



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
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October 7, 2022

REPLY TO THE ATTENTION OF:
Mail Code RM-19J

VIA ELECTRONIC MAIL ONLY
(katie.l.otanez@usace.army.mil)

Katie L. Otanez
U.S. Army Corps of Engineers – Detroit District
477 Michigan Avenue
Detroit, Michigan 48226

RE: EPA scoping comments – Notice of Intent to Prepare a Draft Environmental Impact Statement for the Enbridge Line 5 Tunnel Project, Mackinac and Emmet Counties, Michigan

Dear Ms. Otanez:

The U.S. Environmental Protection Agency (EPA) has reviewed the U.S. Army Corps of Engineers' (USACE) Federal Register Notice of Intent (NOI) regarding the proposal to construct a tunnel (the Line 5 Tunnel) that would house a replacement segment of the existing Enbridge Line 5 pipeline crossing the Straits of Mackinac (Straits). USACE is the lead agency under the National Environmental Policy Act (NEPA) and Enbridge, Inc. (Enbridge) is the project proponent. EPA is serving as a Cooperating Agency for the NEPA process, while maintaining our authority under Section 309 of the Clean Air Act to independently review this proposal. This letter provides EPA's scoping comments on the proposal pursuant to NEPA, the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

Enbridge owns and operates the 645-mile-long Line 5 pipeline. Line 5 transports up to 540,000 barrels per day of light crude oil, light synthetic oil and/or natural gas liquid from Superior, Wisconsin, through northern Wisconsin and the Upper and Lower Peninsulas of Michigan, to its terminus in Sarnia, Ontario, Canada. It has been in operation since 1953. In Michigan, Line 5 crosses the Straits, an approximately 4-mile-long span of water that connects Lake Michigan and Lake Huron, with two 20-inch diameter pipes that rest on or are anchored to the lakebed (the "Dual Pipelines"). Among multiple safety incidents in the past 5 years, in 2018, Line 5 was struck by a ship anchor in the Straits' busy shipping lanes. The damage to the exposed pipeline raised concerns about its vulnerability to accidental damage and strikes. Michigan Governor Whitmer and the Michigan Department of Natural Resources (MDNR) revoked the 1953 easement for the existing crossing of the Straits on November 13, 2020. Enbridge continues to operate Line 5 through the Straits.

The tunnel construction is being pursued in accordance with the “Tunnel Agreement” executed by Enbridge and the State of Michigan on December 19, 2018. That Agreement was entered in furtherance of Public Act 359, through which the State of Michigan established the Mackinac Straits Corridor Authority and delegated to it the right to acquire, construct, maintain, improve, repair, and manage a utility tunnel across the Straits. The State of Michigan also granted an easement for the proposed tunnel in December 2018 and has since issued several permits¹ related to tunnel construction.

Enbridge proposes to bore a tunnel below the lakebed of the Straits, connecting Point La Barbe in Michigan’s Upper Peninsula to McGulpin Point in Michigan’s Lower Peninsula. The distance between these two land points is approximately 3.6 miles and represents the shortest distance between Michigan’s Upper and Lower Peninsulas. Enbridge proposes that the tunnel extend as near as practicable from the existing Line 5 North Straits Facility (on the north side of the Straits) to the existing Line 5 Mackinaw Station (on the south side of the Straits). The tunnel would be constructed and operated by Enbridge and owned by the Mackinac Straits Corridor Authority after construction. Except for the entrance points on either side of the Straits, the tunnel would be constructed entirely beneath the lakebed of the Straits at depths between 30 feet and 370 feet. Once complete, the proposed tunnel’s inside diameter would be approximately 21 feet. The tunnel would provide secondary containment in order to minimize the potential for leakage of fluids from Line 5 into the lakebed or the Straits. A new 30-inch pipeline would be installed within the tunnel and connected to the existing portions of the Line 5 pipeline. Upon completion, Enbridge proposes to decommission the existing Dual Pipelines crossing the Straits by purging, cleaning, and abandoning them in place.

EPA is concerned about likely significant impacts from the proposed project. The enclosed Detailed Scoping Comments include recommendations to fully analyze, disclose, and commit to protective measures related to potential impacts on (1) waters that are essential to the exercise of Tribal treaty rights and continuation of Tribal traditional lifeways; (2) high-quality surface waters that serve as vital drinking water supplies and wetlands with valuable ecological and habitat functions; (3) our global climate; and (4) on a wide range of natural resources, should a spill occur. We urge USACE to ensure that the DEIS fully analyzes and discloses spill risks and potential impacts and demonstrates that the project proponent is prepared to adequately prevent and address spills. We also offer recommendations related to environmental justice, air quality, and threatened and endangered species and habitat.

¹ <https://www.enbridge.com/media-center/media-statements/michigan-department-of-environment-great-lakes-and-energy-issues-tunnel-permits>

We appreciate the opportunity to provide scoping comments on the NOI, serve as a Cooperating Agency, and attend public meetings hosted by USACE. EPA staff would appreciate an opportunity to discuss our scoping comments with USACE. Liz Pelloso, Professional Wetland Scientist, of EPA's NEPA Program is the primary contact for coordination and review of NEPA documents and can be reached at R5NEPA@epa.gov.

Sincerely,

Alan Walts
Director
Tribal and Multimedia Programs Office

Enclosures:

- (1) EPA's Detailed Scoping Comments
- (2) Construction Emission Control Checklist

cc (via email, with enclosures):

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1. GENERAL COMMENTS

A. *Purpose and Need*

The draft purpose and need statement limits the range of risk-elimination options by focusing only on connecting Enbridge's existing North Straits Facility and Mackinaw City pump station.

Enbridge filed a 2020 depreciation report² with the Federal Energy Regulatory Commission (FERC) in May of 2021 regarding its Lakehead Pipeline System.³ That report noted that the remaining lives of all asset groups within the Lakehead Pipeline System, which includes Line 5, reflect a truncation date of December 31, 2040, based on an economic life review of the Lakehead system. In past depreciation analyses, Enbridge had set the economic life of the Lakehead system at 30 years. However, the recent depreciation report has now reduced the system's remaining lifespan to 20 years. The depreciation report points to several reasons the company believes the line will not be viable within two decades: competition from other pipelines; climate change policies that call for reduced carbon emissions in both the United States and Canada; and "unprecedented actions by state, local, and tribal governments to attempt to regulate, and ultimately shut down, existing pipeline infrastructure."

Recommendations for the forthcoming DEIS:

- Provide a statement that explains the overall need for the project. Address (1) underlying needs for energy resources in the U.S.; (2) the need for transportation of petroleum and natural gas products in this region; and (3) the need for safety improvements if a pipeline is to continue to be located under the Straits.
- After clarifying the need for the proposed project, consider a purpose statement that would fulfill the outstanding need. If a need for transporting petroleum is established, then consider more generally referring to connecting the Upper and Lower Peninsulas. Assess whether geotechnical and other considerations could allow for other rights-of-way and project termini with less environmental impact or risks than Enbridge's proposed connection of the North Straits Facility to the Mackinaw Station. Consider also that the purpose statement does not need to define the study area for analysis.
- Remove the statement on maintaining existing petroleum capacity from the purpose and need statement and instead consider current and future capacity when developing a reasonable range of alternatives.
- Consider the Council on Environmental Quality's *Final Rule for Phase 1 of Revisions to the NEPA Regulations*.⁴ The April 20, 2022, Federal Register states, "The revision clarifies that agencies have discretion to consider a variety of factors when assessing an application for an authorization, removing the requirement that an agency base the

² https://elibrary.ferc.gov/elibrary/docinfo?accession_number=20210521-5119

³ The Lakehead Pipeline System operates in North Dakota, Minnesota, Wisconsin, Michigan, Illinois, Indiana, and New York, transporting North American crude oil and natural gas liquids from Canada, Montana and North Dakota to refineries in the Great Lakes region and beyond. Line 5 is an asset of the Enbridge's Lakehead Pipeline System.

⁴ <https://ceq.doe.gov/laws-regulations/regulations.html>

- purpose and need on the goals of an applicant and the agency's statutory authority."⁵
Ensure that the final purpose and need statement is in line with CEQ NEPA Regulations, including the intent of the Phase 1 revisions, and reflects any actual underlying need for energy transmission and/or improved safety conditions.
- Substantiate the need for any new construction on Line 5 considering that Enbridge has said the remaining life of all assets on this pipeline system, including Line 5, extends only through 2040.

B. Conclusions on Environmental Impacts

While USACE is the lead Federal agency under NEPA, Enbridge is the project proponent and is funding the DEIS. The forthcoming DEIS needs to clearly specify which assessments and findings represent the views of the project proponent and which represent the views and findings of USACE.

Recommendations for the forthcoming DEIS:

- Ensure that the document differentiates between Enbridge's findings and USACE's findings related to anticipated environmental impacts and risks.

C. Project Description and Alternatives Analysis

NEPA requires a robust analysis of all reasonable alternatives, in addition to a No Action Alternative. The Federal Register NOI stated that a number of project alternatives will be evaluated in the EIS, including the applicant's proposed alternative and a No Action alternative. Additional alternatives to be considered include: (1) alternatives that would avoid, minimize, and compensate for impacts to the environment within the proposed project footprint; (2) alternatives that would avoid, minimize, and compensate for impacts to the environment outside the footprint; (3) alternatives using alternative practices; and (4) other reasonable alternatives that will be developed through the project scoping process, and that also meet the identified project purpose and need.

Recommendations for the forthcoming DEIS:

- Discuss the source locations and types of all materials that are transported through the existing Dual Pipelines and those materials that could be transported through the proposed pipeline and tunnel in the future.
- Ensure that all reasonable project alternatives, including the No Action Alternative(s), receive full assessment of impacts and consideration within the DEIS. In addition to construction impacts, ensure that the document fully analyzes and discloses impacts from operations and maintenance.
- Specify whether the No Action alternative would involve continuing to operate the Straits portion of Line 5 in its current state, or would involve changing operations or stopping operations completely. As an example, consider that the Wisconsin Department of Natural Resources' recent EIS for the Line 5 Reroute

⁵ <https://www.federalregister.gov/documents/2022/04/20/2022-08288/national-environmental-policy-act-implementing-regulations-revisions>

Project in Wisconsin⁶ included a No Action Alternative with two different scenarios.

- Ensure that the No Action Alternative(s) accurately represent conditions without the proposed action.
- Evaluate the environmental impact of leaving the existing Dual Pipelines in place. Currently, Enbridge proposes to decommission the existing submerged Line 5 Dual Pipelines crossing the Straits by purging, cleaning, and abandoning them in place. The DEIS should also evaluate alternatives to abandonment in place, including impacts of removal, other alternatives, and any necessary mitigation.
- Assess alternatives that: (1) examine the use of existing capacity in other pipelines and, if necessary, other transportation solutions - such as rail and truck transport of natural gas liquids - in lieu of building new pipeline infrastructure; (2) propose a connection of Enbridge's Superior, WI, and Sarnia, Ontario, terminals without crossing the Great Lakes;⁷ and (3) examine a tunnel alternative that fully eliminates the risk of oil intrusion into the Straits in the event of an explosion or other pipeline damages. If such alternatives are not assessed in the DEIS, provide a rationale for not carrying them forward.
- Discuss the logistics of construction of a tunnel underneath the lakebed of the Straits. The DEIS should discuss how long construction of a tunnel will take, what permits will be required, and if specialized equipment (i.e., special boring equipment) will need to be manufactured and/or imported. The DEIS should also discuss the timeframes of any action alternatives in relation to existing planned or necessary projects on Line 5 that will need use of a boring machine before the tunnel project would begin.
- Discuss if construction of a new pipeline crossing the Straits will keep daily shipments at or below the current operation of up to 540,000 barrels per day, or if it would be allowed to transport more than 540,000 barrels per day through the Straits.
- If a new pipeline were to be constructed, discuss whether Enbridge could or would increase the Line 5 operating pressure. Currently, the Dual Pipelines operate at less than 25% of maximum operation pressure capacity, which Enbridge says is for "enhanced safety."⁸ Changes made to Line 5's dimensions and future construction at the Straits crossing may have implications for oil spill preparedness and response for the majority sections of Line 5 on either side of the current underwater Dual Pipelines (or tunnel, if the project materializes). These implications include the following:
 - Potential increases in pressure enabled by a new pipe in a tunnel may result in greater stresses to the 70-year-old pipe that constitutes the majority of the existing pipeline. Greater stress to those older reaches of pipe may increase the probability of a spill at different locations throughout the majority of the existing system, some of which may affect

⁶ <https://dnr.wisconsin.gov/topic/EIA/Enbridge.html#Draft%20Environmental%20Impact%20Statement>

⁷ Enbridge could potentially transport additional crude oil to the region via its Line 6B pipeline (recently renamed Line 78), which was replaced and doubled in capacity after Enbridge's 2010 spill of a million gallons of heavy oil into the Kalamazoo River watershed near Marshall, Michigan.

⁸ https://www.enbridge.com/~/_media/Enb/Documents/Brochures/Brochure_Line5.pdf

or threaten the Straits of Mackinac. There are numerous Line 5 crossings of inland streams and rivers which are direct tributaries to the Straits as well as to Lake Michigan and Lake Huron. In addition, increases in spill volumes that could result from higher operating pressures (that Enbridge could potentially justify based upon a tunnel-protected Straits crossing) could result in increased threats to the Great Lakes and their tributaries throughout all of Line 5's course.

- Discuss whether the new pipeline, if constructed, would pump a larger variety of oils, including whether it could pump heavy crude. Heavy crude poses different risks compared to what the Dual Pipelines ship currently.

D. Project Scope and Timing

Describe how the proposal fits into the context of the overall Line 5 pipeline, originally constructed in 1953. Such information could help explain which actions are connected to the proposed project.

Recommendations for the forthcoming DEIS:

- Provide information on: (1) how long a pipeline built in 1953 is expected to safely function; (2) which portions of Line 5 have already been replaced, and why; (3) which portions are planned to be replaced or not, why, and when.
- Discuss expected changes to the structural integrity of the 1953 pipeline over time.
- Construction of a new, larger pipeline contained within a tunnel implies a commitment to the indefinite, long-term operation of Line 5. The need for upgrades to and rebuilds of the rest of 70-year-old portions of Line 5 may be causally connected and necessary for the proposed tunnel to remain in operation. It is therefore important that the DEIS consider the environmental and cultural impacts associated with such potential rebuilds (both during construction and operational phases) of older portions of pipeline for the balance of Line 5.
- Ensure that the DEIS discusses reasonably foreseeable projects along other portions of the Line 5 pipeline that would be undertaken only if this proposed project is permitted. Consider the cumulative impacts of such projects, including greenhouse gas releases and impacts to Tribal resources.

E. Financial Assurances

The project's location within the Great Lakes, which are also waters of tremendous importance to Tribes and serve vital drinking water needs, warrants consideration of financial assurance obligations. Enbridge's capability to fund a major cleanup is critical to understanding the scope and intensity of potential environmental impacts.

The 1953 Easement allowing placement of the Line 5 dual pipelines on the bottomlands of the Straits of Mackinac was entered into agreement by the "Lakehead Pipe Line Company, Inc." In September 2001, the Lakehead Pipe Line Company changed its name to "Enbridge Energy Company, Inc."⁹ The 1953 Easement requires Enbridge Energy

⁹ Enbridge Energy Company, Inc. is a subsidiary of Enbridge, Inc., the Canadian parent company

Company Inc. (as the corporate successor to Lakehead Pipe Line Company, Inc.) to indemnify and hold harmless the State of Michigan from all damages and losses caused to property or persons due to operation of the Dual Pipelines, and to provide insurance, bond or surety liability coverage. In 2018 under former Gov. Rick Snyder, a subsidiary of Enbridge, Inc. signed an agreement to fulfill that requirement. In a 2019 expert report¹⁰ released by Michigan Attorney General Dana Nessel's office, the American Risk Management Resources Network concluded that Enbridge, Inc. is not subject to the indemnity language under the 1953 Easement and is not responsible for liabilities incurred by its subsidiaries.

In 2020, the Michigan Department of Natural Resources (MDNR) sent a letter¹¹ to Enbridge Inc., requesting that the corporation enter into a written agreement with the State of Michigan to provide financial assurances to cover all damages and losses caused to property or individuals due to operation or failure of the Line 5 Dual Pipelines through the Straits of Mackinac. EPA is not aware of actions by Enbridge to resolve this matter.

Recommendations for the forthcoming DEIS:

- Discuss and clarify if the Enbridge subsidiaries that are signatories to the 1953 Easement and subsequent agreements with the State of Michigan have sufficient financial resources to cover the costs of a pipeline spill or failure.
- Identify the most appropriate mechanism(s) to require financial assurance to address the immediate containment, remediation, and mitigation activities required in the event of an oil spill, the breach of an aquifer, or other accidents.
- Provide information on the specific terms of liability insurance to be implemented.
- Consider integrating the recommendations made by the state of Michigan in the report referenced above to enhance the indemnity obligations for the operators of Line 5 at the Straits.
- In addition to ensuring funding for a major cleanup, consider requiring Enbridge to fund a recovery trust (for natural resource damages, state and local response costs and individual compensation) to be used in the event of a Straits spill (similar to the Deepwater Horizon Oil Spill Trust¹², which was funded at \$20 billion).

2. TRIBAL RESOURCES

EPA recommends that USACE thoroughly analyze and disclose potential direct, indirect, and cumulative impacts to Tribes and Tribal resources, as described below. Such information could assist Enbridge in avoiding, minimizing, and mitigating adverse impacts. Our

¹⁰ An Analysis of The Enbridge Financial Assurances Offered to the State of Michigan On Matters Related To The Operation of The Enbridge Line 5 Pipeline At the Straits of Mackinac: https://www.michigan.gov/-/media/Project/Websites/AG/environment/enbridge/Master_Michigan_Enbridge_10_29_final_.pdf?rev=6d514dc437a946b1bc4c64ba1697de9b

¹¹ <https://www.michigan.gov/dnr/about/newsroom/releases/2020/07/17/dnr-director-requests-that-enbridge-pledge-to-cover-all-losses-related-to-line-5-dual-pipelines>

¹² <https://www.justice.gov/enrd/deepwater-horizon>

recommendations in this section concern analysis of the project's impact on Tribal treaty resources, which EPA views as a specific impact category distinct from effects on wildlife, fish, plants, and natural communities.

A. Included Tribes and Scope of Impacts Considered

EPA is committed to enhancing interagency coordination and collaboration to protect Tribal treaty and reserved rights.¹³ The proposed project is within the territory ceded by Tribal nations to the United States under the 1836 Treaty of Washington ("1836 Treaty"). While Tribal nations ceded land to the U.S. Government for settlement, they hold judicially affirmed reserved rights to hunt, fish, trap, and gather on these lands and also within certain waters of the Great Lakes, including the Straits of Mackinac. These reserved rights can be exercised on public lands and those private lands upon which public hunting, fishing, and gathering is permitted.

Recommendations for the forthcoming DEIS:

- Include a complete list of the federally recognized Tribes that may be impacted by the project and discuss (1) the reserved rights of signatories of the 1836 Treaty, which have been judicially affirmed and are implemented through ongoing State-Tribal resource use agreements, and (2) how Tribal resource use may (or will) be impacted within the project area.
- Explain USACE's process for identifying federally recognized Tribes that may have historic cultural resources present in the project area, as Tribes with ancestral ties to the project area may reside elsewhere. To identify additional Tribal groups that may have ties to the project area, consider using the U.S. Housing and Urban Development's Tribal Assessment Directory Tool¹⁴ for screening, while also using other sources of information.¹⁵
- Ensure the DEIS analyzes potential impacts to all (1) federally recognized Tribes with Tribal treaty and reserved rights in the project area and (2) to resources used, relied upon, or of historic cultural importance to indigenous communities. USACE should ensure the accuracy of the information by offering outreach to both federally recognized Tribes and those indigenous communities¹⁶ with interests in the project area.
- Identify and analyze long-term impacts to treaty resources and Tribal economies. Significant numbers of Tribal members currently depend on treaty resources in the proposed project area for food, medicine, and livelihood.

¹³ EPA and the Department of Defense are signatories to the December 2021 *Memorandum of Understanding Regarding Interagency Coordination and Collaboration for the Protection of Tribal Treaty Rights and Reserved Rights* (<https://www.epa.gov/tribal/memorandum-understanding-regarding-interagency-coordination-and-collaboration-protection>).

¹⁴ The Tribal Assessment Directory Tool is available at: <https://egis.hud.gov/TDAT/>

¹⁵ The Tribal Assessment Directory Tool information, including limitations, are available at: https://www.achp.gov/sites/default/files/2018-09/TDATinformationpaperApril2018_0.pdf

¹⁶ Indigenous peoples are inheritors and practitioners of unique cultures and ways of relating to people and the environment. "Indigenous and Tribal peoples" is a common denominator for more than 370 million people, found in more than 70 countries worldwide. Indigenous and Tribal peoples have retained social, cultural, lingual, economic and political characteristics, customs, and institutions that are distinct from and distinguish them from those of the dominant societies in which they live.

- In general, transporting oil products through the Straits poses potentially significant risks to the treaty area, and thus to the Tribal citizens who exercise their treaty rights. In the interest of giving appropriate weight and consideration to resources protected under Tribal treaties and reserved rights, the DEIS should fully disclose potential impacts or risks to those resources under all alternatives.
- Discuss potential direct, indirect and cumulative impacts to important cultural and medicinal plants from each alternative. Gravel pads proposed to be installed for construction appear to potentially be sited in areas that contain important cultural and medicinal plants, including federally and state threatened species such as Dwarf lake iris (*Iris lacustris*) and Houghton's goldenrod (*Solidago houghtonii*). Evaluate any broader ecosystem impacts that would stem from any losses to such species.
- Evaluate possible impacts to Lake Michigan and Lake Huron fisheries for all project alternatives and consider protective measures to both ensure capacity of existing fisheries and reduce fishery impacts.
- In the cumulative impacts analysis of treaty reserved rights, assess project impacts in the context of historic losses to public lands and waters in the project area where Tribes may exercise treaty reserved rights, including accounting for and minimizing the further fragmentation of lands and resources.
- In consultation with Tribes and indigenous communities, explore opportunities to better understand impacts to Tribal treaty and reserved rights through Indigenous Traditional Ecological Knowledge (ITEK), which the White House recognizes "as one of the many important bodies of knowledge that contributes to the scientific, technical, social, and economic advancements of the United States and to our collective understanding of the natural world."¹⁷

B. Tribal Cultural Resources (TCRs) and Analyses

The proposed project is sited in an area where significant cultural sites have been identified and additional sites may be discovered. The proposed project area is the setting for important tenets of Anishinaabe spiritual practices. According to the oral histories of the Anishinaabe, the Straits are considered the "heart of Turtle Island," the setting for the creation of North America. The Straits are also an important component of the Anishinaabe migration narrative.

Recommendations for the forthcoming DEIS:

- Ensure that the survey area boundaries are sufficient to capture direct, indirect, and cumulative impacts to Tribal cultural resources, including increased noise, traffic, dust, light pollution or similar or impacts to Tribal members' access to tribal cultural resources (TCRs) from construction and operation. Consult with Tribes to establish survey boundaries and include the rationale for boundaries in the DEIS.
- Evaluate direct, indirect, and cumulative impacts on TCRs from the proposed project and all alternatives. Ensure that the DEIS relies on a complete and well-

¹⁷ Indigenous Traditional Ecological Knowledge and Federal Decision Making: <https://www.whitehouse.gov/wp-content/uploads/2021/11/111521-OSTP-CEQ-ITEK-Memo.pdf>

documented TCR survey, with input from Tribal historic preservation officers (THPOs), Tribes with historic presence in the affected areas, indigenous communities, and the State Historic Preservation Officer (SHPO). Ensure the requirements for the National Historic Preservation Act are followed, including consultation with the above entities, consideration of whether TCRs are historic properties, and consideration of ways to avoid, mitigate, or minimize any adverse effects to historic properties. Include portions of the TCR Survey Report that are appropriate for public viewing, such as methodology and summary of findings, as an appendix to the DEIS.

C. Access to Treaty Resources

In addition to potential direct and permanent impacts to treaty resources resulting from project implementation, there is a possibility for both temporary and permanent impacts to Tribal members' access to lands and waters to exercise Tribal treaty and reserved rights.

Recommendations for the forthcoming DEIS:

- Disclose the potential for loss of access to land and waters for Tribal members to exercise treaty reserved rights for each project alternative, including temporary disruptions to access. Identify and discuss how and where Enbridge would expect to limit access during construction and operations.
- Clarify whether, if Enbridge includes a mitigation measure stating that it will allow access, the company could change this decision later. Explain whether there are any legally enforceable mechanisms to ensure perpetual access to treaty and reserved rights in or around project rights-of-way.
- Describe disruptions to the exercise of Tribal treaty and reserved rights that could come from pipeline maintenance activities. If the project advances, then request that Enbridge consider commitments to coordinate maintenance activities with Tribes to minimize disruption to cultural events and gatherings.

D. Impacts to Indigenous Women and Two-Spirit People¹⁸

Based on experience at other pipeline development projects across the country, including some managed by Enbridge, construction may bring in workers from outside the existing communities, which has been documented to increase the levels of assault, rape, and homicide. Since the oil boom, Native communities have reported increased rates of human trafficking, sex trafficking, and missing and murdered Indigenous women in their communities.¹⁹ Temporary housing facilities, referred to as “man camps,” have accommodated the large influx of predominantly male workers in the resource extraction industries, who come to a region for well-paid oil, pipeline, mining, hydroelectric, and forestry jobs. The term “man camp” was popularized in association with the Bakken oil boom in North Dakota. The influx of these temporary housing facilities strains infrastructures in communities that generally already have inadequate resources to

¹⁸ <https://www.ihs.gov/lgbt/health/twospirit>

¹⁹ Violence from Extractive Industry 'Man Camps' Endangers Indigenous Women and Children: <https://www.colorado.edu/program/fpw/2020/01/29/violence-extractive-industry-man-camps-endangers-indigenous-women-and-children>

support population booms. Overall, the potential for harm from “man camps” is exacerbated when such camps are on or near Indigenous peoples’ communities.

In response to the Missing and Murdered Indigenous Women (MMIW) crisis, for Enbridge’s Line 3 construction work in Minnesota, the Minnesota Public Utilities Commission required²⁰ Enbridge to “develop and implement a Human Trafficking Prevention Plan in coordination with the Department of Commerce, the Minnesota Human Trafficking Taskforce, MIAC [Minnesota Indian Affairs Council], and all Minnesota Tribes that wish to participate.”

Recommendations for the forthcoming DEIS:

- Assess and disclose the progress and effectiveness of MMIW and human trafficking prevention programs implemented by Enbridge and other pipeline companies. Take lessons learned from the Line 3 replacement project²¹ to ensure that future Enbridge projects, including the proposed Line 5 tunnel project, better protect indigenous people.
- Use the DEIS to evaluate best practices for protecting indigenous populations. Include specific commitments from Enbridge in the DEIS.

E. Avoidance and Minimization of Impacts to Tribal Resources

With additional identification, analysis, and disclosure of project impacts, as recommended above, there will likely be further opportunities to avoid and minimize impacts to Tribal resources.

Recommendations for the forthcoming DEIS:

- Explain how the project alternatives would avoid or minimize impacts to Tribal hunting, fishing, and gathering, consistent with Tribal treaty and reserved rights. Explore whether Tribal representatives have ideas or suggestions to avoid, minimize, or mitigate temporary and permanent impacts to Tribal treaty and reserved rights and TCR. Include all findings and Enbridge’s protective commitments in the DEIS.
- Invite impacted Tribes and the Great Lakes Indian Fish & Wildlife Commission (GLIFWC) to advise USACE and Enbridge on natural and cultural resource management and monitoring considerations during and after the NEPA process. This should include government-to-government consultation, consistent with the December 2021 *Memorandum of Understanding Regarding Interagency Coordination and Collaboration for the Protection of Tribal Treaty Rights and Reserved Rights*, to which the U.S. Department of Defense is a signatory.

²⁰<https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={D0B1D171-0000-C76C-AF0C-71EA399BFD67}&documentTitle=20205-162795-10>

²¹ In February 2021, a sex trafficking sting resulted in the arrest of seven men, two of whom were Line 3 Replacement workers. Several months later, investigators arrested another six men in another human trafficking sting, two of whom were affiliated with Line 3. This occurred despite the fact that Enbridge was required to create a Human Trafficking Prevention Plan and provide training to its employees in order to receive the initial Minnesota permit to begin construction on the project.

Encourage Enbridge to invite these representatives to have a continuing advisory role during project construction and operation if the project is approved.

- Consult with representatives of Tribes and indigenous communities to understand how ITEK may contribute to a fuller understanding of potential impacts to resources and cumulative impacts to communities.

3. ENVIRONMENTAL JUSTICE AND CHILDREN'S HEALTH

Based on available project information, EPA is concerned that environmental effects would likely be significant, and that impacts experienced by minority populations, low-income populations, or Tribes could appreciably exceed those on the general population or other appropriate comparison groups.

The issues discussed under the *Tribal Resources* section of this letter would uniquely impact Native Americans with treaty and reserved rights or cultural resources in the project area. The impacts of construction, operation, and maintenance of the proposed project that are discussed throughout this letter would impact Tribal residents and may provide project benefits that would only accrue elsewhere. Our recommendations below suggest opportunities to further analyze, disclose, and reduce such impacts.

Recommendations for the forthcoming DEIS:

- Identify the presence of low-income and/or minority communities within the project area and within the broader area that could experience environmental impacts from the proposed project. Disclose demographic information and summarize input from Tribes.
- Include USACE's analysis and conclusion regarding whether the Proposed Action or any action alternatives may have disproportionately high and adverse impacts on low income or minority communities, as specified in CEQ's Environmental Justice Guidance.²²
- Describe past activities and future plans to engage minority populations, low-income populations, and Tribes during the environmental review and planning phase, and, if the project commences, during construction and operations. See specific recommendations above under EPA's recommendations on Tribal Resources.
- Evaluate the impacts of this proposal on low-income and/or minority communities and sensitive receptors (e.g., children, people with asthma, etc.).
- Compare project impacts on low-income and minority populations with an appropriate reference community to determine whether there may be disproportionate impacts. Consider risk of exposure to hazardous/toxic materials associated with the proposed construction and operation and air quality and noise impacts due to construction.

²² CEQ's Environmental Justice Guidance Under the National Environmental Policy Act. See Section III, Part C-4. https://www.epa.gov/sites/default/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf?VersionId=78iNGtdwSTz5E2x.H0aHq.E96_Tphbgd

- Consider any disproportionate non-project-related pollution exposures that communities of concern may already be experiencing, as well as any disproportionate non-pollution stressors that may make the communities susceptible to pollution, such as health conditions, other social determinants of health, and disproportionate vulnerability related to climate change.
- Identify measures to (1) ensure meaningful community engagement, (2) minimize adverse community impacts, and (3) avoid disproportionate impacts to communities with EJ concerns.
- Use census-tract-level information to initially help locate communities with EJ concerns. For initial screening, use EPA's EJSCREEN mapping tool <http://www.epa.gov/ejscreen>.
- In conducting the EJ analysis, utilize resources such as the Promising Practices Report²³ and the Community Guide to EJ and NEPA Methods²⁴ to appropriately engage in meaningful, targeted, community outreach, analyze impacts, and advance environmental justice principles through NEPA implementation.
- Consider cumulative environmental impacts to minority populations, low-income populations, Tribes, and indigenous peoples in the project area within the environmental justice analysis and disclose USACE's conclusions.
- Disclose USACE's analysis and findings as to whether the Proposed Project and alternatives, including the No Action Alternative, would likely have disproportionate adverse impacts on minority populations, low-income populations, or Tribes. Identify what those impacts may be and include measures in the DEIS that Enbridge would take to avoid, minimize, or mitigate impacts; see specific recommendations above under Tribal Resources.
- Establish material hauling routes away from places where children live, learn, and play, to the extent feasible. Consider homes, schools, daycares, and playgrounds. In addition to air quality benefits, careful routing may protect children from vehicle-pedestrian accidents. Identify potential material hauling routes in the DEIS.

4. AQUATIC RESOURCES

The proposed project location warrants heightened attention due to: (1) its location between Lake Michigan and Lake Huron; (2) the potential for significant impacts to waters that are essential to the exercise of Tribal treaty and reserved rights and continuation of Tribal traditional lifeways; and (3) and potential impacts to drinking water resources and rare and high-quality surface waters and wetlands with valuable ecological and habitat functions, such as Lake Michigan, Lake Huron, and Great Lakes coastal wetlands. Great Lakes coastal wetlands provide a variety of ecological functions, including maintaining the water quality of the Great Lakes by capturing excess nutrients, metals, and sediments, in addition to supporting biological diversity of native species.²⁵

²³ https://www.epa.gov/sites/default/files/2016-08/documents/nepa_promising_practices_document_2016.pdf

²⁴ <https://www.energy.gov/sites/prod/files/2019/05/f63/NEPA%20Community%20Guide%202019.pdf>

²⁵ <https://www.epa.gov/great-lakes-monitoring/why-monitoring-great-lakes-coastal-wetlands-important#functions>

A. *Water Quality Standards*

The Clean Water Act (CWA) Section 404(b)(1) Guidelines state that a discharge of dredged or fill material may not be permitted by USACE if it causes or contributes to violations of applicable water quality standards, and no discharge should be allowed if it will cause or contribute to significant degradation of water of the United States (WOTUS).

Recommendations for the forthcoming DEIS:

- Document how the proposed project and project alternatives would, or would not, result in a violation of Michigan state water quality standards or the significant degradation of aquatic resources.
- Provide analysis to demonstrate how the proposed project and alternatives would, or would not, violate Michigan's Water Quality Standards.
- Identify and discuss any waters of interest that may be impacted by project alternatives, including, but not limited to, Outstanding Resource Waters, Exceptional Resources Waters, Wild and Scenic Rivers, Trout Streams and Blue Ribbon Trout Streams, and Water Trails.
- Provide an analysis of the potential for the proposed project and alternatives to affect the water quality of any neighboring jurisdiction (e.g., states or Tribes with treatment as a State (TAS)).

B. *Water Quality and Drinking Water Impacts*

EPA is concerned that, without appropriate construction methodologies and control measures, underwater construction associated with the proposed project may have substantial irreversible adverse effects to Lake Michigan, Lake Huron, and the Straits.

Recommendations for the forthcoming DEIS:

- Discuss specific measures that Enbridge would be required to implement to ensure that project impacts on sedimentation and siltation would not cause significant degradation. Include site-specific erosion and sedimentation control plans, with best management practices for preserving aquatic resource integrity, not only for Lake Michigan, but for all adjacent wetlands.
- Disclose baseline water quality data to the extent possible. Identify waters for which data is not yet available and state how and when it will be collected to enable water quality comparisons before and after the proposed project.
- Require a monitoring and response plan that dictates steps Enbridge would immediately take if monitoring data indicated a decline in water quality or a violation of water quality standards. USACE should review the plan and provide oversight.
- Analyze and disclose potential impacts of a spill on drinking water supplies and intake systems.
- Provide an assessment and summary of potential impacts on coastal wetlands and fish spawning habitat for every alternative. Ensure that analyses include wetlands and fish spawning reefs in the area that would be vulnerable to spills and damage from project construction.

C. Geological Resources and Impacts from Drilling and/or Blasting

The NOI states that the proposed tunnel would be constructed entirely beneath the lakebed of the Straits at depths between 30 feet and 370 feet (except for the entrance points on either side of the Straits) and that the tunnel would be constructed using a tunnel boring machine. It is unclear whether Enbridge or USACE have completed any reviews or studies to confirm subsurface conditions to ensure that conventional boring can be utilized for the entire length of the proposed tunnel.

Recommendations for the forthcoming DEIS:

- Discuss specific studies or reviews²⁶ undertaken to confirm subsurface conditions along the length of the proposed tunnel. Given that the proposed tunnel may face both stress and gravity-driven failures, defining the potential failure mechanisms that support the determination of appropriate selection of the suitable design parameters is important to disclose in the DEIS.
- Provide a discussion of plans and timeframes for removal of any sampling debris or equipment that gets stranded on the lakebed.²⁷
- Discuss whether there is a potential need for any underwater blasting, and if so, under what conditions.
- Provide geotechnical, geophysical, and geohydrology data to ensure the safety of and potential safety consequences of the proposed drilling.
- Provide USACE's assessment and findings regarding geohazards. Provide Enbridge's as well so they can be compared.
- Discuss the potential for vibrations from the drilling operation to adversely impact the Mackinac Bridge, nearby structures, historical/cultural sites, the existing pipeline, and aquatic life within the Straits.
- Discuss the potential risks of rock slurry release during drilling to water quality, aquatic flora and fauna, and drinking water intake sources. Provide information on the permanent disposal location(s) for the materials removed from tunnel drilling.
- Discuss the potential for explosions during tunnel boring due to the presence of natural methane gas. Provide process safety mechanisms and/or mitigation measures to prevent unsafe conditions during active boring.

5. CLIMATE CHANGE

Executive Order 14008: Tackling the Climate Crisis at Home and Abroad states, "*The United States and the world face a profound climate crisis. We have a narrow moment to pursue action...to avoid the most catastrophic impacts of that crisis and to seize the opportunity that tackling climate change presents.*" The U.S. Global Change Research Program's National

²⁶ Enbridge states that they undertook some sampling in 2019: <https://www.enbridge.com/media-center/media-statements/rock-sampling-work-complete-in-straits-of-mackinac>

²⁷ Previous bore hole collapses in 2019 resulted in stranded debris on the lakebed. See: <https://www.detroitnews.com/story/news/politics/2020/01/23/remaining-enbridge-debris-straits-200-feet-not-40/4551435002/>

Climate Assessment provides data and scenarios that may be helpful in assessing trends in temperature, precipitation, and frequency and severity of storm events.²⁸

The project's Action Alternatives would directly release greenhouse gas (GHG) emissions during construction from trucks hauling materials, workers' vehicles, and operation of construction equipment. Upstream GHG emissions from oil and natural gas production and downstream emissions from combustion are reasonably foreseeable and are causally linked to crude oil and natural gas liquids (NGL) transportation infrastructure. It is important for the DEIS to fully quantify and adequately disclose the impacts of the GHG emissions from the proposed action and discuss the implications of long-term carbon lock-in in light of science-based policies established to avoid the worsening impacts of climate change.

Estimating upstream and downstream emissions would provide useful information to the public and decisionmakers as to the scale of the project's indirect impacts and the long-term public interests at stake. Omitting such emissions would result in an underestimation of the proposal's indirect impacts. In addition, estimates of the social cost of greenhouse gases (SC-GHG²⁹) are informative for assessing the impacts of GHG emissions. SC-GHG estimates allow analysts to monetize the societal value of changes in GHG emissions from actions that have small, or marginal, impacts on cumulative global emissions. Estimates of the social cost of carbon (SC-CO₂) and other greenhouse gases (e.g., social cost of methane (SC-CH₄)) have been used for over a decade in Federal government analyses. Quantification of anticipated GHG releases and associated SC-GHG comparisons among all alternatives (including the No Action Alternative scenarios) within the DEIS would inform project decision-making and provide clear support for implementing all practicable measures to minimize GHG emissions and releases.

Recommendations for the forthcoming DEIS:

Emissions & SC-GHG Disclosure and Analysis

- Include a detailed discussion of the project's reasonably foreseeable direct and indirect GHG emissions in the context of actions necessary to achieve Michigan's policies and GHG emission reduction goals³⁰ as well as national policy and GHG emission reduction goals over the anticipated project lifetime, including the U.S. 2030 Paris target and 2050 net-zero policy.
- Quantify estimates of all direct and indirect GHG emissions from the proposed project over its anticipated lifetime for all alternatives, including the No Action

²⁸ Information on changing climate conditions is available through the National Climate Assessment at: <http://nca2018.globalchange.gov>

²⁹ EPA uses the general term, "social cost of greenhouse gases" (SC-GHG), where possible because analysis of GHGs other than CO₂ are also relevant when assessing the climate damages resulting from GHG emissions. The social cost of carbon (SC-CO₂), social cost of methane (SC-CH₄), and social cost of nitrous oxide (SC-N₂O) can collectively be referenced as the SC-GHG.

³⁰ Including, but not limited to: Executive Order 2020-182 (https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-540277--,00.html); Executive Directive 2020-10 (https://www.michigan.gov/whitmer/0,9309,7-387-90499_90704-540278--,00.html); and the Michigan Healthy Climate Plan, April 2022, (<https://www.michigan.gov/egle/about/organization/climate-and-energy/mi-healthy-climate-plan>)

- Alternative, broken out by GHG type. Include and analyze potential upstream and downstream GHG emissions. This should include reasonably foreseeable emissions from the production, processing, transportation, and combustion of natural gas and oil.³¹ USACE could use generic estimates for upstream GHG emissions from production developed by the Department of Energy's National Energy Technology Laboratory if estimates tied to the specific production basins and extraction technologies are unavailable.
- Use SC-GHG estimates to disclose and consider the climate damages from net changes in direct and indirect emissions of CO₂ and other GHGs resulting from the proposed project. To do so, EPA recommends a breakdown of estimated net GHG emission changes by individual gas, rather than relying on CO₂-equivalent (CO₂e) estimates, and then monetize the climate impacts associated with each GHG using the corresponding social cost estimate (i.e., monetize CH₄ emissions changes expected to occur with the social cost of methane (SC-CH₄) estimate for emissions).³² When applying SC-GHG estimates, just as with tools to quantify emissions, USACE should disclose the assumptions (e.g., discount rates) and uncertainties associated with such analysis and the need for updates over time to reflect evolving science and economics of climate impacts.
 - Use comparisons of GHG emissions and SC-GHG across alternatives to inform project decision-making.

Resilience and Adaptation

- Describe changing climate conditions (i.e., temperatures and frequency and severity of storm events) and assess how such changes could impact the proposed project and the environmental impacts of the proposed project and alternatives. This would include the risks of pipeline exposure and damage, potentially increasing spill risks, as well as other project impacts that USACE determines could be affected by climate change.

³¹ This is supported by CEQ's preamble to its notice of proposed rulemaking relating to NEPA Implementing Regulations Revisions, which states: "[E]ven where an agency does not exercise regulatory authority over all aspects of a project, it may be appropriate to consider and compare the air pollution and greenhouse gas emission effects that the proposal and the reasonable alternatives would have on the environment, even if the agency does not have control over all of the emissions that the alternatives would produce. The consideration of such effects can provide important information on the selection of a preferred alternative; for example, an agency decision maker might select the no action alternative, as opposed to a fossil fuel leasing alternative, on the basis that it best aligns with the agency's statutory authorities and policies with respect to greenhouse gas emission mitigation." 86 FR 55757, 55763 (2021).

³² Transforming gases into CO₂e using Global Warming Potential (GWP) metrics, and then multiplying the CO₂e tons by the SC-CO₂, is not as accurate as a direct calculation of the social costs of non-CO₂ GHGs. This is because GHGs differ not just in their potential to absorb infrared radiation over a given time frame, but also in the temporal pathway of their impact on radiative forcing and in their impacts on physical endpoints other than temperature change, both of which are relevant for estimating their social cost but not reflected in the GWP. See the Interagency Working Group on Social Cost of Greenhouse Gases' February 2021 *Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990* for more discussion and the range of annual SC-CO₂, SC-CH₄, and SC-N₂O estimates currently used in Federal benefit-costs analyses.

- Request that Enbridge incorporate robust climate resilience and adaption considerations into (1) project design and engineering; (2) construction oversight; (3) emergency response planning; (4) commitments for protective measures related to stormwater and erosion; and (5) routine monitoring during operations. The DEIS should describe how Enbridge has addressed such considerations and provide a rationale for any reasonable alternatives to enhance resilience that were not adopted or discussed in detail.
- Discuss how climate considerations could shape long term impacts/risks from the project to communities with EJ concerns and to Tribes with relevant treaty and reserved rights.

Reduction and Mitigation

- Identify practices Enbridge could take to reduce and mitigate GHG emissions; include commitments from Enbridge in the DEIS and in permit conditions, if applicable. Work with Enbridge to consider practices in the enclosed Construction Emission Control Checklist.

6. AIR QUALITY

It is important for the air quality analysis section in the forthcoming DEIS to consider, quantify, and analyze both temporary construction-related emissions and permanent and long-term operational emissions. Adequate disclosure of all air quality impacts for all action alternatives and the No Action alternative will allow project stakeholders to understand likely impacts and recommend appropriate protective measures.

Recommendations for the forthcoming DEIS:

- For all project alternatives analyzed in the DEIS, disclose all sources of air pollution and quantify annual anticipated (1) construction and (2) operational air emissions. Rely on general emission factors for construction equipment that Enbridge will use. Include emissions from burning of cleared materials, if applicable, and material hauling. This information is needed to understand the extent and nature of anticipated air pollution.
- For action alternatives, consider, quantify, and analyze potential air quality impacts from both expected maintenance activities and also for responses to spills/major incidents.
- Disclose the anticipated duration (in months, days, etc.) of construction air quality impacts.
- Include commitments from Enbridge to use specific practices to lower construction emissions, including those listed in the enclosed Construction Emissions Control Checklist.
- Provide a quantitative estimate of the amount of nitrogen that would be released during commissioning of the new pipeline and decommissioning of the Dual Pipelines. Discuss opportunities to avoid or minimize releases.

7. **NOISE AND VIBRATION**

Health effects are associated with noise. *“Problems related to noise include stress related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity...[R]esearch has shown that exposure to constant or high levels of noise can cause countless adverse health effects.”*³³

Recommendations for the forthcoming DEIS:

- Disclose the anticipated maximum noise level at the project site.
- Assess whether vibration from the tunneling machine will be a cause for concern for existing welds and connections in the Dual Pipelines.
- Assess whether sediment displacement, compaction or other disturbance caused by tunneling could put new stresses on the existing Dual Pipelines.
- Analyze temporary and long-term (i.e., maintenance) noise impacts for all noise-sensitive receptors. Include residences, areas where cultural events or Tribal gatherings occur, schools, day care centers, senior housing, community centers, and medical facilities, as well as noise disruptions to the exercise of Tribal treaty and reserved rights. Disclose and compare noise and vibration impacts at specific noise sensitive locations for all project alternatives.
- Assess vibration impacts from drilling and/or blasting at residences and other sensitive receptors.
- Include maps with noise contours to delineate the anticipated temporary and long-term noise impacts for all project alternatives. Indicate all sensitive receptors that may be impacted.
- Describe the types of maintenance activities that would generate noise and well as the anticipated noise level and duration.
- Request that Enbridge work with Tribes and other stakeholders to (1) time maintenance activities to minimize disruption to cultural events, and (2) provide people who would be impacted with appropriate advance notification and a phone number to report concerns.

8. **IMPACTS TO FLORA, FAUNA, ENDANGERED SPECIES, AND HABITAT**

EPA is aware of at least two Federally-threatened plant species that occur within the project corridor - Houghton's goldenrod (*Solidago houghtonii*) and Dwarf lake iris (*Iris lacustris*). These species are also listed as state-threatened by the Michigan Department of Natural Resources (MDNR).

Recommendations for the forthcoming DEIS:

- Utilize the U.S. Fish and Wildlife Service’s (USFWS) project planning tool (IPAC – Information for Planning and Conservation) to determine all federally listed endangered or threatened species that may be, or are, present within the boundaries of all project alternatives.

³³ <https://www.epa.gov/clean-air-act-overview/clean-air-act-title-iv-noise-pollution#:~:text=Health%20Effects,sleep%20disruption%2C%20and%20lost%20productivity>

- Discuss whether project alternatives will have effects on migratory bird pathways in the project vicinity.
- Ensure that project impacts on state and federally listed and candidate species are disclosed and assessed for all project alternatives in the DEIS.
- Ensure that the DEIS contains the assessments and conclusions from the USFWS, the Michigan Department of Natural Resources, and the Michigan Natural Features Inventory (MNFI) regarding the potential for impacts to state and Federally-listed species that would result from each project alternative.
- Summarize USACE and Enbridge's coordination with USFWS and MDNR/MNFI related to listed species and include any correspondence from the agencies related to threatened, endangered, and candidate species in an appendix. Disclosing USFWS's, MDNR's and MNFI's recommendations and findings would clarify the scope of impacts.
- Include commitments by Enbridge to adhere to all USFWS and MDNR recommendations to protect species, including, but not limited to, seasonal restrictions on tree clearing and in-water work.
- Require use of pollinator-promoting plants and/or native plant seed mixtures for restoration of disturbed areas associated with project construction activities.

9. SPILLS: IMPACT ASSESSMENT, PREVENTION, PREPAREDNESS, & RESPONSE

From 2002-2021, the Pipeline and Hazardous Materials Safety Administration (PHMSA) collected incident reports on 93 Hazardous Liquid incidents³⁴ that resulted in spillage/release of 34,858 barrels in Michigan. While not all of these were Enbridge releases, Enbridge has a well-documented history of spills in Michigan and across the Great Lakes region.³⁵ Enbridge was responsible for the July 2010 Kalamazoo River spill³⁶ in Michigan, which is one of the largest inland oil spills in U.S. history and resulted in a Consent Decree in 2017. Enbridge's lack of compliance with the 2017 Consent Decree has resulted in \$11.6 million in stipulated penalties.

³⁴ Incident report data searched from: <https://www.phmsa.dot.gov/data-and-statistics/pipeline/pipeline-incident-20-year-trends>

³⁵ Notable incidents reported to PHMSA include but are not limited to: **(1)** September 2010 –Enbridge closed Line 6A for several days after it leaked 7,538 barrels of crude near Romeoville, IL. **(2)** January 2010 –An Enbridge pipeline leaked 3,784 barrels of crude near Neche, ND (only 1,547 barrels were recovered). **(3)** November 2007 – Two workers were killed after an Enbridge-operated pipeline exploded in MN. Specifically, on 11/13/2007, 2 barrels of oil were released from a small leak in the Lake head pipeline near Clearbrook, MN. On 11/28/2007, while repairing the pipe involved in the 11/13 release, 325 barrels were released and exploded after being ignited by a nearby heater. The resulting fireball and blast killed two Enbridge workers. **(4)** January 2007 –An Enbridge pipeline transporting Canadian crude to Chicago leaked 1,500 barrels in rural WI. About a month later, and further north, the pipeline spilled 4,800 barrels after a construction crew broke the line. **(5)** June 2003 –Enbridge spilled around 452 barrels in WI's Nemadji River, and 4,500 barrels spilled from the Superior, WI terminal. **(6)** July 2002– 6,000 barrels spilled from an Enbridge pipeline into wetlands near Cohasset, MN

³⁶ The Kalamazoo River oil spill occurred in July 2010 when a pipeline operated by Enbridge (Line 6B) burst near Marshall, MI. The release, estimated by Enbridge at 843,000 gallons, entered Talmadge Creek and flowed into the Kalamazoo River, a Lake Michigan tributary. Over 1.2 million gallons were recovered by EPA and spill response partners.

Information EPA has reviewed to date does not demonstrate that the project proponent is adequately prepared to prevent or address spills from the proposed pipeline in the proposed tunnel or from the Dual Pipelines, which Enbridge plans to continue to use in the interim until a future project is approved and constructed. EPA is concerned about the significant impacts a spill would have on rare and high-quality surface waters, drinking water supplies, and habitat, among other resources, including the potential for irreversible damage to the Great Lakes. EPA is also concerned that spills could irreparably damage waters and lands that are essential to the exercise of Tribal treaty and reserved rights and continuation of Tribal traditional lifeways. In addition, if a spill were to occur during an extreme weather event, such as during the winter during full ice cover, it would likely alter the dispersion of hazardous materials and stall containment and cleanup activities.

Recommendations for the forthcoming DEIS:

Alternatives Analysis

- Assess and compare spill analyses and impacts from all Action Alternatives and the No Action Alternative(s), including, but not limited to, a comparison of potential impacts on difficult to access areas, ice covered areas, drinking water and intakes, and plant and animal species. Compare the presence of geohazards and associated spill risks among alternatives.

Spill Modeling, Analysis, and Disclosure

- Disclose spill modeling methodologies and assumptions and USACE's findings and conclusions on any spill analyses completed by Enbridge and require specific protective measures (as detailed in the section below) in the DEIS.
- As appendices to the DEIS, to the extent that USACE finds material to be publicly releasable, include the following: (1) liquid plume model and analysis; (2) model and analysis of proposed valve placement; and (3) model and analysis of spill risks to groundwater and drinking water. If USACE determines it is not appropriate to disclose this information, then include portions that are releasable, such as the methodology and assumptions. Clearly state whether USACE finds Enbridge's spill models and analysis to be acceptable.
- For the valve analysis, disclose the quantity of crude oil and NGLs that could spill within each segment per hour assuming the pipeline is operating at its current capacity of 540,000 barrels per day or at a future higher daily capacity, if applicable.
- Analyze and discuss methodologies and strategies to reduce the amount of crude oil or NGLs that would be released in the event of a pipeline failure.
- Clarify whether the project footprint is within a High Consequence Area³⁷ (HCA). The DEIS should provide information on the HCAs used in the liquid plume model, and detail how many HCAs are present and what each HCA generally consists of.

³⁷ Pipeline safety regulations use the concept of "High Consequence Areas" (HCAs) to identify specific locales and areas where a release could have the most significant adverse consequences. An HCA is defined in 49 CFR 195.450 as a commercially navigable waterway, a high population area, an other populated area, or an unusually sensitive area (USA). Note in December 2021, PHMSA designated the Great Lakes and their connecting waters as "Unusually Sensitive Areas (USAs)" See 49 CFR 195.6: <https://www.law.cornell.edu/cfr/text/49/195.6>

- Detail how Enbridge used input from Tribes and other parties to inform its list of Line 5 HCAs. State whether PHMSA concurs with Enbridge's HCAs list related to the Dual Pipelines.
- Discuss when Computational Pipeline Monitoring systems³⁸ (CPMs) would be used, and how large a discrepancy in balance calculations must be detected before Enbridge is required to inform the regulatory agencies. Such information would provide a better understanding of how long small leaks might persist.
- Discuss seasonal differences in impacts and cleanup of a potential spill. For example, disclose spill impacts during winter conditions when lakes are ice covered and road travel may be difficult.
- Summarize the multiple independent studies and analyses that have been undertaken to examine the risks associated with worst-case Line 5 spill scenarios and explain how USACE is incorporating such studies into their decision-making process. Ensure the DEIS examines, but isn't limited to, studies undertaken by: (1) the University of Michigan (Graham)³⁹; (2) the University of Michigan (Schwab)⁴⁰; (3) the Michigan Technological University⁴¹; (4) Melstrom et al, 2019⁴²; and (5) Bessette et al, 2021.⁴³

Protective Measures

- Provide detailed plans with binding commitments from Enbridge to prepare for and respond to accidental releases of hazardous liquids (e.g., fuels, oils, lubricants, and hydraulic fluids used for construction equipment, as well as drilling fluids) into waters. Discuss the potential for unexpected releases of any fluids into the Straits during construction. A third party should review Enbridge's drilling plans and provide oversight.
- Ensure Enbridge implements safety measures for all action alternatives associated with the proposed project. This could include, but is not limited to, implementation of (1) advanced leak detection and monitoring equipment; (2) an enhanced pipeline inspection and spill prevention program (to include secondary containment and cathodic protection for the replacement pipeline); (3) enhanced control room operations; and (4) enhanced emergency spill response and preparedness programs.

³⁸ Computational Pipeline Monitoring (CPM) refers to algorithmic monitoring tools that are used to enhance the abilities of a pipeline controller to recognize hydraulic anomalies that may be indicative of a pipeline leak or commodity release. In the past, these CPM systems have been generally called leak detection systems.

³⁹ <https://graham.umich.edu/project/mackinac-oil-spill>

⁴⁰ See: <http://esciencenews.com/articles/2014/07/10/straits.mackinac.worst.possible.place.a.great.lakes.oil.spill> and <https://graham.umich.edu/media/files/mackinac-report.pdf>

⁴¹ This was a multi-organizational initiative led by Michigan Technological University for the State of Michigan. See: <https://content.govdelivery.com/accounts/MIDNR/bulletins/1ffc258> and <https://mipetroleumpipelines.org/document/risk-analysis-straits-pipelines>

⁴² Melstrom, R., Reeling, C., Gupta, L., Miller, S., Zhang, Y., & Lupi, F. (2019). Economic damages from a worst-case oil spill in the Straits of Mackinac. *Journal of Great Lakes Research*, 45(6), 1130-1141.

<http://doi.org/10.1016/j.jglr.2019.09.003>. Retrieved from: <https://digitalcommons.mtu.edu/michigantech-p/1455>

⁴³ Bessette, Douglas; Ruddy, Michelle; Gunn, Grant; Tarabara, Volodymyr; Richardson, Robert. (2021). The perceived risk of the Line 5 Pipeline and spills under ice. *Journal of Great Lakes Research*, 47(1), 226-235.

<https://doi.org/10.1016/j.jglr.2020.12.002>. Retrieved from:

<https://www.sciencedirect.com/science/article/pii/S038013302030280X>

- Require Enbridge to commit to a specific frequency of ground and water patrols, appropriate to the sensitivity and value of resources within the project area.
- Discuss how Enbridge completed its Corrosion Risk Analysis, and how it developed risk-based inspection protocols based on the potential issues identified in the analysis.
- Explain why newer pipelines, installed in the 2010s, have the highest rates of failure per mile of pipeline compared to much older pipelines.⁴⁴ Explain how the proposed project would avoid these failures observed with other newer pipelines.

Emergency Contingency Planning

- Require Enbridge to demonstrate how its Line 5 systemwide response plans and associated documentation is and will continue to be adequate to enable effective responses to spills following tunnel construction and during changed operation of the system in the future (e.g., increased pressures, flows, volumes, heavier commodity types such as tar sands).
- Require Enbridge to demonstrate how its response plans and response plan revisions are or will be consistent with EPA and U.S. Coast Guard Area Contingency Plans (as is required by federal law and regulation) and how it will comply with PHMSA planning requirements.

Clean-up Response

- Include a list of those local, state, Federal, and Tribal authorities with jurisdiction to manage and/or direct a spill response. Provide information on how a response would be coordinated across all jurisdictions.
- Discuss how TCRs and Tribal treaty and reserved rights may be impacted by response to a spill or incident, and how USACE and Enbridge would consider, address, and mitigate such impacts.
- Discuss how much of the year ice and snow would likely cover the Straits and adjacent land areas within the project footprint. Clean-up analyses should discuss scenarios in which oil is on top of ice and snow covering banks and assess whether recovery of the oil would trample and destroy the banks. The analyses should also discuss whether oil can become trapped under ice cover in the Straits, and how such oil would be accessed and remediated.
- For spills in water colder than the oil's pour point, the oil quickly becomes viscous or tar-like. Assess how much of the year the water in the Straits is likely to be colder than the oil's pour point, and how that would impact cleanup.

Spill Implications Along Line 5

- Assess and disclose the implications of a spill on local communities and natural resources. Consider the Enbridge Kalamazoo River spill in 2010 for examples of potential impacts. Effects from the 2010 Enbridge spill included benzene toxicity, residential evacuations, long term monitoring of surface water, drinking water, and air quality, drinking water advisories, irrigation and fish consumption bans, and loss of access to waterways (e.g., fishing, swimming, and boating), among other concerns.

⁴⁴ Pipeline Safety Trust. Are Old Pipelines Really More Dangerous?, Available at: <https://pstrust.org/wp-content/uploads/2013/03/Incidents-by-age-of-pipes-PST-spring2015-newsletter-excerpt.pdf>

- Assess how the proposed tunnel could impact oil spill preparedness and response within other sections of Line 5. The Dual Pipeline crossings at the Straits represent only a small percentage of the entire length of Line 5 between Superior, WI and Sarnia, Ontario.
- Assess how intensified and stronger oil spill preparedness and response planning may be warranted. To the extent that a new pipeline and subsequent system upgrades could lead to higher flows and potentially heavier commodity flows (e.g., Tar Sands) along the entirety of Line 5, without planning for these potential results, the risk of environmental impact to the Straits from more probable spills at inland river crossings near the Straits (i.e., Line 5 near the US-2 and I-75 corridors) with challenging response implications may be increased.
- Assess and discuss how tunnel construction and replacement of the existing Dual Pipelines into a single new pipeline within the tunnel may result in increased potential for discharge of oil.⁴⁵ Examples of previous incidents include construction mishap histories reported by Enbridge arising from work undertaken on the Dual Pipelines pursuant to its consent decree with EPA and the U.S. Department of Justice.

⁴⁵ EPA has a well-documented history of oil discharge during lock construction at the Soo Locks currently underway nearby in Sault Ste. Marie, MI. These projects are being conducted pursuant to USACE construction oversight and monitoring, and while not pipeline related, corroborate that accidents occur routinely during major construction projects. These spills are documented in reports filed with the National Response Center (NRC) throughout the past several years.

U.S. Environmental Protection Agency **Construction Emission Control Checklist**

Diesel emissions and fugitive dust from project construction may pose environmental and human health risks and should be minimized. In 2002, EPA classified diesel emissions as a likely human carcinogen, and in 2012 the International Agency for Research on Cancer concluded that diesel exhaust is carcinogenic to humans. Acute exposures can lead to other health problems, such as eye and nose irritation, headaches, nausea, asthma, and other respiratory system issues. Longer term exposure may worsen heart and lung disease.⁴⁶ In the subsequent NEPA document, we recommend that USACE discuss the following protective measures and Enbridge commit to applicable measures.

Mobile and Stationary Source Diesel Controls

Purchase or solicit bids that require the use of vehicles that are equipped with zero-emission technologies or the most advanced emission control systems available. Commit to the best available emissions control technologies for project equipment in order to meet the following standards.

- On-Highway Vehicles: On-highway vehicles should meet, or exceed, the EPA exhaust emissions standards for model year 2010 and newer heavy-duty, on-highway compression-ignition engines (e.g., long-haul trucks, refuse haulers, shuttle buses, etc.).⁴⁷
- Non-road Vehicles and Equipment: Non-road vehicles and equipment should meet, or exceed, the EPA Tier 4 exhaust emissions standards for heavy-duty, non-road compression-ignition engines (e.g., construction equipment, non-road trucks, etc.).⁴⁸
- Locomotives: Locomotives servicing infrastructure sites should meet, or exceed, the EPA Tier 4 exhaust emissions standards for line-haul and switch locomotive engines where possible.
- Marine Vessels: Marine vessels hauling materials for infrastructure projects should meet, or exceed, the latest EPA exhaust emissions standards for marine compression-ignition engines (e.g., Tier 4 for Category 1 & 2 vessels, and Tier 3 for Category 3 vessels).⁴⁹
- Low Emission Equipment Exemptions: The equipment specifications outlined above should be met unless: 1) a piece of specialized equipment is not available for purchase or lease within the United States; or 2) the relevant project contractor has been awarded funds to retrofit existing equipment, or purchase/lease new equipment, but the funds are not yet available.

Consider requiring the following best practices through the construction contracting or oversight process:

- Establish and enforce a clear anti-idling policy for the construction site.
- Use onsite renewable electricity generation and/or grid-based electricity rather than diesel-powered generators or other equipment.
- Use electric starting aids such as block heaters with older vehicles to warm the engine.

⁴⁶ Carcinogenicity of diesel-engine and gasoline-engine exhausts and some nitroarenes. *The Lancet*. June 15, 2012

⁴⁷ <http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm>

⁴⁸ <https://www.epa.gov/emission-standards-reference-guide/epa-emission-standards-nonroad-engines-and-vehicles>

⁴⁹ <https://www.epa.gov/emission-standards-reference-guide/all-epa-emission-standards>

- Regularly maintain diesel engines to keep exhaust emissions low. Follow the manufacturer's recommended maintenance schedule and procedures. Smoke color can signal the need for maintenance (e.g., blue/black smoke indicates that an engine requires servicing or tuning).
- Where possible, retrofit older-tier or Tier 0 nonroad engines with an exhaust filtration device before it enters the construction site to capture diesel particulate matter.
- Replace the engines of older vehicles and/or equipment with diesel- or alternatively fueled engines certified to meet newer, more stringent emissions standards (e.g., plug-in hybrid-electric vehicles, battery-electric vehicles, fuel cell electric vehicles, advanced technology locomotives, etc.), or with zero emissions electric systems. Retire older vehicles, given the significant contribution of vehicle emissions to the poor air quality conditions. Implement programs to encourage the voluntary removal from use and the marketplace of pre-2010 model year on-highway vehicles (e.g., scrappage rebates) and replace them with newer vehicles that meet or exceed the latest EPA exhaust emissions standards, or with zero emissions electric vehicles and/or equipment.

Fugitive Dust Source Controls

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative, where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

Occupational Health

- Reduce exposure through work practices and training, such as maintaining filtration devices and training diesel-equipment operators to perform routine inspections.
- Position the exhaust pipe so that diesel fumes are directed away from the operator and nearby workers, reducing the fume concentration to which personnel are exposed.
- Use enclosed, climate-controlled cabs pressurized and equipped with high-efficiency particulate air (HEPA) filters to reduce the operators' exposure to diesel fumes. Pressurization ensures that air moves from inside to outside. HEPA filters ensure that any incoming air is filtered first.
- Use respirators, which are only an interim measure to control exposure to diesel emissions. In most cases, an N95 respirator is adequate. Workers must be trained and fit-tested before they wear respirators. Depending on the type of work being conducted, and if oil is present, concentrations of particulates present will determine the efficiency and type of mask and respirator. Personnel familiar with the selection, care, and use of respirators must perform the fit testing. Respirators must bear a NIOSH approval number.