally planned to have a 3 year re-inspection interval and all features with a remaining life calculated as 6 years or less were selected for excavation and placed on the dig list per Consent Decree timelines. However, on 7/31/2018, the SML, in consultation with the SME, decided that a 2 year re-inspection interval would be more appropriate for the program.

In the process of shortening the re-inspection interval, the three features above, with a calculated remaining life between 4 and 5 years were incorrectly removed from the dig list as they no longer met the Consent Decree Table 1 criteria of “Any Crack feature with a Remaining Life that is less than 2 x the planned re-inspection interval,” however, they still met the Table 1 criteria of “Any Crack feature with a Remaining Life (determined in accordance with Subsection VII.D.(VI), below) that is less than 5 years.”

This error was identified through Pipeline Integrity internal processes on 8/20/2018 and the digs were included on the dig list on 8/21/2018.

Enbridge personnel were aware of the requirement to add any crack feature with a remaining life less than 5 years to the dig list and stated this was an oversight. This event was reviewed with employees responsible for executing the work to prevent this omission from being repeated.

Line 6A Revised Administrative PPR Imposition Delay

This Line 6A PE-AM segment has an active Discharge Pressure Restriction (DPR) of 90% of MOP which was imposed on 6/17/2011. This DPR actively limits the Maximum Allowable Operating Pressure (“MAOP”) for this entire segment to 90% of MOP, therefore the limiting MAOP at the locations of the seven features identified below is approximately 557 psi.

Seven crack features, located on joints with the upstream Girth Weld 64390, 64440, 64650, 65160, 65300, 65830 and 68870 were placed on the Dig List on 3/9/2018, based on the Line 6A PE-AM 2017 DUOCD crack inspection. Initial PPRs (ranging 590 – 617 psi) were imposed for these seven features on 3/12/2018.

In accordance with CD Paragraph 49, the dig project execution team requested an extension of the dig deadline from 180 days to 365 days (from September 2018 to March 2019) to allow for winter construction which would protect wetland ecosystems as allowed for in the CD. The deadline extension was approved on June 25, 2018, based on the results of CD Paragraph 49.c.(1)(b) calculations.

The dig deadline extension request was evaluated following CD Paragraph 49.c(1)(b), including taking into consideration the predicted growth of the feature in terms of both length and depth between the time of the ILI and the expected repair date. In accordance with the CD, the burst pressure was recalculated to determine whether revisions to the PPRs imposed on 3/12/2018 would be required. The analysis concluded that revised PPRs (ranging from 586 to 615 psi) would be required to be implemented. Based on the existing DPR, the calculated PPR maximum pressure requirements were above the MAOP on the line at that location. Due to the active DPR on Line 6A PE-AM segment, the operating pressure of the line at the locations of the features in question has not exceeded the maximum operating pressures calculated as set forth in Paragraph 49.c.

Based on Consent Decree requirements, any required revisions to PPRs were to be established prior to expiration of the 180 day dig deadline of 9/5/2018. The administrative process of imposing the PPRs that have no effect on the pressure due to the DPR MAOP was completed on 9/13/2018. Details are shown in the table below.

Table 45: Line 6A FRE Delay in Implementing Updated PPR

PPR ID	Girth Weld	Date of Discovery	Original Repair/Mitigation Deadline	Initial PPR Imposition Date	DPR as of 6/17/2011 [psi]	PPR as of 3/12/2018 [psi]	PPR as of 9/13/2018 [psi]
27922	64390	3/9/2018	9/5/2018	3/12/2018	557	605	601
27923	64440	3/9/2018	9/5/2018	3/12/2018	557	617	614
27924	64650	3/9/2018	9/5/2018	3/12/2018	557	602	597
27925	65160	3/9/2018	9/5/2018	3/12/2018	557	615	612
27926	65300	3/9/2018	9/5/2018	3/12/2018	557	614	611
27921	65830	3/9/2018	9/5/2018	3/12/2018	557	617	615
27928	68870	3/9/2018	9/5/2018	3/12/2018	557	590	586

Enbridge personnel were aware of the administrative requirement and explained that this was an administrative oversight. An administrative control to prompt confirmation of meeting this requirement for future programs was added to the template ILI assessment sheet.

Line 3 CR-PW Data Quality Review (DQR) Administrative Completion Delay

The DQR of the Initial ILI Report for the Line 3 CR-PW DUOCD crack program was completed by Enbridge on 9/4/2018, however the associated record was not sent for approval on that date, and instead reflects that the DQR completion date was 9/7/2018 which is 3 days late per CD paragraph 34.a. This was an isolated incident due to an administrative error. No other deadlines from this program were impacted, as indicated in the table below.

Table 46: Line 3 CR-PW Data Quality Review (DQR) Completion Delay		
Milestone	**Documented Completed Date**	**Required Date**
Tool Run	4/6/2018	4/23/2018
ILI Report Receipt	8/3/2018	8/4/2018
ILI QA/QC Completion	9/7/2018	9/4/2018
Remaining Life and Burst Pressure Calculation Date	9/7/2018	9/28/2018
Features Added to Dig List	9/10/2018	9/10/2018

Line 6A AM-GT Casing Features Delay Placing FREs on Dig List

There are three features identified in the 2017 Line 6A AM-GT NDT UMp corrosion ILI inspection that were added to the dig list late. The three features were incorrectly classified as being "inactive" due to VCI injection into the casing to stabilize corrosion growth rate in June 2016. While Enbridge uses vapor corrosion inhibitor (VCI) injection as a control to manage corrosion by stabilizing corrosion growth rates in casings, it should be not considered a final FRE mitigation. Enbridge identified the features as FRE and added them to the Dig List and imposed PPRs on 12/5/2018, though the PPRs are administrative only because they are not as restrictive as the current discharge pressure restriction.

Enbridge received a request for information from the ITP regarding these features on November 27, 2018, and provided a response on December 21, 2018 (D037 L6A Casing Features). That response provides a technical summary and rationale for the incorrect classification of the features. The response further discusses the results of Enbridge's detailed assessment demonstrating corrosion growth stability and safety factors >1.39 based on the DPR imposed on L6A and the performance of the VCI injection.

Enbridge has reviewed records for all other Lakehead lines to ensure that corrosion features in casings to which VCI was applied were not classified as "inactive". No other misclassified features were identified.

L67 24-hour alarm misconfiguration

On August 8, 2018 it was discovered that there were misconfigurations in the Line 67 24-hour alarm software configuration model. The misconfiguration of the model would have prevented some Automated Volume Balance ("AVB") warnings and leak alarms from displaying to each member of the Alarm Response Team ("ART"). The two misconfiguration events occurred separately during two separate incidents with the net result being that the FW-PW (Floodwood to Superior) section would not have been able to display an AVB alarm from December 13, 2017 to the date it was corrected on August 8, 2018. Enbridge checked the December 13, 2017 to August 8, 2018 time period to verify if any alarms were actually missed. The verification confirmed that no AVB alarms were missed during the said time period.

Circumstances leading up to the event included a use of incorrect naming for the Donaldson Station in the initial deployment of the AVB code on Line 67; and, following an update of the model, an instance of the Superior Station abbreviation "PR" was not correctly replaced with "PW".

The causes of this non-compliance were determined following an internal investigation of the event as follows: 1) the alarm testing performed during implementation only confirmed the configuration from Leak Detection to the Leak Detection Alarm Manager ("LDAM") application and to SCADA, but did not confirm the internal model configuration; 2) the review processes to identify potential errors in the output file were inadequately designed; 3) although pre-install checks were in place at the time, they were insufficient in identifying output file errors or internal model configuration issue; and 4) although the alarm connections to LDAM and SCADA were functional at the time of commissioning and deployment, the model's internal configuration was not verified.

Remedial actions that have been completed to rectify the non-compliance and ensure ongoing compliance include correcting and re-testing model misconfigurations. This was completed on August 8, 2018.

To prevent future occurrences of a similar event, Enbridge completed the following: 1) revised the commissioning procedure to trigger alarms by adjusting thresholds rather than changing alarm flags to check internal mappings; 2) simplified the script associated with model configuration reviews; 3) instituted a peer review of model changes; and 4) enhanced the MOC procedure with additional checks and reviews, associated with model changes. In addition, Enbridge plans to implement an AVB coverage alarm by the end of Q1 2019.

146. [Discharges from a Lakehead System Pipeline]

Table 40 below identifies the one discharge from a Lakehead System Pipeline of one or more barrels of oil that occurred during the reporting period for this SAR, as well as any 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 can confirm that this discharge did not reach any waterbody or waters of the United States or adjoining shoreline. Enbridge has committed to report all Post Incident Reports that were not previously requested and provided during the current SAR reporting period. The report at issue appears in Appendix 5.

Table 47: Discharges from a Lakehead System Pipeline	
Spill Date (MM/DD/YYYY)	7/26/2018
National Response Center #	Not Required
Spill Location	Superior, Douglas County, WI
MP#/Facility Name	Superior Terminal
Equipment or Line Number	Tank 10 Piping
Cause of spill	Corrosion
Spill Material	Crude Oil
Quantity of Spill	2.00 Barrels
Distance Spill Travelled	50 feet
Sheen, Sludge or Emulsion Observed	None

Table 47: Discharges from a Lakehead System Pipeline	
Name of Water that Spill Entered (if applicable)	Not Applicable
Water Quality Standard Exceeded/Violated	Not Applicable
Actions Taken or Planned to Address Spill	An 18" sleeve was welded to the pipe on July 27, 2018 and the line was returned to service.
Actions Taken or Planned to Prevent Future Spills and Schedule for Future Actions	After discovering the pinhole leak in the 6 o'clock position adjacent to the weld joining the 45 degree elbow to the pipe, an NDE analysis was completed on the second weld associated with the elbow and along the bottom of the pipe in the general vicinity of the leak. No other defects were discovered in the additional precautionary NDE analysis. A third party review of the sleeve that was installed was completed on December 19, 2018, and applicable findings will be included in SAR4 reporting.
Environmental Impacts from Spill	Soil (Solely on Enbridge Property)
Root Cause	Internal Corrosion

147. [Update on Discharges from a Lakehead System Pipeline reported in SAR 2, July 2018]

Updates to the discharges reported in the second SAR are italicized below.

Table 48: Update on Discharges from a Lakehead System Pipeline	
Spill Date (MM/DD/YYYY)	3/23/2018
National Response Center #	Not Required
Spill Location	Superior, Douglas County, WI
MP#/Facility Name	Superior Terminal
Equipment or Line Number	Tank 21 Piping Flange
Cause of spill	Equipment Failure
Spill Material	Crude Oil
Quantity of Spill	2.00 Barrels
Distance Spill Travelled	50 feet

Table 48: Update on Discharges from a Lakehead System Pipeline	
Sheen, Sludge or Emulsion Observed	Sludge
Name of Water that Spill Entered (if applicable)	Not Applicable
Water Quality Standard Exceeded/Violated	Not Applicable
Actions Taken or Planned to Address Spill	Tank line was shutdown. The flange connection was daylighted and torqued to current specifications using torqueing equipment on 3/23/18. *Area was monitored twice per day for 2 months with no further leak observed.*
Actions Taken or Planned to Prevent Future Spills and Schedule for Future Actions	Pressure was reduced on connection. Flange studs were torqued to proper value. Area will be monitored at a minimum of twice per day for 2 months.
Final Actions Taken or Planned to Prevent Future Spills and Schedule for Future Actions	No further action warranted
Environmental Impacts from Spill	Soil (Solely on Enbridge Property)
Preliminary Root Cause	Non-threaded connection failure.
Final Root Cause	No change

148. [Copies of all Post Incident Reports]

See 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

ENBRIDGE

Appendix 1 – Table of Temporary MBS Suspension [93-94, 96-97]

Reporting Period: May 23, 2018 to November 22, 2018

ENBRIDGE

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	9	0
Bypass of ILI Tool	4 hours	52	0
Scheduled maintenance or repairs	4 days	42	0

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

Reporting Period: May 23, 2018 to November 22, 2018

Lakehead Leak Alarm Reports

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

Prepared by Pipeline Control

On December 5, 2018

For reporting period May 23, 2018 to November 22, 2018

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. *Note: Line 6B has been renamed to Line 78. 6B and 78 are equivalent and the same pipeline.*
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”).

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]

[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: May 23, 2018 to November 22, 2018)

Pipeline	Total Alarms	Total Non-Compliance (Alarming)	Total Non-Compliance (Non-Alarming)	Reasons and Corrective Actions for each Non-Compliance
01	20	0	0	
02	18	0	0	
03	31	0	0	
04	6	0	0	
05	70	0	0	
06A	26	0	0	
10	12	0	0	
14	22	0	0	
61	13	0	0	
62	0	0	0	

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	6	0	0	
67	11	0	0	
78	21	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	2018-06-12 10:52:27
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-06-12 10:52:27 2018-06-12 10:55:55
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-06-12 10:48:00** **The line was in the process of shutting down when the alarm was generated. The 'Shutdown Commenced' time identifies when the shutdown was initiated.
Shutdown Completed	2018-06-12 11:20:00
Justification for Resumption	Visual inspection performed by field staff - Regional and CCO Admin approvals granted
Startup Commenced	2018-06-14 03:50:30
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	01
Alarming Event Start Time	2018-07-30 12:54:44
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-07-30 12:54:44 2018-07-30 13:10:27 2018-07-30 12:54:44 2018-07-30 13:10:28
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	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2018-07-30 17:00:28
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	01
Alarming Event Start Time	2018-08-30 19:00:19
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-08-30 19:00:19 2018-08-30 19:10:13
Root Cause	Column Separation
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	2018-08-30 22:00:10
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	01
Alarming Event Start Time	2018-09-14 14:58:46
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-09-14 14:58:46 2018-09-14 15:08:08 2018-09-14 15:01:16 2018-09-14 15:08:11 2018-09-14 15:28:19 2018-09-14 15:34:09
Root Cause	Batch Misalignment
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	2018-09-14 15:45:47
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	01
Alarming Event Start Time	2018-09-18 08:39:47
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-09-18 08:39:47 2018-09-18 08:49:27 2018-09-18 08:40:46 2018-09-18 08:50:49
Root Cause	Column Separation
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-09-18 08:50:05* *Each alarm is assessed individually to rule out the possibility of a leak within 10 minutes of the alarm in an 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	2018-09-18 09:09:01
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2018-09-18 12:00:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	01
Alarming Event Start Time	2018-10-17 14:31:58
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-10-17 14:31:58 2018-10-17 14:40:36
Root Cause	Column Separation
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-10-17 14:42:08* *Each alarm is assessed individually to rule out the possibility of a leak within 10 minutes of the alarm in an 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	2018-10-17 15:02:30
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted Static Pressure Monitoring of System over 60 minutes and CCO investigation identified no additional leak triggers. Regional and CCO Admin approvals granted
Startup Commenced	2018-10-17 18:40:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	03
Alarming Event Start Time	2018-05-23 20:09:51
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-05-23 20:09:51 2018-05-23 20:18:41 2018-05-23 20:09:51 2018-05-23 20:18:38
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-05-23 20:12:10
Shutdown Completed	2018-05-23 20:30:08
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted Static Pressure Monitoring of System over 60 minutes and CCO investigation identified no additional leak triggers. Regional and CCO Admin approvals granted
Startup Commenced	2018-05-23 22:46:24
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	03
Alarming Event Start Time	2018-05-23 23:43:26
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-05-23 23:43:26 2018-05-24 02:43:09 2018-05-23 23:46:26 2018-05-24 02:43:10
Root Cause	LDS Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-05-23 23:53:43* *Each alarm is assessed individually to rule out the possibility of a leak within 10 minutes of the alarm in an 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	2018-05-24 00:02:00
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2018-05-24 06:41:26
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	03
Alarming Event Start Time	2018-05-24 00:44:26
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-05-24 00:44:26 2018-05-24 01:16:03 2018-05-24 00:45:26 2018-05-24 01:16:01
Root Cause	Instrument Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-05-24 00:54:25
Shutdown Completed	2018-05-24 01:10:00
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2018-05-24 08:25:15
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	03
Alarming Event Start Time	2018-05-24 01:06:27
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-05-24 01:06:27 2018-05-24 01:16:11
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-05-24 00:55:14** **The line was in the process of shutting down when the alarm was generated. The 'Shutdown Commenced' time identifies when the shutdown was initiated.
Shutdown Completed	2018-05-24 01:10:00
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2018-05-24 08:25:12
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	03
Alarming Event Start Time	2018-05-24 09:59:05
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-05-24 09:59:05 2018-05-24 10:09:28 2018-05-24 09:59:06 2018-05-24 10:09:24 2018-05-24 15:30:42 2018-05-24 15:35:07 2018-05-24 15:30:42 2018-05-24 15:35:08
Root Cause	LDS Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-05-24 10:09:39* *Each alarm is assessed individually to rule out the possibility of a leak within 10 minutes of the alarm in an 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	2018-05-24 10:23:58
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2018-05-24 11:00:37
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	03
Alarming Event Start Time	2018-08-05 15:30:54
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-08-05 15:30:54 2018-08-05 15:38:21 2018-08-05 15:34:54 2018-08-05 15:38:23 2018-08-05 15:37:23 2018-08-05 15:39:26
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-08-05 15:32:19
Shutdown Completed	2018-08-05 15:53:26
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted Static Pressure Monitoring of System over 60 minutes and CCO investigation identified no additional leak triggers. Regional and CCO Admin approvals granted
Startup Commenced	2018-08-05 19:40:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	03
Alarming Event Start Time	2018-08-10 09:48:41
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-08-10 09:48:41 2018-08-10 09:52:39 2018-08-10 11:03:12 2018-08-10 11:09:18
Root Cause	Column Separation
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline LDAM - Leak Detection System (LDS) Alarm - Non-Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-08-10 09:34:18** **The line was in the process of shutting down when the alarm was generated. The 'Shutdown Commenced' time identifies when the shutdown was initiated.
Shutdown Completed	2018-08-10 11:19:04
Justification for Resumption	After shutdown, alarm deemed valid following LDA investigation. Column separation investigated by CCO with no unexplained leak triggers CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2018-08-10 12:15:58
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	03
Alarming Event Start Time	2018-10-02 21:11:17
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-10-02 21:11:17 2018-10-02 21:21:16 2018-10-02 21:13:47 2018-10-02 21:21:49 2018-10-02 21:15:47 2018-10-02 21:21:54
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline LDAM - Leak Detection System (LDS) Alarm - Non-Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-10-02 21:21:28* *Each alarm is assessed individually to rule out the possibility of a leak within 10 minutes of the alarm in an 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	2018-10-02 21:34:34
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted Static Pressure Monitoring of System over 60 minutes and CCO investigation identified no additional leak triggers. Regional and CCO Admin approvals granted
Startup Commenced	2018-10-03 00:01:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	04
Alarming Event Start Time	2018-11-08 17:59:20
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-11-08 17:59:20 2018-11-08 18:03:31
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	2018-11-08 23:41:58
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2018-06-07 18:47:45
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-06-07 18:47:45 2018-06-07 19:01:56
Root Cause	Column Separation
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-06-07 18:41:23** **The line was in the process of shutting down when the alarm was generated. The 'Shutdown Commenced' time identifies when the shutdown was initiated.
Shutdown Completed	2018-06-07 19:04:25
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2018-06-07 21:35:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2018-06-15 20:45:00
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-06-15 20:45:00 2018-06-15 21:35:45
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-06-15 20:47:59 2018-06-15 21:35:43
Root Cause	Instrument Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-06-15 20:52:05
Shutdown Completed	2018-06-15 21:07:40
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2018-06-15 22:10:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2018-07-20 12:13:04
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-07-20 12:13:04 2018-07-20 12:23:44
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-07-20 12:06:50** **The line was in the process of shutting down when the alarm was generated. The 'Shutdown Commenced' time identifies when the shutdown was initiated.
Shutdown Completed	2018-07-20 12:29:35
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2018-07-20 16:30:31
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2018-08-05 19:46:54
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-08-05 19:46:54 2018-08-05 19:53:40
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	2018-08-05 21:30:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2018-08-21 11:11:54
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-08-21 11:11:54 2018-08-21 11:15:27
Root Cause	LDS Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-08-21 11:16:11
Shutdown Completed	2018-08-21 11:35:58
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted Visual inspection performed by field staff - Regional and CCO Admin approvals granted
Startup Commenced	2018-08-21 16:20:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2018-08-23 14:38:03
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-08-23 14:38:03 2018-08-23 15:08:58
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	2018-08-23 15:25:33
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2018-08-23 15:21:37
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-08-23 15:21:37 2018-08-23 15:32:27 2018-08-23 15:23:37 2018-08-23 15:32:29
Root Cause	Fluid Loss
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-08-23 15:31:26
Shutdown Completed	2018-08-23 15:36:55
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2018-08-23 15:55:34
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2018-08-28 08:56:12
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-08-28 08:56:12 2018-08-28 11:31:12
Root Cause	LDS Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-08-28 09:05:19
Shutdown Completed	2018-08-28 09:15:55
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2018-08-28 12:15:17
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2018-08-28 10:17:12
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-08-28 10:17:12 2018-08-28 10:36:53
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	2018-08-28 12:15:56
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	05
Alarming Event Start Time	2018-10-31 10:49:32
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-10-31 10:49:32 2018-10-31 10:56:14
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	2018-10-31 12:38:35
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	06A
Alarming Event Start Time	2018-05-28 13:07:02
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-05-28 13:07:02 2018-05-28 13:14:12
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	2018-05-28 13:45:43
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	06A
Alarming Event Start Time	2018-05-31 21:12:50
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-05-31 21:12:50 2018-05-31 21:19:32
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	2018-05-31 21:27:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	06A
Alarming Event Start Time	2018-07-24 11:53:41
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-07-24 11:53:41 2018-07-24 11:57:17
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	2018-07-24 14:00:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	06A
Alarming Event Start Time	2018-07-30 09:57:17
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-07-30 09:57:17 2018-07-30 10:03:43
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	2018-07-30 11:30:52
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	06A
Alarming Event Start Time	2018-08-01 04:25:33
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-08-01 04:25:33 2018-08-01 04:29:53
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	2018-08-01 04:53:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	06A
Alarming Event Start Time	2018-08-17 10:21:52
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-08-17 10:21:52 2018-08-17 10:25:41
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	2018-08-17 10:50:35
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	06A
Alarming Event Start Time	2018-10-29 10:56:14
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-10-29 10:56:14 2018-10-29 10:58:39
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	2018-10-29 12:29:11
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	06A
Alarming Event Start Time	2018-11-04 14:06:51
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-11-04 14:06:51 2018-11-04 14:11:59 2018-11-04 14:12:21 2018-11-04 14:13:17
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	2018-11-05 16:55:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	10
Alarming Event Start Time	2018-07-15 03:58:04
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-07-15 03:58:04 2018-07-15 04:20:38
Root Cause	Communication Interruption
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	2018-07-15 05:30:40
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	10
Alarming Event Start Time	2018-07-17 13:41:58
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-07-17 13:41:58 2018-07-17 13:55:17 2018-07-17 13:41:58 2018-07-17 13:55:19 2018-07-17 13:42:28 2018-07-17 13:55:21 2018-07-17 13:51:28 2018-07-17 13:57:07 2018-07-17 15:14:30 2018-07-17 15:18:41
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	2018-07-18 06:00:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	10
Alarming Event Start Time	2018-09-09 16:58:49
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-09-09 16:58:49 2018-09-09 17:04:49
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-09-09 16:52:49** **The line was in the process of shutting down when the alarm was generated. The 'Shutdown Commenced' time identifies when the shutdown was initiated.
Shutdown Completed	2018-09-09 17:15:22
Justification for Resumption	Visual inspection performed by field staff - Regional and CCO Admin approvals granted
Startup Commenced	2018-09-10 12:45:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	10
Alarming Event Start Time	2018-09-09 18:07:22
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-09-09 18:07:22 2018-09-09 18:11:29 2018-09-09 20:15:24 2018-09-09 20:17:09 2018-09-09 22:28:02 2018-09-09 22:29:39 2018-09-10 00:48:34 2018-09-10 00:51:35
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	2018-09-10 07:00:47
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	10
Alarming Event Start Time	2018-09-10 06:28:12
MBS Alarm Received Time **MBS Alarm Assessed Time**	2018-09-10 06:28:12 2018-09-10 06:36:00
Root Cause	LDS Error
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-09-09 16:52:49** **The line was shut down when the alarm was generated. The 'Shutdown Commenced' time identifies when the shutdown was initiated.
Shutdown Completed	2018-09-10 06:45:07
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2018-09-10 12:45:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	10
Alarming Event Start Time	2018-09-25 13:57:29
MBS Alarm Received Time **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time** **MBS Alarm Received Time** **MBS Alarm Assessed Time**	2018-09-25 13:57:29 2018-09-25 15:01:37 2018-09-25 13:57:59 2018-09-25 15:01:38 2018-09-25 13:58:59 2018-09-25 15:01:40 2018-09-25 14:20:01 2018-09-25 15:01:43 2018-09-25 14:21:01 2018-09-25 15:01:32
Root Cause	Field Maintenance
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Non-Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	Not Applicable - pipeline was already Shutdown and Sectionalized
Shutdown Completed	Not Applicable - pipeline was already Shutdown and Sectionalized
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2018-09-25 17:00:49
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	10
Alarming Event Start Time	2018-10-17 16:23:53
MBS Alarm Received Time	2018-10-17 16:23:53
MBS Alarm Assessed Time	2018-10-17 16:36:48
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-10-17 16:19:21**
Shutdown Completed	2018-10-17 16:48:28
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted
Startup Commenced	2018-10-17 20:35:39
Were Procedures Followed	Yes
Post Incident Report	

**The line was in the process of shutting down when the alarm was generated. The 'Shutdown Commenced' time identifies when the shutdown was initiated.

Pipeline	14
Alarming Event Start Time	2018-09-20 05:57:46
MBS Alarm Received Time	2018-09-20 05:57:46
MBS Alarm Assessed Time	2018-09-20 06:06:44
MBS Alarm Received Time	2018-09-20 05:57:46
MBS Alarm Assessed Time	2018-09-20 06:06:44
Root Cause	Transient Condition
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-09-20 05:53:00**
Shutdown Completed	2018-09-20 06:27:00
Justification for Resumption	CCO investigation identified no leak triggers - Regional and CCO admin approvals granted Static Pressure Monitoring of System over 60 minutes and CCO investigation identified no additional leak triggers. Regional and CCO Admin approvals granted Visual inspection performed by field staff - Regional and CCO Admin approvals granted
Startup Commenced	2018-09-20 14:35:52
Were Procedures Followed	Yes
Post Incident Report	

**The line was in the process of shutting down when the alarm was generated. The 'Shutdown Commenced' time identifies when the shutdown was initiated.

Pipeline	14
Alarming Event Start Time	2018-09-20 07:38:18
MBS Alarm Received Time	2018-09-20 07:38:18
MBS Alarm Assessed Time	2018-09-20 07:43:34
MBS Alarm Received Time	2018-09-20 07:38:48
MBS Alarm Assessed Time	2018-09-20 07:43:31
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 Static Pressure Monitoring of System over 60 minutes and CCO investigation identified no additional leak triggers. Regional and CCO Admin approvals granted Visual inspection performed by field staff - Regional and CCO Admin approvals granted
Startup Commenced	2018-09-20 14:35:52
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	65
Alarming Event Start Time	2018-08-06 11:52:17
MBS Alarm Received Time	2018-08-06 11:52:17
MBS Alarm Assessed Time	2018-08-06 14:54:40
MBS Alarm Received Time	2018-08-06 13:57:20
MBS Alarm Assessed Time	2018-08-06 14:54:43
Root Cause	Communication Interruption
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-08-06 12:02:52*
Shutdown Completed	2018-08-06 12:11:00
Justification for Resumption	After shutdown, alarm deemed invalid following LDA investigation and CCO investigation identified no leak triggers
Startup Commenced	2018-08-06 15:22:08
Were Procedures Followed	Yes
Post Incident Report	

*Each alarm is assessed individually to rule out the possibility of a leak within 10 minutes of the alarm in an 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.

Pipeline	65
Alarming Event Start Time	2018-10-23 07:13:39
MBS Alarm Received Time	2018-10-23 07:13:39
MBS Alarm Assessed Time	2018-10-23 07:21:32
Root Cause	Fluid Loss
CRO and STA Actions	LDAM - Leak Detection System (LDS) Alarm - Flowing Pipeline
LDA Actions	LD - MBS - Leak Alarm
Shutdown Commenced	2018-10-23 07:00:07**
Shutdown Completed	2018-10-23 07:40:03
Justification for Resumption	Visual inspection performed by field staff - Regional and CCO Admin approvals granted
Startup Commenced	2018-10-23 13:02:05
Were Procedures Followed	Yes
Post Incident Report	

**The line was in the process of shutting down when the alarm was generated. The 'Shutdown Commenced' time identifies when the shutdown was initiated.

Pipeline	78
Alarming Event Start Time	2018-07-05 15:42:54
MBS Alarm Received Time	2018-07-05 15:42:54
MBS Alarm Assessed Time	2018-07-05 15:46:26
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	2018-07-05 16:58:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	78
Alarming Event Start Time	2018-08-08 17:55:26
MBS Alarm Received Time	2018-08-08 17:55:26
MBS Alarm Assessed Time	2018-08-08 17:57:01
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	2018-08-08 22:00:00
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	78
Alarming Event Start Time	2018-09-08 02:49:01
MBS Alarm Received Time	2018-09-08 02:49:01
MBS Alarm Assessed Time	2018-09-08 02:55:06
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	2018-09-08 04:50:37
Were Procedures Followed	Yes
Post Incident Report	

Pipeline	78
Alarming Event Start Time	2018-09-09 19:19:41
MBS Alarm Received Time	2018-09-09 19:19:41
MBS Alarm Assessed Time	2018-09-09 19:23:08
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	2018-09-09 23:59:00
Were Procedures Followed	Yes
Post Incident Report	

3. Weekly List of Alarms (“WLOA”)

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

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

2018 Week 21: 17 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2018-05-23 01:35:52	MBS	2018-05-23 01:35:52	2018-05-23 01:40:11	2018-05-23 01:40:11	No
		MBS	2018-05-23 01:35:52	2018-05-23 01:40:09	2018-05-23 01:40:09	
03	2018-05-23 05:49:25	MBS	2018-05-23 05:49:25	2018-05-23 05:54:50	2018-05-23 05:54:50	No
		MBS	2018-05-23 05:49:25	2018-05-23 05:54:52	2018-05-23 05:54:52	
03	2018-05-23 20:00:49	MBS	2018-05-23 20:00:49	2018-05-23 20:07:48	2018-05-23 20:07:48	No
		MBS	2018-05-23 20:00:49	2018-05-23 20:07:47	2018-05-23 20:07:47	
03	2018-05-23 20:09:51	MBS	2018-05-23 20:09:51	2018-05-23 20:18:41	2018-05-23 21:50:24	Yes
		MBS	2018-05-23 20:09:51	2018-05-23 20:18:38	2018-05-23 21:50:24	
03	2018-05-23 22:58:26	MBS	2018-05-23 22:58:26	2018-05-23 23:06:49	2018-05-23 23:06:49	No
		MBS	2018-05-23 22:58:26	2018-05-23 23:06:43	2018-05-23 23:06:43	
03	2018-05-23 23:43:26	MBS	2018-05-23 23:43:26	2018-05-24 02:43:09	2018-05-24 05:22:35	Yes
		MBS	2018-05-23 23:46:26	2018-05-24 02:43:10	2018-05-24 05:22:35	
03	2018-05-24 00:44:26	MBS	2018-05-24 00:44:26	2018-05-24 01:16:03	2018-05-24 07:23:00	Yes
		MBS	2018-05-24 00:45:26	2018-05-24 01:16:01	2018-05-24 07:23:00	
03	2018-05-24 01:06:27	MBS	2018-05-24 01:06:27	2018-05-24 01:16:11	2018-05-24 07:23:00	Yes
03	2018-05-24 08:43:34	MBS	2018-05-24 08:43:34	2018-05-24 08:45:43	2018-05-24 08:45:43	No
		MBS	2018-05-24 08:43:35	2018-05-24 08:45:41	2018-05-24 08:45:41	
		MBS	2018-05-24 08:52:05	2018-05-24 08:57:26	2018-05-24 08:57:26	
		MBS	2018-05-24 08:52:06	2018-05-24 08:57:27	2018-05-24 08:57:27	
		MBS	2018-05-24 09:03:34	2018-05-24 09:06:27	2018-05-24 09:06:27	
		MBS	2018-05-24 09:04:04	2018-05-24 09:06:29	2018-05-24 09:06:29	
03	2018-05-24 09:59:05	MBS	2018-05-24 09:59:05	2018-05-24 10:09:28	2018-05-24 10:40:29	Yes
		MBS	2018-05-24 09:59:06	2018-05-24 10:09:24	2018-05-24 10:40:29	
		MBS	2018-05-24 15:30:42	2018-05-24 15:35:07	2018-05-24 10:40:29	
		MBS	2018-05-24 15:30:42	2018-05-24 15:35:08	2018-05-24 10:40:29	

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2018-05-25 05:50:15	MBS	2018-05-25 05:50:15	2018-05-25 05:58:56	2018-05-25 05:58:56	No
		MBS	2018-05-25 05:52:15	2018-05-25 05:58:57	2018-05-25 05:58:57	
03	2018-05-25 07:01:44	AVB	2018-05-25 07:01:44	2018-05-25 07:05:38	2018-05-25 07:05:38	No
		AVB	2018-05-25 07:01:44	2018-05-25 07:05:34	2018-05-25 07:05:34	
		AVB	2018-05-25 07:01:44	2018-05-25 07:05:32	2018-05-25 07:05:32	
05	2018-05-23 13:22:25	MBS	2018-05-23 13:22:25	2018-05-23 13:28:31	2018-05-23 13:28:31	No
05	2018-05-25 08:35:34	MBS	2018-05-25 08:35:34	2018-05-25 08:40:02	2018-05-25 08:40:02	No
05	2018-05-26 19:18:19	MBS	2018-05-26 19:18:19	2018-05-26 19:22:07	2018-05-26 19:22:07	No
05	2018-05-27 08:48:27	MBS	2018-05-27 08:48:27	2018-05-27 08:55:50	2018-05-27 08:55:50	No
78	2018-05-24 18:13:01	MBS	2018-05-24 18:13:01	2018-05-24 18:20:08	2018-05-24 18:20:08	No

2018 Week 22: 5 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
06A	2018-05-28 13:07:02	MBS	2018-05-28 13:07:02	2018-05-28 13:14:12	2018-05-28 13:24:33	Yes
06A	2018-05-28 13:41:33	MBS	2018-05-28 13:41:33	2018-05-28 13:45:11	2018-05-28 13:45:11	No
		MBS	2018-05-28 13:41:33	2018-05-28 13:45:13	2018-05-28 13:45:13	
06A	2018-05-31 21:12:50	MBS	2018-05-31 21:12:50	2018-05-31 21:19:32	2018-05-31 21:24:00	Yes
06A	2018-05-31 21:41:51	MBS	2018-05-31 21:41:51	2018-05-31 21:47:41	2018-05-31 21:47:41	No
78	2018-05-30 19:07:10	MBS	2018-05-30 19:07:10	2018-05-30 19:08:49	2018-05-30 19:08:49	No

2018 Week 23: 9 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2018-06-06 06:55:00	MBS	2018-06-06 06:55:00	2018-06-06 06:57:29	2018-06-06 06:57:29	No
		MBS	2018-06-06 06:55:00	2018-06-06 06:57:27	2018-06-06 06:57:27	
		MBS	2018-06-06 07:04:59	2018-06-06 07:07:33	2018-06-06 07:07:33	
		MBS	2018-06-06 07:04:59	2018-06-06 07:07:30	2018-06-06 07:07:30	
05	2018-06-04 15:30:04	MBS	2018-06-04 15:30:04	2018-06-04 15:34:24	2018-06-04 15:34:24	No
05	2018-06-05 13:46:01	MBS	2018-06-05 13:46:01	2018-06-05 13:51:36	2018-06-05 13:51:36	No
		MBS	2018-06-05 13:47:01	2018-06-05 13:51:33	2018-06-05 13:51:33	
05	2018-06-06 13:10:18	MBS	2018-06-06 13:10:18	2018-06-06 13:16:49	2018-06-06 13:16:49	No
		MBS	2018-06-06 13:10:48	2018-06-06 13:16:53	2018-06-06 13:16:53	
		MBS	2018-06-06 13:11:50	2018-06-06 13:16:54	2018-06-06 13:16:54	
		MBS	2018-06-06 13:13:49	2018-06-06 13:16:57	2018-06-06 13:16:57	
		MBS	2018-06-06 13:14:19	2018-06-06 13:16:58	2018-06-06 13:16:58	
05	2018-06-07 18:47:45	MBS	2018-06-07 18:47:45	2018-06-07 19:01:56	2018-06-07 19:45:08	Yes
10	2018-06-09 12:25:35	MBS	2018-06-09 12:25:35	2018-06-09 12:33:21	2018-06-09 12:33:21	No
14	2018-06-06 12:06:53	MBS	2018-06-06 12:06:53	2018-06-06 12:09:54	2018-06-06 12:09:54	No
		MBS	2018-06-06 12:07:53	2018-06-06 12:09:50	2018-06-06 12:09:50	
61	2018-06-08 09:24:49	MBS	2018-06-08 09:24:49	2018-06-08 09:34:13	2018-06-08 09:34:13	No
67	2018-06-04 06:48:24	MBS	2018-06-04 06:48:24	2018-06-04 06:50:51	2018-06-04 06:50:51	No
		MBS	2018-06-04 06:48:24	2018-06-04 06:50:50	2018-06-04 06:50:50	
		MBS	2018-06-04 06:48:54	2018-06-04 06:50:46	2018-06-04 06:50:46	

2018 Week 24: 8 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-06-12 10:52:27	MBS	2018-06-12 10:52:27	2018-06-12 10:55:55	2018-06-12 14:32:52	Yes
01	2018-06-14 21:05:35	MBS	2018-06-14 21:05:35	2018-06-14 21:12:13	2018-06-14 21:12:13	No
		MBS	2018-06-14 21:06:35	2018-06-14 21:12:14	2018-06-14 21:12:14	
		MBS	2018-06-14 21:08:05	2018-06-14 21:12:15	2018-06-14 21:12:15	
05	2018-06-15 09:02:00	AVB	2018-06-15 09:02:00	2018-06-15 09:08:29	2018-06-15 09:08:29	No
		AVB	2018-06-15 09:02:00	2018-06-15 09:08:26	2018-06-15 09:08:26	
05	2018-06-15 20:45:00	MBS	2018-06-15 20:45:00	2018-06-15 21:35:45	2018-06-15 21:46:45	Yes
		MBS	2018-06-15 20:47:59	2018-06-15 21:35:43	2018-06-15 21:46:45	
14	2018-06-11 04:14:03	MBS	2018-06-11 04:14:03	2018-06-11 04:23:23	2018-06-11 04:23:23	No
		MBS	2018-06-11 04:21:10	2018-06-11 04:24:09	2018-06-11 04:24:09	
14	2018-06-11 19:54:53	MBS	2018-06-11 19:54:53	2018-06-11 20:00:04	2018-06-11 20:00:04	No
61	2018-06-11 20:22:01	MBS	2018-06-11 20:22:01	2018-06-11 20:24:27	2018-06-11 20:24:27	No
61	2018-06-15 15:13:56	MBS	2018-06-15 15:13:56	2018-06-15 15:17:50	2018-06-15 15:17:50	No

2018 Week 25: 7 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
02	2018-06-19 12:35:06	MBS	2018-06-19 12:35:06	2018-06-19 12:38:06	2018-06-19 12:38:06	No
		MBS	2018-06-19 12:35:06	2018-06-19 12:38:03	2018-06-19 12:38:03	
03	2018-06-21 16:23:20	MBS	2018-06-21 16:23:20	2018-06-21 16:29:15	2018-06-21 16:29:15	No
03	2018-06-24 21:56:47	MBS	2018-06-24 21:56:47	2018-06-24 21:59:59	2018-06-24 21:59:59	No
05	2018-06-18 18:11:16	MBS	2018-06-18 18:11:16	2018-06-18 18:15:59	2018-06-18 18:15:59	No
		MBS	2018-06-18 18:11:16	2018-06-18 18:15:57	2018-06-18 18:15:57	
05	2018-06-19 11:50:52	MBS	2018-06-19 11:50:52	2018-06-19 11:57:54	2018-06-19 11:57:54	No
		MBS	2018-06-19 11:50:52	2018-06-19 11:57:56	2018-06-19 11:57:56	
		MBS	2018-06-19 11:54:51	2018-06-19 11:57:57	2018-06-19 11:57:57	
61	2018-06-22 04:19:51	MBS	2018-06-22 04:19:51	2018-06-22 04:29:00	2018-06-22 04:29:00	No
78	2018-06-21 00:25:13	MBS	2018-06-21 00:25:13	2018-06-21 00:33:48	2018-06-21 00:33:48	No

2018 Week 26: 9 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
05	2018-06-25 12:50:06	MBS	2018-06-25 12:50:06	2018-06-25 12:53:32	2018-06-25 12:53:32	No
05	2018-06-27 20:44:04	MBS	2018-06-27 20:44:04	2018-06-27 20:48:47	2018-06-27 20:48:47	No
05	2018-06-30 00:36:32	MBS	2018-06-30 00:36:32	2018-06-30 00:41:36	2018-06-30 00:41:36	No
05	2018-07-01 04:42:13	MBS	2018-07-01 04:42:13	2018-07-01 04:48:28	2018-07-01 04:48:28	No
06A	2018-06-28 10:29:40	MBS	2018-06-28 10:29:40	2018-06-28 10:37:35	2018-06-28 10:37:35	No
		MBS	2018-06-28 10:33:10	2018-06-28 10:39:27	2018-06-28 10:39:27	
		MBS	2018-06-28 10:33:42	2018-06-28 10:39:25	2018-06-28 10:39:25	
		MBS	2018-06-28 10:37:10	2018-06-28 10:40:00	2018-06-28 10:40:00	
06A	2018-06-29 23:13:44	MBS	2018-06-29 23:13:44	2018-06-29 23:23:25	2018-06-29 23:23:25	No
		MBS	2018-06-29 23:14:45	2018-06-29 23:23:28	2018-06-29 23:23:28	
		MBS	2018-06-29 23:20:16	2018-06-29 23:27:53	2018-06-29 23:27:53	
		MBS	2018-06-29 23:21:46	2018-06-29 23:27:57	2018-06-29 23:27:57	
14	2018-07-01 10:17:22	MBS	2018-07-01 10:17:22	2018-07-01 10:23:17	2018-07-01 10:23:17	No
		MBS	2018-07-01 11:59:01	2018-07-01 12:02:05	2018-07-01 12:02:05	
		MBS	2018-07-01 16:02:24	2018-07-01 16:04:18	2018-07-01 16:04:18	
		MBS	2018-07-01 16:02:24	2018-07-01 16:04:15	2018-07-01 16:04:15	
		MBS	2018-07-01 16:02:24	2018-07-01 16:04:12	2018-07-01 16:04:12	
67	2018-06-29 03:04:43	MBS	2018-06-29 03:04:43	2018-06-29 03:12:44	2018-06-29 03:12:44	No
		MBS	2018-06-29 03:04:43	2018-06-29 03:12:47	2018-06-29 03:12:47	
		MBS	2018-06-29 03:04:43	2018-06-29 03:12:50	2018-06-29 03:12:50	
		MBS	2018-06-29 03:04:43	2018-06-29 03:12:55	2018-06-29 03:12:55	
		MBS	2018-06-29 03:07:43	2018-06-29 03:12:57	2018-06-29 03:12:57	

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
67	2018-06-29 08:07:52	MBS	2018-06-29 08:07:52	2018-06-29 08:14:26	2018-06-29 08:14:26	No
		MBS	2018-06-29 08:09:23	2018-06-29 08:14:27	2018-06-29 08:14:27	
		MBS	2018-06-29 08:10:53	2018-06-29 08:14:30	2018-06-29 08:14:30	
		MBS	2018-06-29 08:11:53	2018-06-29 08:14:31	2018-06-29 08:14:31	
		MBS	2018-06-29 08:19:53	2018-06-29 08:22:53	2018-06-29 08:22:53	
		MBS	2018-06-29 08:30:57	2018-06-29 08:34:30	2018-06-29 08:34:30	

2018 Week 27: 6 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2018-07-07 00:13:21	MBS	2018-07-07 00:13:21	2018-07-07 00:16:51	2018-07-07 00:16:51	No
		MBS	2018-07-07 00:13:21	2018-07-07 00:16:49	2018-07-07 00:16:49	
05	2018-07-08 05:51:14	MBS	2018-07-08 05:51:14	2018-07-08 05:54:47	2018-07-08 05:54:47	No
14	2018-07-04 02:52:06	MBS	2018-07-04 02:52:06	2018-07-04 02:56:59	2018-07-04 02:56:59	No
61	2018-07-08 17:15:45	MBS	2018-07-08 17:15:45	2018-07-08 17:18:29	2018-07-08 17:18:29	No
		MBS	2018-07-08 17:15:45	2018-07-08 17:18:31	2018-07-08 17:18:31	
		MBS	2018-07-08 17:16:16	2018-07-08 17:18:36	2018-07-08 17:18:36	
65	2018-07-04 04:34:34	MBS	2018-07-04 04:34:34	2018-07-04 04:37:41	2018-07-04 04:37:41	No
78	2018-07-05 15:42:54	MBS	2018-07-05 15:42:54	2018-07-05 15:46:26	2018-07-05 16:00:00	Yes

2018 Week 28: 9 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-07-14 21:02:02	AVB	2018-07-14 21:02:02	2018-07-14 21:05:47	2018-07-14 21:05:47	No
		AVB	2018-07-14 21:02:02	2018-07-14 21:05:49	2018-07-14 21:05:49	
05	2018-07-12 17:08:34	MBS	2018-07-12 17:08:34	2018-07-12 17:13:28	2018-07-12 17:13:28	No
06A	2018-07-12 06:56:59	MBS	2018-07-12 06:56:59	2018-07-12 07:00:22	2018-07-12 07:00:22	No
06A	2018-07-12 12:01:35	AVB	2018-07-12 12:01:35	2018-07-12 12:03:40	2018-07-12 12:03:40	No
10	2018-07-15 03:58:04	MBS	2018-07-15 03:58:04	2018-07-15 04:20:38	2018-07-15 04:30:21	Yes
61	2018-07-13 20:28:53	MBS	2018-07-13 20:28:53	2018-07-13 20:35:52	2018-07-13 20:35:52	No
65	2018-07-10 22:30:20	MBS	2018-07-10 22:30:20	2018-07-10 22:36:52	2018-07-10 22:36:52	No
67	2018-07-10 06:28:00	MBS	2018-07-10 06:28:00	2018-07-10 06:36:49	2018-07-10 06:36:49	No
		MBS	2018-07-10 06:31:01	2018-07-10 06:36:52	2018-07-10 06:36:52	
78	2018-07-11 16:54:16	MBS	2018-07-11 16:54:16	2018-07-11 16:57:01	2018-07-11 16:57:01	No
		MBS	2018-07-11 16:54:16	2018-07-11 16:56:56	2018-07-11 16:56:56	
		AVB	2018-07-11 18:01:48	2018-07-11 18:05:58	2018-07-11 18:05:58	

2018 Week 29: 13 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-07-17 06:19:36	MBS	2018-07-17 06:19:36	2018-07-17 06:25:25	2018-07-17 06:25:25	No
		MBS	2018-07-17 06:20:06	2018-07-17 06:25:09	2018-07-17 06:25:09	
02	2018-07-17 07:05:02	MBS	2018-07-17 07:05:02	2018-07-17 07:10:45	2018-07-17 07:10:45	No
		MBS	2018-07-17 07:05:02	2018-07-17 07:09:35	2018-07-17 07:09:35	
02	2018-07-17 13:39:46	MBS	2018-07-17 13:39:46	2018-07-17 13:42:40	2018-07-17 13:42:40	No
		MBS	2018-07-17 13:39:46	2018-07-17 13:42:37	2018-07-17 13:42:37	
		MBS	2018-07-17 13:39:46	2018-07-17 13:42:35	2018-07-17 13:42:35	
04	2018-07-20 18:01:59	AVB	2018-07-20 18:01:59	2018-07-20 18:04:20	2018-07-20 18:04:20	No
05	2018-07-17 10:53:13	MBS	2018-07-17 10:53:13	2018-07-17 10:54:50	2018-07-17 10:54:50	No
05	2018-07-18 07:17:17	MBS	2018-07-18 07:17:17	2018-07-18 07:22:44	2018-07-18 07:22:44	No
05	2018-07-19 12:30:49	MBS	2018-07-19 12:30:49	2018-07-19 12:34:51	2018-07-19 12:34:51	No
05	2018-07-20 12:13:04	MBS	2018-07-20 12:13:04	2018-07-20 12:23:44	2018-07-20 13:14:19	Yes
05	2018-07-21 23:29:26	MBS	2018-07-21 23:29:26	2018-07-21 23:33:07	2018-07-21 23:33:07	No
10	2018-07-17 13:41:58	MBS	2018-07-17 13:41:58	2018-07-17 13:55:17	2018-07-17 14:29:26	Yes
		MBS	2018-07-17 13:41:58	2018-07-17 13:55:19	2018-07-17 14:29:26	
		MBS	2018-07-17 13:42:28	2018-07-17 13:55:21	2018-07-17 14:29:26	
		MBS	2018-07-17 13:51:28	2018-07-17 13:57:07	2018-07-17 14:29:26	
		MBS	2018-07-17 15:14:30	2018-07-17 15:18:41	2018-07-17 14:29:26	
10	2018-07-18 07:05:23	MBS	2018-07-18 07:05:23	2018-07-18 07:11:45	2018-07-18 07:11:45	No
		MBS	2018-07-18 07:07:24	2018-07-18 07:11:46	2018-07-18 07:11:46	
10	2018-07-19 10:31:32	MBS	2018-07-19 10:31:32	2018-07-19 10:34:16	2018-07-19 10:34:16	No

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
67	2018-07-17 04:08:33	MBS	2018-07-17 04:08:33	2018-07-17 04:16:31	2018-07-17 04:16:31	No
		MBS	2018-07-17 04:08:33	2018-07-17 04:16:33	2018-07-17 04:16:33	
		MBS	2018-07-17 04:08:33	2018-07-17 04:16:36	2018-07-17 04:16:36	
		MBS	2018-07-17 04:08:33	2018-07-17 04:16:38	2018-07-17 04:16:38	
		MBS	2018-07-17 04:13:32	2018-07-17 04:16:28	2018-07-17 04:16:28	

2018 Week 30: 7 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
05	2018-07-24 08:41:00	MBS	2018-07-24 08:41:00	2018-07-24 08:46:19	2018-07-24 08:46:19	No
05	2018-07-26 10:14:26	MBS	2018-07-26 10:14:26	2018-07-26 10:14:43	2018-07-26 10:14:43	No
		AVB	2018-07-26 10:16:26	2018-07-26 10:16:35	2018-07-26 10:16:35	
		MBS	2018-07-26 11:07:14	2018-07-26 11:07:22	2018-07-26 11:07:22	
		AVB	2018-07-26 11:12:15	2018-07-26 11:12:23	2018-07-26 11:12:23	
05	2018-07-29 18:46:21	MBS	2018-07-29 18:46:21	2018-07-29 18:50:31	2018-07-29 18:50:31	No
06A	2018-07-24 11:53:41	MBS	2018-07-24 11:53:41	2018-07-24 11:57:17	2018-07-24 12:04:18	Yes
14	2018-07-26 11:39:55	MBS	2018-07-26 11:39:55	2018-07-26 11:40:07	2018-07-26 11:40:07	No
		AVB	2018-07-26 11:44:25	2018-07-26 11:44:42	2018-07-26 11:44:42	
		MBS	2018-07-26 12:01:14	2018-07-26 12:01:27	2018-07-26 12:01:27	
		AVB	2018-07-26 12:05:44	2018-07-26 12:05:52	2018-07-26 12:05:52	
14	2018-07-27 07:40:45	MBS	2018-07-27 07:40:45	2018-07-27 07:45:46	2018-07-27 07:45:46	No
		MBS	2018-07-27 07:40:45	2018-07-27 07:45:39	2018-07-27 07:45:39	
		MBS	2018-07-27 07:42:45	2018-07-27 07:45:40	2018-07-27 07:45:40	
		MBS	2018-07-27 07:43:15	2018-07-27 07:45:45	2018-07-27 07:45:45	
78	2018-07-24 16:25:26	MBS	2018-07-24 16:25:26	2018-07-24 16:29:15	2018-07-24 16:29:15	No

2018 Week 31: 11 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-07-30 12:54:44	MBS	2018-07-30 12:54:44	2018-07-30 13:10:27	2018-07-30 13:20:14	Yes
		MBS	2018-07-30 12:54:44	2018-07-30 13:10:28	2018-07-30 13:20:14	
01	2018-08-04 18:29:20	MBS	2018-08-04 18:29:20	2018-08-04 18:32:33	2018-08-04 18:32:33	No
		MBS	2018-08-04 18:29:20	2018-08-04 18:32:35	2018-08-04 18:32:35	
		MBS	2018-08-04 18:29:49	2018-08-04 18:32:31	2018-08-04 18:32:31	
02	2018-07-31 12:35:41	MBS	2018-07-31 12:35:41	2018-07-31 12:40:52	2018-07-31 12:40:52	No
03	2018-08-05 15:20:54	MBS	2018-08-05 15:20:54	2018-08-05 15:30:07	2018-08-05 15:30:07	No
03	2018-08-05 15:30:54	MBS	2018-08-05 15:30:54	2018-08-05 15:38:21	2018-08-05 16:56:00	Yes
		MBS	2018-08-05 15:34:54	2018-08-05 15:38:23	2018-08-05 16:56:00	
		MBS	2018-08-05 15:37:23	2018-08-05 15:39:26	2018-08-05 16:56:00	
05	2018-08-05 19:46:54	MBS	2018-08-05 19:46:54	2018-08-05 19:53:40	2018-08-05 20:32:44	Yes
06A	2018-07-30 09:57:17	MBS	2018-07-30 09:57:17	2018-07-30 10:03:43	2018-07-30 10:33:01	Yes
06A	2018-08-01 04:25:33	MBS	2018-08-01 04:25:33	2018-08-01 04:29:53	2018-08-01 04:36:07	Yes
14	2018-08-03 00:41:57	MBS	2018-08-03 00:41:57	2018-08-03 00:50:29	2018-08-03 00:50:29	No
		MBS	2018-08-03 00:45:27	2018-08-03 00:50:32	2018-08-03 00:50:32	
61	2018-07-31 16:11:28	MBS	2018-07-31 16:11:28	2018-07-31 16:18:16	2018-07-31 16:18:16	No
61	2018-08-03 11:39:40	MBS	2018-08-03 11:39:40	2018-08-03 11:48:25	2018-08-03 11:48:25	No
		MBS	2018-08-03 11:39:40	2018-08-03 11:48:30	2018-08-03 11:48:30	
		MBS	2018-08-03 11:42:39	2018-08-03 11:48:32	2018-08-03 11:48:32	

2018 Week 32: 7 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2018-08-09 11:56:29	MBS	2018-08-09 11:56:29	2018-08-09 12:02:54	2018-08-09 12:02:54	No
		MBS	2018-08-09 11:56:59	2018-08-09 12:02:55	2018-08-09 12:02:55	
		MBS	2018-08-09 11:56:59	2018-08-09 12:02:57	2018-08-09 12:02:57	
03	2018-08-10 09:48:41	MBS	2018-08-10 09:48:41	2018-08-10 09:52:39	2018-08-10 11:27:44	Yes
		MBS	2018-08-10 11:03:12	2018-08-10 11:09:18	2018-08-10 11:27:44	
05	2018-08-10 11:06:06	MBS	2018-08-10 11:06:06	2018-08-10 11:14:45	2018-08-10 11:14:45	No
		MBS	2018-08-10 11:06:06	2018-08-10 11:14:46	2018-08-10 11:14:46	
		MBS	2018-08-10 11:06:06	2018-08-10 11:14:47	2018-08-10 11:14:47	
		MBS	2018-08-10 11:06:36	2018-08-10 11:14:48	2018-08-10 11:14:48	
05	2018-08-10 19:43:51	MBS	2018-08-10 19:43:51	2018-08-10 19:48:05	2018-08-10 19:48:05	No
65	2018-08-06 11:52:17	MBS	2018-08-06 11:52:17	2018-08-06 14:54:40	2018-08-06 15:17:00	Yes
		MBS	2018-08-06 13:57:20	2018-08-06 14:54:43	2018-08-06 15:17:00	
78	2018-08-07 11:20:56	MBS	2018-08-07 11:20:56	2018-08-07 11:26:16	2018-08-07 11:26:16	No
		MBS	2018-08-07 11:20:56	2018-08-07 11:26:12	2018-08-07 11:26:12	
		AVB	2018-08-07 12:01:59	2018-08-07 12:02:52	2018-08-07 12:02:52	
78	2018-08-08 17:55:26	MBS	2018-08-08 17:55:26	2018-08-08 17:57:01	2018-08-08 18:02:00	Yes

2018 Week 33: 17 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-08-15 10:05:46	MBS	2018-08-15 10:05:46	2018-08-15 10:09:05	2018-08-15 10:09:05	No
		MBS	2018-08-15 10:06:17	2018-08-15 10:09:07	2018-08-15 10:09:07	
03	2018-08-19 11:19:20	MBS	2018-08-19 11:19:20	2018-08-19 11:26:57	2018-08-19 11:26:57	No
		MBS	2018-08-19 11:23:49	2018-08-19 11:26:58	2018-08-19 11:26:58	
04	2018-08-16 07:45:36	MBS	2018-08-16 07:45:36	2018-08-16 07:52:38	2018-08-16 07:52:38	No
		MBS	2018-08-16 07:46:06	2018-08-16 07:52:40	2018-08-16 07:52:40	
05	2018-08-13 10:20:07	MBS	2018-08-13 10:20:07	2018-08-13 10:25:41	2018-08-13 10:25:41	No
		MBS	2018-08-13 10:21:37	2018-08-13 10:25:55	2018-08-13 10:25:55	
		MBS	2018-08-13 10:23:37	2018-08-13 10:25:38	2018-08-13 10:25:38	
05	2018-08-13 16:25:48	MBS	2018-08-13 16:25:48	2018-08-13 16:30:42	2018-08-13 16:30:42	No
05	2018-08-13 17:40:20	MBS	2018-08-13 17:40:20	2018-08-13 17:47:23	2018-08-13 17:47:23	No
05	2018-08-14 10:27:22	MBS	2018-08-14 10:27:22	2018-08-14 10:29:44	2018-08-14 10:29:44	No
05	2018-08-15 11:10:15	MBS	2018-08-15 11:10:15	2018-08-15 11:14:06	2018-08-15 11:14:06	No
05	2018-08-15 22:01:35	MBS	2018-08-15 22:01:35	2018-08-15 22:06:39	2018-08-15 22:06:39	No
05	2018-08-16 00:56:07	MBS	2018-08-16 00:56:07	2018-08-16 01:03:53	2018-08-16 01:03:53	No
		MBS	2018-08-16 00:58:37	2018-08-16 01:03:55	2018-08-16 01:03:55	
05	2018-08-16 20:39:16	MBS	2018-08-16 20:39:16	2018-08-16 20:43:55	2018-08-16 20:43:55	No
06A	2018-08-17 10:21:52	MBS	2018-08-17 10:21:52	2018-08-17 10:25:41	2018-08-17 10:38:25	Yes
14	2018-08-16 12:00:44	MBS	2018-08-16 12:00:44	2018-08-16 12:05:59	2018-08-16 12:05:59	No
		MBS	2018-08-16 12:01:44	2018-08-16 12:06:01	2018-08-16 12:06:01	
61	2018-08-16 00:33:53	MBS	2018-08-16 00:33:53	2018-08-16 00:39:56	2018-08-16 00:39:56	No
78	2018-08-13 23:49:05	MBS	2018-08-13 23:49:05	2018-08-13 23:57:14	2018-08-13 23:57:14	No
		MBS	2018-08-13 23:49:36	2018-08-13 23:57:15	2018-08-13 23:57:15	

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
78	2018-08-14 15:51:37	MBS	2018-08-14 15:51:37	2018-08-14 15:57:32	2018-08-14 15:57:32	No
78	2018-08-17 21:39:47	MBS	2018-08-17 21:39:47	2018-08-17 21:42:41	2018-08-17 21:42:41	No

2018 Week 34: 15 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-08-26 19:32:47	MBS	2018-08-26 19:32:47	2018-08-26 19:39:27	2018-08-26 19:39:27	No
02	2018-08-20 14:55:35	MBS	2018-08-20 14:55:35	2018-08-20 14:58:23	2018-08-20 14:58:23	No
		MBS	2018-08-20 14:56:35	2018-08-20 14:58:25	2018-08-20 14:58:25	
03	2018-08-25 21:11:09	MBS	2018-08-25 21:11:09	2018-08-25 21:18:14	2018-08-25 21:18:14	No
04	2018-08-26 23:02:01	AVB	2018-08-26 23:02:01	2018-08-26 23:06:59	2018-08-26 23:06:59	No
05	2018-08-21 11:11:54	MBS	2018-08-21 11:11:54	2018-08-21 11:15:27	2018-08-21 16:07:45	Yes
05	2018-08-21 23:36:39	MBS	2018-08-21 23:36:39	2018-08-21 23:41:39	2018-08-21 23:41:39	No
05	2018-08-23 14:38:03	MBS	2018-08-23 14:38:03	2018-08-23 15:08:58	2018-08-23 15:14:35	Yes
05	2018-08-23 15:21:37	MBS	2018-08-23 15:21:37	2018-08-23 15:32:27	2018-08-23 15:41:26	Yes
		MBS	2018-08-23 15:23:37	2018-08-23 15:32:29	2018-08-23 15:41:26	
05	2018-08-24 10:56:48^	MBS	2018-08-24 10:56:48	2018-08-24 11:01:07	2018-08-24 11:01:07	No
		MBS	2018-08-24 10:56:48	2018-08-24 11:01:07	2018-08-24 11:01:07	
		AVB	2018-08-24 12:01:51	2018-08-24 12:03:38	2018-08-24 12:03:38	
	^ Enbridge responded to an ITP question about this event on Dec. 4, 2018.	AVB	2018-08-24 12:01:51	2018-08-24 12:03:40	2018-08-24 12:03:40	
05	2018-08-25 06:25:26	MBS	2018-08-25 06:25:26	2018-08-25 06:32:03	2018-08-25 06:32:03	No
		MBS	2018-08-25 06:51:57	2018-08-25 06:53:48	2018-08-25 06:53:48	
		MBS	2018-08-25 06:52:28	2018-08-25 06:53:51	2018-08-25 06:53:51	
05	2018-08-25 23:59:56	MBS	2018-08-25 23:59:56	2018-08-26 00:08:22	2018-08-26 00:08:22	No
14	2018-08-25 18:22:53	MBS	2018-08-25 18:22:53	2018-08-25 18:31:00	2018-08-25 18:31:00	No
		MBS	2018-08-25 18:23:23	2018-08-25 18:31:01	2018-08-25 18:31:01	
65	2018-08-21 20:42:53	MBS	2018-08-21 20:42:53	2018-08-21 20:48:24	2018-08-21 20:48:24	No
67	2018-08-26 19:31:36	MBS	2018-08-26 19:31:36	2018-08-26 19:39:02	2018-08-26 19:39:02	No
78	2018-08-23 15:08:12	MBS	2018-08-23 15:08:12	2018-08-23 15:14:12	2018-08-23 15:14:12	No

2018 Week 35: 21 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-08-28 04:48:12	MBS	2018-08-28 04:48:12	2018-08-28 04:51:29	2018-08-28 04:51:29	No
01	2018-08-30 19:00:19	MBS	2018-08-30 19:00:19	2018-08-30 19:10:13	2018-08-30 21:40:42	Yes
02	2018-08-27 03:12:23	MBS	2018-08-27 03:12:23	2018-08-27 03:17:40	2018-08-27 03:17:40	No
		MBS	2018-08-27 03:12:23	2018-08-27 03:17:41	2018-08-27 03:17:41	
02	2018-08-29 14:20:19	MBS	2018-08-29 14:20:19	2018-08-29 14:27:42	2018-08-29 14:27:42	No
		MBS	2018-08-29 14:20:19	2018-08-29 14:27:44	2018-08-29 14:27:44	
02	2018-09-01 05:31:39	MBS	2018-09-01 05:31:39	2018-09-01 05:38:08	2018-09-01 05:38:08	No
		MBS	2018-09-01 05:32:10	2018-09-01 05:38:06	2018-09-01 05:38:06	
03	2018-08-30 01:50:29	MBS	2018-08-30 01:50:29	2018-08-30 01:56:03	2018-08-30 01:56:03	No
03	2018-08-30 10:41:51	MBS	2018-08-30 10:41:51	2018-08-30 10:45:01	2018-08-30 10:45:01	No
05	2018-08-27 20:12:51	MBS	2018-08-27 20:12:51	2018-08-27 20:18:18	2018-08-27 20:18:18	No
		MBS	2018-08-27 20:14:50	2018-08-27 20:18:19	2018-08-27 20:18:19	
		MBS	2018-08-27 20:19:21	2018-08-27 20:19:46	2018-08-27 20:19:46	
05	2018-08-28 08:56:12	MBS	2018-08-28 08:56:12	2018-08-28 11:31:12	2018-08-28 11:53:09	Yes
05	2018-08-28 10:17:12	MBS	2018-08-28 10:17:12	2018-08-28 10:36:53	2018-08-28 11:53:47	Yes
05	2018-08-28 12:26:50	MBS	2018-08-28 12:26:50	2018-08-28 12:29:20	2018-08-28 12:29:20	No
		MBS	2018-08-28 12:26:50	2018-08-28 12:29:21	2018-08-28 12:29:21	
05	2018-08-28 19:02:29	MBS	2018-08-28 19:02:29	2018-08-28 19:08:35	2018-08-28 19:08:35	No
		MBS	2018-08-28 20:14:31	2018-08-28 20:16:45	2018-08-28 20:16:45	
		MBS	2018-08-29 04:26:16	2018-08-29 04:28:16	2018-08-29 04:28:16	
05	2018-08-29 12:39:27	MBS	2018-08-29 12:39:27	2018-08-29 12:46:33	2018-08-29 12:46:33	No
		MBS	2018-08-29 12:43:27	2018-08-29 12:46:34	2018-08-29 12:46:34	
05	2018-08-29 20:30:06	MBS	2018-08-29 20:30:06	2018-08-29 20:37:59	2018-08-29 20:37:59	No
		MBS	2018-08-29 20:32:35	2018-08-29 20:38:00	2018-08-29 20:38:00	

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
05	2018-08-30 05:47:37	MBS	2018-08-30 05:47:37	2018-08-30 05:51:19	2018-08-30 05:51:19	No
05	2018-08-30 06:07:08	MBS	2018-08-30 06:07:08	2018-08-30 06:11:33	2018-08-30 06:11:33	No
05	2018-08-30 08:59:44	MBS	2018-08-30 08:59:44	2018-08-30 09:05:56	2018-08-30 09:05:56	No
		MBS	2018-08-30 09:00:12	2018-08-30 09:06:35	2018-08-30 09:06:35	
		MBS	2018-08-30 09:00:12	2018-08-30 09:06:00	2018-08-30 09:06:00	
		MBS	2018-08-30 09:01:12	2018-08-30 09:07:13	2018-08-30 09:07:13	
		MBS	2018-08-30 09:01:42	2018-08-30 09:06:05	2018-08-30 09:06:05	
		MBS	2018-08-30 09:02:12	2018-08-30 09:10:44	2018-08-30 09:10:44	
05	2018-08-31 12:42:16	MBS	2018-08-31 12:42:16	2018-08-31 12:50:16	2018-08-31 12:50:16	No
14	2018-08-29 01:09:59	MBS	2018-08-29 01:09:59	2018-08-29 01:13:34	2018-08-29 01:13:34	No
		MBS	2018-08-29 01:09:59	2018-08-29 01:13:35	2018-08-29 01:13:35	
14	2018-09-01 05:25:54	MBS	2018-09-01 05:25:54	2018-09-01 05:34:04	2018-09-01 05:34:04	No
		MBS	2018-09-01 05:26:24	2018-09-01 05:34:03	2018-09-01 05:34:03	
61	2018-08-29 11:01:26	MBS	2018-08-29 11:01:26	2018-08-29 11:07:39	2018-08-29 11:07:39	No

2018 Week 36: 11 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-09-08 07:00:06	MBS	2018-09-08 07:00:06	2018-09-08 07:07:19	2018-09-08 07:07:19	No
02	2018-09-03 09:16:11	MBS	2018-09-03 09:16:11	2018-09-03 09:19:20	2018-09-03 09:19:20	No
		MBS	2018-09-03 09:16:42	2018-09-03 09:19:17	2018-09-03 09:19:17	
04	2018-09-04 10:09:53	MBS	2018-09-04 10:09:53	2018-09-04 10:14:06	2018-09-04 10:14:06	No
05	2018-09-08 08:06:35	MBS	2018-09-08 08:06:35	2018-09-08 08:11:27	2018-09-08 08:11:27	No
		MBS	2018-09-08 08:07:05	2018-09-08 08:11:27	2018-09-08 08:11:27	
10	2018-09-03 20:53:18	MBS	2018-09-03 20:53:18	2018-09-03 20:57:32	2018-09-03 20:57:32	No
10	2018-09-09 16:58:49	MBS	2018-09-09 16:58:49	2018-09-09 17:04:49	2018-09-10 12:38:00	Yes
10	2018-09-09 18:07:22	MBS	2018-09-09 18:07:22	2018-09-09 18:11:29	2018-09-10 02:11:37	Yes
		MBS	2018-09-09 20:15:24	2018-09-09 20:17:09	2018-09-10 02:11:37	
		MBS	2018-09-09 22:28:02	2018-09-09 22:29:39	2018-09-10 02:11:37	
		MBS	2018-09-10 00:48:34	2018-09-10 00:51:35	2018-09-10 02:11:37	
61	2018-09-08 04:14:25	MBS	2018-09-08 04:14:25	2018-09-08 04:20:30	2018-09-08 04:20:30	No
		MBS	2018-09-08 04:15:25	2018-09-08 04:20:31	2018-09-08 04:20:31	
78	2018-09-08 02:49:01	MBS	2018-09-08 02:49:01	2018-09-08 02:55:06	2018-09-08 03:01:22	Yes
78	2018-09-08 04:46:36	MBS	2018-09-08 04:46:36	2018-09-08 04:51:13	2018-09-08 04:51:13	No
78	2018-09-09 19:19:41	MBS	2018-09-09 19:19:41	2018-09-09 19:23:08	2018-09-09 21:05:50	Yes

2018 Week 37: 10 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-09-14 14:58:46	MBS	2018-09-14 14:58:46	2018-09-14 15:08:08	2018-09-14 15:26:35	Yes
		MBS	2018-09-14 15:01:16	2018-09-14 15:08:11	2018-09-14 15:26:35	
		MBS	2018-09-14 15:28:19	2018-09-14 15:34:09	2018-09-14 15:26:35	
01	2018-09-16 19:32:34	MBS	2018-09-16 19:32:34	2018-09-16 19:39:00	2018-09-16 19:39:00	No
		MBS	2018-09-16 19:35:05	2018-09-16 19:39:01	2018-09-16 19:39:01	
		MBS	2018-09-16 19:35:05	2018-09-16 19:39:03	2018-09-16 19:39:03	
02	2018-09-11 08:46:09	MBS	2018-09-11 08:46:09	2018-09-11 08:55:07	2018-09-11 08:55:07	No
		MBS	2018-09-11 08:46:39	2018-09-11 08:55:05	2018-09-11 08:55:05	
		MBS	2018-09-11 08:55:38	2018-09-11 09:02:55	2018-09-11 09:02:55	
02	2018-09-16 17:05:37	MBS	2018-09-16 17:05:37	2018-09-16 17:11:53	2018-09-16 17:11:53	No
05	2018-09-10 08:23:04	MBS	2018-09-10 08:23:04	2018-09-10 08:27:21	2018-09-10 08:27:21	No
		MBS	2018-09-10 08:23:04	2018-09-10 08:27:23	2018-09-10 08:27:23	
05	2018-09-12 15:42:00	MBS	2018-09-12 15:42:00	2018-09-12 15:49:14	2018-09-12 15:49:14	No
05	2018-09-12 17:44:32	MBS	2018-09-12 17:44:32	2018-09-12 17:50:26	2018-09-12 17:50:26	No
		MBS	2018-09-12 17:44:32	2018-09-12 17:50:22	2018-09-12 17:50:22	
10	2018-09-10 06:28:12	MBS	2018-09-10 06:28:12	2018-09-10 06:36:00	2018-09-10 12:38:00	Yes
14	2018-09-10 14:51:49	MBS	2018-09-10 14:51:49	2018-09-10 14:56:24	2018-09-10 14:56:24	No
		MBS	2018-09-10 14:51:49	2018-09-10 14:56:28	2018-09-10 14:56:28	
67	2018-09-10 22:13:18	MBS	2018-09-10 22:13:18	2018-09-10 22:18:58	2018-09-10 22:18:58	No
		MBS	2018-09-10 22:13:18	2018-09-10 22:18:59	2018-09-10 22:18:59	
		MBS	2018-09-10 22:16:19	2018-09-10 22:19:02	2018-09-10 22:19:02	

2018 Week 38: 15 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-09-18 08:39:47	MBS	2018-09-18 08:39:47	2018-09-18 08:49:27	2018-09-18 11:52:05	Yes
		MBS	2018-09-18 08:40:46	2018-09-18 08:50:49	2018-09-18 11:52:05	
01	2018-09-18 15:36:29	MBS	2018-09-18 15:36:29	2018-09-18 15:45:30	2018-09-18 15:45:30	No
02	2018-09-22 17:51:32	MBS	2018-09-22 17:51:32	2018-09-22 17:54:36	2018-09-22 17:54:36	No
05	2018-09-18 08:57:25	MBS	2018-09-18 08:57:25	2018-09-18 09:02:48	2018-09-18 09:02:48	No
		MBS	2018-09-18 09:39:58	2018-09-18 09:44:53	2018-09-18 09:44:53	
		MBS	2018-09-18 09:39:58	2018-09-18 09:44:50	2018-09-18 09:44:50	
05	2018-09-19 20:07:56	MBS	2018-09-19 20:07:56	2018-09-19 20:11:55	2018-09-19 20:11:55	No
05	2018-09-21 08:00:34	MBS	2018-09-21 08:00:34	2018-09-21 08:05:28	2018-09-21 08:05:28	No
		MBS	2018-09-21 08:00:34	2018-09-21 08:05:29	2018-09-21 08:05:29	
06A	2018-09-19 12:23:23	MBS	2018-09-19 12:23:23	2018-09-19 12:31:22	2018-09-19 12:31:22	No
		MBS	2018-09-19 12:23:23	2018-09-19 12:31:12	2018-09-19 12:31:12	
06A	2018-09-19 12:55:24	MBS	2018-09-19 12:55:24	2018-09-19 13:02:00	2018-09-19 13:02:00	No
		MBS	2018-09-19 12:55:54	2018-09-19 13:01:58	2018-09-19 13:01:58	
06A	2018-09-20 07:30:56	MBS	2018-09-20 07:30:56	2018-09-20 07:39:38	2018-09-20 07:39:38	No
		MBS	2018-09-20 07:32:56	2018-09-20 07:39:40	2018-09-20 07:39:40	
06A	2018-09-20 13:35:10	MBS	2018-09-20 13:35:10	2018-09-20 13:39:23	2018-09-20 13:39:23	No
06A	2018-09-20 23:53:01	MBS	2018-09-20 23:53:01	2018-09-20 23:57:56	2018-09-20 23:57:56	No
06A	2018-09-21 00:07:01	MBS	2018-09-21 00:07:01	2018-09-21 00:13:47	2018-09-21 00:13:47	No
		MBS	2018-09-21 00:07:01	2018-09-21 00:14:32	2018-09-21 00:14:32	
		MBS	2018-09-21 00:07:01	2018-09-21 00:13:51	2018-09-21 00:13:51	
14	2018-09-20 05:57:46	MBS	2018-09-20 05:57:46	2018-09-20 06:06:44	2018-09-20 11:37:00	Yes
		MBS	2018-09-20 05:57:46	2018-09-20 06:06:44	2018-09-20 11:37:00	

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
14	2018-09-20 07:38:18	MBS	2018-09-20 07:38:18	2018-09-20 07:43:34	2018-09-20 11:37:00	Yes
		MBS	2018-09-20 07:38:48	2018-09-20 07:43:31	2018-09-20 11:37:00	
67	2018-09-19 00:03:59	MBS	2018-09-19 00:03:59	2018-09-19 00:12:18	2018-09-19 00:12:18	No
		MBS	2018-09-19 00:08:00	2018-09-19 00:12:19	2018-09-19 00:12:19	

2018 Week 39: 8 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-09-28 20:02:05	AVB	2018-09-28 20:02:05	2018-09-28 20:08:03	2018-09-28 20:08:03	No
02	2018-09-27 01:26:54	MBS	2018-09-27 01:26:54	2018-09-27 01:33:34	2018-09-27 01:33:34	No
		MBS	2018-09-27 01:26:54	2018-09-27 01:33:32	2018-09-27 01:33:32	
03	2018-09-28 13:23:55	MBS	2018-09-28 13:23:55	2018-09-28 13:29:20	2018-09-28 13:29:20	No
06A	2018-09-30 09:34:36	MBS	2018-09-30 09:34:36	2018-09-30 09:38:45	2018-09-30 09:38:45	No
10	2018-09-25 13:57:29	MBS	2018-09-25 13:57:29	2018-09-25 15:01:37	2018-09-25 15:43:46	Yes
		MBS	2018-09-25 13:57:59	2018-09-25 15:01:38	2018-09-25 15:43:46	
		MBS	2018-09-25 13:58:59	2018-09-25 15:01:40	2018-09-25 15:43:46	
		MBS	2018-09-25 14:20:01	2018-09-25 15:01:43	2018-09-25 15:43:46	
		MBS	2018-09-25 14:21:01	2018-09-25 15:01:32	2018-09-25 15:43:46	
14	2018-09-26 03:39:28	MBS	2018-09-26 03:39:28	2018-09-26 03:42:36	2018-09-26 03:42:36	No
		MBS	2018-09-26 03:39:28	2018-09-26 03:42:33	2018-09-26 03:42:33	
14	2018-09-26 08:30:29	MBS	2018-09-26 08:30:29	2018-09-26 08:33:58	2018-09-26 08:33:58	No
67	2018-09-27 12:25:16	MBS	2018-09-27 12:25:16	2018-09-27 12:28:24	2018-09-27 12:28:24	No

2018 Week 40: 6 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-10-04 21:38:21	MBS	2018-10-04 21:38:21	2018-10-04 21:41:36	2018-10-04 21:41:36	No
		MBS	2018-10-04 21:40:51	2018-10-04 21:41:51	2018-10-04 21:41:51	
		MBS	2018-10-04 22:10:22	2018-10-04 22:20:06	2018-10-04 22:20:06	
		MBS	2018-10-04 22:10:22	2018-10-04 22:20:07	2018-10-04 22:20:07	
		MBS	2018-10-04 22:10:22	2018-10-04 22:20:11	2018-10-04 22:20:11	
		MBS	2018-10-04 22:13:52	2018-10-04 22:20:12	2018-10-04 22:20:12	
03	2018-10-02 21:11:17	MBS	2018-10-02 21:11:17	2018-10-02 21:21:16	2018-10-02 22:52:00	Yes
		MBS	2018-10-02 21:13:47	2018-10-02 21:21:49	2018-10-02 22:52:00	
		MBS	2018-10-02 21:15:47	2018-10-02 21:21:54	2018-10-02 22:52:00	
03	2018-10-04 17:52:08	MBS	2018-10-04 17:52:08	2018-10-04 17:55:08	2018-10-04 17:55:08	No
05	2018-10-01 09:12:13	MBS	2018-10-01 09:12:13	2018-10-01 09:17:13	2018-10-01 09:17:13	No
05	2018-10-04 03:42:08	MBS	2018-10-04 03:42:08	2018-10-04 03:51:13	2018-10-04 03:51:13	No
		MBS	2018-10-04 03:42:08	2018-10-04 03:51:15	2018-10-04 03:51:15	
		MBS	2018-10-04 03:42:38	2018-10-04 03:51:16	2018-10-04 03:51:16	
		MBS	2018-10-04 03:44:38	2018-10-04 03:51:17	2018-10-04 03:51:17	
		MBS	2018-10-04 03:57:08	2018-10-04 03:59:53	2018-10-04 03:59:53	
14	2018-10-06 07:02:40	MBS	2018-10-06 07:02:40	2018-10-06 07:09:37	2018-10-06 07:09:37	No

2018 Week 41: 5 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
02	2018-10-09 03:31:38	MBS	2018-10-09 03:31:38	2018-10-09 03:36:53	2018-10-09 03:36:53	No
		MBS	2018-10-09 03:32:08	2018-10-09 03:36:54	2018-10-09 03:36:54	
		MBS	2018-10-09 03:35:38	2018-10-09 03:36:57	2018-10-09 03:36:57	
		MBS	2018-10-09 03:35:38	2018-10-09 03:37:02	2018-10-09 03:37:02	
02	2018-10-09 13:33:32	MBS	2018-10-09 13:33:32	2018-10-09 13:41:16	2018-10-09 13:41:16	No
		MBS	2018-10-09 13:34:32	2018-10-09 13:41:17	2018-10-09 13:41:17	
		MBS	2018-10-09 13:40:32	2018-10-09 13:41:33	2018-10-09 13:41:33	
		MBS	2018-10-09 13:40:32	2018-10-09 13:41:35	2018-10-09 13:41:35	
03	2018-10-11 07:02:04	MBS	2018-10-11 07:02:04	2018-10-11 07:09:26	2018-10-11 07:09:26	No
		MBS	2018-10-11 07:02:04	2018-10-11 07:09:28	2018-10-11 07:09:28	
04	2018-10-09 13:44:20	MBS	2018-10-09 13:44:20	2018-10-09 13:46:40	2018-10-09 13:46:40	No
14	2018-10-10 22:26:33	MBS	2018-10-10 22:26:33	2018-10-10 22:31:35	2018-10-10 22:31:35	No

2018 Week 42: 9 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-10-17 14:31:58	MBS	2018-10-17 14:31:58	2018-10-17 14:40:36	2018-10-17 16:43:00	Yes
03	2018-10-18 06:56:53	MBS	2018-10-18 06:56:53	2018-10-18 07:00:50	2018-10-18 07:00:50	No
		MBS	2018-10-18 06:56:53	2018-10-18 07:00:47	2018-10-18 07:00:47	
03	2018-10-19 20:28:13	MBS	2018-10-19 20:28:13	2018-10-19 20:36:00	2018-10-19 20:36:00	No
05	2018-10-19 08:29:35	MBS	2018-10-19 08:29:35	2018-10-19 08:35:32	2018-10-19 08:35:32	No
		MBS	2018-10-19 08:30:05	2018-10-19 08:35:33	2018-10-19 08:35:33	
		MBS	2018-10-19 08:30:35	2018-10-19 08:35:34	2018-10-19 08:35:34	
		MBS	2018-10-19 08:53:05	2018-10-19 08:55:55	2018-10-19 08:55:55	
		MBS	2018-10-19 08:54:05	2018-10-19 08:55:53	2018-10-19 08:55:53	
06A	2018-10-19 08:19:51	MBS	2018-10-19 08:19:51	2018-10-19 08:27:15	2018-10-19 08:27:15	No
10	2018-10-17 16:23:53	MBS	2018-10-17 16:23:53	2018-10-17 16:36:48	2018-10-17 20:00:00	Yes
10	2018-10-17 19:27:01	MBS	2018-10-17 19:27:01	2018-10-17 19:34:00	2018-10-17 19:34:00	No
		MBS	2018-10-17 19:28:31	2018-10-17 19:34:03	2018-10-17 19:34:03	
67	2018-10-18 13:48:12	MBS	2018-10-18 13:48:12	2018-10-18 13:51:54	2018-10-18 13:51:54	No
78	2018-10-16 12:40:41	MBS	2018-10-16 12:40:41	2018-10-16 12:44:35	2018-10-16 12:44:35	No

2018 Week 43: 3 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-10-23 08:56:48	AVB	2018-10-23 08:56:48	2018-10-23 08:59:14	2018-10-23 08:59:14	No
		AVB	2018-10-23 09:37:40	2018-10-23 09:38:44	2018-10-23 09:38:44	
02	2018-10-23 10:16:18	AVB	2018-10-23 10:16:18	2018-10-23 10:16:47	2018-10-23 10:16:47	No
		AVB	2018-10-23 10:40:11	2018-10-23 10:40:44	2018-10-23 10:40:44	
65	2018-10-23 07:13:39	MBS	2018-10-23 07:13:39	2018-10-23 07:21:32	2018-10-23 12:25:20	Yes

2018 Week 44: 11 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
05	2018-10-31 10:49:32	MBS	2018-10-31 10:49:32	2018-10-31 10:56:14	2018-10-31 11:12:24	Yes
05	2018-10-31 12:16:33	MBS	2018-10-31 12:16:33	2018-10-31 12:21:21	2018-10-31 12:21:21	No
		MBS	2018-10-31 12:16:33	2018-10-31 12:21:14	2018-10-31 12:21:14	
05	2018-11-02 18:49:50	MBS	2018-11-02 18:49:50	2018-11-02 18:57:57	2018-11-02 18:57:57	No
		MBS	2018-11-02 18:51:21	2018-11-02 18:58:12	2018-11-02 18:58:12	
		MBS	2018-11-02 18:52:20	2018-11-02 18:57:53	2018-11-02 18:57:53	
		MBS	2018-11-02 18:54:21	2018-11-02 18:58:15	2018-11-02 18:58:15	
05	2018-11-02 23:01:19	MBS	2018-11-02 23:01:19	2018-11-02 23:06:19	2018-11-02 23:06:19	No
		MBS	2018-11-02 23:01:19	2018-11-02 23:06:20	2018-11-02 23:06:20	
		MBS	2018-11-02 23:01:19	2018-11-02 23:06:22	2018-11-02 23:06:22	
06A	2018-10-29 10:56:14	MBS	2018-10-29 10:56:14	2018-10-29 10:58:39	2018-10-29 11:26:39	Yes
06A	2018-10-29 12:22:18	MBS	2018-10-29 12:22:18	2018-10-29 12:26:41	2018-10-29 12:26:41	No
		MBS	2018-10-29 12:29:17	2018-10-29 12:32:00	2018-10-29 12:32:00	
		MBS	2018-10-29 12:29:49	2018-10-29 12:32:02	2018-10-29 12:32:02	
		MBS	2018-10-29 12:30:17	2018-10-29 12:32:03	2018-10-29 12:32:03	
06A	2018-10-30 12:19:04	MBS	2018-10-30 12:19:04	2018-10-30 12:20:52	2018-10-30 12:20:52	No
		AVB	2018-10-30 12:21:34	2018-10-30 12:23:07	2018-10-30 12:23:07	
		MBS	2018-10-30 12:40:34	2018-10-30 12:41:39	2018-10-30 12:41:39	
		AVB	2018-10-30 12:44:34	2018-10-30 12:45:40	2018-10-30 12:45:40	
06A	2018-11-04 14:06:51	MBS	2018-11-04 14:06:51	2018-11-04 14:11:59	2018-11-04 14:25:00	Yes
		MBS	2018-11-04 14:12:21	2018-11-04 14:13:17	2018-11-04 14:25:00	
14	2018-11-01 01:17:54	MBS	2018-11-01 01:17:54	2018-11-01 01:19:38	2018-11-01 01:19:38	No
		MBS	2018-11-01 01:17:54	2018-11-01 01:19:39	2018-11-01 01:19:39	
65	2018-11-01 12:30:31	MBS	2018-11-01 12:30:31	2018-11-01 12:33:02	2018-11-01 12:33:02	No
		MBS	2018-11-01 12:30:31	2018-11-01 12:33:04	2018-11-01 12:33:04	
		MBS	2018-11-01 12:34:31	2018-11-01 12:35:46	2018-11-01 12:35:46	

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
78	2018-10-30 13:20:08	MBS	2018-10-30 13:20:08	2018-10-30 13:21:10	2018-10-30 13:21:10	No
		AVB	2018-10-30 13:24:39	2018-10-30 13:25:07	2018-10-30 13:25:07	
		MBS	2018-10-30 14:10:24	2018-10-30 14:11:23	2018-10-30 14:11:23	
		AVB	2018-10-30 14:13:55	2018-10-30 14:14:59	2018-10-30 14:14:59	

2018 Week 45: 7 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
02	2018-11-10 09:20:36	MBS	2018-11-10 09:20:36	2018-11-10 09:23:43	2018-11-10 09:23:43	No
		MBS	2018-11-10 09:20:36	2018-11-10 09:23:44	2018-11-10 09:23:44	
04	2018-11-08 17:59:20	MBS	2018-11-08 17:59:20	2018-11-08 18:03:31	2018-11-08 18:45:04	Yes
06A	2018-11-05 17:02:26	MBS	2018-11-05 17:02:26	2018-11-05 17:10:19	2018-11-05 17:10:19	No
		MBS	2018-11-05 17:15:25	2018-11-05 17:21:48	2018-11-05 17:21:48	
		MBS	2018-11-05 17:15:55	2018-11-05 17:21:51	2018-11-05 17:21:51	
06A	2018-11-06 12:01:28	AVB	2018-11-06 12:01:28	2018-11-06 12:10:21	2018-11-06 12:10:21	No
14	2018-11-05 11:04:41	MBS	2018-11-05 11:04:41	2018-11-05 11:10:31	2018-11-05 11:10:31	No
		MBS	2018-11-05 11:04:41	2018-11-05 11:10:32	2018-11-05 11:10:32	
14	2018-11-11 23:44:13	MBS	2018-11-11 23:44:13	2018-11-11 23:49:18	2018-11-11 23:49:18	No
		MBS	2018-11-11 23:44:43	2018-11-11 23:49:20	2018-11-11 23:49:20	
61	2018-11-07 09:52:01	MBS	2018-11-07 09:52:01	2018-11-07 09:55:13	2018-11-07 09:55:13	No

2018 Week 46: 7 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
01	2018-11-17 11:00:07	MBS	2018-11-17 11:00:07	2018-11-17 11:03:58	2018-11-17 11:03:58	No
		MBS	2018-11-17 11:00:07	2018-11-17 11:03:55	2018-11-17 11:03:55	
		MBS	2018-11-17 11:00:38	2018-11-17 11:03:53	2018-11-17 11:03:53	
02	2018-11-15 11:48:17	MBS	2018-11-15 11:48:17	2018-11-15 11:51:05	2018-11-15 11:51:05	No
05	2018-11-15 20:26:31	MBS	2018-11-15 20:26:31	2018-11-15 20:31:05	2018-11-15 20:31:05	No
67	2018-11-14 09:14:49	MBS	2018-11-14 09:14:49	2018-11-14 09:18:47	2018-11-14 09:18:47	No
		MBS	2018-11-14 09:14:49	2018-11-14 09:18:48	2018-11-14 09:18:48	
		MBS	2018-11-14 09:15:20	2018-11-14 09:18:49	2018-11-14 09:18:49	
		MBS	2018-11-14 09:15:20	2018-11-14 09:18:51	2018-11-14 09:18:51	
		MBS	2018-11-14 09:16:49	2018-11-14 09:18:52	2018-11-14 09:18:52	
		MBS	2018-11-14 09:16:49	2018-11-14 09:18:54	2018-11-14 09:18:54	
78	2018-11-15 14:45:03	MBS	2018-11-15 14:45:03	2018-11-15 14:53:37	2018-11-15 14:53:37	No
78	2018-11-15 15:02:07	AVB	2018-11-15 15:02:07	2018-11-15 15:06:18	2018-11-15 15:06:18	No
		AVB	2018-11-15 16:02:08	2018-11-15 16:09:37	2018-11-15 16:09:37	
78	2018-11-16 03:01:58	AVB	2018-11-16 03:01:58	2018-11-16 03:04:46	2018-11-16 03:04:46	No

2018 Week 47: 3 Alarming Events in total

Pipeline	Alarming Event Start Time	Type	Alarm Received Time	Alarm Assessed Time	Alarm Cleared Time	Shutdown Required
03	2018-11-19 05:57:17	MBS	2018-11-19 05:57:17	2018-11-19 06:04:36	2018-11-19 06:04:36	No
61	2018-11-20 09:52:21	MBS	2018-11-20 09:52:21	2018-11-20 09:53:03	2018-11-20 09:53:03	No
		AVB	2018-11-20 09:54:51	2018-11-20 09:55:02	2018-11-20 09:55:02	
		MBS	2018-11-20 10:11:49	2018-11-20 10:12:03	2018-11-20 10:12:03	
		AVB	2018-11-20 10:13:50	2018-11-20 10:14:02	2018-11-20 10:14:02	
78	2018-11-20 12:45:19	MBS	2018-11-20 12:45:19	2018-11-20 12:52:43	2018-11-20 12:52:43	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

Nothing to report for this reporting period. MBS segment was restored to operation within the time period specified in Paragraph 97 for all instrumentation outage events.

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Appendix 3 – Lakehead System Pipeline Incident Reporting [112]

Reporting Period: May 23, 2018 to November 22, 2018

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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**
[redacted]	05/23/2018 11:55 MST	05/23/2018 11:56 MST	05/23/2018 11:57 MST	[redacted]	[redacted]	Line 05
	05/31/2018 17:40 MST	05/31/2018 17:47 MST	05/31/2018 17:50 MST			Line 06A Line 13 Line 14 Line 61
	06/01/2018 10:14 MST	06/01/2018 10:22 MST	06/01/2018 10:27 MST			Line 78
	06/09/2018 17:26 MST	06/09/2018 17:26 MST	06/09/2018 17:27 MST			Line 01 Line 02B Line 03 Line 04 Line 67
	06/11/2018 14:20 MST	06/11/2018 14:26 MST	06/11/2018 14:28 MST			Line 06A Line 14 Line 61

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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**
[redacted]	06/17/2018 10:53 MST	06/17/2018 10:56 MST	06/17/2018 10:58 MST	[redacted]	[redacted]	Line 05
	06/18/2018 05:25 MST	06/18/2018 05:30 MST	06/18/2018 05:31 MST			Line 78
	06/19/2018 17:33 MST	06/19/2018 17:36 MST	06/19/2018 17:37 MST			Line 01 line 02B Line 03 Line 04 Line 67
	06/20/2018 17:54 MST	06/20/2018 17:57 MST	06/20/2018 17:57 MST			Line 78
	06/29/2018 19:07 MST	06/29/2018 19:14 MST	06/29/2018 19:16 MST			Line 01 Line 02B Line 03 Line 04 Line 05 line 06A Line 14 Line 61 Line 67
	07/03/2018 16:16 MST	07/03/2018 16:21 MST	07/03/2018 16:21 MST			Line 05

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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**
[redacted]				[redacted]	[redacted]	
	07/19/2018 04:55 MST	07/19/2018 05:06 MST	07/19/2018 05:07 MST			Line 01 Line 02B Line 03 line 04 Line 67
	07/30/2018 09:29 MST	07/30/2018 09:34 MST	07/30/2018 09:24 MST			Line 06A
	08/05/2018 18:15 MST	08/05/2018 18:19 MST	08/05/2018 18:20 MST			Line 05
	08/13/2018 14:56 MST	08/13/2018 14:58 MST	08/13/2018 15:01 MST			Line 05

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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**
[redacted]	08/29/2018 10:38 MST	08/29/2018 10:44 MST	08/29/2018 10:51 MST	[redacted]	[redacted]	Line 6A Line 13 Line 14 Line 61
	09/12/2018 14:38 MST	09/12/2018 14:42 MST	09/12/2018 14:43 MST			Line 05
	09/21/2018 05:28 MST	09/21/2018 05:31 MST	09/21/2018 05:35 MST			Line 05
	09/25/2018 11:18 MST	09/25/2018 11:21 MST	09/25/2018 11:30 MST			Line 6A
	10/03/2018 23:49 MST	10/03/2018 23:53 MST	10/03/2018 23:54 MST			Line 05

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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**
[redacted]	10/16/2018 12:56 MST	10/16/2018 13:02 MST	10/16/2018 13:06 MST	A caller reported a trailer on fire.	[redacted]	Line 05

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Appendix 4 – Control Points with Proposed Changes [117]

Reporting Period: May 23, 2018 to November 22, 2018

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Highlighting indicates new or changed control points since the previous submittal.

Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0001	[redacted]		Kishwaukee River	CP369-3.3	14	
Great Lakes	GLRCP0002			Kishwaukee River	CP369-4.2	14	
Great Lakes	GLRCP0003			Kishwaukee River	CP369-6.4	14	
Great Lakes	GLRCP0004			Kishwaukee River	CP369-7.9	14	
Great Lakes	GLRCP0005			Kishwaukee River	CP369-11.6	14	
Great Lakes	GLRCP0006			Kishwaukee River	CP369-14.5	14	
Great Lakes	GLRCP0007			Kishwaukee River		13 & 61	
Great Lakes	GLRCP0008			Kishwaukee Coon	CP363-2.5	13 & 61	
Great Lakes	GLRCP0009			Kishwaukee River	CP356-12.6 / CP363-3.7	13 & 61	
Great Lakes	GLRCP0010			Kishwaukee River	CP356-19.3 / CP363-10.6	13 & 61	
Great Lakes	GLRCP0011			Kishwaukee River	CP363-12.7	13 & 61	
Great Lakes	GLRCP0012			Kishwaukee River	CP363-17.4	13 & 61	
Great Lakes	GLRCP0013			Kishwaukee River	CP363-21.2	13 & 61	
Great Lakes	GLRCP0014			South Branch Kishwaukee River	CP371-5.0	14	
Great Lakes	GLRCP0015			South Branch Kishwaukee River	CP371-3.4	14	
Great Lakes	GLRCP0016			Beaver Creek	CP351-2.8	13 & 61	
Great Lakes	GLRCP0017			Beaver Creek	CP351-5.6	13 & 61	
Great Lakes	GLRCP0018			Beaver Creek	CP351-11.8	13 & 61	
Great Lakes	GLRCP0019			Beaver Creek	CP351-17.8	13 & 61	
Great Lakes	GLRCP0020			Beaver Creek	CP351-19.4	13 & 61	
Great Lakes	GLRCP0021			Piscasaw Creek	CP356-5.5	13 & 61	
Great Lakes	GLRCP0022			Piscasaw Creek	CP356-7.5	13 & 61	
Great Lakes	GLRCP0023			Piscasaw Creek	CP356-9.0	13 & 61	
Great Lakes	GLRCP0024			Piscasaw Creek	CP356-10.5	13 & 61	
Great Lakes	GLRCP0025			South Branch Kishwaukee River	CP390-1.8	13 & 61	
Great Lakes	GLRCP0026			South Branch Kishwaukee River	CP390-5.0	13 & 61	
Great Lakes	GLRCP0027			South Branch Kishwaukee River	CP390-8.2	13 & 61	
Great Lakes	GLRCP0028			South Branch Kishwaukee River	CP390-10.1	13 & 61	
Great Lakes	GLRCP0029			South Branch Kishwaukee River	CP390-14.1	13 & 61	
Great Lakes	GLRCP0030			South Branch Kishwaukee River	CP374-3.5	13 & 61	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0031	[redacted]		South Branch Kishwaukee River	CP374-5.5	13 & 61	
Great Lakes	GLRCP0032			South Branch Kishwaukee River	CP374-8.4	13 & 61	
Great Lakes	GLRCP0033			South Branch Kishwaukee River	CP374-12.2	13 & 61	
Great Lakes	GLRCP0034			South Branch Kishwaukee River	CP374-13.1	13 & 61	
Great Lakes	GLRCP0035			South Branch Kishwaukee River	CP374-15.9	13 & 61	
Great Lakes	GLRCP0036			Big Rock Creek	CP408-1.9	14	
Great Lakes	GLRCP0037			Big Rock Creek	CP408-2.7	14	
Great Lakes	GLRCP0038			Big Rock Creek	CP408-4.2	14	
Great Lakes	GLRCP0039			Big Rock Creek	CP408-6.1	14	
Great Lakes	GLRCP0040			Big Rock Creek	CP408-8.6	14	
Great Lakes	GLRCP0041			Little Rock Creek	CP415-4.5	14	
Great Lakes	GLRCP0042			Little Rock Creek	CP415-5.8	14	
Great Lakes	GLRCP0043			Fox River	CP419-1.0	14	
Great Lakes	GLRCP0044			Fox River	CP419-4.4	14	
Great Lakes	GLRCP0045			Fox River	CP419-6.2	14	
Great Lakes	GLRCP0046			Fox River	CP419-9.5	14	
Great Lakes	GLRCP0047			Fox River	CP419-11.8	14	
Great Lakes	GLRCP0048			Fox River	CP419-14.1	14	
Great Lakes	GLRCP0049			Fox River	CP419-20.3	13, 14 & 61	
Great Lakes	GLRCP0050			Fox River	CP421-4.5	13, 14 & 61	
Great Lakes	GLRCP0051			Fox River	CP421-7.3	13, 14 & 61	
Great Lakes	GLRCP0052			Fox River	CP421-11.9	13, 14 & 61	
Great Lakes	GLRCP0053			Little Rock Creek	CP415-1.9	14	
Great Lakes	GLRCP0054			Des Plaines River-Chicago Ship Canal	CP425-1.2	6A	
Great Lakes	GLRCP0055			Des Plaines River-Chicago Ship Canal	CP425-3.7	6A	
Great Lakes	GLRCP0056			Des Plaines River-Chicago Ship Canal	CP425-4.8	6A	
Great Lakes	GLRCP0057			Chicago Ship Canal/Des Plaines	CP425-5.5	6A	
Great Lakes	GLRCP0058			Des Plaines River-Chicago Ship Canal	CP425-8.0	6A	
Great Lakes	GLRCP0059			Des Plaines River-Chicago Ship Canal	CP425-10.3	6A	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0060	[redacted]		Des Plaines River-Chicago Ship Canal	CP425-18.5 / CP445-6.5	14 & 6A	
Great Lakes	GLRCP0061			Des Plaines River-Chicago Ship Canal	CP445-9.5	14 & 6A	
Great Lakes	GLRCP0062			Des Plaines River-Chicago Ship Canal		14 & 6A	Not originally included in Appendix D
Great Lakes	GLRCP0063			Illinois River		13, 14 & 6A	
Great Lakes	GLRCP0064			Illinois River		13, 14 & 6A	
Great Lakes	GLRCP0067			Fox River	CP421-13.0	6A, 14, 13 & 61	
Great Lakes	GLRCP0068			Illinois River	CP432-4.3	6A, 14, 13 & 61	
Great Lakes	GLRCP0069			Illinois River	CP421-19.0 / CP432-10.3	6A, 14, 13 & 61	
Great Lakes	GLRCP0070			Illinois River	CP421-21.2 / CP432-12.4	6A, 14, 13 & 61	
Great Lakes	GLRCP0086			Kankakee River	CP 37.59 - 8.26	13 & 78	
Great Lakes	GLRCP0087			Kankakee River	CP 37.59 - 9.91	13 & 78	
Great Lakes	GLRCP0088			Kankakee River	CP 37.59 - 11.41	13 & 78	
Great Lakes	GLRCP0089			Kankakee River	CP 37.59 - 14.13	13 & 78	
Great Lakes	GLRCP0090			Kankakee River	CP 37.59 - 15.67 / CP37-15.7N / CP425-24.0 / CP445-12.0	13 & 78	
Great Lakes	GLRCP0091			Kankakee River	CP 37.59 - 18.67	13 & 78	
Great Lakes	GLRCP0101			Aux Sable Creek	CP434-4.1	14	
Great Lakes	GLRCP0102			Aux Sable Creek	CP434-7.0	14	
Great Lakes	GLRCP0103			Aux Sable Creek	CP434-10.0	14	
Great Lakes	GLRCP0104			Aux Sable Creek	CP434-14.6	14	
Great Lakes	GLRCP0105			DuPage River	CP418-1.8	6A	
Great Lakes	GLRCP0106			DuPage River	CP418-3.6	6A	
Great Lakes	GLRCP0107			DuPage River	CP418-5.8	6A	
Great Lakes	GLRCP0108			DuPage River	CP418-9.1	6A	
Great Lakes	GLRCP0109			DuPage River	CP418-13.3	6A	
Great Lakes	GLRCP0110			DuPage River	CP440-1.4	6A & 14	
Great Lakes	GLRCP0111			Rock Run	CP441-4.7	6A & 14	
Great Lakes	GLRCP0112			DuPage River	CP440-6.1	6A & 14	
Great Lakes	GLRCP0113			Lily Cache Creek	CP420-2.0	6A	
Great Lakes	GLRCP0114			Lily Cache Creek	CP420-3.1	6A	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0115	[redacted]	[redacted]	Waubonsie Creek	CP409-0.9	6A	
Great Lakes	GLRCP0116			Waubonsie Creek	CP409-1.9	6A	
Great Lakes	GLRCP0117			Waubonsie Creek	CP409-5.1	6A	
Great Lakes	GLRCP0118			Waubonsie Creek	CP409-7.1	6A	
Great Lakes	GLRCP0119			Waubonsie Creek	CP409-9.2	6A	
Great Lakes	GLRCP0120			West Branch DuPage River	CP401-1.9	6A	
Great Lakes	GLRCP0121			West Branch DuPage River	CP401-3.3	6A	
Great Lakes	GLRCP0122			West Branch DuPage River	CP401-4.2	6A	
Great Lakes	GLRCP0123			West Branch DuPage River	CP401-5.4	6A	
Great Lakes	GLRCP0124			Boone Creek		6A	
Great Lakes	GLRCP0125			Boone Creek	CP365-2.1	6A	
Great Lakes	GLRCP0126			Boone Creek	CP365-3.4	6A	
Great Lakes	GLRCP0127			Boone Creek	CP365-5.2	6A	
Great Lakes	GLRCP0128			Boone Creek	CP365-5.3N	6A	
Great Lakes	GLRCP0129			Boone Creek	CP365-7.8	6A	
Great Lakes	GLRCP0130			Boone Creek		6A	
Great Lakes	GLRCP0131			Boone Creek	CP365-9.9	6A	
Great Lakes	GLRCP0132			Boone Creek	CP365-14.6	6A	
Great Lakes	GLRCP0133			Boone Creek	CP365-16.2	6A	
Great Lakes	GLRCP0134			Boone Creek	CP365-20.3	6A	
Great Lakes	GLRCP0135			Fox River	CP377-3.3	6A	
Great Lakes	GLRCP0137			Fox River	CP377-4.9	6A	
Great Lakes	GLRCP0138			Fox River	CP377-6.3	6A	
Great Lakes	GLRCP0139			Fox River	CP377-7.4	6A	
Great Lakes	GLRCP0140			Fox River	CP377-8.2	6A	
Great Lakes	GLRCP0141			Fox River	CP377-9.3	6A	
Great Lakes	GLRCP0142			Fox River	CP377-11.5	6A	
Great Lakes	GLRCP0143			Fox River	CP377-12.1	6A	
Great Lakes	GLRCP0144			Fox River	CP377-13.5	6A	
Great Lakes	GLRCP0145			Fox River	CP377-16.3	6A	
Great Lakes	GLRCP0146			Poplar Creek	CP388-3.6	6A	
Great Lakes	GLRCP0147			Fox River	CP377-20.1	6A	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0148	[redacted]		Fox River	CP377-25.1E	6A	
Great Lakes	GLRCP0149			Fox River	CP377-25.1W	6A	
Great Lakes	GLRCP0150			Newman Creek	CP357-5.4	6A	
Great Lakes	GLRCP0151			Newman Creek	CP357-3.3	6A	
Great Lakes	GLRCP0152			Newman Creek	CP357-4.6	6A	
Great Lakes	GLRCP0153			Hickory Creek	CP447-2.0	6A & 64	
Great Lakes	GLRCP0154			Hickory Creek	CP447-3.1	6A & 64	
Great Lakes	GLRCP0155			Hickory Creek	CP447-4.9	6A & 64	
Great Lakes	GLRCP0156			Hickory Creek	CP447-6.3	6A	
Great Lakes	GLRCP0157			Hickory Creek	CP447-8.9	6A	
Great Lakes	GLRCP0158			Hickory Creek	CP447-11.5	6A & 14	
Great Lakes	GLRCP0159			Hickory Creek	CP447-12.9	6A & 14	
Great Lakes	GLRCP0160			Marley Creek	CP438-1.6	6A	
Great Lakes	GLRCP0161			Marley Creek	CP438-2.5	6A	
Great Lakes	GLRCP0162			Marley Creek	CP438-3.5X	6A	
Great Lakes	GLRCP0163			Marley Creek		6A	
Great Lakes	GLRCP0164			Marley Creek	CP438-4.6	6A	
Great Lakes	GLRCP0165			Thorn Creek	CP454-0.5	6A & 64	
Great Lakes	GLRCP0166			Bishop Ford HWY DD	CP 70.56 - 0.09	78	
Great Lakes	GLRCP0167			Bishop Ford DD	CP 70.56 - 0.88 / CP 71.24 - 0.09	78	
Great Lakes	GLRCP0168			Bishop Ford DD	CP 71.24 - 0.60 / CP 71.56 - 0.26	78	
Great Lakes	GLRCP0169			Bishop Ford DD	CP 70.56 - 2.31 / CP 71.56 - 1.25	6A, 64 & 78	
Great Lakes	GLRCP0170			Bishop Ford DD	CP 71.24 - 1.63	6A, 64 & 78	
Great Lakes	GLRCP0171			Deer Creek	CP 72.87 - 0.64	6A, 64 & 78	
Great Lakes	GLRCP0172			Bishop Ford DD	CP 71.24 - 2.73 / CP 71.56 - 2.33	6A, 64 & 78	
Great Lakes	GLRCP0173			Deer Creek	CP 70.56 - 4.22 / CP 72.87 - 1.89 / CP458-2.0	6A, 64 & 78	
Great Lakes	GLRCP0174			Deer Creek	CP458-3.5	6A, 64 & 78	
Great Lakes	GLRCP0175			Deer Creek	CP458-4.3	6A, 64 & 78	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0176	[redacted]		Deer Creek	CP 71.56 - 5.33 / CP 72.87 - 5.33 / CP458-6.4	6A, 64 & 78	
Great Lakes	GLRCP0177			Deer Creek	CP 72.87 - 8.48	6A, 64 & 78	
Great Lakes	GLRCP0178			North Creek	CP 74.71 - 0.73	6A, 64 & 78	
Great Lakes	GLRCP0179			North Creek	CP 74.71 - 2.23	6A, 64 & 78	
Great Lakes	GLRCP0180			North Creek	CP 74.71 - 4.01	6A, 64 & 78	
Great Lakes	GLRCP0181			North Creek	CP 74.71 - 4.76	6A, 64 & 78	
Great Lakes	GLRCP0182			Plum Creek	CP 76.10 - 0.06	6A, 64 & 78	
Great Lakes	GLRCP0183			Plum Creek	CP 76.10 - 0.86	6A, 64 & 78	
Great Lakes	GLRCP0184			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	GLRCP0185			Deer Creek	CP 76.80 - 2.27	6A, 64 & 78	
Great Lakes	GLRCP0186			Plum Creek	CP462-2.4	6A, 64 & 78	
Great Lakes	GLRCP0187			Plum Creek	CP 76.10 - 2.30	6A, 64 & 78	
Great Lakes	GLRCP0188			Plum Creek	CP462-3.1	6A, 64 & 78	
Great Lakes	GLRCP0189			Plum Creek	CP 76.80 - 4.15 / CP462-4.2	6A, 64 & 78	
Great Lakes	GLRCP0190			Deer Creek		6A, 64 & 78	
Great Lakes	GLRCP0191			Spring Creek	CP 79.07 - 0.13	6A, 64 & 78	
Great Lakes	GLRCP0192			Spring Creek	CP 79.07 - 0.38	6A, 64 & 78	
Great Lakes	GLRCP0193			Spring Creek	CP 79.07 - 1.38	6A, 64 & 78	
Great Lakes	GLRCP0194			Spring Creek	CP 79.07 - 2.22	6A, 64 & 78	
Great Lakes	GLRCP0195			Oak Street Pond	CP 79.67 - 0.01	6A, 64 & 78	
Great Lakes	GLRCP0196			Turkey Creek	CP471-2.7	78	
Great Lakes	GLRCP0197			Turkey Creek	CP471-4.4	78	
Great Lakes	GLRCP0198			Salt Creek	CP484-2.7	78	
Great Lakes	GLRCP0199			Salt Creek	CP484-6.1	78	
Great Lakes	GLRCP0200			Salt Creek	CP484-8.7	78	
Great Lakes	GLRCP0201			Salt Creek		78	
Great Lakes	GLRCP0202			Brandywine Creek	CP536-1.6	78	
Great Lakes	GLRCP0203			Brandywine Creek	CP536-2.9	78	
Great Lakes	GLRCP0204			Saint Joseph River	CP533-2.0	78	
Great Lakes	GLRCP0205			Saint Joseph River	CP533-2.7	78	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0206	[redacted]		Saint Joseph River	CP533-7.0	78	
Great Lakes	GLRCP0207			Saint Joseph River	CP533-11.2	78	
Great Lakes	GLRCP0208			Saint Joseph River	CP533-21.0	78	
Great Lakes	GLRCP0209			Rocky River	CP570-4.2	78	
Great Lakes	GLRCP0210			Rocky River	CP570-6.0	78	
Great Lakes	GLRCP0211			Rocky River	CP570-7.0N	78	
Great Lakes	GLRCP0212			Rocky River	CP570-7.1S	78	
Great Lakes	GLRCP0213			Portage River	CP577-2.8	78	
Great Lakes	GLRCP0214			Portage River	CP577-4.3	78	
Great Lakes	GLRCP0215			Portage River	CP577-5.9	78	
Great Lakes	GLRCP0216			Kalamazoo River	CP611-1.3	78	
Great Lakes	GLRCP0217			Kalamazoo River	CP611-1.6	78	
Great Lakes	GLRCP0218			South Branch Rice Creek	CP618-9.3	78	
Great Lakes	GLRCP0219			Kalamazoo River	CP611-4.3	78	
Great Lakes	GLRCP0220			Kalamazoo River	CP611-6.8	78	
Great Lakes	GLRCP0221			Kalamazoo River	CP611-7.1	78	
Great Lakes	GLRCP0222			Kalamazoo River	CP611-7.4	78	
Great Lakes	GLRCP0223			Kalamazoo River	CP611-7.8	78	
Great Lakes	GLRCP0224			Kalamazoo River	CP611-9.4	78	
Great Lakes	GLRCP0225			Kalamazoo River	CP611-11.1	78	
Great Lakes	GLRCP0226			Kalamazoo River	CP611-11.4	78	
Great Lakes	GLRCP0227			Kalamazoo River	CP611-11.9	78	
Great Lakes	GLRCP0228			Kalamazoo River	CP611-13.3	78	
Great Lakes	GLRCP0229			Kalamazoo River	CP611-14.1	78	
Great Lakes	GLRCP0230			Kalamazoo River	CP611-14.6	78	
Great Lakes	GLRCP0231			Kalamazoo River	CP611-15.1	78	
Great Lakes	GLRCP0232			Kalamazoo River	CP611-15.3	78	
Great Lakes	GLRCP0233			Kalamazoo River	CP611-16.8	78	
Great Lakes	GLRCP0234			Kalamazoo River	CP611-17.4	78	
Great Lakes	GLRCP0235			Kalamazoo River	CP611-19.6	78	
Great Lakes	GLRCP0236			Kalamazoo River	CP611-20.1	78	
Great Lakes	GLRCP0237			Kalamazoo River	CP611-20.7	78	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0238	[redacted]	[redacted]	Kalamazoo River	CP611-21.0	78	
Great Lakes	GLRCP0239	[redacted]	[redacted]	Kalamazoo River	CP611-21.2	78	
Great Lakes	GLRCP0240	[redacted]	[redacted]	Kalamazoo River	CP611-21.4	78	
Great Lakes	GLRCP0241	[redacted]	[redacted]	Kalamazoo River	CP611-22.5	78	
Great Lakes	GLRCP0242	[redacted]	[redacted]	Kalamazoo River	CP611-23.3	78	
Great Lakes	GLRCP0243	[redacted]	[redacted]	Kalamazoo River	CP611-26.6	78	
Great Lakes	GLRCP0244	[redacted]	[redacted]	Kalamazoo River	CP611-28.9	78	
Great Lakes	GLRCP0245	[redacted]	[redacted]	Kalamazoo River	CP611-30.2	78	
Great Lakes	GLRCP0246	[redacted]	[redacted]	Kalamazoo River	CP611-30.8	78	
Great Lakes	GLRCP0247	[redacted]	[redacted]	Kalamazoo River	CP611-31.3	78	
Great Lakes	GLRCP0248	[redacted]	[redacted]	Kalamazoo River	CP611-32.0	78	
Great Lakes	GLRCP0249	[redacted]	[redacted]	Kalamazoo River	CP611-37.1	78	
Great Lakes	GLRCP0250	[redacted]	[redacted]	Kalamazoo River	CP611-38.5	78	
Great Lakes	GLRCP0251	[redacted]	[redacted]	Kalamazoo River	CP611-39.8	78	
Great Lakes	GLRCP0252	[redacted]	[redacted]	Kalamazoo River	CP611-40.6	78	
Great Lakes	GLRCP0253	[redacted]	[redacted]	Kalamazoo River	CP611-41.9	78	
Great Lakes	GLRCP0254	[redacted]	[redacted]	South Branch Rice Creek	CP618-2.9	78	
Great Lakes	GLRCP0255	[redacted]	[redacted]	South Branch Rice Creek	CP618-4.3	78	
Great Lakes	GLRCP0256	[redacted]	[redacted]	South Branch Rice Creek	CP618-5.3	78	
Great Lakes	GLRCP0257	[redacted]	[redacted]	South Branch Rice Creek	CP618-7.4	78	
Great Lakes	GLRCP0258	[redacted]	[redacted]	South Branch Rice Creek	CP618-8.9	78	
Great Lakes	GLRCP0259	[redacted]	[redacted]	Grand River	CP634--3.9	78	
Great Lakes	GLRCP0260	[redacted]	[redacted]	Grand River	CP634-0.3	78	
Great Lakes	GLRCP0261	[redacted]	[redacted]	Grand River	CP634-3.4	78	
Great Lakes	GLRCP0262	[redacted]	[redacted]	Grand River	CP634-6.1	78	
Great Lakes	GLRCP0263	[redacted]	[redacted]	Grand River	CP634-6.4	78	
Great Lakes	GLRCP0264	[redacted]	[redacted]	Grand River	CP634-8.5	78	
Great Lakes	GLRCP0265	[redacted]	[redacted]	Grand River	CP634-10.4	78	
Great Lakes	GLRCP0266	[redacted]	[redacted]	Middle Branch Cedar River	CP662-2.0	78	
Great Lakes	GLRCP0267	[redacted]	[redacted]	Red Cedar River	CP665-2.0	78	
Great Lakes	GLRCP0268	[redacted]	[redacted]	Red Cedar River	CP665-3.3	78	
Great Lakes	GLRCP0269	[redacted]	[redacted]	Red Cedar River	CP665-4.4	78	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0270	[redacted]	[redacted]	Middle Branch Cedar River	CP662-4.2	78	
Great Lakes	GLRCP0271	[redacted]	[redacted]	Middle Branch Cedar River	CP662-5.2	78	
Great Lakes	GLRCP0272	[redacted]	[redacted]	Middle Branch Cedar River	CP662-7.1	78	
Great Lakes	GLRCP0273	[redacted]	[redacted]	Shiawassee River South Branch	CP668-5.6	78	
Great Lakes	GLRCP0274	[redacted]	[redacted]	Shiawassee River South Branch	CP668-8.0	78	
Great Lakes	GLRCP0275	[redacted]	[redacted]	Shiawassee River South Branch	CP668-13.3	78	
Great Lakes	GLRCP0276	[redacted]	[redacted]	Shiawassee River South Branch	CP668-14.9	78	
Great Lakes	GLRCP0277	[redacted]	[redacted]	Shiawassee River South Branch	CP668-21.6	78	
Great Lakes	GLRCP0278	[redacted]	[redacted]	North Ore Creek	CP679-0.8	78	
Great Lakes	GLRCP0279	[redacted]	[redacted]	North Ore Creek	CP679-2.2	78	
Great Lakes	GLRCP0280	[redacted]	[redacted]	North Ore Creek	CP679-3.1	78	
Great Lakes	GLRCP0281	[redacted]	[redacted]	North Ore Creek	CP679-4.4	78	
Great Lakes	GLRCP0282	[redacted]	[redacted]	Shiawassee River		78	
Great Lakes	GLRCP0283	[redacted]	[redacted]	Shiawassee River	CP691-0.0	78	
Great Lakes	GLRCP0284	[redacted]	[redacted]	Buckhorn Creek	CP689-3.1	78	
Great Lakes	GLRCP0285	[redacted]	[redacted]	Buckhorn Creek	CP689-4.0	78	
Great Lakes	GLRCP0286	[redacted]	[redacted]	Buckhorn Creek	CP689-5.4	78	
Great Lakes	GLRCP0287	[redacted]	[redacted]	South Branch Flint River	CP709-6.7	78	
Great Lakes	GLRCP0288	[redacted]	[redacted]	South Branch Flint River	CP709-9.4	78	
Great Lakes	GLRCP0289	[redacted]	[redacted]	South Branch Flint River	CP709-11.5	78	
Great Lakes	GLRCP0290	[redacted]	[redacted]	South Branch Flint River	CP709-14.2	78	
Great Lakes	GLRCP0291	[redacted]	[redacted]	South Branch Flint River	CP709-18.2	78	
Great Lakes	GLRCP0292	[redacted]	[redacted]	North Branch Clinton River	CP723-9.8	78	
Great Lakes	GLRCP0293	[redacted]	[redacted]	North Branch Clinton River	CP723-14.2	78	
Great Lakes	GLRCP0294	[redacted]	[redacted]	North Branch Clinton River	CP723-16.6	78	
Great Lakes	GLRCP0295	[redacted]	[redacted]	North Branch Clinton River	CP723-17.4	78	
Great Lakes	GLRCP0296	[redacted]	[redacted]	North Branch Clinton River	CP723-21.7	78	
Great Lakes	GLRCP0297	[redacted]	[redacted]	Belle River	CP737-8.4	78	
Great Lakes	GLRCP0298	[redacted]	[redacted]	Belle River	CP737-13.7	78	
Great Lakes	GLRCP0299	[redacted]	[redacted]	Belle River	CP737-20.9	78	
Great Lakes	GLRCP0300	[redacted]	[redacted]	Belle River	CP737-27.5	78	
Great Lakes	GLRCP0301	[redacted]	[redacted]	Pine River	CP1718-8.3	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0302	[redacted]		Pine River	CP1718-10.5	5	
Great Lakes	GLRCP0303			Pine River	CP1718-13.6	5	
Great Lakes	GLRCP0304			Pine River	CP1718-16.3	5	
Great Lakes	GLRCP0305			Pine River	CP1718-18.9	5	
Great Lakes	GLRCP0306			Pine River	CP1718-21.9	5	
Great Lakes	GLRCP0307			Pine River	CP1718-24.4	5	
Great Lakes	GLRCP0308			Pine River	CP1718-26.2	5	
Great Lakes	GLRCP0309			Pine River	CP1718-30.3	5	
Great Lakes	GLRCP0310			Pine River	CP1718-31.5	5	
Great Lakes	GLRCP0311			Pine River	CP745-1.1	5 & 78	
Great Lakes	GLRCP0312			Pine River	CP745-3.7	5 & 78	
Great Lakes	GLRCP0313			Pine River	CP745-5.7	5 & 78	
Great Lakes	GLRCP0314			Pine River	CP745-8.7	5 & 78	
Great Lakes	GLRCP0315			Pine River	CP745-13.3	5 & 78	
Great Lakes	GLRCP0316			St. Clair River		5 & 78	
Great Lakes	GLRCP0317			St. Clair River		5 & 78	
Great Lakes	GLRCP0318			St. Clair River	CP1735-0.7	5 & 78	
Great Lakes	GLRCP0319			St. Clair River	CP1735-6.3	5 & 78	
Great Lakes	GLRCP0320			St. Clair River	CP1735-6.7	5 & 78	
Great Lakes	GLRCP0321			St. Clair River		5 & 78	
Great Lakes	GLRCP0322			St. Clair River	CP1735-8.5	5 & 78	
Great Lakes	GLRCP0323			St. Clair River		5 & 78	
Great Lakes	GLRCP0324			St. Clair River	CP1735-14.2	5 & 78	
Great Lakes	GLRCP0325			St. Clair River		5 & 78	
Great Lakes	GLRCP0326			St. Clair River		5 & 78	
Great Lakes	GLRCP0327			St. Clair River		5 & 78	
Great Lakes	GLRCP0328			St. Clair River	CP1735-15.4	5 & 78	
Great Lakes	GLRCP0329			St. Clair River		5 & 78	
Great Lakes	GLRCP0330			St. Clair River	CP1735-19.3	5 & 78	
Great Lakes	GLRCP0331			St. Clair River		5 & 78	
Great Lakes	GLRCP0332			St. Clair River		5 & 78	
Great Lakes	GLRCP0333			St. Clair River		5 & 78	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0334	[redacted]		St. Clair River		5 & 78	
Great Lakes	GLRCP0335			St. Clair River		5 & 78	
Great Lakes	GLRCP0336			St. Clair River		5 & 78	
Great Lakes	GLRCP0337			St. Clair River		5 & 78	
Great Lakes	GLRCP0338			St. Clair River	CP1735-22.0	5 & 78	
Great Lakes	GLRCP0339			St. Clair River		5 & 78	
Great Lakes	GLRCP0340			St. Clair River		5 & 78	
Great Lakes	GLRCP0341			St. Clair River		5 & 78	
Great Lakes	GLRCP0342			St. Clair River	CP1735-23.4	5 & 78	
Great Lakes	GLRCP0343			St. Clair River		5 & 78	
Great Lakes	GLRCP0344			St. Clair River		5 & 78	
Great Lakes	GLRCP0345			St. Clair River		5 & 78	
Great Lakes	GLRCP0346			St. Clair River		5 & 78	
Great Lakes	GLRCP0347			St. Clair River	CP1735-24.0	5 & 78	
Great Lakes	GLRCP0348			St. Clair River		5 & 78	
Great Lakes	GLRCP0349			St. Clair River		5 & 78	
Great Lakes	GLRCP0350			St. Clair River		5 & 78	
Great Lakes	GLRCP0351			St. Clair River		5 & 78	
Great Lakes	GLRCP0352			St. Clair River		5 & 78	
Great Lakes	GLRCP0353			St. Clair River		5 & 78	
Great Lakes	GLRCP0354			St. Clair River		5 & 78	
Great Lakes	GLRCP0355			St. Clair River		5 & 78	
Great Lakes	GLRCP0356			St. Clair River		5 & 78	
Great Lakes	GLRCP0357			St. Clair River	CP1735-27.9	5 & 78	
Great Lakes	GLRCP0358			St. Clair River	CP1735-26.1	5 & 78	
Great Lakes	GLRCP0359			St. Clair River		5 & 78	
Great Lakes	GLRCP0360			St. Clair River		5 & 78	
Great Lakes	GLRCP0361			St. Clair River		5 & 78	
Great Lakes	GLRCP0362			St. Clair River	CP1735-30.0	5 & 78	
Great Lakes	GLRCP0363			St. Clair River		5 & 78	
Great Lakes	GLRCP0364			St. Clair River	CP1735-30.4	5 & 78	
Great Lakes	GLRCP0365			St. Clair River		5 & 78	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0366	[redacted]		St. Clair River		5 & 78	
Great Lakes	GLRCP0367			St. Clair River		5 & 78	
Great Lakes	GLRCP0368			St. Clair River		5 & 78	
Great Lakes	GLRCP0369			St. Clair River		5 & 78	
Great Lakes	GLRCP0370			St. Clair River		5 & 78	
Great Lakes	GLRCP0371			St. Clair River		5 & 78	
Great Lakes	GLRCP0372			St. Clair River		5 & 78	
Great Lakes	GLRCP0373			St. Clair River		5 & 78	
Great Lakes	GLRCP0374			St. Clair River		5 & 78	
Great Lakes	GLRCP0375			St. Clair River		5 & 78	
Great Lakes	GLRCP0376			St. Clair River	CP1735-30.1	5 & 78	
Great Lakes	GLRCP0377			St. Clair River		5 & 78	
Great Lakes	GLRCP0378			St. Clair River		5 & 78	
Great Lakes	GLRCP0379			St. Clair River		5 & 78	
Great Lakes	GLRCP0380			St. Clair River		5 & 78	
Great Lakes	GLRCP0394			Buffalo River	CP1951-6.4	10	
Great Lakes	GLRCP0395			Buffalo River	CP1951-7.8	10	
Great Lakes	GLRCP0396			Niagara River - East Branch	CP1933-2.4	10	
Great Lakes	GLRCP0397			Niagara River - West Branch	CP1928-5.0 / CP1933-7.8	10	
Great Lakes	GLRCP0398			Niagara River - West Branch	CP1928-15.3 / CP1933-21.9	10	
Great Lakes	GLRCP0399			Niagara River - West Branch	CP1928-21.6 / CP1933-28.0	10	
Great Lakes	GLRCP0400			Niagara River - West Branch	CP1928-4.0	10	
Great Lakes	GLRCP0401			St. Clair River		5 & 78	
Great Lakes	GLRCP0402			Montreal River	CP1189-0.7W	5	
Great Lakes	GLRCP0404			Welch Creek	CP1191-0.3B	5	
Great Lakes	GLRCP0405			Welch Creek	CP1191-2.4B	5	
Great Lakes	GLRCP0406			Siemens Creek	CP1194-0.1W	5	
Great Lakes	GLRCP0407			Siemens Creek	CP1194-3.0B	5	
Great Lakes	GLRCP0408			Siemens Creek	CP1194-4.1B	5	
Great Lakes	GLRCP0409			Siemens Creek	CP1194-5.1B	5	
Great Lakes	GLRCP0410			Siemens Creek	CP1194-6.2B	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0411	[redacted]		Black River	CP1197-0.8B / CP1200-3.8B / CP1203-7.5B	5	
Great Lakes	GLRCP0412			Black River	CP1197-2.0B / CP1200-4.8B / CP1203-8.6B	5	
Great Lakes	GLRCP0413			Black River	CP1200-9.0W / CP1203-12.8W	5	
Great Lakes	GLRCP0414			Black River	CP1197-18.0W / CP1200-20.6W / CP1203-24.4W	5	
Great Lakes	GLRCP0415			Black River	CP1200-0.4B	5	
Great Lakes	GLRCP0416			Black River	CP1203-4.3S	5	
Great Lakes	GLRCP0417			Planter Creek	CP1203-0.3B	5	
Great Lakes	GLRCP0418			Planter Creek	CP1203-2.6W	5	
Great Lakes	GLRCP0419			Planter Creek	CP1203-3.1B	5	
Great Lakes	GLRCP0420			Presque Isle River	CP1217-1.6W	5	
Great Lakes	GLRCP0421			Presque Isle River	CP1217-2.1W	5	
Great Lakes	GLRCP0422			Presque Isle River	CP1217-3.4B	5	
Great Lakes	GLRCP0423			Presque Isle River	CP1217-5.0B	5	
Great Lakes	GLRCP0424			Presque Isle River	CP1217-18.1B	5	
Great Lakes	GLRCP0427			Presque Isle River	CP1217-28.0B	5	
Great Lakes	GLRCP0428			Presque Isle River	CP1217-36.2B	5	
Great Lakes	GLRCP0429			Presque Isle River	CP1217-37.1W	5	
Great Lakes	GLRCP0430			Lake Gogebic	CP1222-4.0W / CP1224-4.4W	5	
Great Lakes	GLRCP0431			Cisco Branch Ontonagon River	CP1232-0.7B	5	
Great Lakes	GLRCP0432			Cisco Branch Ontonagon River	CP1232-7.0B	5	
Great Lakes	GLRCP0433			Cisco Branch Ontonagon River	CP1232-17.3B	5	
Great Lakes	GLRCP0435			Cisco Branch Ontonagon River	CP1232-39.2E	5	
Great Lakes	GLRCP0436			Middle Branch Ontonagon River	CP1237-1.0B	5	
Great Lakes	GLRCP0437			Middle Branch Ontonagon River	CP1237-5.4B	5	
Great Lakes	GLRCP0438			Middle Branch Ontonagon River	CP1237-10.4S	5	
Great Lakes	GLRCP0439			Middle Branch Ontonagon River	CP1237-14.4B / CP1244-5.1B	5	
Great Lakes	GLRCP0440			Middle Branch Ontonagon River	CP1237-17.1B / CP1244-7.8B	5	
Great Lakes	GLRCP0441			Middle Branch Ontonagon River	CP1237-18.9B / CP1244-9.6B	5	
Great Lakes	GLRCP0442			Middle Branch Ontonagon River	CP1237-20.2E / CP1244-10.8E	5	
Great Lakes	GLRCP0443			Middle Branch Ontonagon River	CP1237-26.5B / CP1244-17.1B	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0444	[redacted]		Duck Creek	CP1244-0.7B	5	
Great Lakes	GLRCP0445			Duck Creek	CP1244-1.3B	5	
Great Lakes	GLRCP0446			S. Branch Paint River	CP1254-0.3B	5	
Great Lakes	GLRCP0447			S. Branch Paint River	CP1254-2.0W	5	
Great Lakes	GLRCP0449			S. Branch Paint River	CP1254-5.2B	5	
Great Lakes	GLRCP0450			S. Branch Paint River	CP1254-6.9B	5	
Great Lakes	GLRCP0451			S. Branch Paint River	CP1254-11.1B	5	
Great Lakes	GLRCP0453			S. Branch Paint River	CP1254-16.0B	5	
Great Lakes	GLRCP0454			S. Branch Paint River	CP1254-18.7B / CP1260-6.7B	5	
Great Lakes	GLRCP0455			S. Branch Paint River	CP1254-19.6B / CP1260-7.6B	5	
Great Lakes	GLRCP0456			S. Branch Paint River	CP1254-20.2E / CP1260-8.2E	5	
Great Lakes	GLRCP0457			S. Branch Paint River	CP1254-22.2B / CP1260-10.2B	5	
Great Lakes	GLRCP0458			S. Branch Paint River	CP1254-24.7N / CP1260-12.4W	5	
Great Lakes	GLRCP0459			S. Branch Paint River	CP1254-26.8B / CP1260-14.7B	5	
Great Lakes	GLRCP0460			S. Branch Paint River	CP1254-27.7B / CP1260-15.6B	5	
Great Lakes	GLRCP0461			S. Branch Paint River	CP1260-19.6N	5	
Great Lakes	GLRCP0463			Cooks Run	CP1260-0.7B	5	
Great Lakes	GLRCP0464			Cooks Run	CP1260-2.2S	5	
Great Lakes	GLRCP0465			Cooks Run	CP1260-3.0N	5	
Great Lakes	GLRCP0467			Cooks Run	CP1260-4.8B	5	
Great Lakes	GLRCP0468			S. Br. Iron River	CP1268-0.3B	5	
Great Lakes	GLRCP0469			S. Br. Iron River	CP1268-0.8B	5	
Great Lakes	GLRCP0470			Iron River	CP1268-2.0B / CP1270-0.8B	5	
Great Lakes	GLRCP0471			Iron River	CP1268-4.7B / CP1270-3.5B / CP1272-1.0B	5	
Great Lakes	GLRCP0472			Iron River	CP1268-6.4B / CP1270-5.0B / CP1272-2.8B	5	
Great Lakes	GLRCP0473			Iron River	CP1268-7.6B / CP1270-6.3B / CP1272-4.0B	5	
Great Lakes	GLRCP0474			Iron River	CP1268-8.6N / CP1270-7.3N / CP1272-5.0N	5	
Great Lakes	GLRCP0475			Iron River	CP1268-9.2W / CP1270-7.9W / CP1272-5.6W	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0476	[redacted]		Iron River	CP1268-10.4B / CP1270-9.2B / CP1272-7.0B	5	
Great Lakes	GLRCP0477			Iron River	CP1268-11.2N / CP1270-10.0N / CP1272-7.8N	5	
Great Lakes	GLRCP0478			Iron River	CP1268-12.3B / CP1270-11.0B / CP1272-8.8B	5	
Great Lakes	GLRCP0479			Iron River	CP1268-12.4B / CP1270-11.1B / CP1272-8.9B	5	
Great Lakes	GLRCP0481			Iron River	CP1268-18.4N / CP1270-17.2N / CP1272-14.9N	5	
Great Lakes	GLRCP0482			Iron River	CP1272-19.7B	5	
Great Lakes	GLRCP0485			S. Br. Iron River		5	
Great Lakes	GLRCP0486			Iron River		5	
Great Lakes	GLRCP0487			Paint River	CP1290-12.9S	5	
Great Lakes	GLRCP0488			Briar Hill Creek	CP1285-1.2B	5	
Great Lakes	GLRCP0489			Briar Hill Creek	CP1285-3.4S	5	
Great Lakes	GLRCP0490			Briar Hill Creek	CP1285-4.0B	5	
Great Lakes	GLRCP0491			Briar Hill Creek	CP1285-4.2E	5	
Great Lakes	GLRCP0492			Paint River	CP1290-0.2W	5	
Great Lakes	GLRCP0493			Paint River	CP1290-4.0W	5	
Great Lakes	GLRCP0494			Paint River	CP1290-6.9E	5	
Great Lakes	GLRCP0495			Paint River	CP1290-7.5W	5	
Great Lakes	GLRCP0496			Paint River	CP1290-8.0B	5	
Great Lakes	GLRCP0497			Paint River	CP1290-8.1W	5	
Great Lakes	GLRCP0498			Paint River	CP1290-8.9N / CP1295-10.0N / CP1297-8.3N	5	
Great Lakes	GLRCP0499			Michigamme River	CP1290-10.6E / CP1295-11.2E / CP1297-9.4E	5	
Great Lakes	GLRCP0500			Paint River	CP1290-10.8W	5	
Great Lakes	GLRCP0501			Michigamme River	CP1290-14.4E / CP1295-15.0E / CP1297-13.2E	5	
Great Lakes	GLRCP0502			Paint River	CP1290-15.0S	5	
Great Lakes	GLRCP0503			Michigamme River	CP1295-0.6W	5	
Great Lakes	GLRCP0506			Parks Creek Trib.	CP1295-8.5N / CP1297-7.8N	5	
Great Lakes	GLRCP0507			Ford River	CP1316-2.0S	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0508	[redacted]		Ford River	CP1316-11.1B	5	
Great Lakes	GLRCP0509			Ford River	CP1316-15.4B	5	
Great Lakes	GLRCP0510			Ford River	CP1316-19.7B	5	
Great Lakes	GLRCP0511			Escanaba River Trib.	CP1337-0.5B	5	
Great Lakes	GLRCP0512			Escanaba River Trib.	CP1337-6.4W / CP1342-0.8W	5	
Great Lakes	GLRCP0515			Escanaba River	CP1342-8.8B	5	
Great Lakes	GLRCP0516			Escanaba River	CP1342-10.1S	5	
Great Lakes	GLRCP0517			Escanaba River	CP1342-19.3W	5	
Great Lakes	GLRCP0518			Escanaba River	CP1342-22.1W	5	
Great Lakes	GLRCP0519			Escanaba River	CP1342-23.2W	5	
Great Lakes	GLRCP0520			Escanaba River	CP1342-23.3B	5	
Great Lakes	GLRCP0521			Escanaba River	CP1342-24.8S	5	
Great Lakes	GLRCP0522			Tacoosh River	CP1353-1.0B	5	
Great Lakes	GLRCP0523			Tacoosh River	CP1353-4.0B	5	
Great Lakes	GLRCP0524			Tacoosh River	CP1353-5.7B	5	
Great Lakes	GLRCP0525			Tacoosh River	CP1353-6.3B	5	
Great Lakes	GLRCP0526			Tacoosh River	CP1353-7.2B	5	
Great Lakes	GLRCP0527			Tacoosh River	CP1353-7.5B	5	
Great Lakes	GLRCP0528			Paint River	CP1353-8.7E / CP1357-2.7E / CP1358-3.9E	5	
Great Lakes	GLRCP0530			Rapid River	CP1357-0.7E	5	
Great Lakes	GLRCP0531			Rapid River	CP1357-1.5B	5	
Great Lakes	GLRCP0532			White Fish River	CP1358-1.7B	5	
Great Lakes	GLRCP0533			White Fish River	CP1358-2.9E	5	
Great Lakes	GLRCP0534			Sturgeon River	CP1370-0.4W	5	
Great Lakes	GLRCP0536			Sturgeon River	CP1370-6.2B	5	
Great Lakes	GLRCP0537			Sturgeon River	CP1370-7.7W	5	
Great Lakes	GLRCP0538			Sturgeon River	CP1370-10.5W	5	
Great Lakes	GLRCP0539			Sturgeon River	CP1370-13.3B	5	
Great Lakes	GLRCP0540			Sturgeon River	CP1370-14.2W	5	
Great Lakes	GLRCP0541			Sturgeon River	CP1370-14.7B	5	
Great Lakes	GLRCP0542			Sturgeon River	CP1370-14.9E	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0543	[redacted]		Sturgeon River	CP1370-15.2E	5	
Great Lakes	GLRCP0544			Indian River	CP1393-1.0W	5	
Great Lakes	GLRCP0545			Manistique River	CP1393-1.7N / CP1394-2.4N	5	
Great Lakes	GLRCP0546			Manistique River	CP1393-2.0S / CP1394-2.8S	5	
Great Lakes	GLRCP0547			Manistique River	CP1393-2.5W / CP1394-3.3W	5	
Great Lakes	GLRCP0548			Manistique River	CP1393-3.7W / CP1394-4.5W	5	
Great Lakes	GLRCP0549			Little Bear Creek		5	
Great Lakes	GLRCP0550			Little Bear Creek		5	
Great Lakes	GLRCP0551			Little Bear Creek		5	
Great Lakes	GLRCP0552			Little Bear Creek		5	
Great Lakes	GLRCP0553			Little Bear Creek		5	
Great Lakes	GLRCP0554			Little Bear Creek		5	
Great Lakes	GLRCP0555			Little Bear Creek		5	
Great Lakes	GLRCP0559			Lower Millecoquins River	CP1434-4.6B	5	
Great Lakes	GLRCP0561			West Mile Creek	CP1436-1.6B	5	
Great Lakes	GLRCP0562			West Mile Creek	CP1436-1.7S	5	
Great Lakes	GLRCP0563			West Mile Creek	CP1436-3.1W / CP1439-8.9W	5	
Great Lakes	GLRCP0564			Black River	CP1439-3.1B	5	
Great Lakes	GLRCP0565			Black River	CP1439-3.3E	5	
Great Lakes	GLRCP0566			Davenport Creek	CP1444-2.7B	5	
Great Lakes	GLRCP0567			Davenport Creek	CP1444-3.3S	5	
Great Lakes	GLRCP0568			Cut River	CP1452-0.8S	5	
Great Lakes	GLRCP0569			Brevort River	CP1464-3.5B	5	
Great Lakes	GLRCP0570			Brevort River	CP1464-3.7S	5	
Great Lakes	GLRCP0571			Straits of Mackinac	CP1477-3.8E	5	
Great Lakes	GLRCP0572			Straits of Mackinac	CP1477-4.0E	5	
Great Lakes	GLRCP0573			Straits of Mackinac	CP1477-5.0E	5	
Great Lakes	GLRCP0574			Straits of Mackinac	CP1477-6.9E	5	
Great Lakes	GLRCP0575			Indian River	CP1508-1.2W US	5	
Great Lakes	GLRCP0576			Indian River	CP1508-0.3S US	5	
Great Lakes	GLRCP0577			Indian River	CP1508-2.3S	5	
Great Lakes	GLRCP0578			Indian River	CP1508-6.0W	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0579			Little Pigeon River		5	
Great Lakes	GLRCP0580			Little Pigeon River		5	
Great Lakes	GLRCP0581			Little Pigeon River		5	
Great Lakes	GLRCP0582			Little Pigeon River		5	
Great Lakes	GLRCP0583			Little Pigeon River		5	
Great Lakes	GLRCP0584			Little Pigeon River		5	
Great Lakes	GLRCP0585			Little Pigeon River		5	
Great Lakes	GLRCP0586			Little Pigeon River		5	
Great Lakes	GLRCP0587			Pigeon River	CP1529-2.0B	5	
Great Lakes	GLRCP0588			Pigeon River	CP1529-3.2B	5	
Great Lakes	GLRCP0589			Pigeon River	CP1529-6.8B	5	
Great Lakes	GLRCP0590			Pigeon River	CP1529-11.0B	5	
Great Lakes	GLRCP0591			Pigeon River	CP1529-13.2E	5	
Great Lakes	GLRCP0592			Pigeon River	CP1529-15.9B	5	
Great Lakes	GLRCP0593			Pigeon River	CP1529-17.5E	5	
Great Lakes	GLRCP0594			Pigeon River	CP1529-23.0B	5	
Great Lakes	GLRCP0595			Pigeon River	CP1529-25.9B	5	
Great Lakes	GLRCP0596			Pigeon River	CP1529-26.9B	5	
Great Lakes	GLRCP0597			Pigeon River		5	
Great Lakes	GLRCP0598			Pigeon River		5	
Great Lakes	GLRCP0599			East Branch Big Creek	CP1556-3.7	5	
Great Lakes	GLRCP0600			East Branch Big Creek	CP1556-7.5	5	
Great Lakes	GLRCP0601			East Branch Big Creek	CP1556-10.0	5	
Great Lakes	GLRCP0602			Au Sable River	CP1562-1.2	5	
Great Lakes	GLRCP0603			Au Sable River	CP1562-3.1	5	
Great Lakes	GLRCP0604			Au Sable River	CP1562-5.5	5	
Great Lakes	GLRCP0605			Au Sable River	CP1562-10.0	5	
Great Lakes	GLRCP0606			Au Sable River	CP1562-10.8	5	
Great Lakes	GLRCP0607			Au Sable River	CP1562-14.1	5	
Great Lakes	GLRCP0608			West Branch Big Creek	CP1566-2.8	5	
Great Lakes	GLRCP0609			West Branch Big Creek	CP1566-4.5	5	
Great Lakes	GLRCP0610			Crapo Creek	CP1587-2.3	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0611			Crapo Creek	CP1587-3.9	5	
Great Lakes	GLRCP0612			Crapo Creek	CP1587-5.9	5	
Great Lakes	GLRCP0613			Crapo Creek	CP1587-7.8	5	
Great Lakes	GLRCP0614			West Branch Rifle River	CP1592-2.6	5	
Great Lakes	GLRCP0615			West Branch Rifle River	CP1592-6.7	5	
Great Lakes	GLRCP0616			West Branch Rifle River	CP1592-20.5	5	
Great Lakes	GLRCP0617			Saganing Creek	CP1616-4.7	5	
Great Lakes	GLRCP0618			Saganing Creek	CP1616-6.5	5	
Great Lakes	GLRCP0619			Saganing Creek	CP1616-8.3	5	
Great Lakes	GLRCP0620			Saganing Creek	CP1616-10.9	5	
Great Lakes	GLRCP0621			Saganing Creek	CP1616-13.1	5	
Great Lakes	GLRCP0622			Pinconning River	CP1621-1.7	5	
Great Lakes	GLRCP0623			Pinconning River	CP1621-3.2	5	
Great Lakes	GLRCP0624			Pinconning River	CP1621-5.3	5	
Great Lakes	GLRCP0625			Pinconning River	CP1621-6.4	5	
Great Lakes	GLRCP0626			Pinconning River	CP1621-7.8	5	
Great Lakes	GLRCP0627			North Branch Kawkawlin River	CP1631-4.6	5	
Great Lakes	GLRCP0628			North Branch Kawkawlin River	CP1631-5.8	5	
Great Lakes	GLRCP0629			Kawkawlin River	CP1638-2.4	5	
Great Lakes	GLRCP0630			Kawkawlin River	CP1638-4.4	5	
Great Lakes	GLRCP0631			Kawkawlin River	CP1638-6.6	5	
Great Lakes	GLRCP0632			Kawkawlin River	CP1638-7.6	5	
Great Lakes	GLRCP0633			Squaconning Creek	CP1643-2.0	5	
Great Lakes	GLRCP0634			Saginaw River	CP1643-2.7	5	
Great Lakes	GLRCP0635			Saginaw River	CP1643-2.7E	5	
Great Lakes	GLRCP0636			Saginaw River	CP1643-3.9	5	
Great Lakes	GLRCP0637			Saginaw River	CP1645-3.2	5	
Great Lakes	GLRCP0638			Saginaw River	CP1645-4.9	5	
Great Lakes	GLRCP0639			Saginaw River	CP1645-8.0	5	
Great Lakes	GLRCP0640			Quanicassee River	CP1652-3.4	5	
Great Lakes	GLRCP0641			Quanicassee River	CP1655-3.1	5	
Great Lakes	GLRCP0642			Quanicassee River	CP1655-6.5	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0643	[redacted]		Quanicassee River	CP1655-7.1	5	
Great Lakes	GLRCP0644			Cass River	CP1669-2.6	5	
Great Lakes	GLRCP0645			Cass River	CP1669-9.9	5	
Great Lakes	GLRCP0646			Indian Creek	CP1688-4.7	5	
Great Lakes	GLRCP0647			Indian Creek	CP1688-8.0	5	
Great Lakes	GLRCP0648			Indian Creek	CP1688-9.7	5	
Great Lakes	GLRCP0649			Indian Creek	CP1688-13.6	5	
Great Lakes	GLRCP0670			Indian River		5	
Great Lakes	GLRCP0671			Kankakee River	CP37-9.4W	78	
Great Lakes	GLRCP0672			Kankakee River	CP37-9.3E	78	
Great Lakes	GLRCP0673			West Branch Rifle River			New Control Point
Great Lakes	GLRCP0674			Cass River			New Control Point
Great Lakes	GLRCP0675			Cass River			New Control Point
Great Lakes	GLRCP0676			South Branch Pine River			New Control Point
Great Lakes	GLRCP0677			South Branch Pine River			New Control Point
Great Lakes	GLRCP0678			South Branch Pine River			New Control Point
Great Lakes	GLRCP0679			South Branch Pine River			New Control Point
Great Lakes	GLRCP0680			Unnamed Creek			New Control Point
Great Lakes	GLRCP0681			Unnamed Creek			New Control Point
Great Lakes	GLRCP0682			Unnamed Creek			New Control Point
Great Lakes	GLRCP0683			Unnamed Creek			New Control Point
Great Lakes	GLRCP0684			Wells Creek			New Control Point
Great Lakes	GLRCP0685			Wells Creek			New Control Point
Great Lakes	GLRCP0686			Wells Creek			New Control Point
Great Lakes	GLRCP0687			Wells Creek			New Control Point
Great Lakes	GLRCP0688			Moore Drain			New Control Point
Great Lakes	GLRCP0689			Moore Drain			New Control Point
Great Lakes	GLRCP0690			Fraser Garfield Drain Branch			New Control Point
Great Lakes	GLRCP0691			Fraser Garfield Drain Branch			New Control Point
Great Lakes	GLRCP0692			Fraser Garfield Drain Branch			New Control Point
Great Lakes	GLRCP0693			Fraser Garfield Drain Branch			New Control Point
Great Lakes	GLRCP0694			East Branch Coon Creek			New Control Point

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0695	[redacted]		East Branch Coon Creek			New Control Point
Great Lakes	GLRCP0696			East Branch Coon Creek			New Control Point
Great Lakes	GLRCP0697			East Branch Coon Creek			New Control Point
Great Lakes	GLRCP0698			Lower Millecoquins River			New Control Point
Great Lakes	GLRCP0699			Lower Millecoquins River			New Control Point
Great Lakes	GLRCP0700			Lower Millecoquins River			New Control Point
Great Lakes	GLRCP0701			Railroad Drain			New Control Point
Great Lakes	GLRCP0702			Railroad Drain			New Control Point
Great Lakes	GLRCP0703			Railroad Drain			New Control Point
Great Lakes	GLRCP0704			Railroad Drain			New Control Point
Great Lakes	GLRCP0705			Whitefish River			New Control Point
Great Lakes	GLRCP0706			Grosbeck Creek			New Control Point
Great Lakes	GLRCP0707			Grosbeck Creek			New Control Point
Great Lakes	GLRCP0708			Tenderfoot Creek			New Control Point
Great Lakes	GLRCP0709			Tenderfoot Creek			New Control Point
Great Lakes	GLRCP0710			Little Sturgeon River			New Control Point
Great Lakes	GLRCP0711			Little Sturgeon River			New Control Point
Great Lakes	GLRCP0712			Powder Mill Creek			New Control Point
Great Lakes	GLRCP0713			Rapid River			New Control Point
Great Lakes	GLRCP0714			Tebo Drain			New Control Point
Great Lakes	GLRCP0715			Tebo Drain			New Control Point
Great Lakes	GLRCP0716			Tebo Drain			New Control Point
Great Lakes	GLRCP0717			Tebo Drain			New Control Point
Great Lakes	GLRCP0718			Branch Number Two Johnson Drain			New Control Point
Great Lakes	GLRCP0719			Branch Number Two Johnson Drain			New Control Point
Great Lakes	GLRCP0720			Branch Number Two Johnson Drain			New Control Point
Great Lakes	GLRCP0721			Branch Number Two Johnson Drain			New Control Point
Great Lakes	GLRCP0722			White Feather Creek			New Control Point
Great Lakes	GLRCP0723			White Feather Creek			New Control Point

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Great Lakes	GLRCP0724	[redacted]		White Feather Creek			New Control Point
Great Lakes	GLRCP0725			White Feather Creek			
Midwest	SURCP0001			Pembina River	CP776-0.8S	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0002			Pembina River	CP776-1.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0003			Pembina River	CP776-6.8B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0004			Pembina River	CP776-8.3B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0005			Pembina River	CP776-11.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0006			Pembina River	CP776-15.9S	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0007			Pembina River	CP776-18.0S	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0008			Pembina River	CP776-21.5B / CP786-8.0B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0009			Pembina River	CP776-25.9S / CP786-12.4S	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0010			Pembina River	CP776-26.7B / CP786-13.2B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0011			Pembina River	CP776-28.6B / CP786-15.1B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0012			Pembina River	CP776-28.7W / CP786-15.2W	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0013			Louden Coulee	CP781-0.4N	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0014			County Ditch No. 33	CP782-1.5B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0015			County Ditch No. 33	CP782-2.6B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0016			Tongue River Cutoff	CP783-0.5B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0017			Tongue River Cutoff	CP783-2.5B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0018			Tongue River	CP786-0.6B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0019			Tongue River	CP786-1.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0020			Tongue River	CP786-3.5E	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0021			Tongue River	CP786-4.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0022			Tongue River	CP786-6.3B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0023			Red River of the North	CP802-0.1W US	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0024			Red River of the North	CP802-0.4E	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0027			Red River of the North	CP802-1.3E	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0030			Red River of the North	CP802-2.4W	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0031			Red River of the North	CP802-2.7E	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0032			Red River of the North	CP802-3.9W	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0033			Red River of the North	CP802-5.1N	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0035			Red River of the North	CP802-6.2E	1, 2, 3, 4, 13, 65, & 67	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0036	[redacted]		Red River of the North	CP802-7.3E	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0037			Red River of the North	CP802-9.3E	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0039			Red River of the North	CP802-12.9N	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0042			Red River of the North	CP802-15.8E	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0043			Red River of the North	CP802-18.2E	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0044			Red River of the North		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0045			Red River of the North		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0046			Red River of the North		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0047			Red River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0048			Tamarac River	CP829-2.0S	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0049			Tamarac River	CP829-3.5B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0050			Tamarac River	CP829-9.4B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0051			Tamarac River	CP829-11.2S	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0052			Tamarac River	CP829-12.2B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0053			Tamarac River	CP829-15.1B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0054			Middle River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0055			Middle River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0056			Middle River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0057			Middle River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0058			Middle River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0059			Middle River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0060			Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0061			Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0062			Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0063			Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0064			Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0065			Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0066			Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0067			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0068			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0069			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0070			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0071	[redacted]		South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0072			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0073			South Branch Snake River		1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0074			Red Lake River	CP864-2.3B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0075			Red Lake River	CP864-3.2W	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0076			Red Lake River	CP864-4.7N	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0078			Red Lake River	CP864-9.6W	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0080			Red Lake River	CP864-21.5B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0081			Red Lake River	CP864-23.0B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0082			Red Lake River	CP864-25.6B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0083			Red Lake River	CP864-26.3S / CP875-31.7E	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0084			Clearwater River	CP875-0.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0085			Clearwater River	CP875-2.2B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0086			Clearwater River	CP875-6.3B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0089			Clearwater River	CP875-13.8B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0090			Clearwater River	CP875-23.3S	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0091			Lost River	CP886-1.4N	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0093			Lost River	CP886-2.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0094			Lost River	CP886-4.5S	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0095			Lost River	CP886-8.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0096			Lost River	CP886-14.3B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0097			Lost River	CP886-14.9B	1, 2, 3, 4, 13, 65, & 67	
Midwest	SURCP0099			Lost River	CP904-2.3B	1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0100			Lost River	CP904-2.5B	1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0101			Lost River	CP904-3.5B	1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0102			Lost River	CP904-3.7B	1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0103			Lost River	CP904-3.8S	1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0104			Lost River	CP904-6.5B	1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0105			Lost River	CP904-6.8B	1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0106			Lost River	CP904-7.2B	1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0107			Lost River	CP904-8.7N	1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0108			Lost River	CP904-9.2B	1, 2, 3, 4, 13, 65, 67, 81	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0109			Silver Creek		1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0110			Silver Creek		1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0111			Silver Creek		1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0112			Silver Creek		1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0113			Silver Creek		1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0114			Silver Creek		1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0115			Silver Creek		1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0116			Silver Creek		1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0117			Silver Creek		1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0118			Silver Creek		1, 2, 3, 4, 13, 65, 67, 81	
Midwest	SURCP0119			Ruffy Brook		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0120			Ruffy Brook		1, 2, 4, 13 & 67	
Midwest	SURCP0121			Ruffy Brook		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0122			Ruffy Brook		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0123			Ruffy Brook		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0124			Ruffy Brook		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0125			Ruffy Brook		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0126			Ruffy Brook		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0127			Ruffy Brook		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0128			Clearwater River Tributary	CP922-0.3B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0130			Clearwater River Tributary	CP922-8.7B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0131			Clearwater River Tributary	CP922-12.1E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0132			Clearwater River Tributary	CP922-18.3W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0134			Grant Creek	CP927-2.2B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0135			Grant Creek	CP927-5.2B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0136			Grant Creek	CP927-6.6B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0138			Grant Creek	CP927-9.6B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0140			Grant Creek	CP927-12.3B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0142			Mississippi River	CP940-1.1E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0143			Mississippi River	CP940-1.4E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0144			Mississippi River	CP940-1.6S	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0145			Necktie River	CP945-1.3B	1, 2, 3, 4, 13 & 67	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0146	[redacted]		Necktie River	CP945-2.9B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0147			Necktie River	CP945-5.9B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0148			Necktie River	CP945-8.4B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0149			Necktie River	CP945-11.4B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0150			Necktie River	CP945-12.7B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0151			Cass Lake	CP956-0.0W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0152			Cass Lake	CP956-0.4W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0153			Cass Lake	CP956-0.5W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0154			Cass Lake	CP956-0.6E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0155			Cass Lake	CP956-3.0E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0156			Cass Lake	CP956-3.5E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0157			Cass Lake	CP956-3.5S	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0158			Cass Lake		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0159			Cass Lake		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0160			Cass Lake		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0161			Cass Lake		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0162			Cass Lake		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0163			Cass Lake		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0164			Cass Lake		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0166			Six Mile Lake Tributary Ditch	CP975-3.8E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0167			Bear Brook Creek Tributary	CP981-0.2W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0168			Bear Brook Creek Tributary	CP981-0.6N	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0171			Mississippi River	CP986-4.6N	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0172			Mississippi River	CP986-4.7B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0173			Mississippi River	CP986-7.9S	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0174			Mississippi River	CP986-13.0E / CP989-8.0E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0175			Mississippi River	CP986-17.1W / CP989-11.9W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0176			Mississippi River	CP986-19.5W / CP989-14.0W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0177			Mississippi River	CP986-23.7E / CP989-18.2E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0178			Mississippi River	CP986-24.0B / CP989-18.5B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0179			Mississippi River	CP1004-0.9N / CP989-27.4N	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0180			Deer River	CP995-2.6N	1, 2, 3, 4, 13 & 67	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0181			Bass Brook	CP1104-0.7W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0184			Bass Brook	CP1004-3.4B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0185			Prairie River	CP1011-0.1W	1, 4, 13 & 67	
Midwest	SURCP0186			Prairie River	CP1011-0.5B	1, 4, 13 & 67	
Midwest	SURCP0187			Prairie River	CP1011-1.4B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0188			Prairie River	CP1011-8.1N	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0189			Prairie River	CP1011-15.1W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0190			Prairie River	CP1011-17.5E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0193			Mississippi River	CP1011-33.1W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0194			Mississippi River		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0195			Mississippi River		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0196			Mississippi River		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0197			Mississippi River		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0198			Tributary to Mississippi River		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0199			Swan River	CP1024-1.5E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0200			Swan River	CP1024-13.2B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0201			Swan River	CP1024-14.7B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0202			Swan River	CP1024-15.5B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0203			Swan River		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0204			Swan River		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0205			Floodwood Station Ditch	CP1044-0.2B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0206			Floodwood Station Ditch	CP1044-0.3B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0207			Floodwood Station Ditch	CP1044-0.7W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0208			Floodwood Station Ditch	CP1044-1.5B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0209			Floodwood Station Ditch	CP1044-1.6W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0210			Floodwood Station Ditch	CP1044-1.8N	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0211			Floodwood Station Ditch	CP1044-12.8S / CP1046-11.9S	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0212			East Savannah River	CP1046-1.1B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0214			East Savannah River	CP1046-19.9S	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0215			East Savannah River	CP1046-22.4E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0216			McCarthy Creek		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0217			McCarthy Creek		1, 2, 3, 4, 13 & 67	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0218			McCarthy Creek		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0219			McCarthy Creek		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0220			McCarthy Creek		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0221			McCarthy Creek		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0222			McCarthy Creek		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0223			McCarthy Creek		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0224			St Louis. Tributary		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0225			Ahmik River		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0226			Stoney Brook	CP1062-0.1E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0227			Stoney Brook	CP1062-3.4B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0228			Stoney Brook	CP1062-5.7E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0229			Stoney Brook	CP1062-10.3B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0230			Stoney Brook	CP1062-10.8E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0232			Big Lake	CP1066-1.0W	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0233			Big Lake	CP1066-2.0E	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0234			Little Otter Tributary		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0235			Little Otter Tributary		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0236			Little Otter Tributary		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0237			Little Otter Tributary		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0238			Little Otter Creek	CP1074-0.7S	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0239			Little Otter Creek	CP1074-4.7B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0240			Little Otter Creek	CP1074-5.6B	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0241			Little Otter Creek	CP1074-12.7N	1, 2, 3, 4, 13 & 67	
Midwest	SURCP0242			Little Pokegama River	CP1090-1.1B	1, 2, 3, 4, 13, & 67	
Midwest	SURCP0243			Little Pokegama River	CP1090-5.8B	1, 2, 3, 4, 13, & 67	
Midwest	SURCP0245			Pokegama River	CP1094-1.2B	1, 2, 3, 4, 13, & 67	
Midwest	SURCP0246			Pokegama River	CP1094-1.8B	1, 2, 3, 4, 13, & 67	
Midwest	SURCP0247			Pokegama River	CP1094-2.8E	1, 2, 3, 4, 13, & 67	
Midwest	SURCP0249			Nemadji River	CP2-1.7N	6A, 13, 14 & 61	
Midwest	SURCP0250			Nemadji River	CP1099-0.0N / CP2-3.0N	5, 13, 14, 61 & 6A	
Midwest	SURCP0251			Nemadji River	CP1099-0.4N / CP2-3.4N	5, 13, 14, 61 & 6A	
Midwest	SURCP0252			Nemadji River	CP1099-1.4N / CP2-4.4N	5, 13, 14, 61 & 6A	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0253			Nemadji River	CP1099-1.6B / CP2-4.6B	5, 13, 14, 61 & 6A	
Midwest	SURCP0254			Nemadji River	CP1099-1.7B / CP2-4.7B	5, 13, 14, 61 & 6A	
Midwest	SURCP0255			Nemadji River	CP1099-2.3W / CP2-5.3W	5, 13, 14, 61 & 6A	
Midwest	SURCP0256			Bluff Creek	CP1101-0.6B	5	
Midwest	SURCP0257			Bluff Creek	CP1101-0.8B	5	
Midwest	SURCP0258			Allouez Bay	CP1101-1.0W / CP1102-2.5W	5	
Midwest	SURCP0259			Allouez Bay	CP1101-1.7W / CP1102-2.8W	5	
Midwest	SURCP0260			Bear Creek	CP1102-0.2W	5	
Midwest	SURCP0261			Bear Creek	CP1102-0.4B	5	
Midwest	SURCP0262			Bear Creek	CP1102-0.5E	5	
Midwest	SURCP0263			Allouez Bay	CP1102-2.2N	5	
Midwest	SURCP0264			Dutchman Creek	CP1104-1.9W	5	
Midwest	SURCP0265			Morrison Creek	CP1105-2.2N	5	
Midwest	SURCP0266			Amnicon River	CP1107-0.1B	5	
Midwest	SURCP0267			Amnicon River	CP1107-0.4W	5	
Midwest	SURCP0268			Amnicon River	CP1107-4.3E	5	
Midwest	SURCP0269			Amnicon River	CP1107-5.0E	5	
Midwest	SURCP0270			Middle River	CP1111-0.4	5	
Midwest	SURCP0271			Middle River	CP1111-0.7	5	
Midwest	SURCP0272			Middle River	CP1111-5.6W	5	
Midwest	SURCP0273			Poplar River	CP1112-1.1B	5	
Midwest	SURCP0274			Poplar River	CP1112-6.4B	5	
Midwest	SURCP0275			Poplar River	CP1112-7.2E	5	
Midwest	SURCP0276			Bois Brule River	CP1121-0.1B	5	Was determined to be a non-viable CP
Midwest	SURCP0277			Bois Brule River	CP1121-0.8E	5	
Midwest	SURCP0278			Bois Brule River	CP1121-5.5W	5	
Midwest	SURCP0279			Bois Brule River	CP1121-5.6E	5	
Midwest	SURCP0280			Bois Brule River	CP1121-7.6E	5	
Midwest	SURCP0281			Bois Brule River	CP1121-8.6W	5	
Midwest	SURCP0282			Bois Brule River	CP1121-12.4E	5	
Midwest	SURCP0283			Bois Brule River	CP1121-13.6E	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0284	[redacted]		Iron River	CP1130-0.1B	5	
Midwest	SURCP0285			Iron River	CP1130-5.3B	5	
Midwest	SURCP0286			Iron River	CP1130-8.2E	5	
Midwest	SURCP0287			Iron River	CP1130-9.7E	5	
Midwest	SURCP0288			Iron River	CP1130-15.5E	5	
Midwest	SURCP0289			Iron River	CP1130-15.9N	5	
Midwest	SURCP0290			Iron River	CP1130-17.4E	5	
Midwest	SURCP0291			North Fish Creek	CP1150-3.0B	5	
Midwest	SURCP0292			North Fish Creek	CP1150-4.0B	5	
Midwest	SURCP0293			North Fish Creek	CP1150-6.8W / CP1153-4.0W	5	
Midwest	SURCP0294			South Fish Creek	CP1153-1.8B	5	
Midwest	SURCP0295			South Fish Creek		5	
Midwest	SURCP0296			Bay City Creek	CP1157-1.0B	5	
Midwest	SURCP0297			Bay City Creek	CP1157-3.7B	5	
Midwest	SURCP0298			Bay City Creek	CP1157-5.0B	5	
Midwest	SURCP0299			Lake Superior	CP1157-5.4W	5	
Midwest	SURCP0300			Beartrap Creek	CP1160-3.6B	5	
Midwest	SURCP0301			Beartrap Creek	CP1160-7.9B	5	
Midwest	SURCP0302			Beartrap Creek	CP1160-10.4N	5	
Midwest	SURCP0303			Chequamegon Bay	CP1160-18.0W	5	
Midwest	SURCP0306			Bad River	CP-1163-9.2W / CP1165-10.5W	5	
Midwest	SURCP0307			Bad River	CP1163-10.0N / CP1165-11.2N	5	
Midwest	SURCP0308			Bad River	CP1163-10.1E / CP1165-11.6E	5	
Midwest	SURCP0309			Bad River	CP-1163-10.5E / CP1165-11.8E	5	
Midwest	SURCP0310			Bad River	CP1163-14.6S / CP1165-15.5S	5	
Midwest	SURCP0311			Bad River	CP1165-4.7W	5	
Midwest	SURCP0312			Bad River	CP1165-9.4E	5	
Midwest	SURCP0313			Denomie Creek	CP1172-9.8B	5	
Midwest	SURCP0314			Denomie Creek	CP1172-10.5B	5	
Midwest	SURCP0315			Denomie Creek	CP1172-11.0W	5	
Midwest	SURCP0316			Spoon Creek	CP1177-0.4E	5	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0319	[redacted]		Spoon Creek	CP1177/1178-5.0B	5	
Midwest	SURCP0320			Spoon Creek	CP1177/1178-5.3W	5	
Midwest	SURCP0321			Spoon Creek Tributary	CP1178-0.1W	5	
Midwest	SURCP0324			West Branch Montreal River		5	
Midwest	SURCP0326			Montreal River	CP1189-9.1S / CP1191-11.8S / CP1194-13.7S	5	
Midwest	SURCP0328			Montreal River	CP1189-18.5S / CP1191-21.3S / CP1194-23.1S	5	
Midwest	SURCP0329			Montreal River	CP1189-22.2B	5	
Midwest	SURCP0330			St. Croix River	CP33-0.2B / CP34-1.5B	13, 14, 61 & 6A	
Midwest	SURCP0331			St. Croix River	CP33-5.6N / CP34-6.8N	13, 14, 61 & 6A	
Midwest	SURCP0332			St. Croix River	CP33-7.6W / CP34-8.8W	13, 14, 61 & 6A	
Midwest	SURCP0333			Eau Claire River	CP34-0.7B	13, 14, 61 & 6A	
Midwest	SURCP0334			Eau Claire River	CP34-1.1B	13, 14, 61 & 6A	
Midwest	SURCP0335			Totogatic River	CP41-1.5B	13, 14, 61 & 6A	
Midwest	SURCP0337			Totogatic River	CP41-8.0B	13, 14, 61 & 6A	
Midwest	SURCP0338			Totogatic River	CP41-9.9B	13, 14, 61 & 6A	
Midwest	SURCP0339			Totogatic River	CP41-10.5B	13, 14, 61 & 6A	
Midwest	SURCP0341			Totogatic River	CP41-17.5W	13, 14, 61 & 6A	
Midwest	SURCP0342			Totogatic River	CP41-18.5W	13, 14, 61 & 6A	
Midwest	SURCP0343			Totogatic River	CP41-20.0B	13, 14, 61 & 6A	
Midwest	SURCP0344			Totogatic River	CP41-21.1N	13, 14, 61 & 6A	
Midwest	SURCP0345			Totogatic River	CP41-22.2E	13, 14, 61 & 6A	
Midwest	SURCP0346			Totogatic River	CP41-23.3W	13, 14, 61 & 6A	
Midwest	SURCP0347			Totogatic River	CP41-25.0W	13, 14, 61 & 6A	
Midwest	SURCP0348			Frog Creek		13, 14, 61 & 6A	
Midwest	SURCP0349			Namekagon River	CP54-1.7B	13, 14, 61 & 6A	
Midwest	SURCP0350			Namekagon River	CP54-3.9S	13, 14, 61 & 6A	
Midwest	SURCP0351			Namekagon River	CP54-6.0B	13, 14, 61 & 6A	
Midwest	SURCP0352			Namekagon River	CP54-6.4S	13, 14, 61 & 6A	
Midwest	SURCP0353			Namekagon River	CP54-8.9W	13, 14, 61 & 6A	
Midwest	SURCP0354			Namekagon River	CP54-11.3W	13, 14, 61 & 6A	
Midwest	SURCP0356			Namekagon River	CP54-15.0N	13, 14, 61 & 6A	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0357	[redacted]		Namekagon River	CP54-16.5B	13, 14, 61 & 6A	
Midwest	SURCP0358			Namekagon River	CP54-19.0N	13, 14, 61 & 6A	
Midwest	SURCP0359			Namekagon River	CP54-19.6N	13, 14, 61 & 6A	
Midwest	SURCP0360			Namekagon River	CP54-19.8S	13, 14, 61 & 6A	
Midwest	SURCP0361			Namekagon River	CP54-22.6S	13, 14, 61 & 6A	
Midwest	SURCP0362			Namekagon River	CP54-24.9S	13, 14, 61 & 6A	
Midwest	SURCP0363			Sand Creek	CP66-0.3N-US	13, 14, 61 & 6A	
Midwest	SURCP0364			Sand Creek	CP66-0.2B	13, 14, 61 & 6A	
Midwest	SURCP0365			Sand Creek	CP66-1.1B	13, 14, 61 & 6A	
Midwest	SURCP0366			Sand Creek	CP66-1.6S	13, 14, 61 & 6A	
Midwest	SURCP0367			Summit Creek	CP71-0.4B	13 & 61	
Midwest	SURCP0368			Summit Creek	CP71-1.0B	13, 14, 61 & 6A	
Midwest	SURCP0369			Summit Creek	CP71-1.2B	13, 14, 61 & 6A	
Midwest	SURCP0370			Summit Creek	CP71-3.6N	13, 14, 61 & 6A	
Midwest	SURCP0371			Summit Creek	CP71-3.9N	13, 14, 61 & 6A	
Midwest	SURCP0372			Summit Creek	CP71-4.3N	13, 14, 61 & 6A	
Midwest	SURCP0373			Summit Creek	CP71-6.1B	13, 14, 61 & 6A	
Midwest	SURCP0374			Summit Creek	CP71-7.3N	13, 14, 61 & 6A	
Midwest	SURCP0375			Summit Creek	CP71-7.8N	13, 14, 61 & 6A	
Midwest	SURCP0376			Summit Creek	CP71-8.3B	13, 14, 61 & 6A	
Midwest	SURCP0377			Summit Creek	CP71-8.5S	13, 14, 61 & 6A	
Midwest	SURCP0378			Summit Creek	CP71-8.9N	13, 14, 61 & 6A	
Midwest	SURCP0379			Summit Creek	CP71-10.9B	13, 14, 61 & 6A	
Midwest	SURCP0380			Summit Creek	CP71-11.8B	13, 14, 61 & 6A	
Midwest	SURCP0381			Summit Creek	CP71-14.0S	13, 14, 61 & 6A	
Midwest	SURCP0382			Summit Creek	CP71-14.1B	13, 14, 61 & 6A	
Midwest	SURCP0383			Summit Creek	CP71-23.7E	13, 14, 61 & 6A	
Midwest	SURCP0384			Big Weirgor Creek	CP85-1.2S	13, 14, 61 & 6A	
Midwest	SURCP0385			Big Weirgor Creek	CP85-2.5B	13, 14, 61 & 6A	
Midwest	SURCP0386			Big Weirgor Creek	CP85-5.2B	13, 14, 61 & 6A	
Midwest	SURCP0387			Big Weirgor Creek	CP85-6.4B	13, 14, 61 & 6A	
Midwest	SURCP0388			Summit Creek	CP71-32.3W / CP85-7.6W	13, 14, 61 & 6A	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0389	[redacted]	[redacted]	Big Weirgor Creek	CP85-9.9B / CP88-2.4B	13, 14, 61 & 6A	
Midwest	SURCP0391			Big Weirgor Creek	CP85-14.6E / CP88-7.0E	13, 14, 61 & 6A	
Midwest	SURCP0392			Big Weirgor Creek	CP85-19.0S / CP88-11.5S / CP94-7.2S	13, 14, 61 & 6A	
Midwest	SURCP0393			Chippewa River	CP85-25.3E / CP88-17.8E / CP94-13.6E	13, 14, 61 & 6A	
Midwest	SURCP0394			Chippewa River	CP85-31.9E / CP88-24.4E / CP94-20.0E	13, 14, 61 & 6A	
Midwest	SURCP0395			Chippewa River	CP85-37.5B / CP88-30.0B / CP94-26.1B	13, 14, 61 & 6A	
Midwest	SURCP0396			Chippewa River	CP85-39.5N, CP88-32.0N, CP94-28.1N	13, 14, 61 & 6A	
Midwest	SURCP0397			Chippewa River	CP88-36.7N	13, 14, 61 & 6A	
Midwest	SURCP0398			Chippewa River	CP88-38.6W	13, 14, 61 & 6A	
Midwest	SURCP0399			Chippewa River	CP88-39.5W	13, 14, 61 & 6A	
Midwest	SURCP0400			Chippewa River	CP88-39.8S	13, 14, 61 & 6A	
Midwest	SURCP0401			Chippewa River	CP88-40.4N	13, 14, 61 & 6A	
Midwest	SURCP0403			Thornapple River	CP94-4.8B	13, 14, 61 & 6A	
Midwest	SURCP0404			Flambeau River	CP100-2.8	13, 14, 61 & 6A	
Midwest	SURCP0405			Flambeau River	CP100-3.4	13, 14, 61 & 6A	
Midwest	SURCP0406			Flambeau River	CP100-3.7	13, 14, 61 & 6A	
Midwest	SURCP0407			Flambeau River	CP100-7.0	13, 14, 61 & 6A	
Midwest	SURCP0408			Jump River	CP110-1.4 / CP111-2.4	13, 14, 61 & 6A	
Midwest	SURCP0409			Jump River	CP110-2.1 / CP111-3.1	13, 14, 61 & 6A	
Midwest	SURCP0410			Jump River	CP110-7.4 / CP111-8.5	13, 14, 61 & 6A	
Midwest	SURCP0411			Jump River	CP110-8.6 / CP111-9.5	13, 14, 61 & 6A	
Midwest	SURCP0412			Yellow River	CP124-3.3	13, 14, 61 & 6A	
Midwest	SURCP0413			Yellow River	CP124-6.1	13, 14, 61 & 6A	
Midwest	SURCP0414			Yellow River	CP124-17.3	13, 14, 61 & 6A	
Midwest	SURCP0415			Yellow River		13, 14, 61 & 6A	
Midwest	SURCP0416			Yellow River	CP124-21.5	13, 14, 61 & 6A	
Midwest	SURCP0417			Yellow River	CP124-24.9	13, 14, 61 & 6A	
Midwest	SURCP0418			Eau Claire River North Fork	CP132-2.7	13, 14, 61 & 6A	
Midwest	SURCP0419			Eau Claire River North Fork	CP132-5.5	13, 14, 61 & 6A	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0420	[redacted]	[redacted]	Eau Claire River North Fork	CP132-10.5	13, 14, 61 & 6A	
Midwest	SURCP0421			Eau Claire River North Fork	CP132-13.5	13, 14, 61 & 6A	
Midwest	SURCP0422			Eau Claire River North Fork	CP132-19.3	13, 14, 61 & 6A	
Midwest	SURCP0423			Eau Claire River North Fork	CP132-24.4	13, 14, 61 & 6A	
Midwest	SURCP0424			Eau Claire River North Fork	CP132-33.2	13, 14, 61 & 6A	
Midwest	SURCP0425			Popple River	CP144-11.0	13, 14, 61 & 6A	
Midwest	SURCP0426			Popple River	CP144-14.2	13, 14, 61 & 6A	
Midwest	SURCP0427			Popple River	CP144-17.4	13, 14, 61 & 6A	
Midwest	SURCP0428			Popple River	CP144-24.9	13, 14, 61 & 6A	
Midwest	SURCP0429			Popple River	CP144-4.0	13, 14, 61 & 6A	
Midwest	SURCP0430			Yellow River East Branch	CP169-2.6	13, 14, 61 & 6A	
Midwest	SURCP0431			Yellow River East Branch	CP169-5.5	13, 14, 61 & 6A	
Midwest	SURCP0432			Yellow River East Branch	CP169-15.8	13, 14, 61 & 6A	
Midwest	SURCP0433			Yellow River East Branch	CP169-21.8	13, 14, 61 & 6A	
Midwest	SURCP0434			Yellow River East Branch	CP169-27.2	13, 14, 61 & 6A	
Midwest	SURCP0435			Wisconsin River	CP201-1.5	13, 14, 61 & 6A	
Midwest	SURCP0436			Wisconsin River	CP201-2.0	13, 14, 61 & 6A	
Midwest	SURCP0437			Wisconsin River		13, 14, 61 & 6A	
Midwest	SURCP0438			Wisconsin River	CP201-5.2	13, 14, 61 & 6A	
Midwest	SURCP0439			Wisconsin River		13, 14, 61 & 6A	
Midwest	SURCP0440			Fox River	CP253-0.4	13, 14, 61 & 6A	
Midwest	SURCP0441			Fox River	CP253-3.8	13, 14, 61 & 6A	
Midwest	SURCP0442			Fox River	CP253-7.6	13, 14, 61 & 6A	
Midwest	SURCP0443			Fox River	CP253-11.0	13, 14, 61 & 6A	
Midwest	SURCP0444			Fox River	CP261-2.1	13, 14, 61 & 6A	
Midwest	SURCP0445			Fox River	CP261-3.7	13, 14, 61 & 6A	
Midwest	SURCP0446			Crawfish River	CP279-5.9	13, 14, 61 & 6A	
Midwest	SURCP0447			Crawfish River	CP279-9.7	13, 14, 61 & 6A	
Midwest	SURCP0448			Crawfish River	CP279-17.3	13, 14, 61 & 6A	
Midwest	SURCP0449			Crawfish River	CP279-21.4	13, 14, 61 & 6A	
Midwest	SURCP0450			Crawfish River		13, 14, 61 & 6A	
Midwest	SURCP0451			Maunesha River	CP291-0.8	13, 14, 61 & 6A	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0452	[redacted]		Maunesha River	CP291-5.9	13, 14, 61 & 6A	
Midwest	SURCP0453			Maunesha River	CP291-10.7	13, 14, 61 & 6A	
Midwest	SURCP0454			Maunesha River	CP291-14.4	13, 14, 61 & 6A	
Midwest	SURCP0455			Rock River	CP313-0.7	13, 14, 61 & 6A	
Midwest	SURCP0456			Rock River	CP313-2.2	13, 14, 61 & 6A	
Midwest	SURCP0457			Rock River	CP313-2.8	13, 14, 61 & 6A	
Midwest	SURCP0458			Turtle Creek	CP337.3-2.2	6A, 13, 14 & 61	
Midwest	SURCP0459			Turtle Creek	CP337.3-4.0	6A, 13, 14 & 61	
Midwest	SURCP0460			Turtle Creek	CP337.3-7.8	6A, 13, 14 & 61	
Midwest	SURCP0461			Turtle Creek	CP337.3-9.0	6A, 13, 14 & 61	
Midwest	SURCP0462			Turtle Creek	CP337.3-17.5	6A, 13, 14 & 61	
Midwest	SURCP0464			Red River		81	
Midwest	SURCP0468			Red River		81	
Midwest	SURCP0470			Chippewa River	CP85-19.2B / CP88-11.7B / CP94-7.5B	13, 14, 61 & 6A	
Midwest	SURCP0472			Cass Lake		1, 2, 3, 4, 13 & 67	
Midwest	SURCP0763			Grant Creek (3)			New Control Point
Midwest	SURCP0764			Grant Creek (3)			New Control Point
Midwest	SURCP0765			Grant Creek (4)			New Control Point
Midwest	SURCP0766			Grant Creek (4)			New Control Point
Midwest	SURCP0767			Trib to Bardon Creek			New Control Point
Midwest	SURCP0768			Trib to Bardon Creek			New Control Point
Midwest	SURCP0769			Trib to Bardon Creek			New Control Point
Midwest	SURCP0770			Trib to Bardon Creek			New Control Point
Midwest	SURCP0771			Bardon Creek			New Control Point
Midwest	SURCP0772			Bardon Creek			New Control Point
Midwest	SURCP0773			Bardon Creek			New Control Point
Midwest	SURCP0774			Bardon Creek			New Control Point
Midwest	SURCP0775			Lake Creek			New Control Point
Midwest	SURCP0776			Lake Creek			New Control Point
Midwest	SURCP0777			Poplar River			New Control Point
Midwest	SURCP0778			Middle River			New Control Point

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Midwest	SURCP0779			Hanson Creek			New Control Point
Midwest	SURCP0780			Hanson Creek			New Control Point
Midwest	SURCP0781			Hanson Creek			New Control Point
Midwest	SURCP0782			Wagner Creek			New Control Point
Midwest	SURCP0783			Wagner Creek			New Control Point
Midwest	SURCP0784			Miller Creek			New Control Point
Midwest	SURCP0785			Miller Creek			New Control Point
Midwest	SURCP0786			East Fork Moose River			New Control Point
Midwest	SURCP0787			East Fork Moose River			New Control Point
Midwest	SURCP0788			East Fork Moose River			New Control Point
Midwest	SURCP0789			East Fork Moose River			New Control Point
Midwest	SURCP0790			Dutchman Creek			New Control Point
Midwest	SURCP0791			Dutchman Creek			New Control Point
Midwest	SURCP0792			Dutchman Creek			New Control Point
Midwest	SURCP0793			Unnamed Creek			New Control Point
Midwest	SURCP0794			Unnamed Creek			New Control Point
Southwest	MDRCP0001			Black Walnut Creek	CP 61.80 - 0.43	78	
Southwest	MDRCP0002			Black Walnut Creek	CP 61.80 - 2.76	78	
Southwest	MDRCP0003			Black Walnut Creek	CP 61.80 - 6.69	78	
Southwest	MDRCP0004			Black Walnut Creek	CP 61.80 - 12.97	78	
Southwest	MDRCP0005			Rock Creek	CP 57.31 - 0.43	78	
Southwest	MDRCP0006			Rock Creek	CP 57.31 - 2.70	78	
Southwest	MDRCP0007			Rock Creek	CP 57.31 - 4.85	78	
Southwest	MDRCP0008			Rock Creek	CP 52.11 - 0.81 / CP 57.31 - 6.55	78	
Southwest	MDRCP0009			Rock Creek	CP 52.11 - 3.90	78	
Southwest	MDRCP0010			Rock Creek	CP 52.11 - 8.55	78	
Southwest	MDRCP0011			Rock Creek	CP 52.11 - 13.20	78	
Southwest	MDRCP0012			Unnamed Creek	CP 48.40 - 1.12	78	
Southwest	MDRCP0013			Unnamed Creek	CP 48.40 - 3.16	78	
Southwest	MDRCP0014			Unnamed Creek	CP 48.40 - 4.63	78	
Southwest	MDRCP0015			Unnamed Creek	CP 48.40 - 6.27	78	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Southwest	MDRCP0017	[redacted]		Rayns Creek	CP 40.60 - 1.28	78	
Southwest	MDRCP0018			Rayns Creek	CP 39.27 - 1.00 / CP 40.60 - 2.54	78	
Southwest	MDRCP0019			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	MDRCP0020			Rayns Creek	CP 38.33 - 2.43 / CP 39.27 - 2.93	78	
Southwest	MDRCP0023			Mary Byron Creek	CP 38.33 - 0.15	78	
Southwest	MDRCP0024			Mary Byron Creek	CP 38.33 - 0.67	78	
Southwest	MDRCP0025			Kankakee River	CP 37.59 - 0.66	78	
Southwest	MDRCP0026			Kankakee River	CP37-0.8S	78	
Southwest	MDRCP0027			Kankakee River	CP 37.59 - 2.63	78	
Southwest	MDRCP0028			Kankakee River	CP 37.59 - 3.08	78	
Southwest	MDRCP0029			Kankakee River	CP 37.59 - 4.77	78	
Southwest	MDRCP0030			West Horse Creek	CP 31.10 - 7.05	78	
Southwest	MDRCP0031			Kankakee River	CP37-5.4S	78	
Southwest	MDRCP0032			Kankakee River	CP 37.59 - 5.49	78	
Southwest	MDRCP0034			Kankakee River	CP 37.59 - 6.87	78	
Southwest	MDRCP0035			Terry Creek	CP 35.10 - 0.74	78	
Southwest	MDRCP0036			Terry Creek	CP 35.10 - 1.79	78	
Southwest	MDRCP0037			Terry Creek	CP 35.10 - 2.68	78	
Southwest	MDRCP0038			West Horse Creek	CP 30.40 - 0.58 / CP 31.10 - 0.74	78	
Southwest	MDRCP0039			West Horse Creek	CP 31.10 - 2.39	78	
Southwest	MDRCP0040			West Horse Creek	CP 31.10 - 3.17	78	
Southwest	MDRCP0041			Granary Creek	CP 27.60 - 0.94	78	
Southwest	MDRCP0042			Granary Creek	CP 27.60 - 1.84	78	
Southwest	MDRCP0043			Granary Creek	CP 27.60 - 2.48	78	
Southwest	MDRCP0044			Crane Creek	CP 25.55 - 3.50 / CP 27.60 - 3.50	78	
Southwest	MDRCP0045			Crane Creek	CP 25.55 - 1.15	78	
Southwest	MDRCP0046			Crane Creek	CP 25.55 - 2.34	78	
Southwest	MDRCP0047			Crane Creek	CP 25.55 - 3.33	78	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Southwest	MDRCP0048	[redacted]		West Reddick Run	CP 24.10 - 0.90 / CP 24.70 - 0.74	78	
Southwest	MDRCP0049			West Reddick Run	CP 24.10 - 2.11	78	
Southwest	MDRCP0050			West Reddick Run	CP 24.10 - 3.32	78	
Southwest	MDRCP0051			West Reddick Run	CP 24.10 - 4.10	78	
Southwest	MDRCP0052			Ephemeral Creek	CP 23.10 - 0.56	78	
Southwest	MDRCP0053			Ephemeral Creek	CP 23.10 - 1.66	78	
Southwest	MDRCP0054			Ephemeral Creek	CP 23.10 - 3.22	78	
Southwest	MDRCP0055			Ephemeral Creek	CP 23.10 - 4.52	78	
Southwest	MDRCP0056			Gooseberry Creek	CP 19.60 - 0.44	78	
Southwest	MDRCP0057			East Fork Mazon River	CP 20.60 - 2.26	78	
Southwest	MDRCP0058			East Fork Mazon River	CP 20.60 - 3.82	78	
Southwest	MDRCP0059			East Fork Mazon River	CP 20.60 - 4.92	78	
Southwest	MDRCP0060			East Fork Mazon River	CP 20.60 - 6.67	78	
Southwest	MDRCP0061			Gooseberry Creek	CP 16.60 - 0.52	78	
Southwest	MDRCP0062			Gooseberry Creek	CP 16.60 - 1.75	78	
Southwest	MDRCP0063			Gooseberry Creek	CP 16.60 - 2.19	78	
Southwest	MDRCP0064			Gooseberry Creek	CP 16.60 - 4.02	78	
Southwest	MDRCP0065			Unnamed Creek	CP 13.60 - 0.13	78	
Southwest	MDRCP0066			Unnamed Creek	CP 13.60 - 1.45	78	
Southwest	MDRCP0067			Unnamed Creek	CP 13.60 - 2.14	78	
Southwest	MDRCP0068			Unnamed Creek	CP 13.60 - 3.08	78	
Southwest	MDRCP0069			G.B. Creek	CP 11.00 - 0.71	78	
Southwest	MDRCP0070			G.B. Creek	CP 11.00 - 1.87	78	
Southwest	MDRCP0071			G.B. Creek	CP 11.00 - 3.19	78	
Southwest	MDRCP0072			G.B. Creek	CP 11.00 - 3.41	78	
Southwest	MDRCP0073			Small (Unnamed) Creek	CP 9.00 - 0.67	78	
Southwest	MDRCP0074			Small (Unnamed) Creek	CP 9.00 - 1.02	78	
Southwest	MDRCP0075			Small (Unnamed) Creek	CP 9.00 - 2.19	78	
Southwest	MDRCP0076			Small (Unnamed) Creek	CP 9.00 - 3.60	78	
Southwest	MDRCP0077			Deer Creek	CP 2.20 - 0.10	78	
Southwest	MDRCP0078			Deer Creek	CP3.40 - 1.27	78	

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Control Points with Proposed Changes							
Region	CP_ID	Longitude	Latitude	Water Crossing	DOJ_CP_Names	Upstream Pipelines	Reason for Change
Southwest	MDRCP0079	[redacted]		Deer Creek	CP3.40 - 1.37	78	
Southwest	MDRCP0080			Deer Creek	CP 2.20 - 1.64	78	
Southwest	MDRCP0081			Deer Creek	CP 2.20 - 2.90	78	
Southwest	MDRCP0082			Deer Creek	CP 2.20 - 4.04	78	
Southwest	MDRCP0114			Mud Creek	CP452-2.0W	61	
Southwest	MDRCP0115			Mud Creek	CP452-3.5E	61	
Southwest	MDRCP0116			Mud Creek	CP452-7.8E	61	
Southwest	MDRCP0117			Mud Creek	CP452-9.4S	61	
Southwest	MDRCP0118			Mud Creek	CP452-12.8E	61	
Southwest	MDRCP0119			Mud Creek	CP452-16.3E	61	
Southwest	MDRCP0120			Mud Creek	CP452-18.2E	61	

ENBRIDGE

Appendix 5 – PHMSA Reports from Lakehead Discharges [146] and Update on Discharges from a Lakehead System Pipeline [147]

Reporting Period: May 23, 2018 to November 22, 2018

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:**	08/23/2018
	No.	20180250 - 30844 --- (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:	07/26/2018 11:30
5. Location of Accident:	
Latitude:	[redacted]
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):	2.00
10. Estimated volume of intentional and/or controlled release/blowdown (Barrels):	
11. Estimated volume of commodity recovered (Barrels):	2.00
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?	No
- If No, Explain:	Tank line was isolated
- If Yes, complete Questions 14a and 14b: *(use local time, 24-hr clock)*	
14a. Local time and date of shutdown:	
14b. Local time pipeline/facility restarted:	
- 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":	07/26/2018 11:30
18b. Local time Operator resources arrived on site:	07/26/2018 11:30

PART B - ADDITIONAL LOCATION INFORMATION

1. Was the origin of the Accident onshore?	Yes
If Yes, Complete Questions (2-12)	
If No, Complete Questions (13-15)	
- If Onshore:	
2. State:	Wisconsin
3. Zip Code:	54880
4. City	Superior
5. County or Parish	Douglas
6. Operator-designated location:	Milepost/Valve Station
Specify:	1098
7. Pipeline/Facility name:	Superior Terminal
8. Segment name/ID:	Tank 10 Piping
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):	Underground
Specify:	Under soil
- If Other, Describe:	
Depth-of-Cover (in):	48
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 Terminal/Tank Farm Equipment and Piping
- If Onshore Breakout Tank or Storage Vessel, Including Attached Appurtenances, specify:	
3. Item involved in Accident:	Weld, including heat-affected zone
- If Pipe, specify:	
3a. Nominal diameter of pipe (in):	34

3b. Wall thickness (in):	.281
3c. SMYS (Specified Minimum Yield Strength) of pipe (psi):	52,000
3d. Pipe specification:	API 5L
3e. Pipe Seam , specify:	Longitudinal ERW - Low Frequency
- If Other, Describe:	
3f. Pipe manufacturer:	Unknown
3g. Year of manufacture:	Unknown
3h. Pipeline coating type at point of Accident, specify:	Extruded Polyehylene
- If Other, Describe:	
- If Weld, including heat-affected zone, specify. If Pipe Girth Weld, 3a through 3h above are required:	Pipe Girth Weld
- 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:	Unknown
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: *(Select one or both)*	
- 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): *(Select all that apply)*	
- Commercially Navigable Waterway:	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's	

Integrity Management Program?	
- High Population Area:	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	Yes
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	Yes
- Unusually Sensitive Area (USA) - Drinking Water	Yes
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	Yes
- 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):	7.00
2. Maximum Operating Pressure (MOP) at the point and time of the Accident (psig):	275.00
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*)	

- 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:	Contractor working for the Operator
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)*	Lack of Control Center involvement. Release discovered by field personnel.
- If Yes, specify investigation result(s): *(select all that apply)*	
- Investigation reviewed work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
- Investigation did NOT review work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
Provide an explanation for why not:	
- Investigation identified no control room issues	
- Investigation identified no controller issues	
- Investigation identified incorrect controller action or controller error	
- Investigation identified that fatigue may have affected the controller(s) involved or impacted the involved controller(s) response	
- Investigation identified incorrect procedures	
- Investigation identified incorrect control room equipment operation	
- Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response	
- Investigation identified areas other than those above:	
Describe:	

PART F - DRUG & ALCOHOL TESTING INFORMATION

1. As a result of this Accident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
1a. Specify how many were tested:	

1b. Specify how many failed:	
2. As a result of this Accident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
2a. Specify how many were tested:	
2b. Specify how many failed:	

PART G – APPARENT CAUSE

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).

Apparent Cause:	G1 - Corrosion Failure

G1 - Corrosion Failure - only one **sub-cause** can be picked from shaded left-hand column

Corrosion Failure – Sub-Cause:	Internal Corrosion
- If External Corrosion:	
1. Results of visual examination:	
- If Other, Describe:	
2. Type of corrosion: *(select all that apply)*	
- Galvanic	
- Atmospheric	
- Stray Current	
- Microbiological	
- Selective Seam	
- Other:	
- If Other, Describe:	
3. The type(s) of corrosion selected in Question 2 is based on the following: *(select all that apply)*	
- 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
- Other:	Pinhole
7. Type of corrosion *(select all that apply)*: -	
- Corrosive Commodity	
- Water drop-out/Acid	Yes
- Microbiological	
- Erosion	
- Other:	
- If Other, Describe:	
8. The cause(s) of corrosion selected in Question 7 is based on the following *(select all that apply)*: -	
- Field examination	Yes
- Determined by metallurgical analysis	
- Other:	
- If Other, Describe:	
9. Location of corrosion *(select all that apply)*: -	
- Low point in pipe	
- Elbow	Yes
- Other:	

- If Other, Describe:	
10. Was the commodity treated with corrosion inhibitors or biocides?	No
11. Was the interior coated or lined with protective coating?	No
12. Were cleaning/dewatering pigs (or other operations) routinely utilized?	Not applicable - Not mainline pipe
13. Were corrosion coupons routinely utilized?	Not applicable - Not mainline pipe
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?	No
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?	No
If Yes -	
Most recent year tested:	
Test pressure:	
17. Has one or more Direct Assessment been conducted on this segment?	No
- 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?	No
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:	
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: *(select all that apply)*	
- Hurricane	
- Tropical Storm	
- Tornado	
- Other	
- If Other, Describe:	
G3 - Excavation Damage - only one **sub-cause** can be picked from shaded left-hand column	
Excavation Damage – Sub-Cause:	
- If Previous Damage due to Excavation Activity: Complete Questions 1-5 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?	
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: *(select all that apply)* -	
- 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: *(select all that apply)* -	
- Public	
- If "Public", Specify:	
- Private	
- If "Private", Specify:	
- Pipeline Property/Easement	
- Power/Transmission Line	
- Railroad	
- Dedicated Public Utility Easement	
- Federal Land	
- 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 *(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):*	
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	
- 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: *(select all that apply)*	
- Field Examination	
- Determined by Metallurgical Analysis	
- Other Analysis	
- If "Other Analysis", Describe:	
- Sub-cause is Tentative or Suspected; Still Under Investigation (Supplemental Report required)	

- If Construction, Installation, or Fabrication-related:	
2. List contributing factors: *(select all that apply)*	
- Fatigue or Vibration-related	
Specify:	
- If Other, Describe:	
- Mechanical Stress:	
- Other	
- If Other, Describe:	
- If 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: (*select all that apply*):	
- 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: -	
- 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: *(select all that apply)* -	
- Control Valve	
- Instrumentation	
- SCADA	
- Communications	
- Block Valve	
- Check Valve	
- Relief Valve	
- Power Failure	
- Stopple/Control Fitting	
- ESD System Failure	
- Other	
- If Other – Describe:	
- If Pump or Pump-related Equipment:	
2. Specify:	
- If Other – Describe:	
- If Threaded Connection/Coupling Failure:	
3. Specify:	
- If Other – Describe:	
- If Non-threaded Connection Failure:	
4. Specify:	
- If Other – Describe:	
- If Other Equipment Failure:	
5. Describe:	
Complete the following if any Equipment Failure sub-cause is selected.	
6. Additional factors that contributed to the equipment failure: *(select all that apply)*	
- 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 *(select all that apply)*: -	
- 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 26, 2018 at 11:30 AM CDT, pipeline maintenance crews discovered a release of approximately two barrels of crude on the Tank 10 outgoing line at the Superior Terminal. A pinhole was discovered in the 6:00 position adjacent to the weld joining the 45 degree elbow to the pipe. As a precautionary measure, an NDE analysis was completed on the second weld associated with the elbow and along the bottom of the pipe in the vicinity of the leak. No other defects or corrosion were observed.

An 18 inch sleeve was welded to the pipe on July 27, 2018 and the line was returned to service. The cause of the release has been attributed to isolated internal corrosion. Approximately 150 tons of contaminated soil was disposed of at an approved site.

PART I - PREPARER AND AUTHORIZED SIGNATURE

Preparer's Name	[redacted]
Preparer's Title	Sr. Compliance Analyst
Preparer's Telephone Number	[redacted]
Preparer's E-mail Address	[redacted]
Preparer's Facsimile Number	
Authorized Signer Name	[redacted]
Authorized Signer Title	Supervisor US Pipeline Compliance
Authorized Signer Telephone Number	[redacted]
Authorized Signer Email	[redacted]
Date	08/23/2018