

PIPELINE SAFETY ADVISORY BOARD



DEQ Director
Heidi Grether

DNR Director
Keith Creagh

Agenda

May 14, 2018
9:00 AM – 3:30 PM (EST)

Causeway Bay Lansing Hotel and Conference Center
Ballroom F - J
6820 South Cedar Street
Lansing, Michigan 48911

9:00 – 9:05 AM	Welcome and Introductions
9:05 – 9:10 AM	Meeting Minutes: February 26, 2018* (<i>Attachment A</i>)
9:10 – 9:15 AM	Correspondence Received
9:15 – 9:30 AM	Organizational Items (<i>Attachment B</i>) <ul style="list-style-type: none">• Meeting Schedule and Agenda Items• Next Meeting – August 13, 2018 1:30 - 3:30 PM (EST) Location: TBD
9:30 – 11:15 AM	Straits Incident (<i>Attachment C</i>) <ul style="list-style-type: none">• Q&A – Board• Q&A – Public
11:15 AM – 12:00 PM	Utility Corridor – <i>project presentation by students from Michigan Technological University</i> (<i>Attachment D</i>)
12:00 – 1:00 PM	Break for Lunch
1:00 – 2:00 PM	Old Business <ul style="list-style-type: none">• Pipeline Safety Best Practices and Pipeline Siting Subcommittee (<i>Attachment E</i>)• Emergency Response• Independent Risk Analysis (<i>Attachment F</i>)• Enbridge Agreement• Tribal Consultation
2:00 – 3:30 PM	Public Participation
3:30 PM	Adjourn

Key: * – indicates action item



MINUTES

MICHIGAN PIPELINE SAFETY ADVISORY BOARD

Ramada Lansing Hotel and Conference Center
Regency Ballroom
7501 West Saginaw Highway
Lansing, Michigan 48917

February 26, 2018
1:00 – 3:30 p.m.

- Present: Keith Creagh, Co-Chair, Department of Natural Resources
Heidi Grether, Co-Chair, Department of Environmental Quality (DEQ)
Anne Armstrong, Michigan Agency for Energy (MAE)
Craig Hupp, Public Member
Capt. Chris Kelenske, (*Designee for Col. Kriste Kibbey Etue*), Michigan State Police
Anthony England, University of Michigan-Dearborn
Shawn Lyon, Marathon Petroleum
Homer Mandoka, Nottawaseppi Huron Band of the Potawatomi
Jennifer McKay, Tip of the Mitt
Eric Restuccia (*Designee for Attorney General Bill Schuette*), Department of Attorney General (DAG)
Jeffrey Pillon, National Association of State Energy Officials
Jerome Popiel, United State Coast Guard (*Coast Guard Liaison, non-voting*)
Brad Shamla, Enbridge Energy Company
Michael Shriberg, National Wildlife Federation
Sally Talberg, Michigan Public Service Commission (MPSC)
- Absent: Chris Shepler, Shepler's Mackinac Island Ferry Service
- Others: Guy Meadows, Michigan Technological University
Alex Morese, MAE
Robert Reichel, DAG
Holly Simons, DEQ
Travis Warner, MPSC
Nate Zimmer, DEQ

I. CALL TO ORDER

Heidi Grether, Director, DEQ, called the meeting to order at 1:05 p.m.

II. WELCOME AND INTRODUCTIONS

Keith Creagh, Director, DNR, welcomed everyone and introduced Anne Armstrong, Executive Director, MAE, recently appointed as designee after Valerie Brader's departure; Anthony England, Dean, College of Engineering and Computer Science, University of Michigan-Dearborn, recently appointed to represent university's after Guy Meadow's departure; and Eric Restuccia, Chief Legal Counsel, DAG, designee in Laura Moody's absence. Co-Chair Creagh asked board members to introduce themselves to the new members. Co-Chair Creagh also reminded the board that Holly Simons, elected

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by the board to be Secretary, will take the minutes for today's meeting and for members of the public wishing to speak to fill out a comment card and submit them to Holly.

III. DECEMBER 11, 2017 MEETING MINUTES

Having reviewed the minutes from the December 11, 2017, meeting, Co-Chair Creagh asked for comments. Discussion took place.

Shawn Lyon moved, seconded by Craig Hupp, that per the January 26, 2018, letter from the Governor regarding resolutions (Attachment A), the board amend Section XIII, Formal Discussion of Enbridge Agreement, of the December 11, 2017, minutes, by adding the following footnote for historical reference:

Under Executive Order 2015-12, Section III.F, "the Board shall act in making its recommendations by a majority vote of its serving members." As of December 9, 2017, there were fifteen serving members of the Board. Since fewer than eight votes were in favor, the action did not carry.

The vote was taken on the motion. The motion carried unanimously.

Co-Chair Creagh requested a motion to approve the amended minutes (Attachment B).

Brad Shamla moved, seconded by Craig Hupp, that the amended minutes from the December 11, 2017, meeting be approved. The vote was taken on the motion. The motion carried unanimously.

IV. CORRESPONDENCE RECEIVED

Correspondence received on behalf of the Board since its last meeting was shared with the Board in the pre-meeting packet, including:

Board Members

- Jennifer McKay, Tip of the Mitt
- Craig Hupp
- Jeffrey Pillon, National Association of State Energy Officials

Non-Board Members

- Grace Bostic
- Katherine Manville
- Deb Hansen, Concerned Citizens of Cheboygan and Emmet County
- Anabel Dwyer
- Joseph Fischer
- Johanna Bogater
- Marilyn Bochoirk
- Richard Booth
- Jackie Byars
- Deborah Gilbert
- Laurie Kaniarz
- Annie McCombs
- Clifford Neumann

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- Constance Saltonstall
- Allen Salyer
- Maureen Sheahan
- Robert Soderstrom
- Barbara Spinniken
- Sharon Stevenson
- G. Berbaum
- Robert Blanchard
- Karen Brandel
- Elena Cangelosi
- K.A. Douglass-Harris
- Richard Frazin
- Kathryn Gavin
- Stephen Hamilton
- Liana Heath
- Bret Huntman
- Joseph Jakubowski
- Mary Keils
- Anna Kornoelje
- Martha Lancaster
- Judy Karandjeff, League of Women Voters
- Clarice J. McKenzie
- Mary Netzký
- Sherry Opalka
- Pauline Reeder
- Carol Shuckra
- Della Smith
- Linda Szurley
- C. D. Tchalo
- Anne Throop
- Lucynda Thrushman
- Carol Trembath
- Cheryl Trine
- James Vanek
- Lisa Williams
- Tracy Zervos
- Marlene Bahr
- Bob Johns
- Merry MacRae
- Kathryn Rosenthal
- Cynthia Sherman-Jones
- Dr. Judy Spitler
- JoAnne Beemon
- Erik Greer
- Dr. Gail B. Griffin
- Aaron Jenkins

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- Sally Thornton
- Cindy Cramer
- David Cruse
- Wayne Blomberg
- Susan Wrona Gall
- Steven Trudgen
- Helen Klein
- Ed Czarnecki
- Deon McGehee

V. OLD BUSINESS

- Independent Alternatives Analyses
Nate Zimmer provided an update. Discussion took place.
- Pipeline Safety Best Practices and Pipeline Siting Subcommittee
Travis Warner provided an update. Discussion took place.
- PSAB Website
Alex Morese provided an update. Discussion took place.
- Response From Governor
Alex Morese provided an update. Discussion took place.
- Resolutions and Advice to Governor
Co-Chair Grether provided an update. Discussion took place.

Jeffrey Pillon moved, seconded by Capt. Chris Kelenske, to amend the meeting procedures of the Pipeline Safety Advisory Board as such:

Section 7: Voting

The chairpersons may call for a vote of the Advisory Board. All voting shall be by a voice vote. A majority vote of ITS SERVING MEMBERS ~~the remaining members~~ will bind. All votes shall be recorded and reflected in the minutes.

Section 11: Agenda

The agenda for each regular meeting shall be prepared by the Advisory Board's Staff Assistant, in consultation with the Chairpersons, on the basis of all materials received by the staff assistant, either written or oral, fourteen (14) days before convening of the next regular meeting and published not less than seven (7) days prior to, or immediately upon, preparation of same. An agenda for special meetings shall be prepared and sent to Advisory Board Members with the notification of the meeting.

ANY RESOLUTIONS OR OTHER MATTERS, AND SUPPORTING MATERIALS, THAT MAY REQUIRE A VOTE BY THE BOARD SHALL BE PROVIDED TO THE MEMBERS OF THE BOARD NOT LESS THAN

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SEVEN (7) DAYS PRIOR TO A MEETING OF THE BOARD AT WHICH THE RESOLUTION OR MATTER MAY BE VOTED UPON. THE BOARD BY MAJORITY VOTE MAY SUSPEND THIS REQUIREMENT FOR MORE URGENT MATTERS THAT REQUIRE ACTION.

The vote was taken on the motion. The motion carried unanimously

- Enbridge Agreement
Bob Reichel provided an update. Discussion took place.

VI. INDEPENDENT RISK ANALYSIS UPDATE

Guy Meadows provided a presentation. Discussion took place.

VII. TRIBAL UPDATE

Homer Mandoka provided an update. Discussion took place.

VIII. ORGANIZATIONAL ITEMS

Co-Chair Creagh highlighted the revised 2018 meeting schedule based on discussion at the December meeting and asked the board to review and let Holly know of any conflicts.

IX. PUBLIC PARTICIPATION

- Liz Kirkwood, For the Love of Water (FLOW), shared verbal comments.
- Vince Lumetta shared verbal comments.
- Dale Giddings shared verbal comments.
- Allison LaPlatt, Sierra Club of Michigan, shared verbal comments.
- Anne Woiwode, Sierra Club of Michigan, shared verbal comments.
- Jaynan Montague shared verbal comments.
- Tommy Tacket shared verbal comments.
- Eric Krawczak shared verbal comments.
- Michelle Smith shared verbal comments.
- Lisa Bashert shared verbal comments.
- Judy Woler shared verbal comments.
- Terri Wilkerson shared verbal comments.
- Sean McBrearty, Oil and Water Don't Mix, shared verbal comments.
- Jerilynn Tucker shared verbal comments.

X. ADJOURN

Co-Chair Creagh called the meeting to adjourn at 4:16 p.m.

NEXT MEETING

Monday, May 14, 2018
Time: 1:00 – 3:30 p.m.
Location: TBA



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
EXECUTIVE OFFICE
LANSING

BRIAN CALLEY
LT. GOVERNOR

January 26, 2018

Dear Pipeline Safety Advisory Board Members,

Thank you very much for the resolutions sent to me following the December meeting. I appreciate the opportunity to hear the advice of many members of the Pipeline Safety Advisory Board and would like to take this opportunity to respond to all of you regarding the subject matter of the resolutions.

First, I would like to note that the chair was incorrect when she stated that the resolutions passed. I note that under Executive Order 2015-12, Section III.F, "the Board shall act in making its recommendations by a majority vote of its *serving* members." (Emphasis added). As of December 9th, there were fifteen serving members of the Board. Since all the resolutions received fewer than eight votes in favor, none of the resolutions were actually actions by the Board. That being said, I appreciate the service of each of you, and would like to address the topics of the resolutions.

The first resolution asks that the State immediately propose an amendment to the November 27, 2017 Agreement with Enbridge that would require it to shut down Line 5 operations in the Straits until all areas of the Dual Pipelines can be inspected for gaps in the external coating and all gaps are repaired. As a practical matter, such further inspections and repairs cannot be completed until the summer of 2018 at the earliest. While the coating gaps remain of key concern and must be addressed, review of the recent hydrotest results of Line 5 though the Straits indicated there is not a risk of imminent failure, and that test was done when these coating gaps existed.

With all respect, I do not believe an immediate and extended shutdown of the pipeline in the middle of the winter is a proper approach that safeguards the health and welfare of Michigan citizens. This month, the Federal Motor Carrier Safety Administration made a Regional Declaration of Emergency under 49 CFR 390.23 in response to anticipated home heating fuel shortages, notably propane, due to Winter Storm Frankie's severe weather. That area included 38 states, of which Michigan is one. An immediate and unexpected shutdown of the pipeline for several months would very likely create a propane supply crisis like Michigan faced in the winter of 2013/2014, potentially jeopardizing the health and safety of Michigan residents.

The resolution appears to attempt to address this issue by proposing that the Agreement also be amended to require Enbridge to supply propane to Michigan markets at a reasonable cost while the pipeline is out of operation. Since Enbridge strongly maintains, based upon the hydrotest and in line inspection results, as well as the operation of cathodic protection, that the gaps in external coating do not present a threat to the integrity of the Dual Pipelines, it is highly unlikely that Enbridge would agree to voluntarily suspend pipeline operation for months, pending further external coating inspections and repairs. I am also unaware of the basis to carry out the recommendation that Enbridge be required to supply propane to the public if the pipeline ceases operation.

Second, I note the resolution asking that the State seek to revise the "Sustained Adverse Weather Conditions" portion of the November 27, 2017 Agreement. As you are aware, there

was no requirement for a shutdown due to any weather conditions prior to the November 27, 2017 Agreement. I will simply say I appreciate the points made, but given the amount of negotiating time and effort that went into that specific provision, a request to re-open that provision would be extremely unlikely to result in an agreement to move in the direction envisioned by the resolution.

Third, I turn to the resolution that urges Michigan to undertake a more thorough assessment of Michigan-focused alternatives, including alternative pipeline capacity re-routing options and ways to supply propane and oil to meet Michigan's needs currently met by Line 5. The State is already taking steps to address, in greater detail, the issues of alternative means of supplying propane within Michigan and transporting Michigan produced crude oil to market. Among other ongoing efforts pertaining to this issue, State agency staff are working to independently verify key Michigan-centric data and assumptions contained within the Final Alternatives Analysis Report, setting up consultations with key customers to discuss how a potential shut down of the Dual Pipelines would impact their Michigan operations, and are gathering additional information about the logistical capabilities of major oil and propane terminals in and around Michigan. In addition, the State is considering the possibility of obtaining the services of outside transportation consultants to better define the feasibility and costs of alternatives to meeting Michigan propane and Michigan-produced crude oil transportation needs that would not depend upon Line 5.

With respect to the broader suggestions that the State conduct a detailed analysis "on the public need for Line 5 in Michigan" and "a more robust study of alternative pipeline capacity to re-route the portion of Line 5's flow dedicated to Michigan's needs", the resolution is not clear as to what is being proposed. In particular, it is not clear: (a) who would conduct these analyses, (b) how the scope of the work would be defined, (c) what it would cost, (d) who would pay for it, and (e) how it would be completed by the June 25, 2018 deadline proposed in the resolution. The State would welcome clarification of the suggestion by the proponents of the resolution and comments from other members of the Board.

Finally, given that in discussions with Dr. Meadows, it appears that a final risk analysis may not be completed before September 15, I do plan to reach out and ask Enbridge to modify the date for a final agreement to be reached (or the state will take another path) from August 15, 2018 to September 30, 2018.

Thank you again for your service on the Board. I know each of you has put significant time and effort as Board members, and have done a great deal of work as a service to the State. I appreciate that very much and look forward to further communications from the Board.

Sincerely,



Rick Snyder
Governor

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XII. ENBRIDGE AGREEMENT UPDATE

Keith Creagh provided an update. Discussion took place.

XIII. FORMAL DISCUSSION OF ENBRIDGE AGREEMENT

Jennifer McKay provided background on a memorandum and three resolutions seeking action by the board. Discussion took place.

Jennifer McKay moved, seconded by Michael Shriberg, that the board approve the resolution calling for action by the State to amend the agreement with Enbridge regarding coating gaps (Attachment B). Roll call vote was taken. The motion carried* with members Hupp, Mandoka, McKay, Shepler, and Shriberg voting in favor; Co-Chair Brader and members Creagh, Kelenske, Lyon, Schneider, Shamla, and Talberg abstaining; and Pillon voting against. Co-Chair Grether was not present for the vote. Jerome Popiel is a non-voting member.

Craig Hupp moved, seconded by Jennifer McKay, that the board approve the resolution calling for action by the State to amend the agreement with Enbridge regarding the revision of “sustained adverse weather conditions” (Attachment C). Roll call vote was taken. The motion carried* with members Hupp, Mandoka, McKay, Shepler, and Shriberg voting in favor; Co-Chair Brader and members Creagh, Kelenske, Lyon, Pillon, Schneider, Shamla, and Talberg abstaining. Co-Chair Grether was not present for the vote. Jerome Popiel is a non-voting member.

Jeff Pillon moved, seconded by Craig Hupp, that the board amend the last paragraph of resolution regarding the need for further assessment of Michigan-focused alternatives to Line 5 (Attachment D) as such:

NOW, THEREFORE, BE IT RESOLVED, that the State conduct a detailed analysis on the public need for Line 5 in Michigan, a more robust study of alternative pipeline capacity to reroute the portion of Line 5’s flow dedicated to Michigan’s needs, and a more robust study of options to supply propane and oil to meet Michigan’s needs currently met by Line 5, supplied from sources both in and outside the state of Michigan, and to transport of oil to market from northern Michigan. This analysis would be completed by no later than June 25, 2018.

The vote was taken on the motion. The motion carried unanimously.

Michael Shriberg moved, seconded by Craig Hupp, that the board approve the amended resolution calling for action by the State to amend the agreement with Enbridge regarding the need for further assessment of Michigan-focused alternatives to Line 5 (Attachment D). Roll call vote was taken. The motion carried* with members Hupp, Pillon, Mandoka, McKay, Shepler, and Shriberg

* Under Executive Order 2015-12, Section III.F, “the Board shall act in making its recommendations by a majority vote of its *serving* members.” As of December 9, 2017, there were fifteen serving members of the Board. Since fewer than eight votes were in favor, the action did not carry.

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Tuesday, November 14, 2017 5:42:14 PM

Submitted on Tuesday, November 14, 2017 - 5:41pm

Submitted by anonymous user: 174.227.3.200

Submitted values are:

Your Name: Rut Pacquin

Your Email Address: babepaquin@yahoo.com

Your Phone Number: 9066438237

Subject: Submit Information/Comments

Attachment:

Your Message: Enbridge is a Canadian company which has not kept up with the requirements of the pipeline agreement (line 5) with the state of Michigan. For that reason alone the agreement should be terminated. The risk to the great lakes and tourism is insurmountable and will devastate the area. This will not be an easy decision to make.

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/153>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Wednesday, November 15, 2017 12:22:20 PM

Submitted on Wednesday, November 15, 2017 - 12:19pm

Submitted by anonymous user: 174.230.3.145

Submitted values are:

Your Name: Greg Davis

Your Email Address: gregdavis9@gmail.com

Your Phone Number: 248470868

Subject: Submit Information/Comments

Attachment:

Your Message: Stop the transport of oil through the Straits immediately. Catastrophe is too great a possibility.

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/157>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Wednesday, November 15, 2017 10:24:26 AM

Submitted on Wednesday, November 15, 2017 - 10:21am

Submitted by anonymous user: 68.43.253.169

Submitted values are:

Your Name: MARK LORE

Your Email Address: ML442W25@HOTMAIL.COM

Your Phone Number: 7342851970

Subject: Submit Information/Comments

Attachment:

Your Message: It's time to pull the plug on the straits pipe line!

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/154>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Wednesday, November 15, 2017 10:42:47 AM

Submitted on Wednesday, November 15, 2017 - 10:41am

Submitted by anonymous user: 68.40.253.68

Submitted values are:

Your Name: Michele peltier

Your Email Address: michele.a.peltier@gmail.com

Your Phone Number: 3135490339

Subject: Submit Information/Comments

Attachment:

Your Message:

Endbridge has not allocated resources to maintain the pipeline, but is using MI as a conduit to reduce transportation costs. This is a pipeline that does not allow for error in our lakes, which is 20% of the world fresh water. Let this Canadian company pull this line, and let them transport over Canadian land, not our Great lakes or MI land. This is a zero sum game that is stacked against MI

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/156>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Wednesday, November 15, 2017 10:29:00 AM

Submitted on Wednesday, November 15, 2017 - 10:26am

Submitted by anonymous user: 66.188.60.126

Submitted values are:

Your Name: Margaret Sokolnicki

Your Email Address: Cooper4212@aol.com

Your Phone Number: 2484214291

Subject: Other

Attachment:

Your Message: Please protect our Great Lakes. We don't want to get like Flint and fix the gas lines when it's too late. Get something done now. We depend on you.

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/155>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Thursday, November 16, 2017 8:08:18 AM

Submitted on Thursday, November 16, 2017 - 8:07am

Submitted by anonymous user: 64.53.218.117

Submitted values are:

Your Name: Ron Mallory

Your Email Address: mallorybuilding@aol.com

Your Phone Number: 5173393780

Subject: Submit Information/Comments

Attachment:

Your Message: shut down line 5. Enbridge paid 1.21 billion to clean up Kzoo River. There is not enough money in the world to "clean up" 20% of the worlds fresh water. As a board, this is on your hands. You can not sleep at night knowing this disaster is looming - and you can stop it. Imagine your grandchildren never knowing what summer could have been if all they can do is look at a polluted Great Lake, but cant go in the water. This is ridiculous, shut it down, NOW.

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/158>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Sunday, November 19, 2017 12:46:44 PM

Submitted on Sunday, November 19, 2017 - 12:45pm

Submitted by anonymous user: 99.185.96.101

Submitted values are:

Your Name: Kaye Kurnat

Your Email Address: kayented@hotmail.com

Your Phone Number: 2696602158

Subject: Submit Information/Comments

Attachment:

Your Message:

It is obvious to me that Enbridge is NOT honest, it is one lie after another. The oil spill in Calhoun county, should be enough of a tragedy to say to Enbridge turn off the oil running through line 5.

I DON'T know how much money the state gets for this service, but it's not enough, to let our Great Lakes be ruined while department heads are waiting to see what Enbridge is doing. SHUT LINE 5 DOWN, while you wait their solutions. We cannot afford to gamble on this issue. PLEASE shut it down. If I were you I wouldn't want that on my conscious when the oil leaks. It is not IF, it is when!

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/160>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Sunday, November 19, 2017 3:25:29 PM

Submitted on Sunday, November 19, 2017 - 3:25pm

Submitted by anonymous user: 24.127.213.189

Submitted values are:

Your Name: John Sarver

Your Email Address: johnsarver3@gmail.com

Your Phone Number: 5172908602

Subject: Submit Information/Comments

Attachment:

Your Message: I believe 1) that a spill would be a catastrophe, and 2) there is no reason to be confident that Enbridge can or will ensure that it does not happen. It seems obvious to me what needs to be done.

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/161>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Sunday, November 19, 2017 11:31:42 AM

Submitted on Sunday, November 19, 2017 - 11:31am

Submitted by anonymous user: 24.127.211.136

Submitted values are:

Your Name: william seck

Your Email Address: wfseck@hotmail.com

Your Phone Number: 5117-339-2287

Subject: Submit Information/Comments

Attachment:

Your Message: Back in the early 50's we bonded construction of the Mackinac bridge. Traffic has greatly increased since then. The State should build a tunnel across the strait. In the tunnel the oil pipeline could be laid with easy inspection ability. Solves both a transportation and environmental concern.

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/159>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Thursday, November 23, 2017 3:31:13 PM

Submitted on Thursday, November 23, 2017 - 3:30pm

Submitted by anonymous user: 96.42.163.112

Submitted values are:

Your Name: Korey Smith

Your Email Address: kmackkor@yahoo.com

Your Phone Number:

Subject: Submit Information/Comments

Attachment:

Your Message:

Alternative three, using alternative transportation methods and decommissioning the existing Straits pipelines is a terrific option. I am begging you to please, please preserve our beautiful waters and landscape for future generations to enjoy. Having wandered the shores of Lake Michigan as a child, and now wandering the shores of the Lake with my own children, the idea that this could so easily be destroyed is devastating. And that is just my personal attachment to it. The environmental repercussions would be disastrous. Ecosystems wiped out, animals killed, poisoned, displaced. Would it get into our water tables? Would my own children be poisoned? By carelessness, greed? In the name of convenience?

We mustn't stand for this. We have to have higher standards and protect our waters. To do otherwise is simply foolish, and unforgivable.

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/163>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Thursday, November 23, 2017 6:42:34 PM

Submitted on Thursday, November 23, 2017 - 6:42pm

Submitted by anonymous user: 174.230.156.49

Submitted values are:

Your Name: Mark Witalec

Your Email Address: markwitalec@witalecsurvey.com

Your Phone Number: 517.285.9924

Subject: Submit Information/Comments

Attachment: <https://mipetroleumpipelines.com/sites/mipetroleumpipelines.com/files/we...>

Your Message:

Regarding “Option 4a- Conventional Replacement”, why was a Casing Pipe/Carrier Pipe” option not considered? In this option, the 30” high pressure petroleum product carrier pipe could be place inside a larger (for example, 42” diameter) casing pipe. With this type of construction, any leakage event from the carrier pipe would contain the product within the annular space existing between pipes.

Slides designed, fabricated and placed at adequate intervals along the length of the pipeline would maintain separation ($6'' \pm$ in this case) between the outer surface of the carrier pipe and inner surface of the casing pipe. In the event of a leak, product would be contained within the annular space and eventually (with sufficient product volume/pressure) be pushed up the pipeline gradient toward one or both shore pipeline exit points (where leak mitigation procedures would take over). Extensive monitoring equipment placed with the pipeline annular space could record and transmit information about the current operational status of the pipeline.

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/164>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Thursday, November 30, 2017 11:01:52 PM

Submitted on Thursday, November 30, 2017 - 11:01pm

Submitted by anonymous user: 107.137.168.240

Submitted values are:

Your Name: Cynthia Greene

Your Email Address: thiagreene@aol.com

Your Phone Number: 7344767111

Subject: Submit Information/Comments

Attachment:

Your Message: Please make a strong and fast effort to close Line 5 pipeline, period. Why isn't this Canada's problem to reroute? Or better yet let's get some alternative energy sources going!

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/167>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Thursday, November 30, 2017 11:01:52 PM

Submitted on Thursday, November 30, 2017 - 11:01pm

Submitted by anonymous user: 107.137.168.240

Submitted values are:

Your Name: Cynthia Greene

Your Email Address: thiagreene@aol.com

Your Phone Number: 7344767111

Subject: Submit Information/Comments

Attachment:

Your Message: Please make a strong and fast effort to close Line 5 pipeline, period. Why isn't this Canada's problem to reroute? Or better yet let's get some alternative energy sources going!

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/167>

December 1, 2017

RE: Enbridge Line 5 Oil Pipeline

Dear Michigan Petroleum Safety Advisory Board,

I have heard with great alarm and regret that Governor Snyder has cut a stop gap deal with Enbridge Inc. regarding the Line 5 oil pipeline. It is the overwhelming and unequivocal view of Michiganders that we want the administration to “take another path” immediately with Enbridge and not wait until next August.

Under **NO** circumstances should **any** oil pipeline run beneath **any** of the Great Lakes and especially at this critical location. The anchor drag risk alone should shut it down now. Enbridge’s horrendous safety record alone should shut it down now.

Alternate land based routes through Wisconsin and Illinois are the only answer, especially since their current full capacity is not being reached.

I will be writing separately to Governor Snyder, Lieutenant Governor Calley and Attorney General Schuette. Please do your jobs to protect our Michigan environmental quality.

Thank you.

Respectfully submitted,

Laura Judge
6510 Oakwood Lane
Holland MI 49423
(616) 335-8200

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Saturday, December 02, 2017 10:47:43 AM

Submitted on Saturday, December 2, 2017 - 10:47am

Submitted by anonymous user: 174.124.159.26

Submitted values are:

Your Name: Robert A. Dunn

Your Email Address: breezeswept1@me.com

Your Phone Number: 9064843394

Subject: Submit Information/Comments

Attachment:

Your Message:

Governor Snyder,

I believe our Governor Synder let us all down, in making his clandestine agreement with crooked Enbridge. Did he get "bought off" like so many others???

These Straits are sovereign tribal waters ... and need to be more respected & protected !!!

Respectfully,

Robert A. Dunn

Les Cheneaux Watershed Council

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/169>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Sunday, December 03, 2017 12:05:21 PM

Submitted on Sunday, December 3, 2017 - 12:04pm
Submitted by anonymous user: 174.230.18.205
Submitted values are:

Your Name: Janet Fairchild
Your Email Address: jairch64@gmail.com
Your Phone Number: 9893547698
Subject: Request to Speak (3 min limit)
Attachment:
Your Message:

I am deeply troubled, if not insulted and outraged, that Governor Snyder went ahead and negotiated an agreement with Enbridge Corporation, several days after release of the final version of the Line 5 Dynamic Risk Analysis Report, and prior to any public comment period. I consider this action an attempt to gag the public and devalue any say we might have in protecting the Great Lakes. Furthermore, the fact that we are even trusting Enbridge after three years of hiding crucial information from the State, feels like a betrayal of the public trust.

The idea of building a tunnel in the Straits to house the pipeline is unsatisfactory for three reasons: (1) it ignores the feasible alternative of using existing pipeline infrastructure around the Great Lakes, (2) remains still vulnerable to spills because of corrosion and human error, and (3) contradicts Michigan's legal policy against oil and gas drilling in the Great Lakes.

We should have made a decision on Line 5 this summer. This protracted and deferential response on the part of the State to Enbridge feeds directly into their game plan. Stall! Delay! and Stall! While all the time, their profits continue to grow!

The results of this submission may be viewed at:
<https://mipetroleumpipelines.com/node/5/submission/172>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Monday, December 04, 2017 4:31:20 PM

Submitted on Monday, December 4, 2017 - 4:27pm

Submitted by anonymous user: 72.168.128.235

Submitted values are:

Your Name: Randolph Mateer

Your Email Address: rjmat@hughes.net

Your Phone Number: 2314201125

Subject: Submit Information/Comments

Attachment:

Your Message:

The agreement with Enbridge signed by Gov. Snyder is not acceptable. At the very least the coating issues must be identified and repaired.

Ideally, there must be no oil pipeline under the Straits of Mackinac. The area is far too important to allow the possible danger of oil spillage. Considering Enbridge's history of oil spills, it is not a matter of if, but when an oil spill occurs.

Since the oil moved within the pipeline doesn't benefit Michigan and could cause great economic and ecological damage, Enbridge must retire pipeline No. 5 and look for another way to move their product.

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/174>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Monday, December 04, 2017 4:23:20 PM

Submitted on Monday, December 4, 2017 - 4:22pm

Submitted by anonymous user: 174.230.151.7

Submitted values are:

Your Name: Charity Steere

Your Email Address: charitysteere@gmail.com

Your Phone Number: 5175225010

Subject: Submit Information/Comments

Attachment:

Your Message:

Some choices in life must be deemed not worth the risk. Enbridge Line 5 is one of those choices. It must be shut down and the process must begin immediately. An unsustainable, unwise, anachronistic energy source is not worth the risk to one of the world's largest sources of fresh water.

Thank you for your attention.

Charity W. Steere

5259 Maute Rd.

Grass Lake, MI 49240

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/173>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Monday, December 04, 2017 9:24:03 PM

Submitted on Monday, December 4, 2017 - 9:23pm

Submitted by anonymous user: 107.77.195.186

Submitted values are:

Your Name: Winters Jamie

Your Email Address: nayrwinters@yahoo.com

Your Phone Number: 2315296952

Subject: Submit Information/Comments

Attachment:

Your Message: Please shut down line 5. Water is our most valuable resource and cannot be compromised. No oil in our straits!

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/175>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Tuesday, December 05, 2017 9:06:49 AM

Submitted on Tuesday, December 5, 2017 - 9:06am

Submitted by anonymous user: 68.43.39.54

Submitted values are:

Your Name: John Apol

Your Email Address: johnapol07@gmail.com

Your Phone Number:

Subject: Submit Information/Comments

Attachment:

Your Message:

I'm writing to urge you to do whatever you can to SHUT DOWN Line 5 under the straits. Any rupture of this pipeline will be catastrophic. Remember Prince William Sound? Remember the Enbridge Kalamazoo River spill? Imagine Mackinac Island surrounded by black beaches! The environmental and financial costs to Michigan will be horrendous and will go on for decades.

The "deal" the governor is working on would have Enbridge turning off the pipeline when surface conditions would be too dangerous or difficult to start or complete cleanup of a spill. I think that would include the entire winter when ice would certainly make it difficult, if not impossible, to mount a cleanup effort! I'm sure Enbridge would not agree to shutting the pipeline down for that period of time.

The other issue which defies logic is paying a Canadian company to do a "risk analysis" for a Canadian oil company! Dynamic Risk Assessment might be an honest company, BUT, they are a CANADIAN company. Might there not be just a little conflict of interest here?!

Thank you,
John Apol

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/176>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Tuesday, December 05, 2017 3:10:20 PM

Submitted on Tuesday, December 5, 2017 - 3:09pm

Submitted by anonymous user: 75.128.191.190

Submitted values are:

Your Name: John Harris

Your Email Address: jchcah1@yahoo.com

Your Phone Number: 907-982-2100

Subject: Submit Information/Comments

Attachment:

Your Message: If pipeline 5 under the straits has decayed so badly it seems that it would make sense to replace it with one of two options I. attach it to the Big Mac bridge where it would remain out of the water and could be better monitored. 2. if the line is carrying Canadian oil and gas take a right turn at the north side of the straits, run the line up tp the SOO and into Canada and let them transport the products on their soil to the final destination .

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/177>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Wednesday, December 06, 2017 11:31:47 AM

Submitted on Wednesday, December 6, 2017 - 11:31am

Submitted by anonymous user: 69.214.0.32

Submitted values are:

Your Name: Tammy Hibner

Your Email Address: tammyapples64@yahoo.com

Your Phone Number: 269-569-1635

Subject: Submit Information/Comments

Attachment:

Your Message:

Please! Stop letting this company, that has proven can't be trusted, put our Great. Lakes at great risk.

SHUTDOWN LINE 5!!!

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/179>

From: noreply@engagingplans.org
To: [MiPetroleumPipelines](#)
Subject: Form submission from: Contact Us
Date: Wednesday, December 06, 2017 3:43:58 PM

Submitted on Wednesday, December 6, 2017 - 3:42pm

Submitted by anonymous user: 12.165.188.168

Submitted values are:

Your Name: Sarah McKinney

Your Email Address: sarahmckinney@quickenloans.com

Your Phone Number: 2488758016

Subject: Submit Information/Comments

Attachment:

Your Message:

I am writing as a concerned Michigander and U.S. Citizen. We have an obligation to protect our Great Lakes. Enbridge has shown time and again, that they put profits over the health of people and safety of our environment. Line 5 is dangerous and dirty and threatens our wildlife, shoreline, economy and 25% of the world's fresh water supply. Please do the right thing by protecting our health, environment and economy and SHUT DOWN Line 5 in Michigan.

Sincerely,

Sarah McKinney

The results of this submission may be viewed at:

<https://mipetroleumpipelines.com/node/5/submission/180>



The Grand Traverse Band of Ottawa and Chippewa Indians

2605 N. West Bay Shore Drive • Peshawbestown, MI 49682-9275 • (231) 534-7750

December 20, 2017

Hon. Rick Snyder, Governor
State of Michigan
P. O. Box 30013
Lansing, Michigan 48909

Dear Governor Snyder,

We have joined Michigan's other Indian Tribes in a comment being sent separately titled "Tribal Comments on Dynamic Risk Final Alternatives Analysis" that supplements our August 1, 2017 submission. Additionally we are writing today to express our deep disappointment in your November 27, 2017 agreement with Enbridge because the agreement: (1.) ignores our preexisting "treaty-fishing" rights in the Straits of Mackinac, (2.) violates Michigan's environmental protection laws, and (3.) breaches your commitment to consult with Tribal governments (Executive Directive No. 2012-2; *see also* May 12, 2004 Intergovernmental Accord Concerning Protection of Shared Water Resources).

The Grand Traverse Band of Ottawa and Chippewa Indians protests your November 27, 2017 agreement with Enbridge because it doesn't take into consideration these basic facts:

- Great Lakes fishing rights were reserved in the 1836 Treaty by the Indian tribal signatories; Michigan achieved statehood in 1837 subject to these "treaty-fishing" rights;
- written history dating back 350 years confirms that Mackinac Straits was historically the most important fishing location for the Ottawa and Chippewa;
- the Straits area remains today the 1836 Treaty Tribes' most important fishing grounds; and
- Line 5 poses an unacceptable risk of harm to our Treaty-reserved resources.

The joint-tribal comments demonstrate that the "alternatives" report is deeply flawed, but at least Dynamic Risk's final report *purports* to address all alternatives. However that effort to consider all "alternatives" (to continue pumping of oil through Line 5) now has been short-circuited by your November 27, 2017 agreement, which limits consideration of "alternatives" just to various options for pumping oil through the Straits (and not to other possible feasible and prudent alternatives that don't put the Straits at risk). The result is that the State's current

Governor Rick Snyder
December 20, 2017
Page 2 of 3

position violates Michigan law, because the Governor-Enbridge agreement fails *to require Enbridge to prove* that "there is no feasible and prudent alternative" to the continued pumping of oil through the Straits of Mackinac (as is required by the Michigan Environmental Protection Act [MEPA] and Great Lakes Submerged Lands Act [GLSLA¹]).

The Grand Traverse Band urges you to reconsider your commitment to the November 27, 2017 agreement. Let's start with the consultation with the 1836 Treaty (CORA) Tribes you committed to in Executive Directive No. 2012-2. Then please provide us with an opportunity to point out the benefit of requiring Enbridge to comply with the mandates of MEPA and GLSLA.

Your department ignored our suggestion four months ago², and look how that's played out. Instead of requiring Enbridge to satisfy the burden of proving (as required by MEPA and GLSLA) that there is no feasible and prudent alternative to the continued pumping of oil through the Straits of Mackinac, you (the State, through your department heads and appointed board) commissioned what turned out to be a deeply-flawed "alternatives" report. Now you "own it"; and the flaws are your responsibility rather than Enbridge's as required by MEPA and GLSLA.

As Governor your duty is to preserve the natural resources³ for all Michigan citizens; your primary concern should not be Enbridge's corporate well-being. Please reconsider the erroneous premise of the November 27, 2017 agreement that there is no feasible and prudent alternative to the continued pumping of oil through the Straits; Enbridge should be required to prove this essential element. It's not too late; there still is time to burnish your legacy as a champion for protecting the "pure Michigan waters" of the Straits of Mackinac.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Thurlow McClellan', with a long horizontal flourish extending to the right.

Thurlow ("Sam") McClellan,
Tribal Chairman

Governor Rick Snyder
December 20, 2017
Page 3 of 3

Copies transmitted via email to:

Valerie Brader, Executive Director, Michigan Agency for Energy
C. Heidi Grether, Director, Michigan Department of Environmental Quality
Keith Creagh, Director, Michigan Department of Natural Resources
David Nyberg, Tribal Liaison, Governor's Marquette Office
S. Peter Manning, Assistant Attorney General
Robert Reichel, Assistant Attorney General
Trevor VanDyke, MDNR Tribal Liaison

¹ Rule 15(b) [R 322.1015(b)] of Great Lakes Submerged Lands Act administrative rules states:
"In each application for a permit, lease, deed, or agreement for bottomland, existing and potential adverse environmental effects shall be determined. Approval shall not be granted unless the department has determined both of the following:
(a) That the adverse effects to the environment, public trust, and riparian interests of adjacent owners are minimal and will be mitigated to the extent possible.
(b) That there is no feasible and prudent alternative to the applicant's proposed activity which is consistent with the reasonable requirements of the public health, safety, and welfare." (Emphasis added.)

² See July 20, 2017 letter to MDEQ Director Grether.

³ Article IV, § 52 of the Michigan Constitution of 1963 states in pertinent part: *"The conservation ... of the natural resources of the state are hereby declared to be of paramount public concern in the interest of the health, safety and general welfare of the people."* (Emphasis added.)

Ensuring an Uninterrupted Propane Supply to Michigan's Upper Peninsula

By: Gary Street, M.S., P.E.

February 19, 2018

Enbridge claims that if its aging Line 5 pipeline through Michigan is shut down - for any reason – many residents of the Upper Peninsula will suffer^{1,2} from a loss of propane to heat their homes.

The following research refutes that assertion by pointing to propane supply alternatives that exist or could be readily developed to serve as a backup plan and eventual replacement for Line 5's supply.

This paper is limited to the issue of propane for the Upper Peninsula when Line 5 is shut down due to a rupture, governmental edict, or any other event.

Conclusions & Recommendations:

- 1. The State of Michigan must prioritize the paramount interests of its citizens by ensuring an uninterrupted and reliable propane supply to the residents of the Upper Peninsula. Several viable alternatives for this transition exist, including the following:**
 - a. An active rail line from a propane distribution hub in Superior, Wisconsin, comes within a few miles of the Plains All American Rapid River propane processing plant, which currently is supplied by Enbridge Line 5. Connecting the rail line to the plant would provide a reliable propane delivery system for the Upper Peninsula when Line 5 is shut down.**
 - b. Another alternative is to install a 4-inch propane pipeline from Superior, Wisconsin, to Rapid River, Michigan. This also would provide a reliable source of propane when Line 5 is shut down.**
 - c. A third alternative is to use 3-4 tank trucks per day to transport propane to Rapid River from Superior, Wisconsin.**

¹ ".....there are a lot of people that rely on what Line 5 supplies," said Enbridge regional communications supervisor Ryan Duffy". <http://greatlakesecho.org/2017/02/27/great-lakes-businesses-join-forces-against-oil-pipeline/>

² ".....Enbridge has routinely pointed to Line 5's delivery of propane to Michigan's Upper Peninsula as a critical public benefit that helps justify the risk of a spill at the straits".
<http://greatlakesecho.org/2017/02/27/great-lakes-businesses-join-forces-against-oil-pipeline/>

2. **Any plan for ensuring an uninterrupted and reliable propane supply for the Upper Peninsula must be based on the best interests of residents of Michigan, not the best interests of Enbridge, the pipeline-owner and operator.**
3. **Currently there is no publicly available plan in the event Line 5 ruptures. Immediately developing and implementing a backup plan for supplying propane to the Upper Peninsula is essential.**
4. **The most prudent course of action is for the State of Michigan to immediately institute an emergency plan and make it publicly available while permanent viable alternatives are evaluated as part of a comprehensive Line 5 decommissioning plan. Such precautionary planning both prioritizes the citizens and the Great Lakes.**

Who Currently Supplies Propane for the Upper Peninsula?

Natural Gas Liquids (NGLs) are primarily a by-product of crude oil production. Among other compounds, NGLs contain propane. Typically, the amount of propane³ in the NGLs is 28%.

In the case of Line 5, the NGLs originate primarily in Alberta, Canada, with some also coming from the Bakken formation in North Dakota.

Enbridge transports NGLs to other locations via Line 5. A small amount of the propane in the NGLs is removed at Rapid River, Michigan, in the central Upper Peninsula by Plains All American. They utilize NGLs from Enbridge Line 5 to separate and purify propane.

The remaining propane in Line 5, along with the rest of the NGLs is sent primarily to Sarnia for purification and sale as propane, and as a chemical feedstock.

Enbridge currently claims that 65% of the propane⁴ in the Upper Peninsula is supplied^{5,6} by Line 5. In the recent past, they claimed as much as 85%. Data from the U.S. Census Bureau⁷ does not support either of these claims; the actual amount of propane supplied to customers in the Upper Peninsula that originates with Line 5 is about 45-50%. Nevertheless, whether it is 85% or

³https://www.eia.gov/conference/ngl_virtual/eia-ngl_workshop-anne-keller.pdf, p. 17

⁴http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B25040&prodType=table

⁵As late as January 2016, Enbridge claimed that 85% of the homes in the Upper Peninsula were supplied with propane coming from Line 5. Six months later, in June of 2016, they reduced this amount to 65%. They have not reduced it further since then.

⁶Typical reference: <http://bridgemi.com/2016/01/enbridge-line-5-pipeline-is-vital-to-michigan/>

⁷http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B25040&prodType=table

65% or 45%, the customers in the Upper Peninsula who rely on propane must be assured of an uninterrupted supply.

Per the U.S. Census Bureau, 17.7% of the homes in the Upper Peninsula use propane⁸. Continuing with data from the U.S. Census Bureau, the total usage is about 47,300 gallons per day. However, one must keep in mind that only about 45%-50% of the U.P.'s propane is supplied by Line 5. Other propane suppliers serve the Upper Peninsula.

If Line 5 were shut down, due to another leak or governmental edict or some other event, propane must remain continuously available to those in the Upper Peninsula

Role of Plains All American at Rapid River, Michigan

While Enbridge and Plains All American are separate commercial entities, they sometimes work closely together. For example, the facility for separating and purifying propane at Rapid River, Michigan, in the central Upper Peninsula is owned and operated by Plains All American. However, the raw NGLs⁹, containing roughly 28% propane, and are the feedstock for Rapid River, arrive by Line 5, which is owned and operated by Enbridge. After Plains All American has removed a small portion of propane at Rapid River¹⁰, the remaining NGLs, including most of the propane, are re-injected into Line 5, with nearly all being sent to Sarnia¹¹.

Role of Plains All American at Kincheloe, Michigan

In addition to the Rapid River processing site, Plains All American operates a propane storage facility at Kincheloe¹², Michigan, in the eastern Upper Peninsula. Propane is shipped to this site by rail from Alberta¹³, Canada, and enters the U.S. at Sault Ste. Marie, Ontario. Propane from Kincheloe is distributed to local propane companies by truck in the eastern Upper Peninsula. Shutting down Line 5, therefore, would have no impact on this source of propane for the Upper Peninsula.

⁸http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B25040&prodType=table

⁹ Typical amount of propane in the raw NGLs arriving at Rapid River: Propane: 28%,
https://www.eia.gov/conference/ngl_virtual/eia-ngl_workshop-anne-keller.pdf, p. 17

¹⁰ Less than 2%, See Figure 1

¹¹ Dynamic Risk, **Alternatives Analysis for the Straits Pipelines**, Doc. no.:SOM-2017-01-RPT-001 Project no.:SOM-2017-01 Rev. no.: 2, p. 4-4 (or p. 282)

¹² Kincheloe is a small unincorporated community about 20 miles southwest of Sault Ste. Marie, MI.

¹³ Dynamic Risk, **Alternatives Analysis for the Straits Pipelines**, Doc. no.:SOM-2017-01-RPT-001 Project no.:SOM-2017-01 Rev. no.: 2, p. 4-25 (or p. 303)

How much of the propane for the Upper Peninsula comes from Line 5?

Line 5 has a capacity of roughly 23 million gallons per day. Since Line 5 is block operated, this means that when it is transporting NGLs 20% of the time, it is transporting at a rate of 23 million gallons per day of NGLs. The remaining 80% of the time it transports crude oil at a rate of 23 million gallons per day.

Less than 2% of the propane transported in Line 5 stays in the Upper Peninsula. (See Figure 1)

The small amount of propane going to the Upper Peninsula from Line 5 was indirectly confirmed in the recent Dynamic Risk report. Quoting the report¹⁴(emphases added):

*“On the Michigan Upper Peninsula, Line 5 delivers NGL to the Plains Midstream depropanization facility at Rapid River, Michigan. Propane is extracted from the NGL stream and the depropanized NGL stream returned to Line 5 for transport to Sarnia. **This extraction is only a small fraction of the total volume of product transported.....**”*

*Dynamic Risk further indirectly confirmed the amount of propane extracted from Line 5 at Rapid River with the following statement¹⁵: “Of the NGLs transported in Line 5, **less than 5% are delivered into Rapid River.**”*

In fact, a more accurate estimate of the amount of propane extracted at Rapid River from Line 5 is considerably less than the 5% reported by Dynamic Risk. It is no more than 2%.

If Line 5 is shut down, where will the Upper Peninsula’s propane come from?

There are several viable paths by which propane can be supplied to the Upper Peninsula in the event Line 5 is shut down for any reason.

- 1) Roughly 50% of the propane supply to the Upper Peninsula is NOT dependent on Line 5. Should Line 5 be shut down, given adequate planning, alternative suppliers driven by free market economics would quickly fill the void left by Line 5.
- 2) Plains All American has a facility at Superior, Wisconsin, dedicated to separating and purifying propane from NGLs. The rated capacity of this facility is 10,000 bpd of NGL¹⁶ or 2,800 bpd of propane. While an incremental expansion of the capacity at Superior may, or may not, be needed, this would enable the shutdown of the facility at Rapid River, making it

¹⁴ Dynamic Risk, **Alternatives Analysis for the Straits Pipelines**, Doc. no.:SOM-2017-01-RPT-001 Project no.:SOM-2017-01 Rev. no.: 2, section 4.2.1.1 or pg. 282.

¹⁵ Dynamic Risk, **Alternatives Analysis for the Straits Pipelines**, Doc. no.:SOM-2017-01-RPT-001 Project no.:SOM-2017-01 Rev. no.: 2, section 4.2.2 or pg. 284.

¹⁶ [EnCana Corporation, Superior Storage Facility and the Depropanizer: Private Company Information - Bloomberg](#)

a distribution center only, and eliminate a frequently cited, but erroneous, justification for not shutting down Line 5.

- 3) A new pipeline could be built to transfer propane from Superior to Rapid River. This line would be relatively small (per Dynamic Risk¹⁷, 4 inches in diameter). It could follow the existing route of Line 5, thus alleviating right of way concerns.
- 4) Besides a pipeline, other means of transporting propane from Superior, Wisconsin, to the Upper Peninsula are readily available:
 - a. Transport of propane by tank truck. In a joint study by Beth Wallace, a staff member of the National Wildlife Federation, and Gary Street, it was determined that 3-4 tank trucks per day could transport the entire amount of propane now being supplied by Rapid River¹⁸.
 - b. The same study found that 1 rail car¹⁹ per day could also do the job.²⁰
- 5) As mentioned earlier, propane is currently shipped by rail from Alberta to a storage and distribution facility owned by Plains All American at Kincheloe, Michigan. Shutting down Line 5 would have no impact on this facility as it does not utilize Line 5.

¹⁷ Dynamic Risk, **Alternatives Analysis for the Straits Pipelines**, Doc. no.:SOM-2017-01-RPT-001 Project no.:SOM-2017-01 Rev. no.: 2, Appendix K.4.1.

¹⁸ Per Wikipedia, large tank trucks may have a volume of up to 11,600 U.S. gallons.

https://en.wikipedia.org/wiki/Tank_truck

¹⁹ Per Wikipedia, rail tank cars have a maximum capacity of 34,500 U.S. gallons.

https://en.wikipedia.org/wiki/DOT-111_tank_car

²⁰ An active rail line is within a few miles of the Plains All American Rapid River processing plant. Connecting the rail line to the plant would provide a reliable delivery system. Extension of the rail line would be far less expensive than building a tunnel under the Straits of Mackinac.

Figure 1



Plains All American Depropanizer, Storage and Truck Loading at Rapid River, MI

Since Enbridge supplies 45-50% of the Propane to the
Upper Peninsula - this means that -----

Only 1.8 % of the Propane in Line 5 is extracted at Rapid River

Line 5 from Superior
1.29 MM gpd propane

Rapid River

Sarnia
1.26 MM gpd propane
98.2% goes to Sarnia

The Dakota Access Pipeline is the Best Way to Move Bakken Crude Oil to Market.

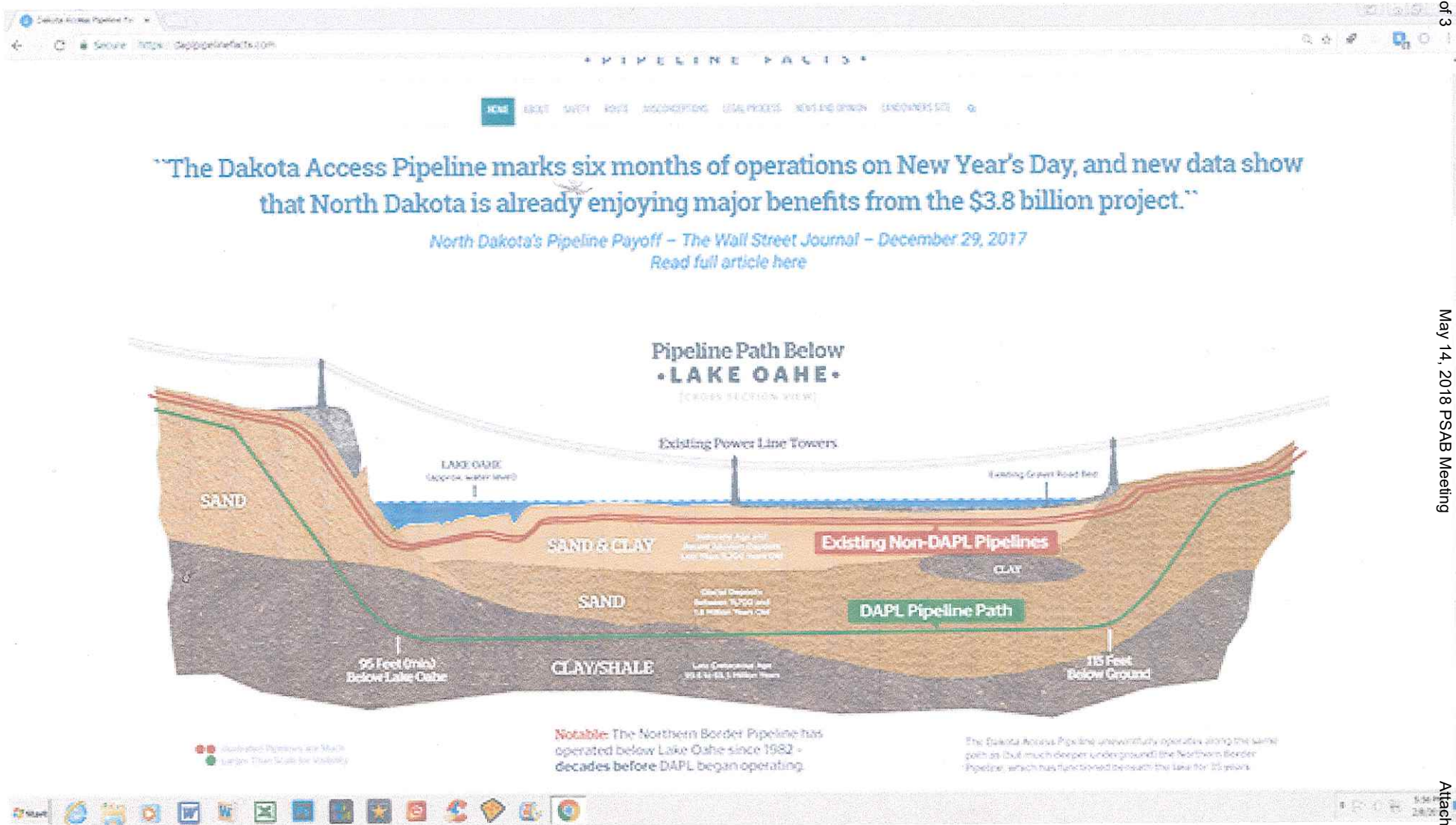
The Dakota Access Pipeline (DAPL) is the safest and most environmentally sensitive way to transport crude oil from domestic wells to American consumers. It is the result of an extensive process that involved review and approval by the U.S. Army Corps of Engineers and regulators in North Dakota, South Dakota, Iowa, and Illinois. It will be among the safest, most technologically advanced pipelines in the world.

This \$3.8 billion project crosses almost entirely private land, often already in use for other utility easements. The Dakota Access Pipeline does **not** cross the Standing Rock Sioux reservation, even at the portion of the pipeline that is the subject of dispute at Lake Oahe. In developing the route, the United States Army Corps of Engineers had hundreds of contacts with dozens of tribes regarding the Dakota Access project. In addition, the U.S. Army Corps reached out to the Standing Rock Sioux Tribe nearly a dozen times to discuss archaeological and other surveys conducted before finalizing the Dakota Access route.

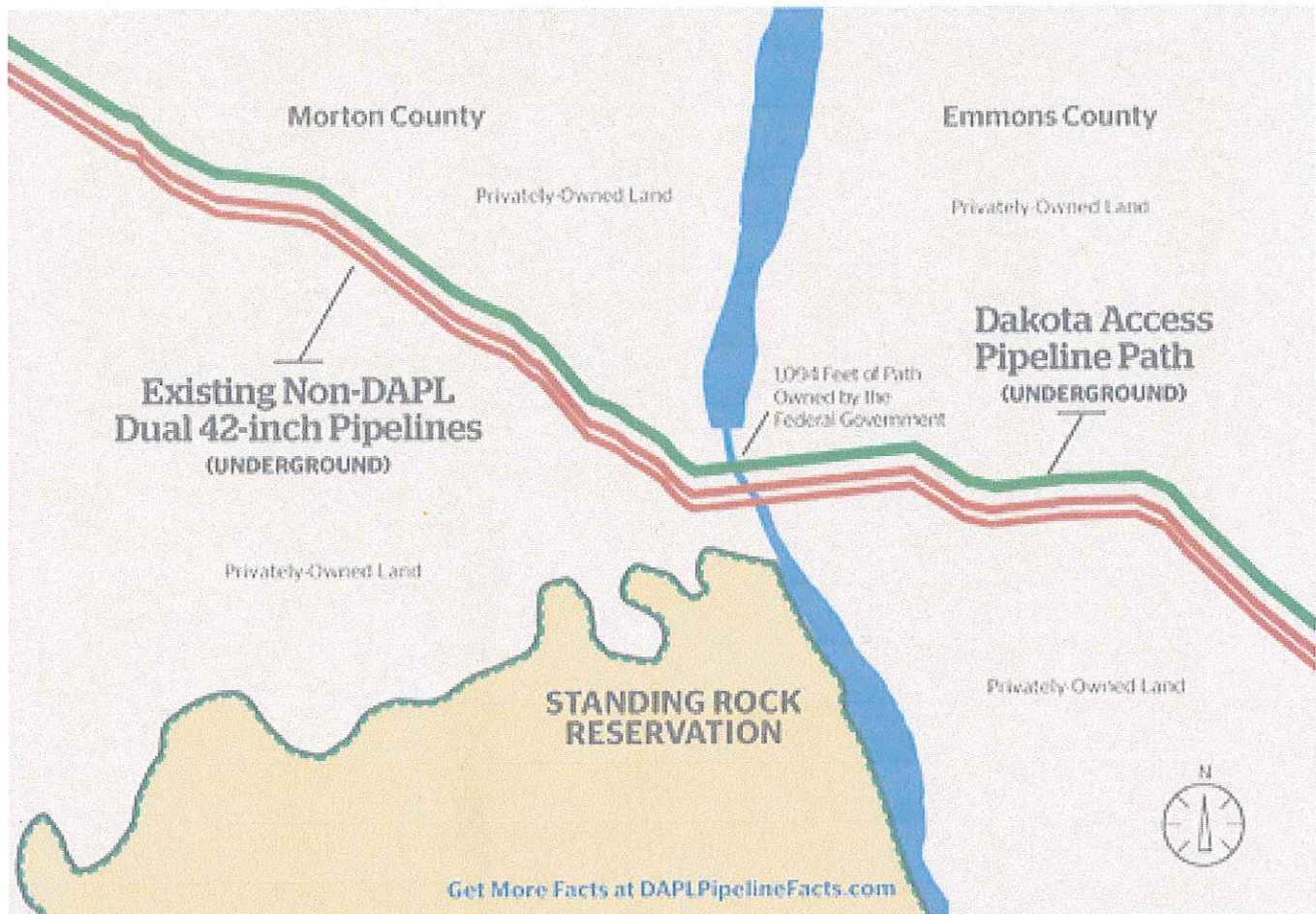
Notably, the Dakota Access Pipeline uneventfully operates along the same path as (but much deeper underground) the Northern Border Pipeline, which has functioned safely beneath the lake for 35 years.

Key Facts

- ✔ The entire Dakota Access Pipeline is buried underground.
- ✔ The Dakota Access Pipeline does not cross Standing Rock Sioux reservation land.
- ✔ Another pipeline, the Northern Border Pipeline, has safely operated beneath Lake Oahe since 1982. DAPL follows the same route as Northern Border, but is much deeper below the bottom of the lake.
- ✔ Pipelines like Dakota Access are proven to be safer than rail or truck transportation of crude.
- ✔ The Dakota Access Pipeline can eliminate up to 500-740 rail cars, and/or 250+ trucks needed to transport crude *every day*.
- ✔ The water source for Standing Rock Sioux will be over 70 miles from the pipeline by early 2017.



The Dakota Access Pipeline is **Not** on Standing Rock Sioux Land



The Dakota Access Pipeline is virtually entirely underground. As you see from this map, it does not cross any land belonging to the Standing Rock Sioux.

We have great respect for the concerns of the Standing Rock Sioux Tribe and plan to continue to work with their leaders to address those concerns. Recently, their interests have been overtaken by politically-motivated, anti-fossil fuel protesters who are using this issue as a cover for their often violent and extremist efforts to cause disruption. Their actions deny private property rights and freedoms to the landowners who are near and adjacent to the Standing Rock Reservation and deny American citizens and businesses the energy they need to produce jobs and build a vital and healthy economy. The behavior by some of these extremist organizations is not only criminal but dangerous to themselves and others, and we join with law enforcement and others in asking them to obey the rule of law.

We will continue to defend the rights we have been granted through proper and legal venues, and the rights of Americans to reduce foreign dependence on fossil fuels to power our economy and warm our homes.

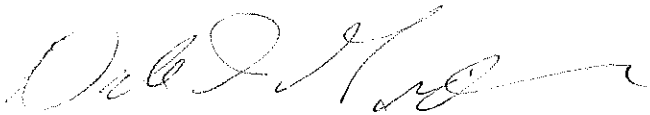
26 February 2018

As this charade slowly plays itself out, it is important not to lose sight of the basics:

Neither Line 5 nor the cargo pumped through it is vital to Michigan's economy. While we derive some benefit from it, we can get along without it.

Our waters, on the other hand, are ABSOLUTELY vital to our economy, our health, and our general wellbeing. Water always has been and always will be more valuable than oil. So it makes no sense to jeopardize something that is essential to our existence for the sake of something that isn't.

In the years since this issue first surfaced, many people have raised their voices calling for the decommissioning of Line 5. Some have come with well researched data, others spoke with eloquence, many gave a simple cry from the heart. After all this, I am left to conclude that a couple of people here in Lansing have dead batteries in their hearing aids. Is it time for some new batteries or some new people, or both?



Dale I. Giddings
PO Box 336
Wolverine, Michigan 49799
231 525-8874

Our beautiful Great Lakes

- **Contain 20% of the world's fresh surface water**
- **Contain 84% of the surface water in North America**
- Contains 6 quadmillion gallons of fresh water

And this fresh water supply is at great risk due to Enbridge's 65 year old oil pipeline that pumps 23 million gallons of oil every day through Line 5 that runs across the upper peninsula, through the Straits of Mackinac (*in the water* under the Mackinac Bridge) and down to the lower peninsula.

This is a disaster waiting to happen ... one that could harm our economy, our environment and our health beyond repair.

We are being told that this pipeline is safe. This is coming from the same people in the state government who told us the water in Flint was safe. This is coming from Enbridge, who in July 2010 was responsible for the largest inland oil pipeline disaster in the US history, that took place in Kalamazoo, MI. In July 2010, Enbridge's 30 inch pipeline (line 6B) had a 6 foot ruptured and dumped over a million gallons of heavy crude oil into the Talmadge Creek, which flows into the Kalamazoo River.... resulting in 39 miles of the Kalamazoo River being polluted with this heavy crude oil.

As of June 2015, Federal officials have still not determined whether Enbridge acted negligently when it operated the pipeline. *However, internal Enbridge reports confirmed the 42 year old pipeline had hundreds of corrosion defects in the years before the spill that Enbridge was attempting to repair.*

The government can create rules and regulations for safety. The government can fine these corporations huge sums of money for not following safety standards ... but that has not resulted in improved business practices. Case in point, BP has a long, extensive history of being fined by the US government, but they just continue on, business as usual because the fines apparently do not really hurt their bottom line profits.

* Here is a perfect example: In 2005 BP vowed to address safety shortfalls that caused their Texas City refinery to blow up and kill 15 people. In 2007, BP paid \$370 million in fines for a series of criminal charges, including some related to the 2005 explosion. But in 2009 the Occupational Safety and Health Administration found more than 700 violations at that same BP Texas Refinery.

The risk is too high Enbridge and the State of MI, are playing Russian Roulette with our Great Lakes.
We cannot trust Enbridge, who chose to ignore the fact that their 42 year old pipeline near Marshall, MI, had hundreds of corrosion defects and were willing to risk it rupturing, to be honest with us about the ~~65~~ year old pipeline that lays under the water in the Straits of Mackinac to be safe.

We need to push the State of Michigan to act as the "public trustee" and shut down the 65 year old pipeline and eliminate the risk of having a catastrophic oil spill in Lake Michigan and Lake Huron.

I'd like to speak about the Alternatives Report. Generally, when you create an engineering document you START by collecting data, you analyze the data and based on FACTS you come to a conclusion. It seems to me that in this case they started with a conclusion and modeled the data to support the pre-determined conclusion.

This report is an embarrassment to the engineering community. It skipped a number of viable alternatives and inserted others that support a pre-determined agenda. It is misleading and incomplete. I hope you will keep these facts in mind as you move forward.

Thank you,

Vincent Lumetta, SACCPJE

SACCPJE PRESENTATION OF 2/26/18
MICHIGAN PIPELINE SAFETY ADVISORY BOARD MEETING

PURPOSE OF PSAB IS TO PRESENT ITS RECOMMENDATIONS TO THE STATE CONCERNING LINE 5 BEFORE THE YEAR IS OUT . YOUR RECOMMENDATIONS WERE TO BE BASED ON INDEPENDENT ALTERNATIVE AND RISK ANALYSIS REPORTS.

PROBLEM = RISK ANALYSIS REPORT IS NOT COMPLETED AND FINAL REPORT IS BOTH BIASED AND DEEPLY FLAWED

REQUEST - TAKE SOME ACTION ON THE REVISED ALTERNATIVE ANALYSIS TO INDICATE THAT THE PSAB CANNOT RELY ON THE REPORT.AND WILL NOT USE IT FOR ITS RECOMMENDATIONS. SPECIFICALLY, THE PSAB SHOULD ADOPT RECOMMENDATION 1 OF DR. ED TIMM'S TECHNICAL REPORT DATED DECEMBER 7, 2017 - reject the Dynamic Risk Alternative Report of October, 26, 2017.

THE TIMM REPORT OF LAST DECEMBER UTTERLY TRASHES THE ALLEGED PROFESSIONALISM OF DYNAMIC RISK. THAT FINAL REPORT IMPROPERLY DODGED OR IGNORED DOZENS OF POINTED AND DETAILED CRITICISMS OF ITS JUNE DRAFT.

THIS MATTER MAY BE DESTINED FOR COURT, THE PSAB MUST MAKE IT PUBLICLY CLEAR THAT THE FINAL ALTERNATIVE STUDY OF DYNAMIC RISK IS NOT MUCH BETTER THAN JUNK SCIENCE WITHIN A SMOKE SCREEN OF ENGINEERING JARGON.

WE UNDERSTAND THIS MEANS A YOU MAY NOT BE ABLE TO COMPLETE YOUR MISSION. BUT THAT PRICE IS BETTER THAN ANY RECOMMENDATIONS BASED ON CLEARLY FLAWED ALTERNATIVE REPORT.

THE PSAB CAN REJECT THE REPORT FOR THE SIMPLE REASON THAT DYNAMIC RISK CLEARLY FAILED TO FULFILL ITS CONTRACTUAL OBLIGATION OUTLINED IN THE STATE'S REQUEST FOR FOR PROPOSAL. YOU DO NOT HAVE TO LIST ALL ITS.ERRONEOUS ASSUMPTIONS, CLEAR BIAS, AND JUNK ENGINEERING.

WE DO NOT HAVE THE TIME TO DAY TO LIST ALL THE FLAWS IN THE DYNAMIC RISK REPORTS - BUT ANOTHER MEMBER OF THE SACCPJE WILL NOW GIVE YOU SOME HIGHLIGHTS:

IN CLOSING, I AGAIN REMIND YOU THAT IT IS TIME FOR EACH OF YOU TO REFLECT ON THE LEGACY THIS PANEL WANTS TO LEAVE FOR THE PEOPLE OF MICHIGAN. YOU HAVE WORKED HARD AND WE APPRECIATE IT. BUT DO NOT LEAVE THE DYNAMIC RISK MILLSTONE AROUND OUR NECKS TO DROWN US IN OIL IN OUR BELOVED STRAITS OF MACKINAC.

TALKING POINTS - SACCPJE
PSAB MEETING OF 10/26
FLAWS IN THE DYNAMIC RISK ALTERNATIVE REPORT

THIS IS AN ABBREVIATED LIST OF THE MORE OBVIOUS PROBLEMS WITH THE REPORT OF OCT. 26, 2017 THAT WE ARE ASKING THE PSAB TO CLEARLY REJECT.

1. IT FAILS TO STUDY THE EXISTING OIL PIPELINE SYSTEM AND ITS AVAILABILITY.
 2. IT ASSUMES THE STATE OF MICHIGAN IS SOMEHOW OBLIGATED TO FIND A WAY TO DELIVER MORE THAN 22 MILLION GALLONS OF CRUDE TO SARNIA EACH DAY. MICHIGAN OWES ENBRIDGE NOTHING.
 3. IT USES ABSURD COST ESTIMATES BOTH FOR THE TOTAL ECONOMIC COSTS OF A SPILL (147 - 310 MILLION) AND THE COST OF A NEW TUNNEL
 4. IT ASSUMES A WORST CASE SPILL AS SOMETHING CALLED –A “REASONABLE” WORST CASE SPILL - A CLASSIC OXYMORON.
- 5 It neglects to provide the State with an independent, fair analysis of the alternatives to Line 5 as required by the Task Force Report. This final report remains biased toward allowing Line 5 to continue to operate in the Straits of Mackinac and further expand its operations. That bias grows out of past, and potentially future, business relationships between Enbridge and the report’s authors.
- 6 It fails to analyze new evidence disclosed by Enbridge affecting the pipeline’s integrity, including external corrosion, 48 bare metal spots caused by the installation of screw anchors, compromised cathodic protection, and historic excessive pipeline spans greater than the 75-foot limit (including a 286-foot span that was unsupported for years), as required by the legal operating agreement with the State of Michigan.
7. It overestimates Line 5’s impact on propane supply, greatly exceeding what independent experts have determined would be necessary to provide the Upper Peninsula’s Rapid River facility.
8. It fails to consider the risk of a spill to the Great Lakes basin, its wetlands, rivers and streams from other portions of the 64-year-old pipeline if the Straits portion were rebuilt.
- .

* Thank you for this opportunity

name - Jaynan Montague
husband & live in Marshall
we used on Talmadge Creek -
to use

directly impacted by 2010 oil spill

Found list last night entitled
what Enbridge took from us dated 9-3-2010

I will read the list

Enbridge took home - built by husband the first
year we were married -
raised family there

took sense of security -

Privacy - they invaded our privacy

Time - all of the details of moving

- The ability to freely move about
our own property

Quote - "you can't be here without a hard hat,
and I am not giving you mine"

issues lack of maintenance & human error

they were aware the line needed repairs
5 yrs. prior to the spill.

human error - ignored the alarms

Risk is to ^{severely} large

Enbridge forever changed my corner of
the world.

The Great Lakes are an ^{irreplaceable} treasure
that is

A spill under the Straits would be
catastrophic.



February 26, 2018

To: The Michigan Pipeline Safety Advisory Board
From: Anne Woiwode, Michigan Chapter chair

Thirteen weeks ago, Governor Snyder and Enbridge announced the privately negotiated "Agreement Between the State of Michigan and Enbridge Energy on Line 5 in Michigan." At the December meeting of the MPSAB, held two weeks after this backroom deal was announced, we raised concerns about this full agreement, in particular Stipulation 1.B, "Replacement of Line 5 St. Clair River Crossing" with explicit requirement to use horizontal directional drilling (HDD). Prior this deal being announced, no discussion about the St. Clair River crossing had been undertaken by this Board, even though Governor Snyder's mandate to this full Board made it clear it should have been brought to you for advice.

Since that time, no additional information has been made publicly available by either Enbridge or the state of Michigan regarding this stipulation, despite the Governor's claim that one goal of this deal was to improve transparency. Today, we urgently request the MPSAB and the constituent agencies that make up this Board to publicly disclose and to require disclosure of all of the actions being undertaken by Enbridge under this provision.

The agreement specifies two deadlines for action by Enbridge that are of most concern:

- "By December 31, 2017, Enbridge will request pre-application consultations with the US regulatory agencies for which such pre-application consultations are necessary regarding the contents and requirements for the US authorizations and approvals for the replacement of the St. Clair River Crossing. Enbridge will report to the State the status of Enbridge's efforts to prepare applications for the US authorizations and approvals following completion of pre-application consultations."
- "By February 28, 2018, Enbridge will file applications to seek all permits issued by the State of Michigan and by any of its political subdivisions necessary for the replacement of the St. Clair River Crossing, excluding those State of Michigan applications that are filed jointly with US federal agencies including but not limited to the U.S. Army Corps of Engineers."

We request that Enbridge and the state immediately disclose the following information:

1. What "US regulatory agencies" has Enbridge consulted with and when?
2. What "contents and requirements for the US authorizations and approvals for the replacement of the St. Clair River Crossing" have been identified?
3. Who in the state government has been notified about these consultations and when were they notified ("Enbridge will report to the State the status of Enbridge's efforts to prepare applications for the US authorizations and approvals following completion of the pre-application consultations")? We ask that all correspondence regarding the reporting to the State be disclosed without a need for freedom of information requests, in keeping with Governor Snyder's claim that this deal was struck in part to lead to greater transparency.
4. What state permits and approvals are required if the replacement of Line 5 across the St. Clair River is to happen? What is the status of those requests? What public notice and hearings process will be used for those approvals?



5. HDD used in construction of the Energy Transfer Rover pipeline under waterways in Ohio has led to severe pollution, including leading the Ohio Environmental Protection Agency (OEPA) to cite Rover for spilling drilling fluids, and to Federal Energy Regulatory Commission (FERC) to direct ET to suspend its construction. Why did the Governor not require consideration of alternatives to HDD given the recent and serious environmental problems caused in our region using this technique?
6. What "political subdivisions" will require permits or approvals for this crossing? We request that Enbridge or the State fully disclose all of the approvals that will be required for this crossing.
7. The deal requires "Evaluation of Underwater Technologies to Enhance Leak Detection and Technologies to Assess Coating Condition of the Dual Pipelines" and "Evaluation and Implementation of Measures to Mitigate Potential Vessel Anchor Strike" specifically for the Straits of Mackinac crossing. Given the tremendous danger posed by the potential that Enbridge Line 5 or Line 6B in the St. Clair River were to either leak or break from an anchor strike, why are these not also covered by the agreement between Enbridge and the state?

We ask that the answers to these questions be provided quickly and that the DEQ, MAE or other relevant agencies not wait until the next MPSAB meeting to respond.

From: [Joanna Learner](#)
To: webmaster-corp@enbridge.com
Cc: [Sean McBrearty](#); [Oil & Water Don't Mix](#); [MiPetroleumPipelines](#); [Jamie McCarthy](#); [Celia Haven](#); [Kathleen Doyle](#); kristy@watershedcouncil.org; [Senator Debbie Stabenow](#); [Liz Kirkwood](#); [David Holtz](#); [Beth Wallace](#); gahentz@aol.com; [David Karowe](#); [Veroneze Strader](#); [Josh Haas](#); [Susan Callahan](#); sangel@lsj.com; akelley@battlecreekenquirer.com; [Shelly Sulser](#); [Virginia Johnson](#); [Rebecca Learner](#); [Neal Learner](#)
Subject: Line 5, CONCERNS
Date: Friday, March 09, 2018 8:33:54 AM

March 9, 2018

Enbridge Inc.
Calgary, Corporate Head Office

Dear Enbridge Inc:

I live on the banks of the Kalamazoo River in Battle Creek and would like to share my appreciation for the conscientious and thorough manner in which the Enbridge Company has cleaned the river following the July 25, 2010 oil spill. I have new concerns, however, regarding Line 5 under the Mackinaw Straits.

I have read that there are huge water currents that move through the Straits from Lake Michigan to Lake Huron; many times stronger than Niagara Falls. These were apparently not known about or anticipated when Line 5 was originally placed across the Straits in 1953. These currents also increase when the level of Lake Michigan rises. The flooding and record breaking rains currently affecting Michigan rivers must be raising the lake to record levels. Record breaking currents will follow. The Line 5 pipes must be under incredible and ferocious stress with resulting motion in the pipes and pipe support structures undercut by erosion. Are these forces being monitored? Do you think that the currents are reaching emergency levels? Should the Line 5 oil flow be shut down, at least temporarily, because of this?

My second concern is a phenomenon called 'isostatic rebound' described in Monday's newspaper, BATTLECREEKENQUIRER.COM, March 5, 2018, p.5A, by Keith Matheny, Detroit Free Press, USA TODAY NETWORK. A new study shows that bedrock under northern Michigan is still rising after being pressed down by the weight of glaciers that melted some 10,000 years ago. This motion is called 'isostatic rebound'. I understand that there is discussion about replacing the present Line 5 with a new pipe that would be placed in a tunnel cut into the bedrock under the Straits of Mackinaw. Is this correct? Isostatic rebound would be a strong reason for NOT doing this.

Your consideration of these concerns is greatly appreciated. Also, I'm attaching an updated copy of a poem I wrote about a year ago, 'Calling Enbridge 1765', Please Answer.' You might find this interesting.

Thank you,

Bob Learner
3580 Kalamazoo Ave.
Battle Creek, MI 49037

njlearner@comcast.net

269-965-8693

17 Hours, 65 Years
CALLING ENBRIDGE 1765*
PLEASE ANSWER

Robert Learner

Calling Enbridge 1765, Calling Enbridge 1765
Please Answer

17 hours, a ruptured pipe,
One million gallons, into the night,
Talmadge Creek - Kalamazoo River,
Tar sand oil, running forever.
17 hours, a rusted break,
From Marshall, Ceresco, Battle Creek.
Heavy diluted bitumen crude,
Augusta, Galesburg, Morrow Lake too.
Calling Enbridge 1765, Calling Enbridge 1765,
Where are you?
17 hours,
No Answer.

Calling Enbridge 1765, Calling Enbridge 1765
Please Answer

65 years for Line No. 5,
Two twenty inch pipes with a 50 year life.
Lake Huron, Lake Michigan, great fresh water lakes,
Five miles across in the Mackinac Straits.
65 years, two old oil pipes,
23 million gallons running day and all night.
Niagara force currents, times that by ten,
Lake bed washed out, gone is the sand.
Calling Enbridge 1765, Calling Enbridge 1765
Please Answer

Four anchor supports, broken free by the flow,
Two old oil pipes, supported no more.
Zebra / quagga mussels hold on,
New acid waste, new weight by the ton.
65 years, two stressed-out old pipes,
Nine rusty spots on the eastern Straits side.
Glass fiber coating, in places torn,
Metal fatigue, the most feared rupture born.
Calling Enbridge 1765, Calling Enbridge 1765
Where are you?
65 years,
No Answer

Calling Enbridge 1765, Calling Enbridge 1765

Please Answer

Five beautiful lakes, a great glacial gift,
Fresh water for millions, forever so blessed.
Pure Michigan treasure, foundation for life,
A wonderful resource, a shared human right.
High winds, high waves, strong currents and ice,
A dynamic ecosystem, supporting all life.
Two tired old pipes, 100 - 200 - 300 feet deep,
With the importance of water, they can never compete.

So flush out the pipes, turn off the pumps,
Shutdown Line 5, we need to be blunt.
20%, all surface fresh water on Earth,
Must remain safe, on this planet of our birth.
Calling Enbridge 1765, Calling Enbridge 1765
Please Answer

© Robert Learner

* The number, Enbridge 1765, is a combination of the 17 hour delay in shutting down the oil in Line 6b when it ruptured in 2010 and the current 65 year age of the Line 5 pipe in the Mackinac Straits. The number is designed to be raised yearly as the pipe ages or until it breaks or is shut down

From: [Joanna Learner](#)
To: [Lara Hamsher](#)
Cc: [Sean McBrearty](#); [Oil & Water Don't Mix](#); [MiPetroleumPipelines](#); [Jamie McCarthy](#); [Celia Haven](#); [Liz Kirkwood](#); [David Holtz](#); [Beth Wallace](#); [David Karowe](#); [Rebecca Learner](#); [Neal Learner](#); [Sweatman, Mark \(DNR\)](#)
Subject: Line 5, Questions
Date: Monday, March 19, 2018 7:46:32 PM

March 18, 2018

Lara Hamsher Lara.Hamsher@enbridge.com
Community Engagement Advisor, Great Lakes Region
ENBRIDGE
222 Indianapolis Blvd., Suite 100
Schererville, IN 46375

Dear Ms. Hamsher:

Thank you for your thoughtful response to my March 9, Line 5, CONCERNS e-mail. I am impressed by the safety steps taken by Enbridge and also by the vital contribution that Enbridge makes to the economy and well being of the state of Michigan.

I still have concerns, however, regarding the strong currents that I have read about under the Straits of Mackinaw. I understand that all of Lake Michigan is draining at this narrow point into Lake Huron. When the level of Lake Michigan rises the currents reach tremendous speeds. One source describes the force as twenty times greater than Niagara Falls.

Recent record breaking rains and flooding in southern Michigan must be raising the Lake to record levels. With a Lake depth at the Straits of 270 feet, the Line 5 pipes must be in constant motion resisting this force. According to what I have read, a phenomenon called metal fatigue can cause an instant break, not detectable by pressure tests or prior examination. At 65 years in age these pipes could be in great danger of rupture. Just as you now temporarily shut down Line 5 at the Straits when sustained surface waves reach higher than 8 feet, could water current forces be measured or estimated for a comparable temporary shut down?

My other concern is isostatic rebound. This is described in the [BATTLECREEKENQUIRER.COM](#), March 5, 2018, p.5A article by Keith Matheny, Detroit Free Press, USA Today NETWORK. In a separate article I read that the favored option for replacing the present Line 5 will be an oil pipe placed in a tunnel cut under the Straits. Isostatic rebound of the rocks under the Straits is reported to presently occur at a rate of one foot per 100 years (6 inches/50 years; 3 inches/25 years). Do we know how this rock movement would effect a pipe in a tunnel? Would a long tunnel alter the rebound effect? Would bed rock cracking allow water into the tunnel? Does boring into the rock give us these answers? Can we risk possible Great Lakes contamination from this rebound?

Your consideration of these questions and concerns is greatly appreciated.

Sincerely,

Bob Learner

3580 Kalamazoo Ave.
Battle Creek, MI 49037

Tele: 269-965-8693

E-mail: rjlearner@comcast.net

PIPELINE SAFETY ADVISORY BOARD



DEQ Director
Heidi Grether

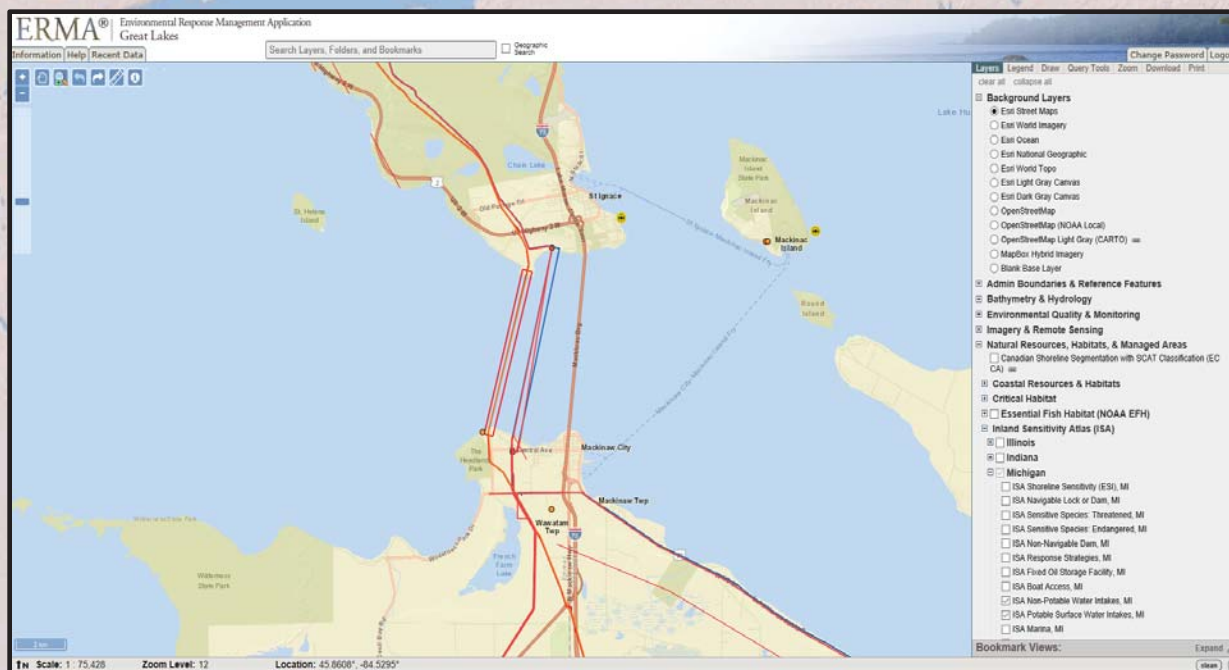
DNR Director
Keith Creagh

Proposed 2018 Meeting Dates

Date	Time	Location
May 14, 2018	1:30 – 3:30 PM	Location: TBA
August 13, 2018	1:30 – 3:30 PM	Location: TBA
October 15, 2018	1:30 – 3:30 PM	Location: TBA
December 10, 2018	1:30 – 3:30 PM	Location: TBA

Point LaBarbe/McGulpin Point Response April 2 – May 8, 2018

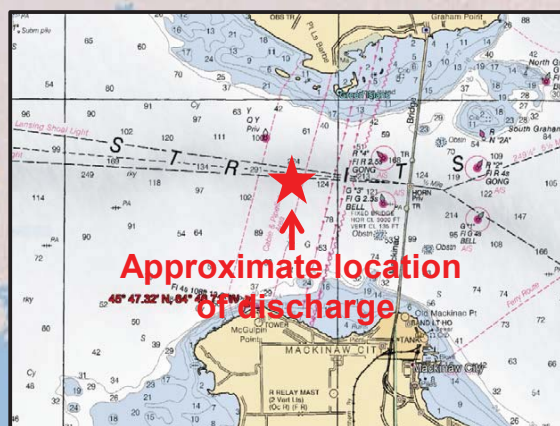
Michigan Pipeline Safety Advisory Board Meeting – May 14, 2018



Jerry Popiel • Incident Management & Preparedness Advisor • Ninth Coast Guard District • 216-902-6112

Summary of incident

- On April 2, 2018, a release of approx. 600 gallons of dielectric fluid was reported in Straits of Mackinac
- Dielectric fluid is a liquid (typically mineral oil) used as electrical insulator in high-voltage cables to suppress arcing & serve as coolant
- Source determined to be American Transmission Company (ATC) utility cables, approx. 11,000-12,000 feet offshore at depth of approx. 270'
- Spill response initiated April 2 in accordance with Northern Michigan Area Contingency Plan, USCG Sector Sault Ste. Marie serving as Federal On Scene Coordinator (FOSC)



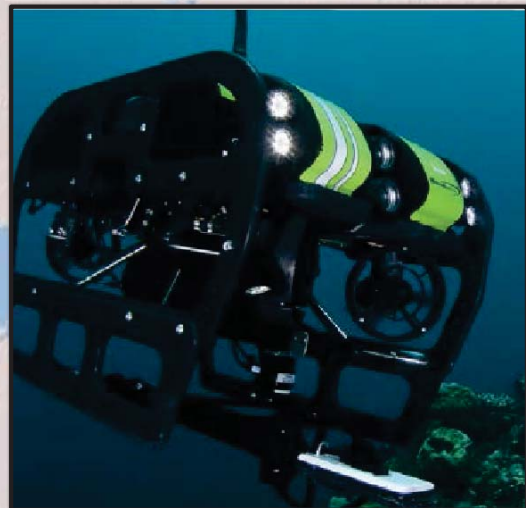
Summary of incident

- Unified command established April 3: USCG, Michigan Department of Environmental Quality (MI DEQ), ATC, tribal representatives.
- Partners engaged: TransCanada, Enbridge, Consumers Energy, Pipeline & Hazardous Materials Safety Administration (PHMSA), NOAA Scientific Support Coordinator, US Fish & Wildlife, USDA, US EPA, et. al.
- Contracted oil spill removal organizations (OSRO) arrived & commenced response. Removal of residual fluid from lines took several weeks due to length of cables vs. diameter, arrival of specialized equipment
- Residual product removal from ATC cables completed April 29. Cables capped.



Summary of incident

- Multiple underwater assessments conducted via remotely operated vehicles (ROV)
- Enbridge reported three dents to pipeline, no product release reported
- TransCanada assessed their pipeline and found no damage
- Consumers Energy reported damage to permanently deactivated (“retired in place”) cables. No free-flowing fluid contained in lines
- Consumers Energy cables successfully capped & stabilized
- Spill response for LaBarbe/McGulpin concluded May 8



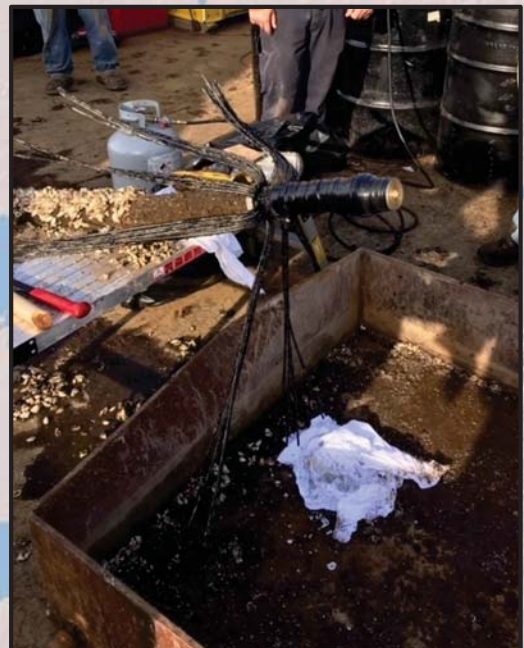
Summary of incident

- Cooperative effort resulted in response personnel completing removal of all residual product and capping of cables. Concrete mats were placed to stabilize remaining cables
- Final/actual spill quantity released was assessed as Coastal-Minor (less than 1,000 gallons)
- Assessments conducted on wildlife, habitat & environmental impacts from spill, deemed minimal



Investigation of cause

- Commercial vessel activity reported as possible cause of damage. USCG & NTSB investigations commenced
- NOAA Chart 14881: *“CAUTION – SUBMARINE PIPELINES AND CABLES. Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist and when anchoring, dragging or trawling.”*



Way Ahead

- USCG and National Transportation Safety Board (NTSB) continue investigations into vessel activity that may have caused damaged to cables.
- **Details pend completion of investigation. Results of investigation will be made public once it is completed**

Noteworthy training coming up:

- NOAA's Shoreline Cleanup and Assessment Technique (SCAT) scheduled for August 7-9 in Mackinac City, Michigan, for multi-agency participants



Oil Spill Response Option: In-Situ Burning (ISB)

Michigan Pipeline Safety Advisory Board Meeting – May 14, 2018



Jerry Popiel • Incident Management & Preparedness Advisor • Ninth Coast Guard District • 216-902-6112

In-Situ Burning (ISB)

- **What is ISB?** ISB is the combustion of hydrocarbon vapors from spilled oil which are converted predominantly to carbon dioxide and water and released to the atmosphere
- **Why use ISB?** As just one response option of many, ISB quickly & significantly reduces spilled oil, preventing longer environmental exposure times & effects on natural resources & habitats
- **Why are we discussing it here?** It could be a viable option for a spill in the Straits. Use of ISB as a response option must be approved on a case-by-case basis. In every instance, concurrence from the affected state(s) must be obtained. Each state's procedures are different – in Michigan, governor's emergency declaration is required



ISB Advantages vs. Disadvantages

Major Advantages and Disadvantages of ISB	
Advantages	Disadvantages
Allows rapid removal of oil and more complete removal from difficult to access locations; may be less damaging to the environment than other removal options.	Creates a smoke plume.
Typically requires fewer response resources than most other techniques.	Requires minimum oil thickness to burn, so may require containment.
Minimizes the amount of waste for handling and disposal.	Fire may be difficult to control.
Significantly reduces volatile emissions, and reduces response worker and wildlife exposure to emissions.	Residues may contaminate soils or sediments.
Can be used in many situations: on land, shorelines, on snow, on ice, etc.	

Source: API Field Operations Guide for ISB, Technical Report 1251

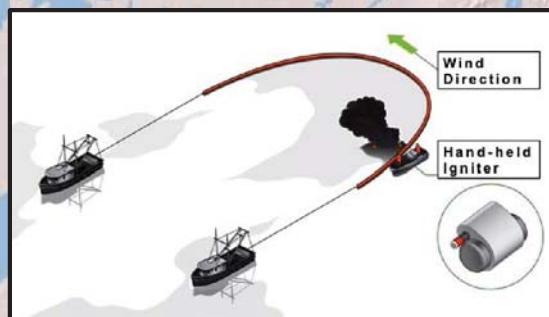
When is ISB likely to be successful?

General Precautions and Preferred Conditions

- **Winds**—<18 knots (21 mph or 34 km/hr) for ignition; sustained burning possible with higher wind conditions.
- **Wave Height**—less than 3-m swells or 1-m wind waves (may be higher with fresh and un-emulsified oil).
- **Oil**—at least 2 to 3 mm thick (2 to 3 times thicker for highly weathered/emulsified oil).
- **Emulsification**—typically less than 25% water content (can vary for different types of oil).
- **Current**—typically < 0.75 to 1 knot relative velocity between the fire boom and the surface oil/water to avoid entrainment of oil.
- **Ice**—ice cakes and floes with < 10% to 20% coverage. Greater concentrations can interfere with booming operations, filling the collection area and/or damaging booms. Ice can, however, provide natural containment for ISB depending upon the nature and concentration of the ice.

The decision to pursue and conduct an on-water burn should take into account the feasibility and appropriateness of ISB. Checklists are provided in this Guide to help address issues involving:

- nature and distribution of spilled oil;
- size and condition of the spill source (a batch or continuous release);
- potential for accidental ignition of the source or other facilities nearby;
- environmental conditions which might preclude a successful ignition and sustained burning, etc.

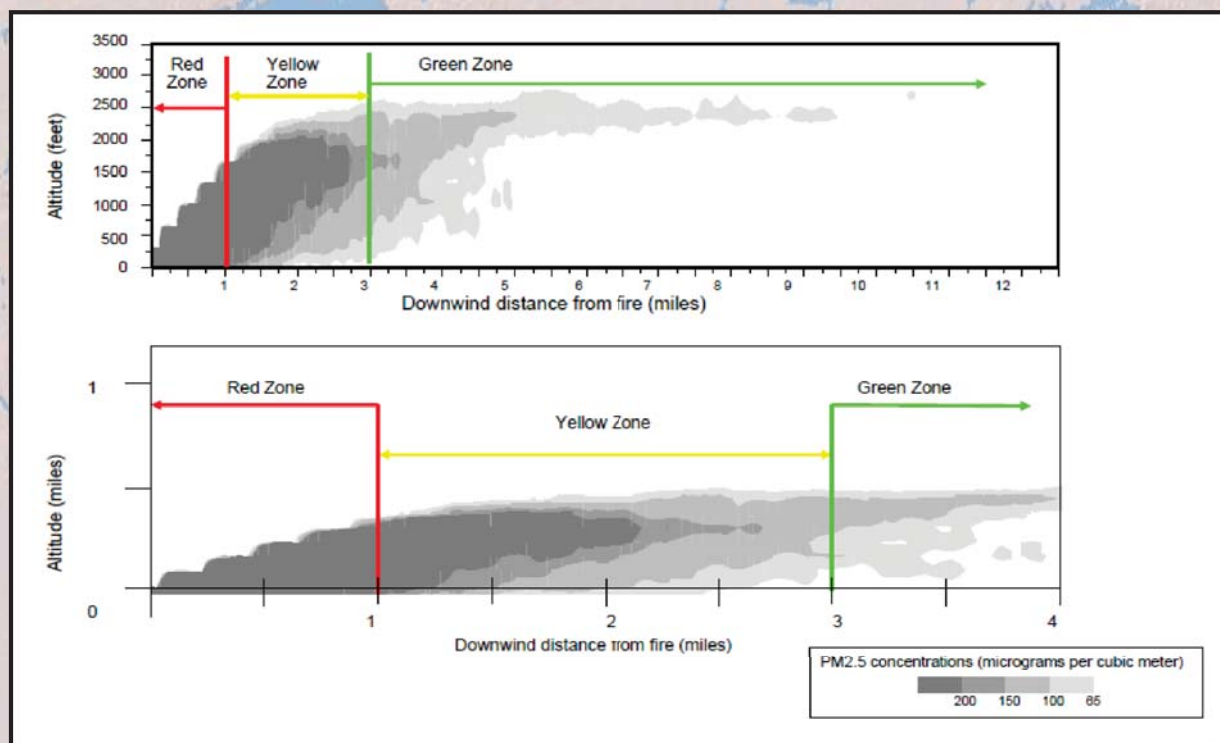


Source: API Field Operations Guide for ISB, Technical Report 1252

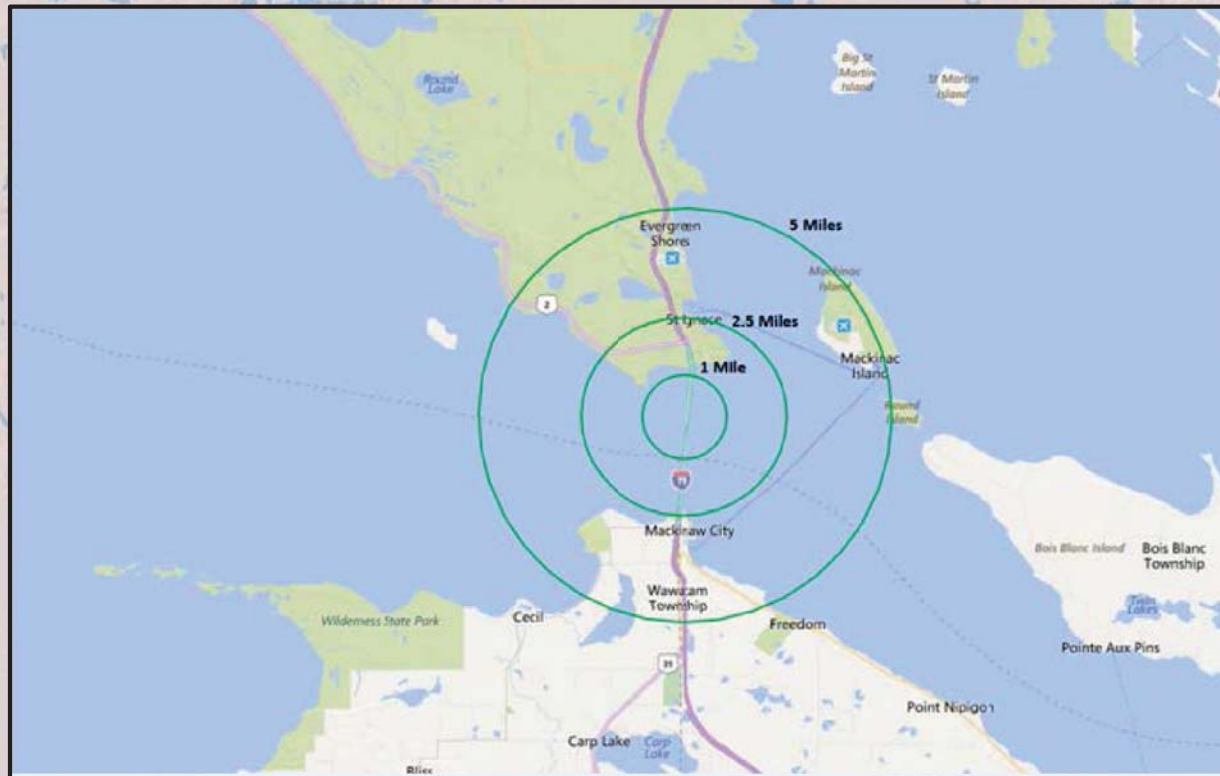
ISB Effectiveness

	Light crude		Heavy Crude		Bunker C	
	Hours to clean	tons/hour	Hours to clean	tons/hour	Hours to clean	tons/hour
Brush Drum Skimmer	7.5	8	30	2	75	1
Large Weir Skimmer	1.5	40	0.9	71	18	4
Dispersants	0.2	75	0.2	47	0.2	10
In-situ Burning	0.2	356	0.3	238	0.3	238

Plume modeling & impacts

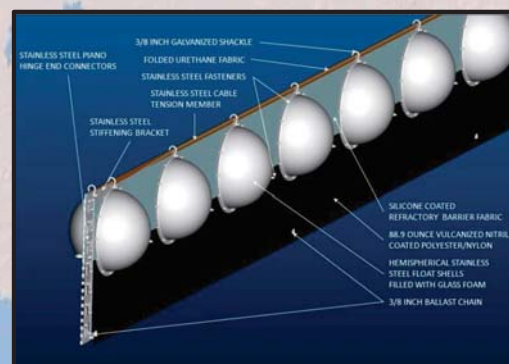


Plume modeling & impacts



State of Readiness to Use ISB

- **Approval process is established.** The Region 5 Regional Contingency Plan (RCP) contains an ISB Annex outlining the procedure for conducting an incident-specific authorization
- **Procedure has been exercised.** Regional Response Team 5 (RRT 5) conducted an incident specific exercise in August 2017 in Mackinaw City
- **Fire boom not yet in place.** Fire boom would likely be required to contain a spill so as to be burned
- **Could state approval be expedited?** Each state's procedures are different – in Michigan, governor's emergency declaration is required



POINT LA BARBE RESPONSE STRAITS OF MACKINAC



MDEQ Involvement

- Participated in Unified Command with USCG, American Transmission Company (ATC)/Consumers Energy (CE), and Tribal Representatives.
- Coordinated efforts between the UC and utility inspections performed by TransCanada and Enbridge Energy.
- Participated in aerial and surface water patrols to assess the presence of oil sheen and/or resource damages.
- Observed and documented the recovery and capping of the two damaged ATC cables.
- Directed ATC in the sampling and analysis of mineral oil from the damaged cables and provided aquatic and toxicological reviews of the results.



Response Efforts

- Release occurred on April 1st; Final cable capped on April 29th.
- Estimated 625 gallons of mineral oil recovered.
- Question: Why did this take so long?



Cross Section of Cable #6



Vac Truck Operations at Pt. LaBarbe



Answer....

- Inner core of cable < ½ inch diameter.
- Approximately 11,000 – 12,000 feet to pull mineral oil (think of a long straw).
- Specialized equipment (ROV) had to be mobilized from remote location (Texas).
- High voltage lines required specialized work and safety precautions.



Observations & Lessons Learned

- Private industry was proactive and willing to complete the mission.
- Network of trained environmental professionals exist.
- ICS was successfully implemented.
- Continued training and exercises will ensure preparedness for future events.



DEQ Incident Management Specialist – Scott Schaefer

DEQ – RRD, Newberry Field Office

906-630-4282

schaefer2@michigan.gov



CEE4905 Senior Design Project

Mackinac Straits Underground Utility Corridor



**Michigan
Technological**
University

Why a Mackinac Straits Utility Corridor?

1. Environmental Protection

- Addresses ALL underwater Utilities
- Protects the Waters of the Great Lakes
- Protects the Straits Bottom Lands

2. Economic Development

- Provides improved Utility Connection between LP and UP
- Reduces Utility Cost in the UP
- Promotes Economic Development of the UP

3. Improved Utility Performance

- Controlled Environment
- Visual inspection
- Longer Life, Better Maintenance

4. Potential Emergency Access Corridor

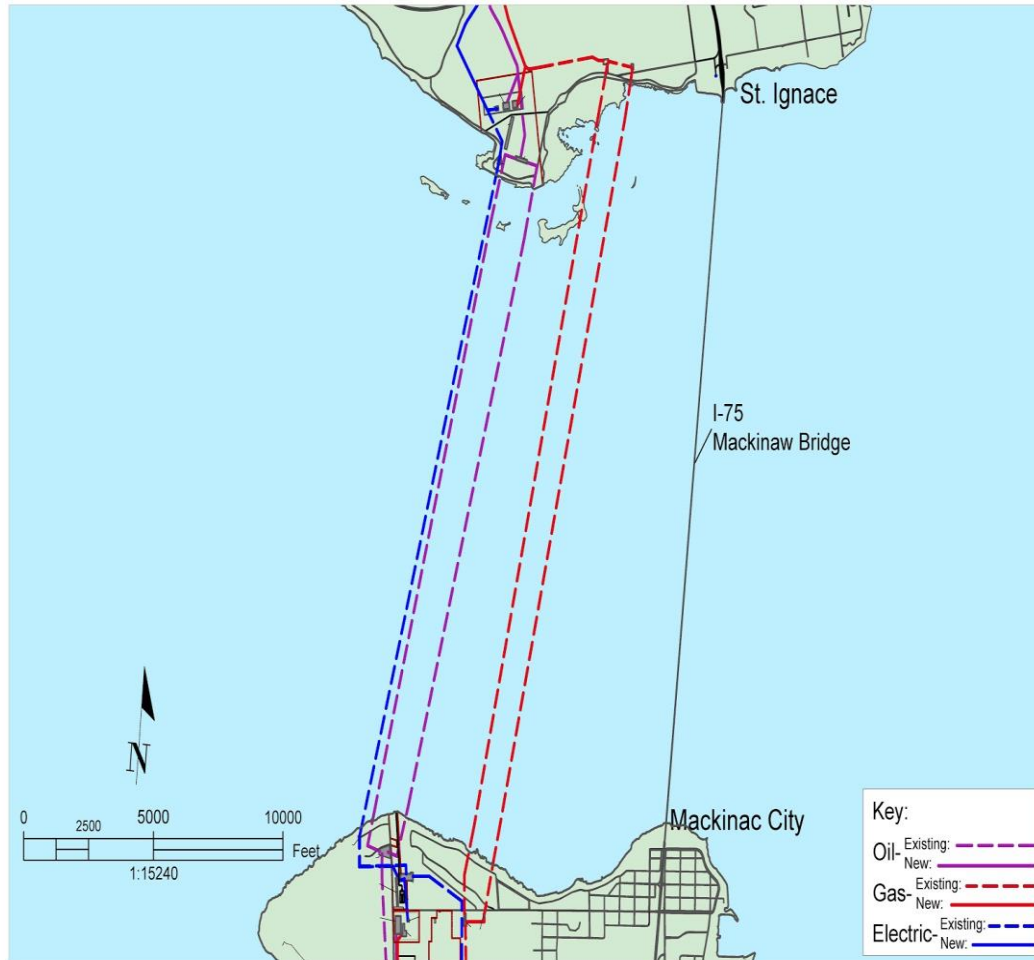
CE 4905 – YOUR MISSION

“Design a single, dedicated utility corridor tunnel to accommodate ALL utilities crossing the Straits of Mackinac”



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Existing Utilities



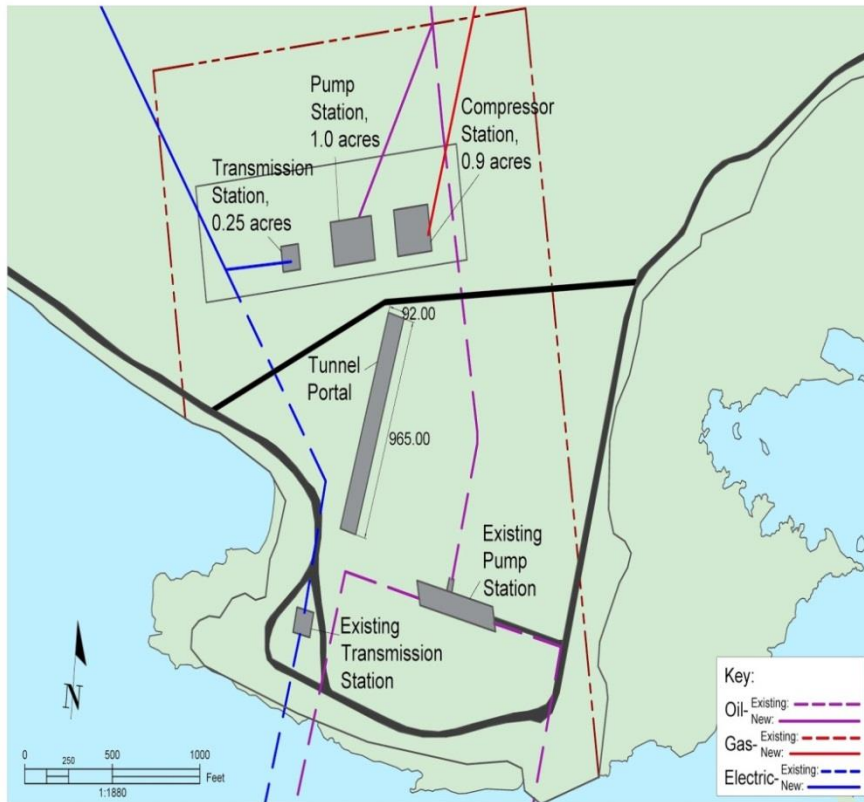
- Enbridge Energy (oil pipeline 1953)
- Cloverland Electric Cooperative (high voltage electric lines 1956)
- TransCanada's Great Lakes Transmission Company (natural gas pipeline 1968)
- American Transmission Company (high voltage electric lines 1975)



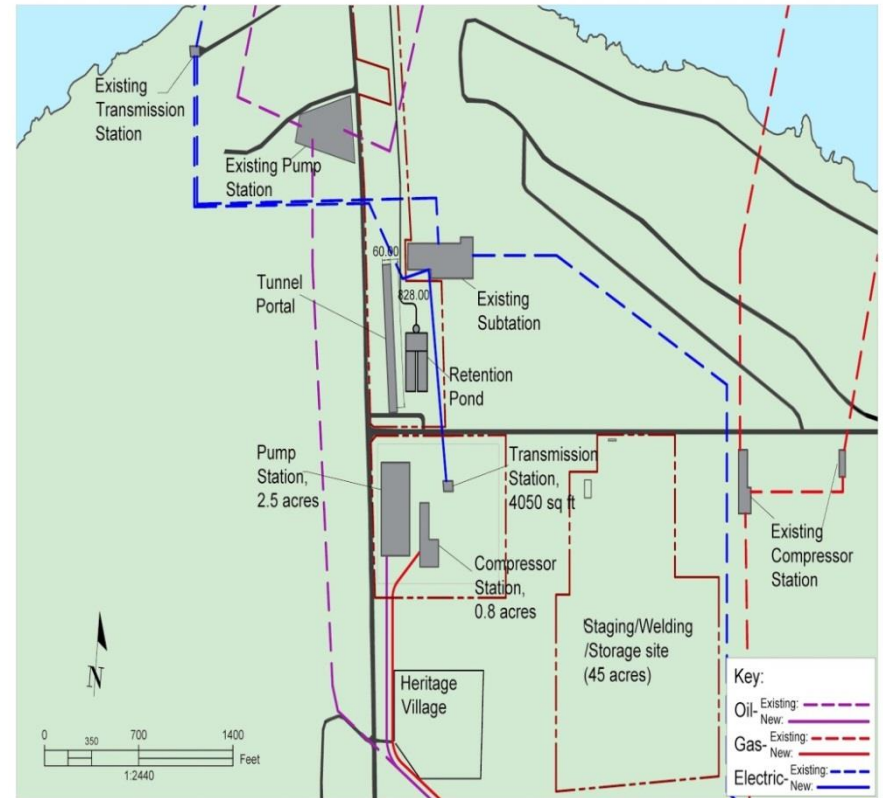
Proposed Tunnel Alignment



Construction Site Layout



North Site (St. Ignace)



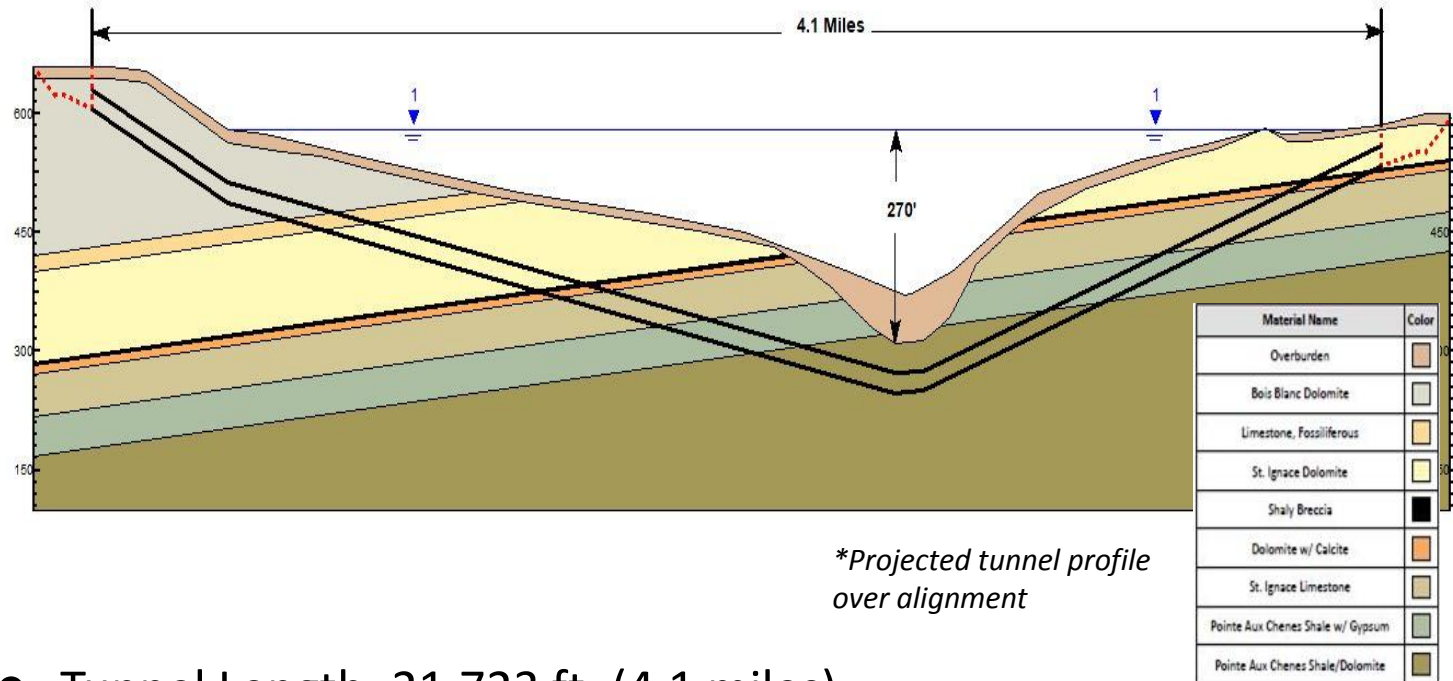
South Site (Mackinac City)



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Proposed Tunnel Profile

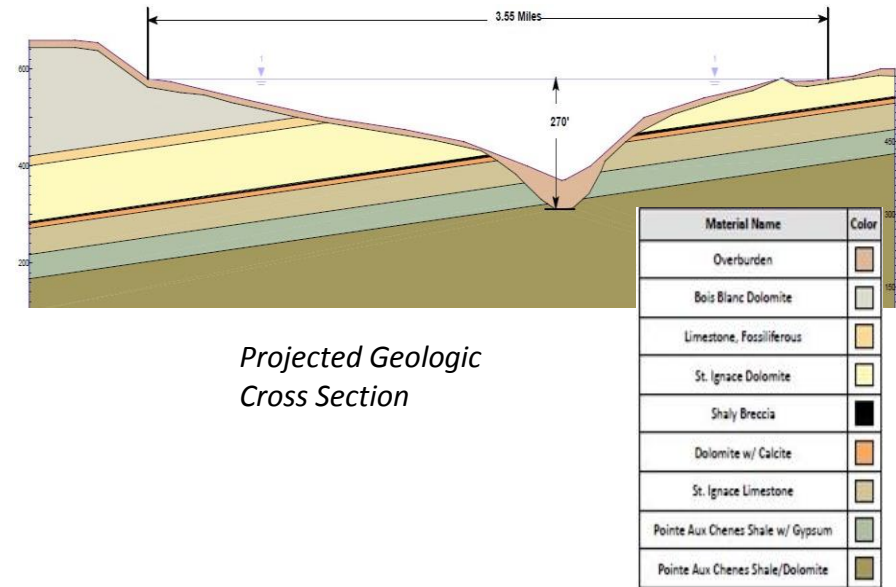


- Tunnel Length: 21,723 ft. (4.1 miles)
- Typical grade: 4%
- Estimate 25% to 44% of alignment will require pre-grouting for ground improvement.
- Regional average dip of 55 ft./mi. to the south

Geology and TBM Selection

• Geologic Risks:

- Mackinaw City Side:
 - Fractured Bois Blanc dolomite
 - High potential for water inflow, significant grouting required
 - intermittent clay seams
- St Ignace Side:
 - More competent rock
- General Risks
 - “Megabreccia” formations – slickensided faults
 - Soft shale – potential for squeezing
 - Unknown depth of scour channel



• Proposed Tunnel Boring Machine:

- XSE Crossover Series (EPB/Slurry Hybrid)
 - Designed for complex geology
 - Customizable
 - Muck removal and cutterhead adaptability while mining
- 25 ft. Cutting diameter
- Advance Rate 35-40 ft. per day



XSE Crossover Series TBM



Site Visit March 26, 2018



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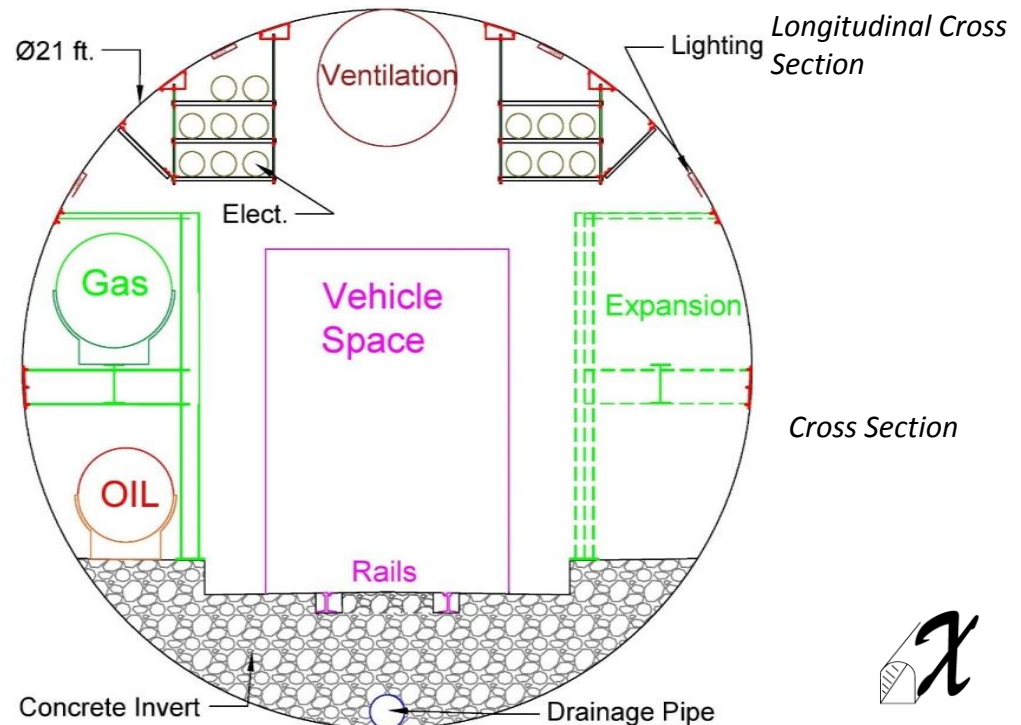
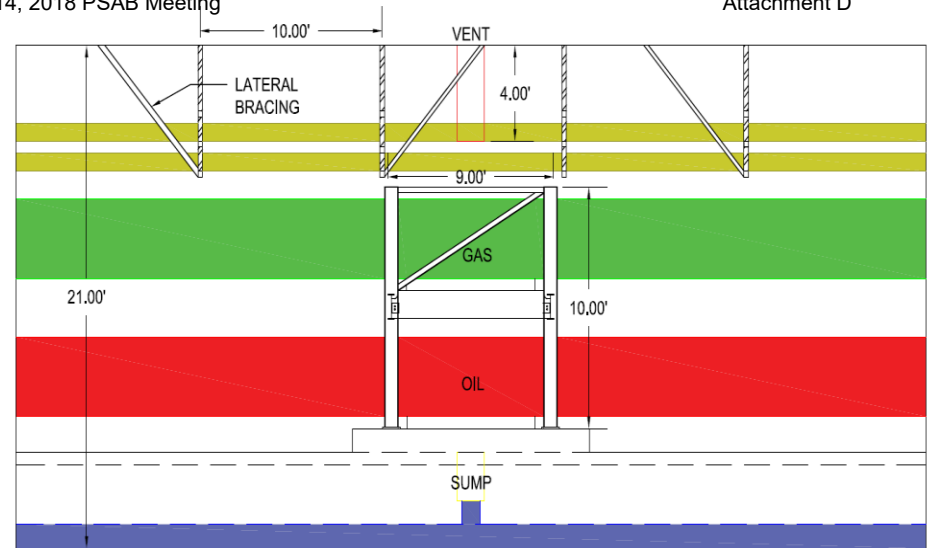
Estimated Rock Properties

Rock Layer	Secondary Minerals	Fracture Frequency	Potential for Water Inflow	Expected Tunneling Length
Bois Blanc Dolomite	Calcite, Chert	Heavily Fractured	High Potential	4,057'
St Ignace Dolomite	Calcite	Well-Cemented "Megabreccia" (large blocks), few but persistent joints	Low to moderate Potential	5,252'
Shaly Breccia		Moderately Jointed, fairly cemented	Moderate Potential	303'
St Ignace Dolomite with Calcite	Calcite	Well-Cemented "Megabreccia" (large blocks), few but persistent joints	Low Potential	696'
St Ignace Limestone/Breccia	Calcite, Limestone		Low Potential	3,772'
Pointe Aux Chenes Shale	Gypsum	Moderately Jointed, moderate to poor cementation	Low to Moderate Potential	3484'
Pointe Aux Chenes Shale/Dolomite	Gypsum			4159'



Proposed Design

- 21 foot inside diameter
- Tunnel Features:
 - Maintenance and Emergency Vehicle Space
 - Rail and rubber tire access
 - Allows for Utility Expansion
 - Provision for emergency spill control and collection
 - Ventilation and fire suppression
- Cross Section Considerations:
 - Large pipelines on rack supports
 - Electrical in hangers
 - Embedded rails
 - Spill control and storm drainage in invert
 - Life support utilities
 - Lighting
 - Ventilation
 - Communication system



Design Details

• Utility Racks:

- 10ft tall x 9ft depth
- Length accommodates calculated thermal expansion in pipeline
- Max load induced is 46kips

• Utility Hangers:

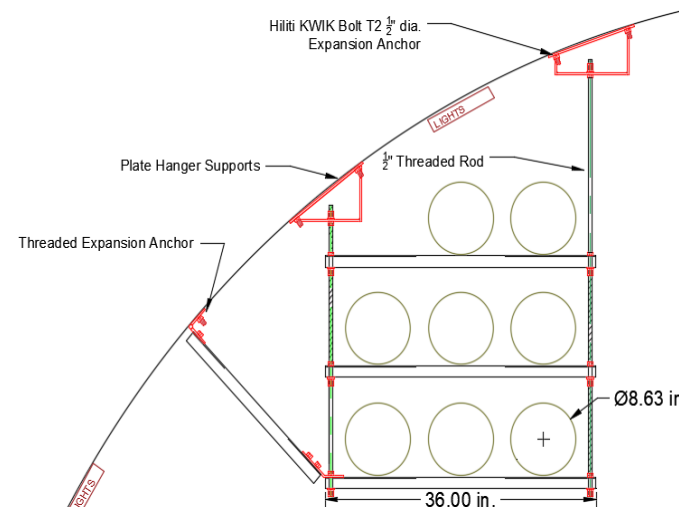
- Trapeze Uni-strut system
 - Threaded rod connector
- Custom hanger supports design to eliminate wall curvature
- Lateral support
 - Uni-strut seismic product

• Transportation:

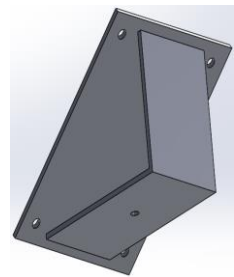
- Rail Cars
 - Battery powered
 - Standard metal wheels with hill assist systems
 - Construction cars slightly different than final
- Rail infrastructure
 - Narrow gauge
 - Embedded rail
 - Groove Girder Rails
 - Construction rail system for construction requirements



Oil and Gas Pipeline Rack



Elect. Utility Hanger



Typ. Hanger Support

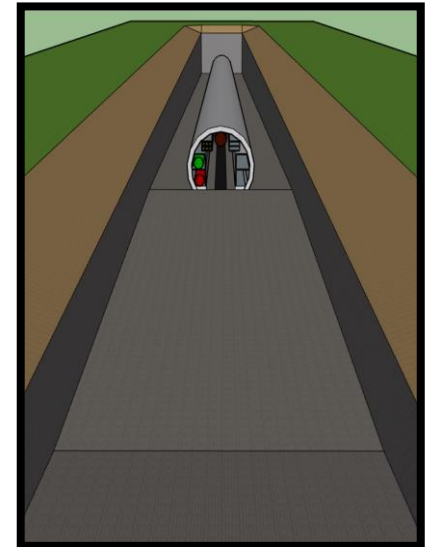
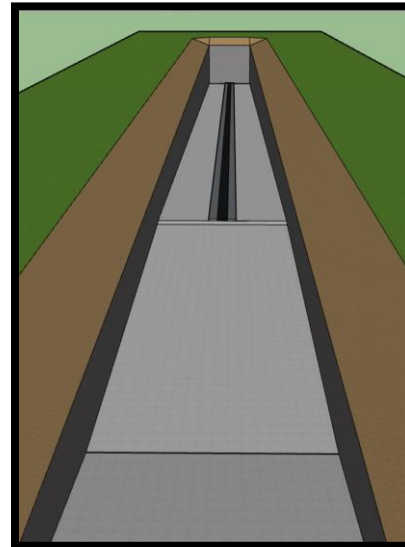
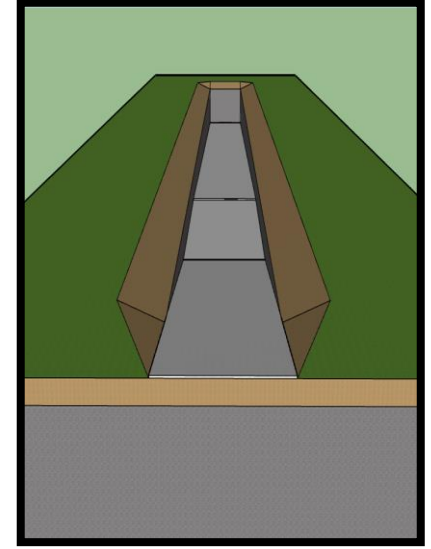
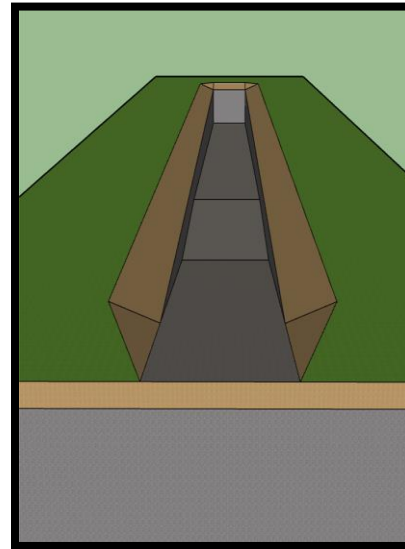


Rail Locomotive



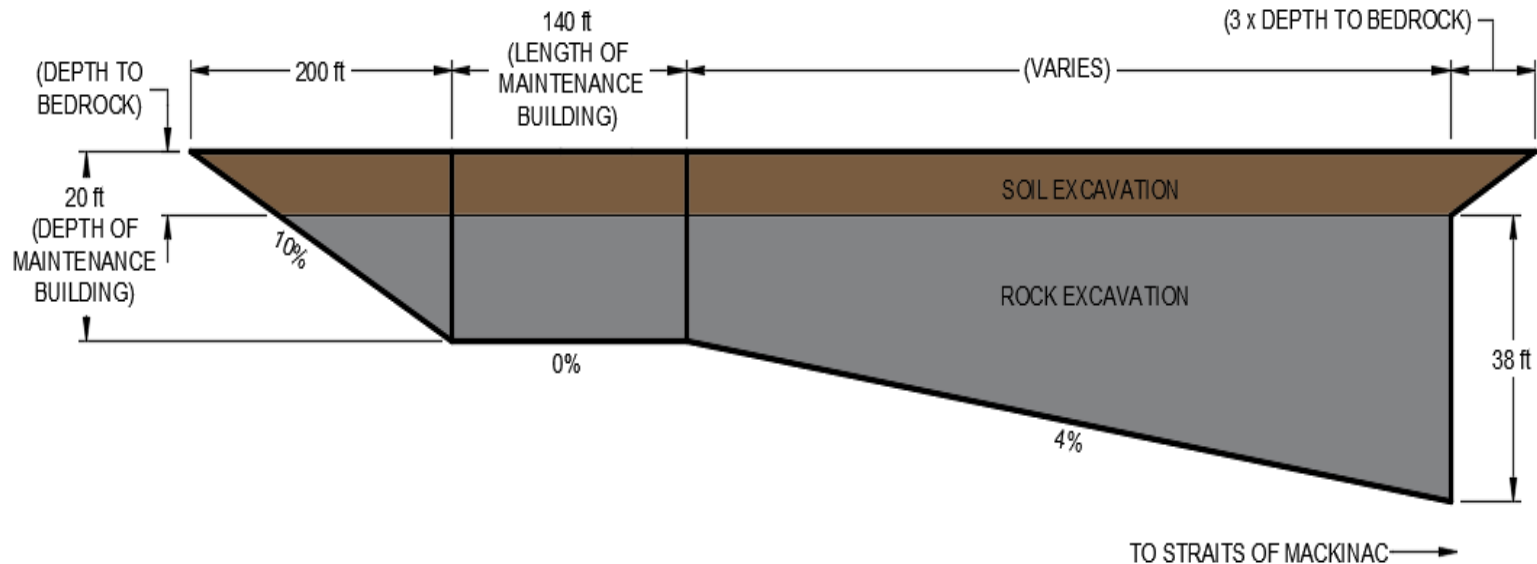
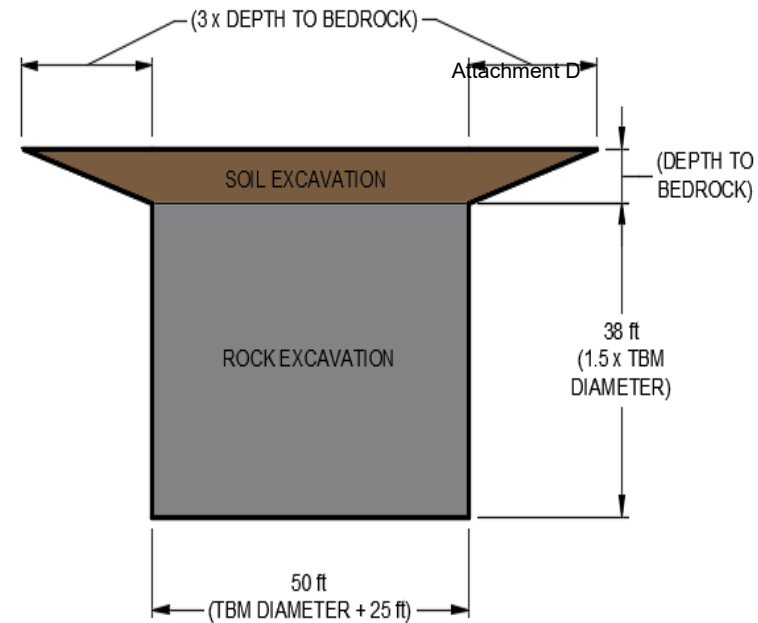
Portal Design

- Ramped portal necessary to reach desired depth to begin boring
- Mackinaw City and St. Ignace portals differ only in depth to bedrock
- Construction sequence:
 - Blast and excavate
 - Install support of excavation and erosion control
 - Place concrete construction slabs
 - Complete TBM assembly, tunnel boring, and disassembly
 - Install topping slab and embed service rails
 - Install precast sections over connecting tunnel
 - Backfill portal and install maintenance facility



Portal Configuration

- Portal provides
 - Enough width for TBM assembly and disassembly
 - Sufficient rock depth over TBM to avoid stability problems during initial boring
 - Location for maintenance building



Concept Construction Cost Estimate

Mackinac Straits Utility Tunnel

Concept Construction Cost Estimate

Portal Construction	\$	35,849,000
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Tunnel Construction	\$	380,145,000
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Headhouse and Systems Construction	\$	5,889,000
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Overall Contingency - 35%	\$	147,659,000
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Grand Total:	<u>\$</u>	<u>569,542,000</u>
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Note: Does not include:

- Preconstruction Engineering & Planning
- Owner Management
- Overhead & Profit



Concept Schedule

- **Preconstruction Engineering & Planning: 792 Days**
 - Preliminary Engineering and Land acquisition: 200 days
 - Geotechnical investigation: 130 days (concurrent)
 - Engineering and design: 322 days
 - Contract procurement: 270 days
- **Portal Construction: 265 Days**
 - Dewatering, site preparation: 65 days
 - Earth support and excavation: 200 days
- **Tunnel Construction: 1345 Days**
 - TBM procurement: 270 days
 - Tunnel mining: 625 days
 - Interior and systems installation: 450 days
- **Surface Headhouse & Site Civil: 208 Days**
 - Prefabricated building: 102 days each



Total: 7 Years

Next Steps

- 1. Develop Comprehensive Utility Management Strategy for the Straits**
- 2. Geotechnical Investigation in the Straits –**
(This Defines Cost)
- 3. Advance Conceptual Design**
 - Develop Tunnel Safety Features and Spill Prevention Plan
 - Develop utility implementation plan
- 4. Business Model – Public or Private?**
- 5. Contracting Model**

Contact Information

- **Lead Professor**

Michael Drewyor PE PS – Roland A Mariucci Professor of Practice, Michigan Technological University, Department of Civil and Environmental Engineering

mdrewyor@mtu.edu

(906) 487-3045

- **Industry Advisor**

James A. Morrison PE – President, ILF Consultants, Inc., Traverse City MI

morrison3@cox.net

(231) 944-9732

- **Students**

Michael Prast, Jessica Fredericks, Jeremy Dziewit, Michael Frahm, Patrick Weaver, Gavin Bodnar, Karrah Schneiderwent, Aaron Kostrzewa, Daniel Bast, Emma Beachy, Matthew Wray, Isaac MacMillan, Taylor Garbe, Alex Kuehn, Chad Brown, Aaron Crapsey

Recommendations for Liquid Pipeline Siting

Pipeline Safety Advisory Board Subcommittee

Travis Warner, Michigan Agency for Energy – Subcommittee Chair

Jennifer McKay, Tip of the Mitt Watershed Council – Subcommittee Member

Shawn Lyon, Marathon Pipeline LLC – Subcommittee Member

I. Background

At the June 12, 2017 meeting of the Michigan Pipeline Safety Advisory Board (PSAB), a subcommittee was created and tasked with addressing an item listed in Executive Order No. 2015-14 creating the PSAB. The charge below was the focus of this subcommittee.

4. Review and make recommendations on state policies and procedures regarding pipeline siting.

The subcommittee was tasked with developing a document that addresses this charge and will be considered by the PSAB for further recommendation. As the designee on the PSAB for Michigan Public Service Commission Chairman, Sally Talberg, Travis Warner was designated to serve as chair of this subcommittee. Jennifer McKay, Policy Director for Tip of the Mitt Watershed Council, and Shawn Lyon, Vice President of Operations for Marathon Pipe Line LLC, volunteered and were designated as members of the subcommittee.

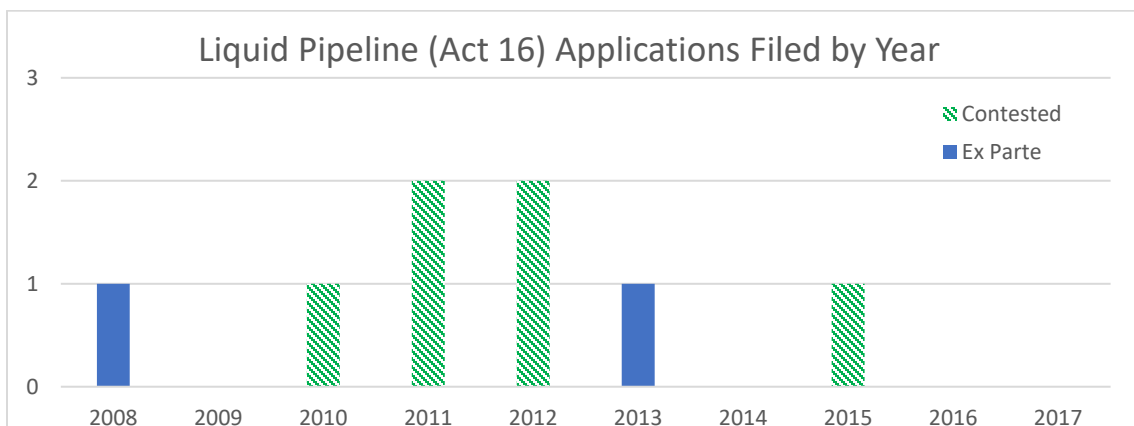
A. Hazardous Liquid Pipeline Siting

In the U.S., siting decisions for interstate and intrastate liquid pipelines are made at the state and local level. Unless the proposed project crosses federal lands, there are no required approvals from federal agencies prior to construction. State involvement varies significantly relating to liquid pipeline siting. Some states have virtually no involvement in siting while other states have an extensive review and approval processes. In Michigan, siting authority for crude oil and petroleum product pipeline siting is granted to the Michigan Public Service Commission (“MPSC” or “Commission”) under [Public Act 16 of 1929](#) (Act 16) MCL 483.1 et seq.

Act 16 grants the MPSC broad power to “control, investigate, and regulate a person....(b) engaging in the business of piping, transporting or storing crude oil or petroleum, or any of the products thereof, or carbon dioxide substances within this state.” MCL 483.3(1)(b) Further the statute provides that a “person” as defined is “granted the right to condemn property by eminent domain..... (a) to transport crude oil or petroleum or carbon dioxide substances and (b) to locate, lay, construct, maintain and operate pipelines for the purposes of subdivision (a).” MCL 483.2 Act 16 also allows the Commission to “make all rules, regulations, and orders, necessary to give effect to and enforce the provisions of this act.” MCL 483.8 To date, the Commission has not enacted any rules under Act 16. In addition to the

statute, Michigan Administrative Rule R 792.10447 contains minimum requirements for information that must be included in any application. This includes the name and address of the applicant; the city, village, or township affected; and the nature of the utility service to be furnished.

The MPSC has processed eight applications under Act 16 over the past decade. The graph below shows the number of applications filed by year to provide context for this document. During this time period, the MPSC has received an average of 0.8 liquid pipeline applications per year. It should be noted that four of the five applications processed between 2011 and 2013 related to construction of one pipeline, however, each application was handled independently by the MPSC. Also of note, all of the projects below were eventually approved by the MPSC either by its own approval or approval of a settlement agreement between the parties involved.



B. Current Hearing Process and Public Involvement

Once an application under Act 16 is received, MPSC staff review the application and make a determination if it can be handled on an *ex parte* basis, foregoing a full hearing process, and saving time and expense for all parties involved. Applications handled on an *ex parte* basis are typically shorter and smaller diameter projects for which the applicant has already acquired all the necessary rights of way. In these cases, MPSC staff work directly with the applicant to review the application and draft an approval order for submission to the Commission for consideration. Any project that requires new right of way or involves highly developed or environmentally sensitive areas triggers a formal administrative hearing, beginning with a prehearing conference. Upon scheduling a prehearing conference, the MPSC's Executive Secretary sets forth noticing requirements the applicant must meet prior to the prehearing conference. While noticing requirements for Act 16 applications are not detailed in the statute, as a matter of administrative practice, the Executive Secretary requires the applicant to provide notice to each landowner from whom it has not acquired the property rights for the proposed pipeline, and to all cities, incorporated villages, townships, and counties which may be traversed by the proposed pipeline. In addition, the Executive Secretary requires the notice of hearing to be published in daily newspapers in the counties that the proposed pipeline would traverse. Any interested parties may file petitions to intervene within the time frame designated in the notice of hearing. At the prehearing conference, the Administrative Law Judge (ALJ) sets a schedule for the case and rules on any petitions to intervene.

From this point, the hearing process proceeds according to the [Rules for Practice and Procedure Before the Commission](#). After the evidentiary portion of the process, the Administrative Law Judge files a Proposal for Decision to be considered by the Commission for a final decision. In limited cases, the Commission may choose to forego the Proposal for Decision step and “read the record,” shortening the time in which the final decision is made. At any point after an application is filed, the MPSC welcomes public comment in either written or verbal form. Comments are posted to the e-docket or included in the hearing transcript.

C. Current MPSC Basis for Decisions

Act 16 does not provide guidance relating to specific criteria that the Commission should consider in making its decision relating to pipeline applications. Historically, this has resulted in varying interpretations for how applications should be handled. In 2012, the Commission issued an order in docket no. U-17020, which stated:

“.... Generally, the Commission will grant an application pursuant to Act 16 when it finds that (1) the applicant has demonstrated a public need for the proposed pipeline, (2) the proposed pipeline is designed and routed in a reasonable manner, and (3) the construction of the pipeline will meet or exceed current safety and engineering standards.”

These points are broad and require additional context as they apply to real situations.

(1) The applicant has demonstrated a public need for the proposed pipeline.

This requirement is broad and includes a wide array of variables. Liquid pipelines are generally proposed to either replace aging infrastructure, or to satisfy a market imbalance by constructing additional infrastructure. In some cases, both needs may be met by a single project. The “public need” of a project is generally described as the short and long term local, statewide, regional, or national benefits to a project. These benefits are often difficult to quantify, and the protected nature of the industry adds to the difficulty of acquiring the information necessary to make this determination.

(2) The proposed pipeline is designed and routed in a reasonable manner.

The route proposed by the applicant is typically reviewed in detail by the MPSC staff. Route considerations typically involve human impacts and environmental impacts. Human impacts often relate to the proximity of the pipeline to dwellings, the number of landowners impacted, the amount of new right-of-way needed, and the inconvenience to landowners caused during construction. Under the Michigan Environmental Protection Act the MPSC must consider the impact of the proposed pipelines on the environment. Specifically, past case law explains that the MPSC must consider:

- i. Whether the proposed project would impair the environment;
- ii. Whether there was a feasible and prudent alternative to the impairment; and,
- iii. Whether the impairment was consistent with the promotion of the public health, safety, and welfare in light of the state’s paramount concern for the protection of its natural

resources from pollution, impairment or destruction. *State Hwy Comm v Vanderkloot*, 329 Mich 159, 185; 220 NW2d 416 (1974)

Environmental impacts generally consist of short and long-term impacts of the construction and operation of the pipeline. Short-term impacts may include tree clearing, interruptions to farming or other land use, waterbody crossings, and any other impacts to a previously undisturbed area. Long-term impacts of a safely operated pipeline are generally limited to pipeline and right of way maintenance but there is some amount of environmental risk due to the potential for a rupture or spill. The hearing process allows for parties in the case (in addition to MPSC staff) to provide testimony relating to the route and environmental impact. In many cases, staff has proposed alternative routes in its testimony or coordinated with the applicant and intervenors to make variations to the proposed route through a settlement agreement. In recent years, in part due to recommendations by the Michigan Petroleum Pipeline Task Force Report, the MPSC staff has solicited input from other state and federal agencies in reviewing applications, primarily with regard to routing. These agencies include the Michigan Department of Environmental Quality (MDEQ), the Michigan Department of Natural Resources (MDNR), the Michigan Department of Transportation (MDOT), the Pipeline and Hazardous Materials Safety Administration (PHMSA), and the Michigan State Historic Preservation Office (MSHPO). For recent pipeline applications, MPSC staff also hosted meetings and invited these agencies to review the route and discuss specific issues that warrant additional consideration. Staff utilized this information in testimony that was ultimately considered by the Commission in those decisions.

(3) The construction of the pipeline will meet or exceed current safety and engineering standards.

While this requirement is critically important to all pipeline construction, the MPSC currently does not oversee the safety of hazardous liquid pipelines. This oversight is currently managed by the U.S. Department of Transportation's PHMSA, acting through the Office of Pipeline Safety. The Office of Pipeline Safety is responsible for the enforcement of 49 CFR Part 195 which includes requirements for design, construction, pressure testing, operation and maintenance, operator qualification, and corrosion control. In a recent case, the MPSC staff asked PHMSA to review the proposed specifications and provided PHMSA's determination as an exhibit to testimony in the case. This was sufficient to satisfy this requirement. Although PHMSA is the governing body in these cases, this should remain a major consideration in Act 16 proceedings.

D. Staff Time and Expense

In 1973, the MPSC instituted a fee schedule for Act 16 applications. The fee was \$100 for a pipeline under 25 miles in length and an additional \$50 for each additional 25 miles. This fee schedule remained in effect until the Commission's order on March 10, 2017 in Case No. U-18115 adjusted the fee schedule. The resulting fees for an Act 16 filing approved by the order are \$2,000 for a filing that can be handled *ex parte*, and \$10,000 for a filing that is subject to the hearing process. Although the time requirement for pipeline cases can vary greatly, there was insufficient data available from past cases to create a more precise fee schedule. The Commission opted for a two-tier structure and stated that, "These changes will bring a much-needed update to the fee structure and will mitigate any concern that other regulated sectors are subsidizing gas producers and pipeline operators."

II. Consensus Subcommittee Recommendations

1) Promote public awareness and participation.

The process of siting pipelines can be overwhelming to members of the general public that have never been involved in a similar process. Without an effective means for getting questions answered, public stakeholders may be left confused by the potential impacts of a project and how they can participate. The subcommittee has several recommendations that the State should consider implementing to promote public awareness and participation:

- a) Develop a comprehensive guide describing Michigan's siting process for pipelines. At a minimum, the guide should include:
 - i. Relevant rules and statutes and how they apply. A focus should be on the MPSC's authority, eminent domain, the hearing process, etc.
 - ii. Detailed explanation of the MPSC hearing process and typical schedule.
 - iii. How and when the public may file written or verbal comments, petition to intervene, or otherwise participate in the process.
 - iv. Information that should be included in an application.
 - v. Criteria that the MPSC will consider in its decision.
- b) If needed, the MPSC should schedule a separate hearing dedicated to receiving public comment.
- c) Leverage the MPSC's updated e-docket system to make information easily accessible to the public on proposed pipeline projects.
- d) Allow for the option to sign up for an email distribution list that would notify subscribers of applications or other relevant filings.
- e) Require companies proposing a pipeline project to hold one or more public outreach events as determined in the pre-application meeting with MPSC staff, described further in Recommendation #3 below.
- f) Designate and post contact information for a member (or members) of the MPSC staff as a resource for questions relating to each case.
- g) Promote involvement from local governments and organizations with local interests and knowledge. Prioritize MPSC staff availability to meet with the applicant and/or other stakeholders and discuss concerns or considerations with the project.

2) Codify and improve noticing requirements.

As discussed above, any application that is not handled *ex parte* triggers a formal administrative hearing process and the MPSC's Executive Secretary schedules a Prehearing Conference and prescribes specific noticing requirements. Under the Michigan Administrative Hearing Rules, these notices must be provided no less than 14 days prior to the date set for the prehearing conference. While there are general noticing requirements within the Michigan Administrative Hearing Rules, requirements for who must be noticed for Act 16 applications are not defined and are instead set by the Executive Secretary for each case. Current practice is to require notification to affected landowners for which the company has not yet acquired rights of way and to include a copy of the notice of hearing in local newspapers. To

codify existing noticing practice, promote additional state agency involvement, and promote public involvement earlier in the process; the subcommittee recommends that:

- a) The noticing requirements currently utilized by the MPSC's Executive Secretary for Act 16 applications be formalized through statute or rule. Specifically, applicants should be required to:
 - i. Provide notice to each landowner from whom it has not acquired the property rights for the proposed pipeline.
 - ii. Provide notice to all cities, incorporated villages, townships, and counties which may be traversed by the proposed pipeline.
 - iii. Publish the notice of hearing in daily newspapers in the counties that the proposed pipeline would traverse.
- b) The MPSC's Executive Secretary should include additional State agencies in noticing requirements for Act 16 applications. These agencies should include the MDEQ, MDNR, MDOT, MSHPO, and any additional agencies deemed appropriate by the Executive Secretary and the MPSC Case Coordinator.

3) Codify and improve application requirements.

The subcommittee recommends that application requirements should be added to Act 16 as an amendment or through new rules promulgated under the statute. This recommendation would promote complete application filings allowing a more efficient and thorough review by the public, the MPSC and its staff. This would provide an additional benefit to industry by clearly stating what information is expected to be included in an application. Specific recommendations include:

- a) Require applicant to present a pre-application draft to MPSC staff and meet to discuss any obvious deficiencies prior to filing and a public outreach plan including dates and locations for public outreach events. The number and locations of public events should be appropriate for the project and should be approved by the MPSC Staff.
- b) Require the following information to be included in Act 16 applications in addition to any other relevant considerations.

Proposed Application Requirements for Public Need Analysis

- Overall purpose of the project and the need that the project is intended to satisfy, including but not limited to:
 - Public safety
 - Energy reliability
 - Market imbalances
 - Economic drivers
 - Environmental stewardship
- Explanation of system level alternatives that were considered to meet the above needs and why they were not chosen as the preferred option. Alternatives may include:
 - No action
 - Utilizing available capacity in existing infrastructure
 - Upgrading or re-configuring existing facilities or infrastructure

- Short and long term market considerations for the product to be transported, which may include energy conservation efforts, future supply and demand trends, effects of governmental policy, etc.
- Anticipated benefits to local, state, and regional residents.
- Estimated construction costs of the project.

Proposed Application Requirements for Routing and Construction Analysis

- An explicit statement from the applicant that the project will comply with any and all federal and state safety requirements.
- Provide the Company's response plan for the proposed pipeline as required 49 CFR Part 194.
- A list of all required permits for the project, including the responsible agency and the application status.
- Complete engineering and operating specifications.
- Addresses for properties in which the pipeline will cross within 25 feet and details on methods for mitigating inconveniences caused by construction to homeowners and businesses.
- Road crossings and the type of construction proposed.
- Other underground facilities located within the proposed right of way.

Proposed Application Requirements for Alternative Route Analysis

- A description of major route alternatives including details relating to location, cost, technology to be employed, etc.
- A comparative environmental impact analysis for major route alternatives considered. At a minimum, the analysis should include a map, a description of the habitats traversed and proposed methods of installation for each route alternative.

Proposed Application Requirements for an Environmental Impact Review

- Explanation for how the company will avoid, minimize, and mitigate any impairments to the environment.
- Documented threatened or endangered species habitats located within the proposed right of way or would otherwise be affected by construction.
- Areas where invasive species have been observed or identified at proposed construction sites and mitigation methods that would be used to minimize the spread of the invasive species.
- Historical or culturally sensitive areas within the proposed right of way.
- Sensitive natural resources within the proposed right of way, including:
 - Federally designated wild and scenic rivers,
 - State or federally designated wilderness or environmental areas, and
 - Rare or unique ecological types.
- Proposed permanent right of way and temporary work space requirements.
- A re-vegetation and site restoration plan.
- Waterbody crossings and the type of construction proposed. (including wetland, river, stream, and drain crossings)
- Storm water management plan and erosion control methods.
- Recreational sites within the area affected by construction and operation of the facility.

4) Expand the environmental impact review process to include other state agencies.

The subcommittee recommends that the MPSC design a process for gathering and incorporating input from other state and federal agencies in a timely manner to inform the MPSC's decisions. Relevant agencies, including the MDEQ, MDNR, MDOT and MSHPO, should sign a memorandum of understanding with the MPSC to implement this process and dedicate necessary resources for cases that necessitate certain agency involvement. The goal would be to assist the Commission in determining the most feasible and prudent route and to avoid potential conflicts in agency-specific permitting processes that may arise after the MPSC's decision. Any eventual MPSC decision under Act 16 should not be construed to satisfy the requirements of any other statute or environmental review.

5) Codify the criteria used by the MPSC in making decisions.

Act 16 does not provide specific criteria for the Commission and its staff to consider in decisions relating to applications. The MPSC has used the three general requirements mentioned above to make its determination in recent cases. The subcommittee recommends that similar versions of those requirements listed below should be adopted as an amendment to Act 16 or as rules under the statute. These would provide consistent interpretation of the criteria that will be considered in future applications which will assist applicants in drafting applications and will help to guide MPSC staff's review.

- (1) the applicant has demonstrated that the public need for the proposed pipeline outweighs the impact to the public and the environment.
- (2) the proposed pipeline is designed and routed in a reasonable manner with no feasible and prudent alternative.
- (3) the construction of the pipeline will meet or exceed current safety and engineering standards established and enforced by the Pipeline and Hazardous Materials Safety Administration.

6) Tribal Consultation

Proposed pipelines could impact tribal lands and property, as well as rights protected under treaties. Currently there is no formal Tribal consultation process with Michigan's federally recognized Tribes for pipeline siting. For each application that is filed, the subcommittee recommends that MPSC case coordinator should consult with the State and MPSC tribal liaisons and make a determination if formal tribal consultation is needed. Any consultation should involve participation from MPSC leadership and staff. Additionally, written record of the consultation should be submitted to the case docket.

7) Track staff time and expense required for review.

As discussed above, applicants are required to pay up to \$10,000 for an application under Act 16. Costs associated with the application review typically consist of time requirements for multiple members of staff, staff's counsel, the ALJ, and the Commission. As discussed in Case No. U-18115, resources required to review applications vary significantly depending on the size and nature of the

project but the fees established in this case are sufficient to cover expenses for the majority of applications. That said, cases have infrequently exceeded this amount in the past. Staff resources to review applications have not been tracked historically so the incremental amount is not accurately known. The subcommittee recommends that all State staff involved in liquid pipeline siting cases begin tracking resource requirements for pipeline cases handled by the Commission. Tracking and maintaining basic data relating to these expenses would help to determine future fee increases or the financial impacts of changes in the review process.

III. Recommendations for Further Discussion

1) Siting of Crude Oil and Petroleum Product Pipelines in or beneath the Great Lakes

There are a number of pipelines within the Great Lakes Basin. There exists only one hazardous liquids pipeline in the open waters of the Great Lakes. Open waters of the Great Lakes is defined as the waters above lands covered per Part 325, Michigan's Submerged Lands Act of the NREPA: "the lands covered and affected by this part are all of the unpatented lake bottomlands and unpatented made lands in the Great Lakes, including the bays and harbors of the Great Lakes, belonging to the state or held in trust by it, including those lands that have been artificially filled in." A pipeline located in these open waters of the Great Lakes has the potential to undermine the health of the Great Lakes. To address this concern, the subcommittee agreed that three recommendation variations should be presented to the PSAB for further discussion. For the purpose of these recommendations, "pipeline" should be defined as those that fall under the current authority granted by Act 16.

Variations to consider:

1. Amend Act 16 to prohibit the authorization of pipelines on or beneath the lake bottomlands of the Great Lakes, per Part 325.
2. Amend Act 16 to prohibit the authorization of exposed pipelines on the lake bottomlands of the Great Lakes, per Part 325. Pipelines constructed beneath the lake bottomlands may be authorized if it can be shown that the risk of product reaching the Great Lakes is minimal and that the pipeline will be constructed and operated with minimal adverse impact to the environment and landowners. Further, construction could be prohibited if the pipeline would not meet a pre-determined depth threshold beneath the lakebed. If adopted, this depth threshold would require additional analysis and discussion.
3. Allow MPSC to determine appropriate siting for pipelines in Michigan based upon Act 16 and any associated rules. Ensure MPSC procedures provide appropriate environmental safeguards for the Great Lakes and preserve flexibility to accommodate future energy demands of all Michigan residents.

2) Environmental Justice Analysis

In February of 2017, Governor Rick Snyder created the Environmental Justice Work Group (EJWG). The EJWG was formed “to develop and provide recommendations to the Governor that improve environmental justice awareness and engagement in state and local agencies” and to “examine policy and recommend for implementation environmental justice guidance, training, curriculum, and policy that further increases quality of life for all Michiganders.” A report generated by the EJWG in March, 2018 includes a list of twenty-four Policy Recommendations that are meant to provide a framework for Michigan in advancing environmental justice. Policy Recommendation #3, included below, could be interpreted to apply to pipeline projects.

3. Require environmental justice analysis in permitting applications (consensus)

- The State shall require all environmental permit applicants (and transportation projects) to provide an environmental justice analysis that evaluates the impact, and any disproportionate impact, of the permitted activity on environmental justice communities, and any steps that can be taken to reduce or eliminate such impacts.*

The subcommittee discussed this to some extent but due to time constraints and the need for additional context surrounding the recommendation, has chosen not to adopt this as a consensus recommendation specific to Act 16 applications. Furthermore, the subcommittee has included this as a topic for additional discussion for the PSAB.



To: Pipeline Safety Advisory Board
From: Guy Meadows
Subject: Independent Risk Analysis Update
Date: 14 May 2018

Task A: Identify and analyze the duration and magnitude of a “worst case” spill release.

Four locations along the elevation profile of both 20 inch submerged sections of the pipeline have been analyzed for a potential worst case release under maximum pipeline flow rates. This analysis has included the locations and elevations of both the north and south pumping/valve shore stations and has also considered five tiers of plausible failure involving one or both 20 inch pipelines. A range of failure mechanisms from crack or pin hole through total rupture have been considered. This analysis has been completed and the results have been passed on to the other Task Teams for inclusion in their respective analyses.

Task B: Analyze the likely environmental fate and transport of oil or other products released from the Straits Pipelines in a worst-case scenario. A combined Lakes Michigan-Huron numerical hydrodynamic model utilizing the FVCOM (Finite Volume Coastal Ocean Model) framework has been developed based on the NOAA/GLERL most advance prototype. This new combined Lake Michigan-Huron model is running on Michigan Tech’s supercomputing cluster at very high resolution. In addition, this model has been advanced to now include; wind drift of oil (windage), temperature dependent weathering/evaporation of drifting oil and winter ice cover. These advances have allowed for all season simulations for a full 356 days. Ten thousand oil caring particles are released every 6 hours (four times daily) for a total of 1,460 simulations with each particle being tracked for 60 days. The position of each particle is archived as well as its location where it reaches the shoreline and the quantity of oil it brings. This information is being incorporated into a GIS framework for direct overlay with economic, environmental and human factors along the shoreline. A full comparison of FVCOM model results with the Michigan Tech environmental monitoring buoy in the Straits (45175) has also been completed for the full season of buoy deployment (May through October). The comparison between model predicted and buoy observed flows in the Straits are excellent in all respects and at all depths (Figure 1).

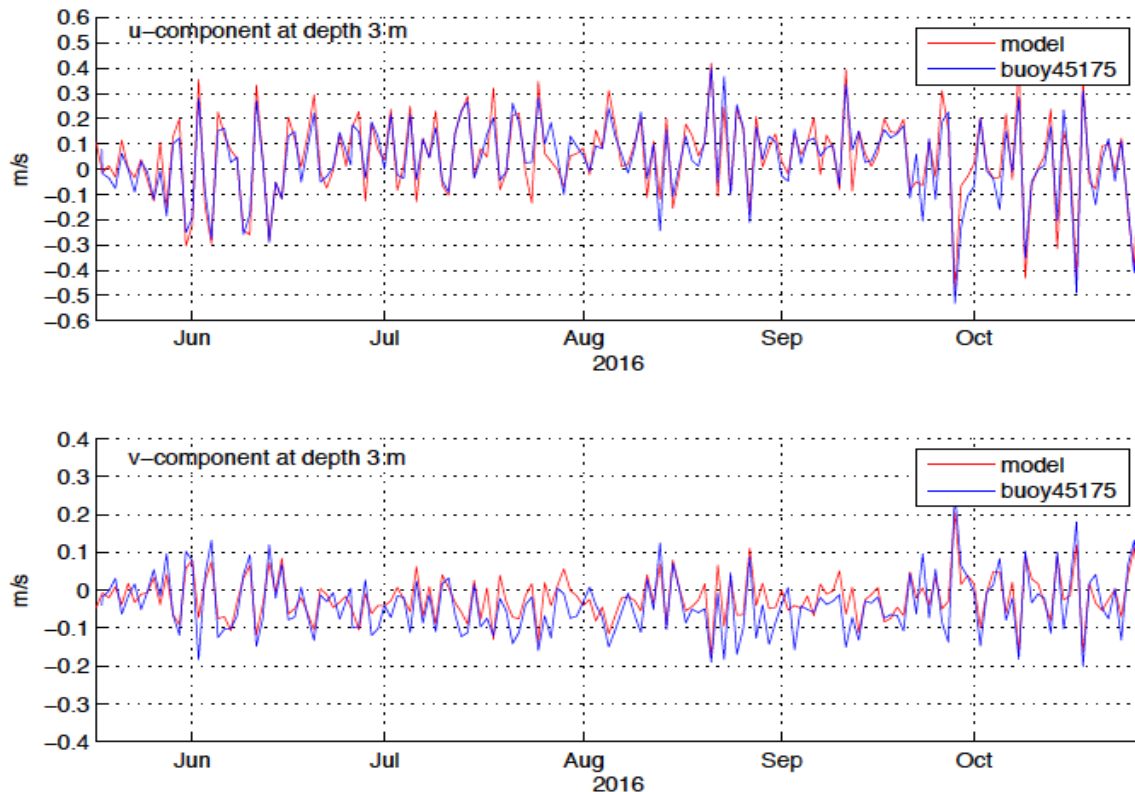


Figure 1. Model (red lines) vs observed (blue lines) currents in the Straits of Mackinac.

The model has also been exercised to produce “model based estimates of worst case scenarios.” For example, the model has been exercised to produce, the physical conditions leading to; the spill that travels the farthest, the spill that travels the fastest, the spill that affects the largest amount of shoreline, etc. The Task B Team is now producing a list of the worst spills in each of the 12 months to assist the other teams in assessing worst case impacts. This wealth of information has been passed on the all of the other teams.

Task C: Analyzing how long it would take to contain and clean up the worst-case release.

Progress on Task C has been slightly delayed by recent events in the Straits. As a result, the USCG was forced to postpone our meeting with Sector Sault and with the Mackinac County Emergency Management team. These meeting has now been rescheduled for May 15, 2018. In the meantime, the team has collected historical data on response efforts and have closely documented the recent ATC damage and resulting response in the Straits.



Remaining Tasks: All other tasks specified in the State's Scope of Work (SOW) are working to absorb the information made available from Teams A – C and are proceeding with their respective analyses. Task X; Broader Impacts has been added by Michigan Tech to the State's original SOW. This effort includes direct outreach to the Native Tribes of Michigan. Team X presently has two, in person meetings scheduled with Tribes. These include Keweenaw Bay Native Community on May 29th and with the United Tribes of Michigan on May 31st.