Enbridge Response
to State of Michigan Information Request dated January 11, 2018

1. ***Reports and results associated with any hydrostatic pressure tests completed on Line 5 in Michigan since 2010, including the 2012 test on the segment between Superior, Wisconsin and Iron River, Michigan.***

   Enbridge Response: Enbridge conducted a 2012 hydrostatic pressure test on the portion of Line 5 that runs from Rapid River to Bay City (excluding the Straits of Mackinac). Enbridge also conducted a pressure test at the Straits of Mackinac in 2017. Pressure test records and reports for these tests have been uploaded to the Steptoe SharePoint site, where they are available for review. Records being provided include the following:

   2012 Hydrostatic Pressure Test (Rapid River to Bay City)

   - Segment 1 – Bay City (MLV 1636.71) to MLV 1613.94 — Pressure Test Records 5-12-417
   - Segment 2 – MLV 1613.94 to West Branch (MLV 1592.12) — Pressure Test Records 5-12-418
   - Segment 3 – West Branch (MLV 1592.12) to MLV 1571.48 — Pressure Test Records 5-12-419
   - Segment 4 – MLV 1571.48 to 1561.17 — Pressure Test Records 5-12-420
   - Segment 5 – Manistique (MLV 1392.40) to MLV 1373.13 — Pressure Test Records 5-12-421
   - Segment 6 – MLV 1373.13 to Rapid River (MLV 1356.64) — Pressure Test Records 5-12-422

   2017 Hydrostatic Pressure Test (Straits of Mackinac)

   - Final Report (East Straits)
   - Final Report (West Straits)

   Enbridge has also hydrotested small portions of Line 5 in connection with repair work where cut-outs have been used. We have assumed that your request does not seek records relating to these types of tests. Please advise us, however, if this is not correct. We would be happy to discuss this issue if that would be helpful in determining whether the State wishes to review these types of records.

2. ***A summary or table of all in-line inspections (ILI) completed on Line 5 in Michigan since the year 2000 including: date: segment location, tool type, and vendor.***

   Enbridge Response: This information is provided in Table A below.

3. ***For each segment of Line 5 reference in 2., provide the following information pertaining to the most recent ILI for each tool type:***

a. Reports of, and data collected in, each ILI.

b. Assessments, evaluations or reviews of the ILIs referenced in 3.a. by Enbridge or by third parties.

c. All reports of, and data collected in, any excavations or field assessments conducted since the most recent ILI.

d. All reports and documentation of any repairs, replacement, or other remedial measures taken as a result of the excavations or field assessments referenced in 3.c.

Enbridge Response: This request seeks documents that cover multiple ILI runs (the latest run of each tool type on each segment of Line 5). As a result, the volume of documents potentially at issue is quite large. In an effort to avoid producing voluminous materials that ultimately may not be of interest to the State, we are providing at this time sample documents of the type that are available if desired.

The sample documents being provided all relate to the ILI conducted on Line 5 from Bay City (BC) to Sarnia (RW) in August 2017 using a Gemini Caliper tool. Included are:

- ILI Report for this geometric inspection (PDF)
- Dent Summary Report (PDF)
- Geometric Program Summary (Word)
- Geometric ILI Assessment (Excel)

We anticipate that these documents will serve as a useful basis for determining whether the State would like to review other, similar documents for all ILI runs covered by this request.

We suggest that the next step in responding to this request (prior to producing any additional documents) would be for knowledgeable subject matter experts for the State and Enbridge to talk by telephone regarding the State's goal in asking for the requested items and how that goal can best be achieved, including the use of summary documents where appropriate.

4. A summary of planned integrity digs as a result of the most recent ILI.

Enbridge Response: This information is included in section 6 of Enbridge's Line 5 Integrity Plan at pages 23 to 67 of 81. The Integrity Plan was part of the materials produced to the State via the SharePoint site on January 25, 2018.

5. Enbridge's written Integrity Management Plan developed under 49 CFR Part 195, 195.452, including protocol for stream crossings, high consequence areas and ecologically sensitive areas.

Enbridge Response: Enbridge made its written Integrity Management Plan, which was developed under 49 CFR 195.452, available to the State via the SharePoint site on January 25,

2018. The integrity measures specified in the Integrity Management Plan, including the hazard identification, criteria for excavations, and consequence profile, reflect Enbridge's protocol for stream crossings, high consequence areas and ecologically sensitive areas.

6. ***Mapping and/or GIS data which document where High Consequence Areas (HCAs) have been identified. In addition, please describe and document:***
    a. ***The process and information used by Enbridge to initially identify HCAs.***
    b. ***The process used by Enbridge for assessing new information that may affect identification of HCAs.***

Enbridge Response: Enbridge presented its process used to identify HCAs for its pipeline system to the State of Michigan team on February 2, 2018. In addition, Enbridge also provided a revised copy of the presentation removing all references of HCA maps to the State on February 5, 2018.

7. ***Information regarding any risk assessment and/or prioritization process used to assess HCAs, stream crossings and ecologically sensitive areas.***

    a. ***Any document and/or reports regarding stream crossing inspections.***

    Enbridge Response: Enbridge has identified 166 watercourse crossings on Line 5. A summary of these water crossings is available on the SharePoint site.

    b. ***Any risk screening processes used pursuant to PHSMA Advisory Bulletins on potential pipeline damage at waterway crossings during flooding events.***

    Enbridge Response: The PHSMA Advisory Bulletin associated with this request can be found at the following link:
    https://www.gpo.gov/fdsys/pkg/FR-2016-01-19/pdf/2016-00765.pdf

    In response to the PHSMA Advisory Bulletin, Enbridge developed a procedure that defines the steps of monitoring, analyzing, and reporting flood activity near Enbridge Pipeline mainline segments. This procedure, called PI-96 Flood Monitoring, is available for review on the SharePoint site.

Table A - Summary of Line 5 ILIs (2000 to 2017)

This Table contains a summary of all in-line inspections (ILIs) completed on Line 5 in Michigan since January 1, 2000.

Superior to Iron River	
Tool	Year
BJ Geopig	2000
PII MFL	2003
GE CaliPPEr	2005
GE USCD	2005
NDT MaxCombo CalScan	2008
NDT MaxCombo MFL	2008
GE USCD	2011
GE CalScan XR	2011
BH Geopig	2013
BH MFL	2013
Rosen AFD	2014
GE USCD Plus	2014
GE CalScan XR	2014
NDT UCc	2014
GE EMATScan	2015
BH GEMINI MFL	2017
BH GEMINI Caliper	2017
GE CDP	2017
Rosen AFD	2017
GE USWM+	2017
Total	20

Iron River to Straits of Mackinac	
Tool	Year
BJ Geopig	2000
GE USCD	2004
BJ Geopig	2005
BJ Vectra	2006
Rosen Dual Field (R&D Tool)	2008
NDT MFL	2008
NDT MaxComboCAL	2008
GE CXR	2011
GE USCD Plus	2011
GE USCD Plus	2012
Rosen AFD	2012
Pure Technologies Smart Ball	2012
Rosen Caliper	2012
BH Vectra MFL	2013
BH Gemini Caliper	2013
GE USCD Plus	2013
BH GEMINI MFL	2017
BH GEMINI Caliper	2017
GE USCD Plus	2017
NDT UCc	2017
Total	20

Straits of Mackinac	
Tool	Year
BJ Geopig	2003
PII MFL	2003
BJ Inertial Geometry (Geopig)	2005
PositiveProjects Caliper	2008
British Gas / GE-PII MFL	2008
(West) Rosen Caliper	2012
(West) BH Geopig	2013
(East) BH Geopig	2013
(East) GE MFL3	2013
(West) GE MFL3	2013
NDT UCc	2014
BH CPCM	2016
BH Geopig	2016
Pure HM Line Explorer Smartball	2016
BH GEMINI MFL	2017
BH GEMINI Caliper	2017
NDT UCc	2017
Pure HM Line Explorer Smartball	2017
Total	18

Mackinaw Station to Bay City	
Tool	Year
GE MFL	2002
GE Caliper	2005
GE USCD	2005
Axiom Donsa Ctool	2006
GE USCD	2007
GE MFL	2007
GE CalScan CXR	2010
GE Caliper	2011
GE USCD Plus	2011
BH Vectra MFL	2012
Rosen XGP	2012
GE USCD Plus	2013
Rosen AFD	2014
GE CDP	2016
GE CXR	2016
BH GEMINI MFL	2017
BH GEMINI Caliper	2017
Total	17

Bay City to Sarnia	
Tool	Year
PII MFL	2002
GE Caliper	2005
GE USCD	2005
GE MFL3	2007
Axiom Donsa Ctool	2007
GE MFL	2009
GE CalScan XR	2010
GE USCD Plus	2011
Rosen Caliper XGP	2012
BH Vectra MFL	2012
Rosen AFD	2014
GE USCD Plus	2014
GE CDP	2017
BH GEMINI MFL	2017
BH GEMINI Caliper	2017
NDT UCc	2017
Total	16