PART I TO COMMENTS OF ENBRIDGE ENERGY, LIMITED PARTNERSHIP ON DECEMBER 16, 2022, DRAFT ENVIRONMENTAL IMPACT STATEMENT LINE 5 REROUTE PROJECT

INTRODUCTION

The Draft Environmental Impact Statement (DEIS) for the Line 5 Wisconsin Segment Relocation Project (Project) published on December 16, 2021, provides extensive evaluation and discussion of the potential benefits, impacts, and mitigation measures for the Project and alternatives being considered by the Wisconsin Department of Natural Resources (WDNR). The DEIS was prepared in response to significant public interest in the Project and addresses the issues identified by the public scoping process conducted in July 2020. Accordingly, the Applicant, Enbridge Energy, Limited Partnership (Enbridge) has focused these comments on corrections, clarifications, and additions that the WDNR Office of Energy may want to consider in preparing the final EIS (FEIS) to best inform the public during the permitting processes.

Enbridge has organized these DEIS comments to first suggest general or overarching clarifications to the terminologies and methodologies used in the DEIS and then to provide specific comments on the content of each chapter.

OVERARCHING COMMENTS

The DEIS is being prepared by the WDNR under the Wisconsin Environmental Policy Act (WEPA) to address public interest in the Project and the associated waterway and wetland permits required under Wis. Stats. §§ 30.12, 30.18, 30.20, and 281.36. Under WDNR's WEPA regulations at Wis. Admin. Code § NR 150.20(2), these permits are "integrated actions" for which no separate environmental assessment or environmental impact statement is required. However, given the multiple department actions required for the Line 5 Reroute and the potential for public controversy, the WDNR exercised discretion to prepare a voluntary EIS pursuant to Wis. Admin. Code § NR 150.30(4).

The DEIS notes that it was prepared with input from multiple stakeholders, including state, federal, and tribal groups. This diversity of the stakeholders, coupled with the WDNR's decision to prepare a voluntary EIS addressing issues of potential public controversy, has yielded a broad review, addressing numerous topics including potential impacts, right-of-way clearing, and Wisconsin trespass law. Despite commentary on a substantial range of issues, the FEIS should be focused on more specific discussion of the probability of impacts and associated mitigation strategies while staying within the scope of WDNR's permitting regulations. A more fulsome response to individual sections of the DEIS is set forth below, but some areas for focus in the FEIS include detailed information about water quality impacts, potential releases, forest management, and access to public lands for lawful activity. The discussion of impacts to water quality from pipeline construction should include details about the pre- and post-construction monitoring required by the Department for a prior pipeline construction project proposed by a different operator utilizing the same construction techniques. The discussion of potential petroleum releases needs to include consideration of the low probability of release, as well as Enbridge's comprehensive monitoring of the pipeline and emergency response capabilities to respond and mitigate impacts.

The Project is proposed in portions of Ashland and Iron Counties, where there are areas with active ongoing forest management programs, including parcels enrolled in the WDNR's Managed Forest Land programs and subject to WDNR forestry reviews. Commentary on right-of-way clearing should incorporate the context of vibrant and ongoing forest management in the region.

In several places the DEIS discusses the Wisconsin Utility Trespass law, an existing statute that applies to all current utility rights-of-way. The FEIS should note that lawful activity will be treated as such by Enbridge and local law enforcement.

COMMENTS BY SECTION

1.0 PROJECT OVERVIEW AND REGULATORY PROCESS

1.3 Project Purpose and Need

Section 1.3 identifies the Project purpose and need in two ways. The first is that the Project will allow the continued transportation of crude oil and natural gas liquids (NGLs) through the Line 5 pipeline, serving

refineries and depropanization plants that produce products on which residences and businesses rely for heating fuel and transportation, among many other products. Those customers include the Rapid River depropanization plant in the Upper Peninsula of Michigan and the Plains Midstream depropanization plant in Superior, Wisconsin, which would, according to Plains Midstream, close if Line 5 ceases operation, creating propane supply disruptions. In addition, the cessation of operation of Line 5 will remove 540,000 barrels per day of petroleum from the upper Midwest and eastern Canadian markets (80,000 barrels per day of NGLs and 460,000 barrels per day of crude oil), resulting in a material reduction in crude oil supply to those regions used for production of fuel and other petroleum-based products.

This reduction in supply will yield shortages of, and price increases, for fuel. Necessities like heating propane have inelastic demand, meaning that households and businesses will not reduce consumption by much, even if prices continue to increase. Shortages and increases in the price of propane will have a severe negative impact on low-income households that use propane for heating, and it will force them to decide whether to "heat or eat," – i.e., they will need to choose whether to heat their homes or spend less on groceries and other essentials.

The recent report prepared by Consumers Energy Alliance and previously submitted to this docket further outlines the significant impacts to households, businesses, and local and state governments of a shutdown of Line 5 on Michigan, Ohio, Indiana, and Illinois.

Shortages in crude oil and NGL supply due to lack of pipeline transportation will occur and cannot be remedied through use of alternative modes of transportation such as truck, tanker, or rail. Loading and unloading facilities for each of these modes do not currently exist in the locations where Line 5's products are delivered, and would require significant capital investments and time to develop, permit, and install. Further, these alternatives introduce significant risks of their own. Transporting Line 5 volumes via truck is not feasible given the volumes and distances involved. Further, it would require no less than 6,700 and possibly many more trucks and drivers, neither of which are available. Even if the trucks and drivers were available, putting this number of trucks on Wisconsin roads each day would strain road capacity and increase road maintenance costs. Tanker vessels or barges are similarly problematic for transporting Line 5 products across the Great Lakes. Crude oil is not currently transported across the Great Lakes, nor are NGLs. The specialized barges required to safely transport crude oil and/or NGLs across the Great Lakes do not currently exist. Finally, rail is not a viable alternative for transporting Line 5 products. An insufficient number of suitable tank cars is available, and it is unlikely that adequate rail line capacity exists to add transport of Line 5 products to the current rail line hauling activity on available tracks. None of these alleged alternatives are suitable to solve the transportation issues that would result from a closure of Line 5.

Beyond the inadequacy of alternative transportation for Line 5 volumes, closure of Line 5 would also result in annual state tax loss for Wisconsin and Michigan.

1.3.1 Lawsuit to Remove Line 5 from the Tribal Lands

A federal lawsuit was filed against Enbridge seeking the shutdown of Line 5 across the Bad River Reservation. Enbridge disagrees with the lawsuit in full, but in response to the relief requested by the Bad River Band in that lawsuit, Enbridge has voluntarily proposed the Project.

1.6 Authorities and Required Approvals

As discussed in further detail in Section 9.0, below, on January 28, 1977, the United States and Canada entered into a treaty titled *Agreement Between the United States of America and Canada Concerning Transit Pipelines* (Transit Treaty). That treaty notes that "pipelines can be an efficient, economical and safe means of transporting hydrocarbons from producing areas to consumers, in both the United States and Canada" and that "measures to ensure the uninterrupted transmission by pipelines through the territory of one Party of hydrocarbons not originating in the territory of that Party, for delivery to the territory of the other Party, are the proper subject of an agreement between the two Governments."

The FEIS should include the Transit Treaty in the description of authorities and required approvals.

2.0 DESCRIPTION OF THE PROPOSED PROJECT AND GENERAL PIPELINE PRACTICES

2.8 Operation and Maintenance Procedure

2.8.1.2

Sections 2.8 and 2.8.1.2 include discussion of the Integrity Management Program (IMP) information provided in the Environmental Impact Report (EIR) prepared for the Project and subsequent data request responses. However, these sections do not include integrity threat mitigation measures – Dig and Repair, set forth below.

Enbridge employs a broad range of mitigation measures or activities, including but not limited to integrity monitoring, operating a state-of-the-art control center with highly qualified and trained personnel to respond in the event of a trigger alerting them that there has been a change in volume or operations of a pipeline, reducing operating pressure, undertaking a dig and repair, or replacing segments of the pipeline.

The Project pipeline and ancillary facilities will be constructed to accommodate internal inspection instruments, such as in-line inspection devices also referred to as "smart pigs" to identify features that may be areas of internal corrosion, dents, cracks, or other features that could compromise pipeline integrity. Such inspections are required periodically under PHMSA's regulations at 49 C.F.R. Part 195. Specifically, Part 195 requires that an operator continually assess a pipeline's integrity at five-year intervals, not to exceed 68 months. Because there are multiple in-line inspection technologies used to detect distinct types of pipeline features, that often means that several types of tools are run more frequently over a five-year period to assess varying feature types. In addition, Enbridge assesses certain features via a risk-based approach that may require multiple inspection tool runs over a five-year period. Part 195 requires a baseline assessment prior to operation.

3.0 PROJECT ALTERNATIVES

Section 3.3 includes Subsections 3.3.1 (Continued Operation of Line 5 within the Bad River Reservation) and Subsection 3.3.2 (Decommissioning). Neither of these alternatives are contemplated by the Project, and neither would accomplish the objective of the Project – to relocate a segment of Line 5 off the Bad River Reservation. As such, neither meets the purpose nor need of the Project.

Section 3.4 notes that loss of the Line 5 NGL supply at Sarnia, given the absence of pipeline alternatives to transport those NGLs, would result in economic dislocations. Inclusion of additional information in the FEIS about the local and regional disruptions caused by this loss in Canada as well as in the United States is warranted. Such disruptions include:

- The NGL depropanization facilities operated by Plains Midstream in Superior, Wisconsin, Rapid River, Michigan, and Sarnia, Ontario are entirely reliant on Line 5. These facilities account for most of the propane supply in Michigan and virtually all of the propane consumed in Ontario. There are no existing NGL transportation alternatives to Line 5, and Plains has confirmed that the loss of the Line 5 NGL supply would result in the closure of its depropanization facilities.

- The closure of the Plains depropanization facilities would cause shortages in propane for a minimum of several years in the Upper Midwest and Ontario, with consumer prices elevated and volatile. Price increases in Michigan, Wisconsin, and Ontario for propane and butanes would be expected to amount to $128 million.

- Line 5 transports approximately 38% of crude oil demand for 10 refineries in Michigan, Ohio, Pennsylvania, Ontario, and Quebec, which are all key sources for refined products for the region. A Line 5 closure would cause these refineries to receive approximately 334,700 bpd less crude from Enbridge than their current demand, resulting in approximately a 14-million-US-gallons-per-day supply shortage of gas, diesel, and jet fuel.

- The loss of Line 5 crude oil volumes would be severe for refineries in western Pennsylvania and Ontario, causing them to struggle to maintain stable operations and resulting in the closure of one or more refineries. The loss of Line 5 crude oil volumes would be significant for refineries in Michigan, northern Ohio, and Quebec, causing shortages throughout the region. Refined product

shortages would be expected to result in price increases and panic buying, creating additional shortages and price increases.

- As a result, significant job losses will result, with adverse economic impacts most acute in Michigan, Ontario, and western Pennsylvania. The government of the province of Ontario, for example, has said the economic disruption resulting from a loss of Line 5 products would result in thousands of layoffs at facilities directly and indirectly served by Line 5 in Sarnia.

- Michigan would need to find an alternative supply for anywhere from 4.2 million to 7.77 million US gallons of refined products a day (gas, diesel, jet fuel and propane). This alternative supply would require delivery out of Superior, WI, by rail, truck, or ship, all of which, even if feasible, which they are not, as outlined above in response to Section 1.3, would generate massive additional rail and truck traffic through Wisconsin and neighboring states (15.4 trains per trip and 5,684 trucks per day) and increased mobile source emissions for such transport.

Sections 3.4.1 and 3.4.2 suggest that, in lieu of the Project, Enbridge could either transfer the 540,000 bpd of crude oil and NGLs onto another existing pipeline or it could construct a new pipeline route around Lake Superior and Lake Huron. First, there is no existing pipeline in the region that could transport NGLs between Superior, Wisconsin and Sarnia, Ontario. Line 5 is operationally unique as compared to other Enbridge pipelines because it transports both NGLs and crude oil. No other Enbridge pipeline serving points between Superior and Canada is capable of transporting NGLs. Accordingly, the 80,000 bpd of NGLs transported on Line 5 cannot be transported via any other existing Enbridge pipeline to facilities in Michigan or Sarnia.

Second, there is insufficient capacity available on Enbridge's pipeline system to transport all of the crude oil that is currently transported by Line 5. Some crude oil could be transported on Enbridge's Line 78, but the resultant shortfall in crude oil volumes delivered to Sarnia, Ontario via Line 78 would still be approximately 334,700 bpd. This conclusion is affirmed by the analysis of alternatives to the continued operation of Line 5 across the Straits of Mackinac prepared by Dynamic Risk Assessment Systems, Inc. on behalf of the State of Michigan. That analysis formally evaluated the utilization of existing alternative pipeline infrastructure that does not cross the open waters of the Great Lakes. Dynamic Risk concluded in 2017 that "there are very limited options to utilize available capacity on existing assets whether they are owned by Enbridge or other parties". Accordingly, the use of existing pipelines is not a viable alternative to Line 5.

Third, the construction of a new pipeline is not currently being proposed, and even if it were, it would result in more significant environmental impacts than the Project. Section 3.4.2 includes Figure 3.4.2-1 showing two potential alternate pipeline routes discussed in the Dynamic Risk report: a northern route around Lake Superior, and a southern route following existing pipelines through Wisconsin and Illinois, Indiana, and Michigan to reach Sarnia. While Section 3.4.2 identifies the potential "northern route" as 834 miles in length, that includes only the portion that would follow an existing TransCanada right-of-way: the total length of the proposed northern route is 1,264 miles, including a 266-mile segment through Precambrian shield from Duluth, MN to Thunder Bay, Ontario, and a 186-mile segment from Barrie to Toronto, Ontario. In addition, Figure 3.4.2-1 shows the proposed southern route that would parallel Enbridge's existing system across Wisconsin, Illinois, Indiana, and Michigan. The Dynamic Risk report did not evaluate the environmental impacts of these alternatives. The FEIS should reflect that that these alternatives have not been carried forward for detailed study because they are not feasible and would presumably result in much more extensive impacts as compared to the 41-mile Project.

SCOPE OF ANALYSIS

Areas of Potential Direct and Indirect Affects

Sections 4.2.1-4.2.6 seek to identify the areas of direct and indirect effect of the Project. To provide greater clarity, each of these sections should distinguish between impacts reviewed under WEPA and impacts reviewed for wetland and waterway permits and should also note that the descriptions of the broader areas of review for direct, indirect, and cumulative effects are the areas of *potential* effect for purposes of the WDNR analysis, as opposed to areas that will definitively be adversely affected by the Project. While sections 4.2.5 (Ecological Landscapes) and 4.2.6 (Climate Zones) qualify whether the indirect effects are possible or potential, sections 4.2.2 and 4.2.4 do not clarify that these are areas of potential, and not determined, indirect effects. This additional qualification should be added to these sections in the FEIS.

4.0 CURRENT CONDITIONS

State Listed Endangered and Threatened Species

In compliance with Wisconsin's Endangered Species Law (Wis. Stat. § 29.604), which requires the protection of Wisconsin state-threatened and endangered species, Enbridge conducted an Endangered Resources Review (ER Review) and evaluated the Project's potential for impacts on rare species (*e.g.*, special concern, threatened, or endangered species). A renewed ER Review (Log #20-034), which has been approved by the WDNR, was completed on February 15, 2022. The renewed ER Review provides specifics on species habitat considerations, including potential habitat within the proposed Project work areas; potential impacts on species and/or their habitat; and WDNR required or recommended actions to avoid and/or minimize impacts on state-listed species. Although not protected under the state endangered species law, special concern species are also listed in the ER Review and addressed. Enbridge will continue to coordinate with the WDNR and update the ER Review as appropriate.

The final EIS should be revised to include the total number of endangered resources identified in the February 2022 ER Review. Table 1 (*see* Table 1 at the end of this document) includes a summary of the most recent (*i.e.*, February 2022) ER Review and the avoidance/minimization measures required or recommended by the WDNR. It should be noted that the WDNR required measures only pertain to one species on the table (the wood turtle). The text following the table describes the potential impacts of the Project and avoidance/minimization measures Enbridge will implement for the wood turtle and other species listed on the table.

Impact Avoidance and/or Minimization Measures to be Implemented by Enbridge:

<u>Birds</u>

Activities required for construction have the potential to affect the habitat of birds classified as species of special concern. Take of, or direct impacts to, the bird special concern species included in the ER Review and summarized in Table 1 or other migratory birds are not expected due to the timing of vegetation clearing activities. Vegetation clearing activities associated with construction of the Project are anticipated to be scheduled to occur outside the migratory and nesting seasons for most migratory birds in the region (*e.g.*, April 1 to July 15). Impacts from vegetation clearing on special concern bird species (and other migratory bird species) requiring contiguous forested patches may occur. Some bird species that use open or shrubland habitats could benefit from the habitat conditions created by the proposed Project in the maintained right-of-way. For additional information regarding forest fragmentation, including topics such as right-of-way configuration and analysis of landscape scale changes, see Enbridge's Fragmentation Comment Response. While Enbridge will comply with the MBTA, activities required for construction have the potential to affect migratory bird habitats. Additionally, Enbridge will implement, as practicable, other measures to avoid and minimize such impacts, such as clearing outside of the nesting season and implementing activity buffers around active bald eagle nests.

Construction and operation of the Project will result in the permanent loss of some forested nesting habitat, most notably deciduous and coniferous forests in the pipeline right-of-way areas. After construction is complete, Enbridge will restore the construction right-of-way as near as practicable to preconstruction condition. Cropland will be restored to active agricultural production, and other areas will be revegetated using methods and seed mixes appropriate to existing land uses and cover types. Forested areas outside of the maintained operational easement will be allowed to reforest by succession and natural recruitment. Enbridge anticipates that most of the temporary use areas will recover to pre-disturbance conditions over time.

Bald Eagle

To the greatest extent practicable, Enbridge will avoid clearing vegetation from April 1 to July 15. If a bald eagle nest is identified, the Project will comply with the Bald and Golden Eagle Protection Act and activities would be avoided within 660 feet of the Project workspaces from mid-January through July 30 (or when the nest was actively being used). If this timing restriction cannot be maintained for some reason, Enbridge will coordinate with the WDNR and USFWS as appropriate.

Invertebrates

Aquatic Insects

Potential impacts to the habitat of the five aquatic insect special concern species listed in Table 1 will be minimized or avoided in several ways. The Project has prepared and submitted to the WDNR a Project specific Storm Water Pollution Prevention Plan (SWPPP). As described in that plan, all temporary and permanent erosion and sediment control measures will be installed and maintained in accordance with Enbridge's Environmental Protection Plan (EPP), the WDNR Storm Water Construction Technical Standards, and applicable permit requirements. More details regarding erosion control Best Management Practices (BMPs) implemented by the Project can be found in the SWPPP. The Potato River, Lawrence Creek, and the White River are listed by the WDNR as potential habitat for state listed special concern insect species. The Potato River and White River will be crossed by HDD, avoiding direct impacts to these waterbodies. Lawrence Creek is not crossed by the Project.

Confusing Bumble Bee and Yellowbanded Bumble Bee

If habitat for confusing bumble bee or yellowbanded bumble bee is present in the Project area, it will be temporarily affected by removal of vegetation. Clearing of herbaceous and shrub communities in the open areas of the temporary right-of-way, both in upland and wetland areas, would cause a short-term impact on the bees' habitat, but the effect would be mitigated by Enbridge's anticipated construction schedule and revegetation plans.

As described above, vegetation clearing activities associated with construction of the Project are anticipated to be scheduled to occur outside the April 1 to July 15 timeframe when the confusing bumble bee and yellowbanded bumble bee are most active.

Enbridge will also utilize herbaceous seed mixes on disturbed areas following the completion of pipeline construction to restore cover, minimize the duration of vegetative disturbance, and stabilize the soil. Following seeding, Enbridge expects that pre-existing herbaceous and shrub habitats will quickly become re-established and that wildlife species that use these habitats will return soon after construction.

West Virginia White

Clearing of woody shrubs and trees will be the primary long-term impact on vegetation associated with the Project, including in areas of potential suitable habitat for West Virginia white. This species is primarily found in rich, deciduous northern forests, where it lays its eggs on the host plant, the toothwort (*Cardamine diphylla*). If a suitable habitat for this species and its host plant is present within the Project work areas, it may be affected.

Enbridge will allow woody shrubs and trees to recolonize the temporary construction right-of-way and extra work areas as described in the EPP. However, recolonization of disturbed areas by woody shrubs and trees will be slower than herbaceous species. As natural succession proceeds in these areas, the early successional or forested communities present before construction will eventually re-establish.

Clearing trees in the construction right-of-way could affect undisturbed forest vegetation growing along the edges of the cleared areas and incrementally reduce suitable habitat for the West Virginia white and its host plant. Due to the increased light levels penetrating the previously shaded interior, shade-intolerant species will be able to grow, and the species composition of the newly created forest edge may change slightly.

Amphibians/Reptiles

Wood Turtle

Enbridge conducted wood turtle habitat assessment surveys during the 2020 field season. The results of these surveys were provided to the WDNR and were included in Section 6.5.4.2 (State Threatened and Endangered Resources) of Enbridge's EIR. Enbridge will implement conservation measures as required in the WDNR's Broad Incidental Take Permit for wood turtles in areas of suitable habitat (White River; Brunsweiler River; Tributary to Silver Creek (suitable aquatic habitat only); Bad River; Krause Creek (suitable aquatic habitat only); Tyler Forks; Potato River, and Lawrence Creek; and Vaughn Creek), including (1) ground disturbance, heavy equipment operation or supply/equipment storage within nesting habitat (exposed sand or gravel areas within 200 feet of a suitable stream/river) during the nesting season (May 20 – September 18) is not allowed unless herp exclusion fencing is installed outside of these dates to prevent turtles from entering the area to nest, or habitat has been

made unsuitable outside of these dates, (2) instream work (*e.g.*, streambank/rip rap installation, ford installation, open cut trenching, and dredging) and drawdowns during the maximum overwintering period (October 1 – April 30) is not allowed, and (3) when construction crews are working within 300 meters of suitable waterbodies, wood turtles could be in/around the above waterbodies. Crew members would need to move any turtles out of harm's way during construction operations. If Enbridge's construction schedule changes, Enbridge would coordinate with the WDNR to determine if an Individual Take permit is required.

Plants

Braun's Holly-fern

In 2020, surveys were conducted for Braun's holly-fern. The surveys were conducted on public lands in areas determined suitable through coordination with the WDNR and the WDNR ER Review process. Specifically, presence/absence surveys were conducted on suitable woodland habitat on public lands within 1.0 mile from a previously documented WDNR natural heritage inventory element occurrence for this species. Surveys were conducted within the Project's environmental survey corridor and associated Project access roads (buffered) on public lands. Survey efforts did not result in any Braun's holly-fern observations on public lands; therefore, the Project will have no impact on the Braun's holly-fern on public lands within the survey area. During wetland and waterbody surveys, an incidental observation of an individual Braun's holly-fern was documented on private land where it overlaps with the Project workspace; therefore, the individual will be impacted by construction activities. An additional incidental observation of one individual Braun's holly-fern was documented on public land; however the single observance location is outside of the proposed right-of-way and workspace. For this reason, to the extent that additional occurrences of Braun's holly-fern have been identified, the Project will not adversely impact those ferns. Enbridge will continue to coordinate with the WDNR regarding natural heritage concerns.

Yellow Specklebelly and Fringed Rosette Lichen

Clearing of woody shrubs and trees will be the primary long-term impact on vegetation associated with the Project, including in areas of potential suitable habitat for Yellow Specklebelly and Fringed Rosette Lichen. If a suitable habitat for these species is present within the Project work areas, it may be affected.

As described above for the West Virginia white, Enbridge will allow woody shrubs and trees to recolonize the temporary construction right-of-way and extra work areas as described in the EPP. However, recolonization of disturbed areas by woody shrubs and trees will be slower than herbaceous species. As natural succession proceeds in these areas, the early successional or forested communities present before construction will eventually re-establish.

Clearing trees in the construction right-of-way could affect undisturbed forest vegetation growing along the edges of the cleared areas and incrementally reduce suitable habitat for the two lichen species. By exposing some edge trees to elevated levels of sunlight and wind, evaporation rates and the probability of tree knockdown could increase. Due to the increased light levels penetrating the previously shaded interior, shade-intolerant species will be able to grow, and the species composition of the newly created forest edge will likely change. The proposed clearing could also temporarily reduce local competition for available soil moisture and light and may allow some early successional species to become established and persist on the edge of the undisturbed areas adjacent to the site. A portion of forestland will be maintained clear of trees for operational purposes, including facilitating aerial inspections, preserving pipeline integrity, and providing access for maintenance or emergency work in compliance with federal regulations.

5.0 EFFECTS OF PROPOSED PROJECT AND ROUTE ALTERNATIVES

Discussion of Surface water quality

Section 6 of the DEIS discusses potential impacts of the Project to various media, including groundwater and wetlands, but does not evaluate surface water quality during and after the Project. This section should incorporate key water quality criteria evaluated by the Department for surface waters proposed to be crossed using the construction techniques identified in the EPP that have been demonstrated to not impact water quality, as well as of a prior study conducted in Wisconsin that sampled pre- and post-construction water quality for 15 separate waterways that were crossed utilizing the same suite of crossing methods proposed for the Project, and the results of that study.

Downstream Surface Water Quality Considerations

With respect to pipeline construction, the primary concern to water quality is the increase in sediment and material loading to streams and other waterways. The water quality parameter of consideration is total suspended solids (TSS).

The Project will utilize BMPs, further identified in the EPP, to avoid any increased loading of suspended solids to the waterways that will be crossed that could affect downstream water quality standards. These measures include the use of HDD to cross under ERW waterways. For waters crossed using other methods, BMPs include installation of erosion and sediment control devices along the waterbody banks prior to ground disturbing activities, installation of sediment control BMPs on the temporary bridges, and prohibition of spoil storage within the streambed. For dry crossings, utilization of these procedures further reduces the potential release of TSS by isolating the crossing area prior to excavation. Enbridge will also install in-stream BMPs at open cut and modified dry crossings to minimize TSS. Further, the timeline associated with these activities would typically be between 10 to 48 hours for the size of waterbodies to be crossed by the Project, except where the push-pull method is used to cross waterbodies within wetland complexes. In those areas, crossing activities will range from 1.5 to 14 days.

These BMPs have been successfully implemented in previous pipeline projects in Wisconsin, including the 2010 Guardian Expansion Extension project. As a part of the 2010 Extension, Natural Resources Group (NRG) conducted pre- and post-project water quality monitoring for fifteen (15) streams crossed during the installation. The results of that sampling showed no significant or adverse increase in TSS loading to the streams crossed, especially in light of background fluctuations in TSS levels related to stormwater runoff from undisturbed lands. A copy of the 2010 report is included as Attachment A to these comments.

Blasting Residuals

Section 6.8.3.4 discusses the potential effects of blasting residuals but does not reference or discuss any of the measures Enbridge would implement to minimize potential effects of residuals on groundwater supplies. To minimize the potential release of nitrogen compounds associated with blasting materials, Enbridge and its contractors will adhere to strict management of nitrogen-based explosives during the storage, handling, transportation, bore-hole loading, and detonating phases of blasting. The Project will use only packaged explosives (no bulk explosives will be used) with proven resistance to water infiltration to prevent leaching of soluble materials from the explosives. The use of packaged explosives will reduce the potential for spills and minimize the exposure of explosive products to wet weather and groundwater conditions. The type of explosive product used, and the associated blasting pattern will be selected to maximize the effectiveness of the blasting process to accomplish the desired results while minimizing the mass of explosives required thereby minimizing the potential amount of residual (unconsumed) blasting material. The types of explosives that may be used will have the best available detonation properties, low residual waste profiles, and higher safety and reliability of detonation. The Project's blasting contractor will communicate with the drillers to obtain geological information for each shot and will adjust the mass of explosives accordingly. Explosives will not be primed until immediately before use and will not be allowed to lay overnight in drilled holes (unless completion of the detonation is delayed due to weather or other events). Project blasting will be done in accordance with all applicable federal, state and local laws and regulations applicable to obtaining, transporting, storing, handling, blast initiation, ground motion monitoring, and disposal of explosive materials and/or blasting agents. These include:

- Bureau of Alcohol, Tobacco and Firearms – 27 C.F.R. § 181 (Commerce in Explosives). Occupational Safety and Health Administration – 29 C.F.R. § 1926.90 (Safety and Health Regulations for Construction
- Blasting and Use of Explosives
- Pipeline Hazardous Material Safety Administration – 49 C.F.R. § 177 (Carriage by Public Highway)
- Explosives and Blasting Agents – OSHA, 29 C.F.R § 1910.109 (Safety in the Workplace When Using Explosives)
- Department of Energy– 18 C.F.R. § 2.69 (Guidelines to be Followed by Natural Gas Pipeline Companies in the Planning, Locating, Clearing and Maintenance of Right-of-Way and the Construction of Above Ground Facilities)

Additionally, Enbridge has committed to testing private wells within 150 feet of the pipeline centerline, with landowner approval. Pre- and post-testing will include sampling for nitrates. Given the limited blasting expected to be required for the project, the masses of blasting materials used will likely be substantially lower than those used in road construction projects where residual nitrate was identified after completion of construction activities.

Forestry and Habitat Impacts Associated with Right-of-Way

In several locations (Sections 6.11.4, 6.12.1, 6.14.4, 6.14.6, 6.14.7, and 6.14.9), the DEIS discusses potential effects of fragmentation on habitats, creation of edge, invasive species and temperature. The DEIS should also include discussion of the minimization and mitigation measures Enbridge has already implemented (*e.g.*, routing decisions) or has committed to in its EPP, EIR, and supplemental filings and data request responses to the WDNR, described below.

Fragmentation and Edge Effects

Fragmentation refers to the breaking up of contiguous areas of vegetation communities into smaller patches. Fragment size is thought to play a role in landscape function and many ecosystem interactions, including the distribution of plants and animals, fire regime, vegetation structure, and wildlife habitat. Reducing the size of contiguous patches of suitable habitat can indirectly reduce the effectiveness of that habitat for some species beyond the removal of habitat. Impacts of forest fragmentation on forest dwelling species include alteration and loss of interior forest habitat, reduction in forest patch size, and the addition of edge-type habitat.

Some species require large, un-fragmented blocks of habitat, and fragmentation can lead to reduced habitat quality for those species. Fragmentation has been shown to be one factor in the decline of neo-tropical migrant birds and can negatively impact habitat specialist species, while having a positive or neutral effect on habitat generalist species (Graham, 2002).

An important impact of fragmentation, aside from breaking up blocks of vegetation, is an increase in edge effects. Edge effects result when two different vegetation types are adjacent to each other. Edge effects can encompass a multitude of impacts including an alteration in nutrient flows/cycling; an increase in the rate of invasion by invasive species and pathogens, a lowering of the carrying capacity of a habitat patch, and disruptions in meta-population dynamics (Saunders et al., 1991). Invasive species may displace native wildlife by altering sheltering habitats and food sources such as plant communities and insect populations, respectively (Graham, 2002). While creation of edges can negatively impact bird/wildlife species that require interior habitat, there are some bird/wildlife species that benefit from creation of edge habitats. Valente and Betts (2019) for example found that patch size had little effect on total species richness, while decreasing patch size had a negative effect on interior species and a positive effect on edge species. However, reduction in patch size does not necessarily mean a reduction in species richness. Fahrig (2020) for example found that several small patches usually hold more species than a few large patches of the same total area. There is also evidence from recent studies that suggest small, relatively isolated habitat patches of high shape complexity in fragmented landscapes tend to be of higher conservation value according to a complementarity and representativeness criterion than a similar-sized habitat patch within contiguous tracts of intact vegetation of low shape complexity (Wintle, et al. 2019).

Edge effects tend to be more pronounced with increasing differences in the two adjacent habitat types (*e.g.*, mature forest adjacent to grassland). The creation of edges in forests influences microclimatic factors such as temperature, wind, humidity, and light, and could lead to a change in plant species composition within the adjacent uncut or un-manipulated habitat or increase the rate of invasion by invasive species and forest pathogens (Murcia, 1995). Compared to the interior of a forest, areas near edges receive more direct solar radiation during the day, lose more long-wave radiation at night, have lower humidity, and have less protection from wind. Increased sunlight and wind can desiccate vegetation by increasing evapotranspiration, can affect which plant species survive (typically favoring shade-intolerant species), and can dry out soil. Edge effects are typically more pronounced in forest and woodland vegetation communities than shrub-steppe or grassland communities due to the greater typical vegetation height and structural complexity in forested ecosystems.

Utility corridors can create a barrier to wildlife movement for some species and a travel corridor for other species (Graham, 2002). Corridor widths and vegetative characteristics can have varying effects on different species. Abrupt vegetation transitions may have the greatest effect, while a forest to shrub to grassland transition can have minimal to no effect on transiting species (Graham, 2002). Utility corridors can also create connections between habitats where invasive species can travel to gain access to other habitats more easily

(Askins, 1994). Common predators found using utility corridors in forested landscapes include avian predators, such as hawks and owls, as well as mammalian predators, such as opossums and raccoons.

Minimization and Mitigation Already Implemented or Proposed by Enbridge to Reduce Potential Effects

Pipeline Routing and Access

For linear projects of this nature and in this landscape, it is not feasible to avoid all wetlands, waterbodies and forested areas. Where feasible, Enbridge utilized routing as a tool to minimize fragmentation of large, forested areas to the extent practicable. Specifically, Enbridge designed the pipeline route in a manner that minimizes the environmental footprint while adhering to the purpose and need of the Project. The route review process consists of an assessment of technical and economic feasibility; constructability; impacts on environmental resources; and coordination with agencies and other stakeholders to identify and, where feasible, avoid sensitive habitats or resources.

The landscape that is crossed by the Project has already experienced some fragmentation in the form of existing roads, other utility rights-of-way, residential and commercial development, agriculture, and forestry practices. Where it was practical, Enbridge collocated the pipeline route with other existing corridors to minimize the creation of an entirely new right-of-way. Enbridge also planned to maximize the use of existing access roads. As currently designed, approximately 93 percent of the access roads proposed for use on the Project are existing access roads and/or previously disturbed areas which will largely avoid forest fragmentation associated with access. Enbridge also attempted to locate the Project in open versus wooded areas. This is evident primarily along the western portion of the proposed route, which crosses an already highly fragmented landscape with a few large patches of contiguous forest. In this area, the incremental increase in fragmentation associated with the proposed pipeline corridor will likely be small. Enbridge was unable to find connected existing corridors that it could follow along the eastern portion of the route. While several roads and other corridors are present in the area, none of them travel in the direction required by Enbridge. Along this stretch the pipeline will cross several small to large mostly contiguous tracts of forestland. However, Enbridge's timber evaluation did not identify any areas that the assessors would consider old growth forest. Moreover, no portion of the route crosses the old growth forest identified by Bates 2008. It should also be noted that much of the forestland crossed by the eastern portion of the route is managed for timber production and has likely been cut one or more times. The creation of a new corridor for the pipeline will reduce the amount of interior forest habitat on the right-of-way and for a distance adjacent to the right-of-way, which will become open and edge habitats. However, based on Enbridge's review and as discussed under the Analysis of Landscape Changes heading below, the Project will not diminish the amount of contiguous forest in the area such that they can no longer support forest interior species.

Right-of-Way Configuration

In addition to the routing and design decisions described above, Enbridge also planned its right-of-way configuration to minimize impacts. Enbridge proposes to use a 120-foot-wide construction right-of-way in most areas to construct the pipeline. Enbridge believes this is the minimum width needed to efficiently construct the pipeline and accommodate safe operation of the construction equipment. However, Enbridge proposes to reduce the construction right-of-way width in wetlands, including forested wetlands, to 95 feet. Forest fragmentation will also be reduced by Enbridge's plan to horizontally directional drill (HDD) many waterbodies and adjacent riparian areas. Where the HDD method is employed, Enbridge will follow WDNR's HDD Technical Guideline 1072. In addition, Enbridge proposes to reduce the width of the cleared area between the HDD drill entry and exit holes to 30 feet, with the exception of Tyler's Forks, where it will be reduced to 50 feet. Following construction Enbridge will only maintain vegetation on a 50-foot-wide corridor (30 foot wide between entry and exit holes of HDDs) to operate the pipeline. The remainder of the construction right-of-way including temporary extra workspaces will be allowed to revegetate naturally following initial restoration and seeding. As natural succession proceeds in these areas, the early successional or forested communities present before construction will eventually re-establish. The regrowth of this vegetation will soften the transition between the maintained right-of-way and bordering forestlands. Because of the linear nature of the Project, temporary impacts in these habitats will be minimized by the presence of undisturbed habitat communities adjacent to the right-of-way. In the temporary right-of-way, upland and wetland forested areas will be impacted to a greater extent than non-forested vegetation types due to the longer time required for forest to regrow and mature. However, the ample amount of adjacent forest habitat will allow birds/wildlife to disperse to nearby forest habitats. As such, the temporary effects of construction on these habitats should have little or no significant impact on local populations.

Invasive Species Management

After disturbances of the soil, vegetation communities may be susceptible to infestations of noxious or invasive species. These species are typically most prevalent in areas of prior surface disturbance, such as agricultural areas, roadsides, existing utility corridors, and wildlife concentration areas. Enbridge's EPP (updated and submitted to the WDNR on September 16, 2021) addresses the control and spread of noxious and invasive species. Enbridge filed a list of invasive species with the WDNR on November 5, 2021, that were identified during surveys conducted by Enbridge. Enbridge's current EPP is provided as Attachment B.

Specific measures Enbridge proposes for the Project include: Requiring the contractor to clean equipment prior to its arrival on site; washing and drying equipment that has been involved in in-water work prior to its use; purging and cleaning pumps before being moved to a new location if weeds or invasive species are known to be present, potentially treating invasive species or using other measures such as full topsoil stripping in uplands to minimize contact between equipment and weed seed in the topsoil; installing and maintaining effective erosion controls and stormwater management measures to stabilize soils; using seed mixes adapted to the area that are labeled with tags certifying they are "Noxious Weed Free"; using mulch that is free of noxious weeds; seeding promptly within the recommended seeding windows using seed mixes that include native species and that are adapted to the region; and utilizing temporary seeding as appropriate where permanent seeding cannot be completed soon after final grading or when there is a high risk of erosion. These measures will minimize the potential for the establishment of undesirable species.

Wetland Mitigation

The USACE (permanent fill only) and the WDNR require mitigation for unavoidable wetland impacts to preserve no net loss of wetland function. Although final approval of requirements (*e.g.*, banking credits, on-site mitigation, in-lieu fees, or permittee responsible mitigation) has not yet been determined for the Project, Enbridge would be required to complete compensatory mitigation through the section 404 process of the CWA with the USACE.

Enbridge has prepared and submitted to the USACE and WDNR a Project-specific wetland mitigation plan to maintain no net loss of wetlands, and to adequately replace lost wetland functions and functional values. The plan addresses and mitigates impacts related to temporary conversion, permanent conversion, and permanent loss of wetlands functional values. A copy of the April 2022 Wetland Compensatory Mitigation Plan is provided as Attachment C.

Trout Streams and Water Temperature

Section 6.14.9 contains contradictory statements pertaining to the effect of tree removal on water temperature. In one sentence, it states "the permanent removal of tree cover 25 feet on either side of the pipeline could result in a warming of the cold-water stream", and then in the same paragraph states that a 50-foot-wide break in tree cover is unlikely to cause a measurable difference in water temperatures.

Enbridge has described the effects of removal of vegetation and habitat at waterbody crossings including the potential to affect aquatic resources by reducing shade, cover, and nutrient input, and by affecting stream banks as described in the EIR and under the Right-of-Way Configuration heading above. Enbridge proposes to install the pipe using the direct pipe or horizontally directionally drill all but two of the proposed pipeline crossings of trout streams. Moreover, Enbridge proposes to reduce the width of the cleared construction right-of-way and the maintained permanent right-of-way at these HDD crossings to 30 feet, with the exception of Tyler's Forks, where it will be 50 feet. The maintained right-of-way width will also be reduced in other areas to 50 feet. Such a narrow break in the tree cover is unlikely to cause a measurable difference in water temperatures or the aquatic species inhabiting the rivers and streams crossed by the Project (*also see* Enbridge's comments to Section 6.14.9.1.1).

Analysis of Landscape Scale Changes

To evaluate how much of the route crosses intact forestland, and to better understand potential landscape level changes from the construction and operation of the Project, Enbridge assessed pre-construction forest conditions using Wiscland 2 land use land cover (LULC) raster data converted to GIS polygons and then grouped the LULC covers into Forest and Non-Forest classifications (*see* Table 3).

Table 3 LULC Forest and Non-Forest Classifications			
Level 1 Value	**Level 1 Class Description**	**Level 2 Class Description**	**Reclassified Value**
1000	Urban/Developed	Developed, High Intensity	Non-Forest
1000	Urban/Developed	Developed, Low Intensity	Non-Forest
2000	Agriculture	Crop Rotation	Non-Forest
2000	Agriculture	Cranberries	Non-Forest
3000	Grassland	Forage Grassland	Non-Forest
3000	Grassland	Idle Grassland	Non-Forest
4000	Forest	Coniferous Forest	Forested
4000	Forest	Broad-leaved Deciduous Forest	Forested
4000	Forest	Mixed Deciduous/Coniferous Forest	Forested
5000	Open Water	Open Water	Non-Forest
6000	Wetland	Floating Aquatic Herbaceous Vegetation	Non-Forest
6000	Wetland	Emergent/Wet Meadow	Non-Forest
6000	Wetland	Lowland Scrub/ Shrub	Non-Forest
6000	Wetland	Forested Wetland	Forested
7000	Barren	Barren	Non-Forest
8000	Shrubland	Shrubland	Non-Forest

Existing roads, railroads, and pipeline centerlines were overlaid on the Wiscland 2 LULC data and buffered by 25 feet on each side to identify existing rights-of-way. These corridors were classified as non-Forest. The remaining contiguous forested areas were then buffered by 300 feet from the outer edges and existing developed features (*e.g.*, roads, railroads, pipelines) to identify edge areas and forest cores. Forest core areas were classified into four classes based on acreage (*see* Table 4).

Table 4 Forest Core Classes based on Acreage	
Core Class	**Size**
Fragment	0 – 100 acres
Small	100 – 250 acres
Medium	250 – 500 acres
Large	> 500 acres

Enbridge then overlaid the proposed Enbridge construction right-of-way (permanent easement, temporary workspace, additional temporary workspace, valve sites and associated permanent roads), plus a 300-foot buffer to identify the areas of direct and indirect forest impacts. Areas directly impacted by construction clearing activities were classified as non-Forest. Areas within the 300-foot buffer were classified as Forest Edge.

Enbridge then calculated the amount of forested area that is affected by construction and operation of the Project within the respective watersheds (WDNR Watersheds) crossed by the Project. The results indicate that the Project would convert approximately 2.21 square miles of forest core to forest edge and increase grassland

by approximately 0.63 square miles. Table 5 shows the change in core type. The locations of mapped natural forest habitat cores relative to the proposed pipeline route are shown on the attached Figure A.

Table 5
Core Forest Habitat Conversion

	Pre-Construction (sq. mile)	Post-Construction (sq. mile)
Large	759.92	754.37
Medium	44.34	45.83
Small	29.32	30.28
Fragment	23.29	23.79
Total	856.87	854.27

As shown on the figure, the western portion of the proposed pipeline route is located in an already highly fragmented habitat and crosses small and medium natural forest habitat cores. In contrast, the eastern portion of the pipeline route is less fragmented and crosses a combination of small, medium, and large natural forest habitat cores. Enbridge's right-of-way clearing and conversion of forest to grassland will incrementally increase forest fragmentation and locally reduce the acreage of core forest habitat. However, it will not significantly diminish the amount of core interior forest habitat available within the watersheds crossed by the Project. Based on analysis of the data, the Project would result in a conversion of approximately 0.15 percent of all land within the watersheds crossed by the proposed route to forest edge and the conversion of approximately 0.26 percent of forest core to forest edge. Given the adjacent available forested habitat in the landscape surrounding the pipeline route, this minimal reduction in core forest habitat is not expected to have a measurable effect on birds or wildlife. At present, large-scale losses of these habitat types are not planned and the proposed route would not have significant cumulative impacts on habitat loss in the Superior Coastal Plain."

The DEIS discusses habitat conversion as an impact and focuses on the loss of forest. These statements should include a discussion of habitat conversion. Converted habitats can and do provide ecological value, and therefore the discussion of conversion as an impact should be revised to accurately state the acres that will be converted temporarily or permanently. The successional stages of regrowth in the temporary right-of-way (ROW) should be acknowledged.

Cultural Resources

The DEIS discusses the Tribal Cultural Resources Survey, related steps taken to comply with Section 106 of the National Historic Preservation Act, and comments provided by the USACE.

On March 25, 2022, the USACE issued a letter summarizing consultations between the Bad River and the USACE, including discussions related to conducting a new traditional cultural resources survey. The March 25th letter discusses the sufficiency of the investigations conducted to date and determined that additional surveys would be duplicative. The letter also set forth a proposal to conduct oral history interviews for the Area of Potential Effect. The letter requested a response by May 2, 2022. A copy of the letter is provided as Attachment D.

6.0 RISK AND POTENTIAL EFFECTS OF PIPELINE SPILLS

Risk and Potential Effects of Pipeline Spills (Chapter 7)

Section 7 of the DEIS includes commentary on the potential effects of pipeline spill. It is expected that this topic will be included in joint agency discussions on permitting for the Project. While Section 7 discusses potential results of an accidental release, it focuses almost exclusively on improbable "worst case" scenarios of a release during operation of the line, while providing little or no discussion of the actual probabilities of any such release, or of the comprehensive monitoring and maintenance programs Enbridge employs on a daily basis, or of the mitigation and remediation resources that will be put in place as a part of the Project. The FEIS should incorporate these topics. On the issue of probability, an approach used to better characterize the risks associated with a release and mitigation steps is a paired probability analysis and quantitative consequence assessment of potential releases, combined using a risk assessment framework. In such a framework, the term "risk" is defined as the product of the probability of an event occurring (*i.e.*, an oil release) and the resulting consequence (*i.e.*, trajectory, fate, and effects) of a release. Taking this approach, high probability events with relatively low consequence may have similar quantifiable risk as low probability events with relatively higher consequence. In general, and in the context of the risk associated with the proposed Line 5 reroute, a risk assessment quantifies the range of potential consequences of activities that will happen (*e.g.*, construction activities) as well as those that may not (*e.g.*, the range of potential accidental releases occurring during operation). A risk framework should therefore provide the necessary context around how likely specific

consequences may be expected. In many cases, extremely low probability events that would result in very large potential for consequence (*e.g.*, accidental release from a full-bore rupture) are assessed, but are not the "expected" effects of the Project. A third critical factor in the risk evaluation is assessing anticipated emergency response activities and predicting how emergency response mitigation measures may decrease the potential for consequences.

These three factors (probability, consequence, and mitigation) are not quantitatively or comprehensively addressed in the existing DEIS. However, based on rigorous assessments already completed for other large pipeline projects in the region, a relative bound can be established for the potential risk by applying existing quantitative analyses and conservative extrapolations to the Line 5 reroute. Each factor of risk can be reasonably anticipated, particularly focusing on the greatest consequence (but very low probability) scenarios, such as large volume spills or full-bore pipeline ruptures.

In addition, there are certain sections within the DEIS, such as those addressing difficult-to-access areas and important downstream receptors, that can be better characterized with respect to risk, by applying a broad understanding of pipeline assessments that have been conducted on large volume mainlines, and addressing how those assessments quantitatively considered probability, risk, and mitigation. This additional context for the proposed Project would help reinforce the contents of the DEIS and put the likelihood and potential consequences of different outcomes discussed therein into context. The following comments are provided with this objective. With this additional information, the FEIS would be more effective to facilitate an informed decision.

Probability Assessment – Risk of Spills and Releases

The probability that a release could occur from a pipeline (*i.e.*, failure frequency) is a core metric driving risk and potential effects. Other important probabilities include whether any released oil would reach environmentally sensitive areas; if receptors will be present in the areas expected to be oiled; and if the exposure (concentration and duration) and state of oil weathering will be sufficient to elicit potential effects. The release volume associated with the failure frequency (further discussed in the next section) is also important and inversely linked to probability of occurrence. While any release is relatively unlikely, small volume releases are much more likely to occur than the extremely unlikely large or very large releases.

Section 7.4 of the DEIS describes several factors that can affect pipeline integrity and potentially result in spills, but the risk of each factor is not developed or quantified. For example, the DEIS states that "pipeline exposure is a common and dangerous scenario for pipeline operators" (WDNR 2021, p. 261). It is not clear what this statement is based on. To the extent that this statement is based on operation of other existing pipelines, it does not estimate the likelihood of a release occurring along a portion of pipeline nor address what volumes of release might commonly be associated with this failure type. Highly quantitative probability assessments are a typical approach used in such cases to assess all potential factors, across each pipeline section, combining them into an overall probability of occurrence and range of hypothetical release volumes. Such an approach would be extremely valuable here to accurately reflect the appropriate scale and weight in the context of both likelihood and the potential range of effects.

One key example of a quantitative probability assessment that has been conducted for a large volume pipeline (also on the mainline system) is the recent assessment of the Enbridge Line 3 Replacement Project (L3RP), which covered the installation of 337 miles of new pipeline. While the L3RP was significantly larger in scale than this Project, which proposes just 41 miles of new pipeline, the probability assessment information is useful here. The L3RP Final EIS included a chapter that analyzed the types of threats to pipelines (similar to the Line 5 DEIS), but also conducted a failure frequency analysis for each analyzed pipeline segment (MN DOC 2017). The failure frequency analysis compiled recent data from industry incidents (2010-2015), mechanistic reliability approaches, and evaluations of potential hydrotechnical and geotechnical hazards to determine the annual probability of large volume oil releases (*i.e.*, full-bore ruptures) for pipeline segments that intersected the full range of representative waterbodies that were to be crossed by the planned re-route (Stantec et al. 2017, pp. 4.89-4.90). Combining all considered threats, the likelihood of a large oil release on each segment was calculated to range from approximately 4.0×10^{-07} to 4.4×10^{-06}. The return period for these probability values is roughly equivalent to a one in several hundred thousand years chance to a one in several million years' chance of occurrence each year. In essence, these releases are extremely unlikely.

To capture the other end of the risk spectrum (higher probability, smaller volume releases that might not be rapidly detected by leak detection systems), an assessment of potential pinhole releases was also conducted for the L3RP (Stantec and Barr 2017). This assessment included analyzing historical pipeline incident data to

determine anticipated frequencies. Although the data analyzed were of "older vintage pipelines, they can provide insight into what could potentially occur with respect to spill volume, incident cause, and incident frequency" (Stantec and Barr 2017, p. 13). Incident rates for the U.S., Region, and Minnesota (respectively) were estimated at 0.00081, 0.00068, and 0.00071 per Mile-Year (Stantec and Barr 2017, p. 17). The regional incident rate (applying to ND, MN, and WI) is applicable here to the 41-mile proposed Line 5 pipeline, and similarly would be an overestimate due to the rate's development from data on older pipelines. In addition, the assessment indicated that effects would be relatively localized to regions of tens to hundreds of meters, as opposed to the tens of kilometers of potential transport and effects for the large volume releases that entered waterways assessed above. Again, these values indicate the likelihood of even a pinhole release is quite low and the effects of pinhole releases are geographically constrained.

Similar probability assessments have been conducted on other new and replacement mainlines, such as the Supplemental EIS for the Keystone pipeline that calculated probabilities at site-specific water crossings on the order of once in more than 10,000 years (for any size release) to once in several million years (for worst-case discharges) (U.S. Department of State 2019, p 5-3 to 5-4). The risk of smaller volume releases, such as pinhole leaks, can also be quantified for a project by using methodologies that assess historical spills recorded along similar pipelines, as reported to PHMSA.

Inclusion of a discussion of these recent quantitative probability assessments completed by the State of Minnesota and the United States should be incorporated into the FEIS to help contextualize the types of consequences already discussed within the document to allow the reader to better understand the concept of risk. An understanding of consequence alone is insufficient, especially when the probability of such occurrences is so low. It is particularly important to consider release probability when evaluating the potential consequences of a large release volume or full-bore rupture. Many of the consequences described in Section 7.4 of the Line 5 DEIS are primarily associated with these larger release volumes, yet terms like "common" are used to describe pipeline threats without acknowledging the one-in-a-million, very low likelihoods of large volume releases actually occurring. The DEIS subsections on pipeline threats should include the probability of failure, as well as the range of spill types, release volumes, and variable environmental conditions might affect the probability and spatial extent of downstream transport, exposure, and potential for effects, that should be addressed later in the DEIS. Further, the FEIS should acknowledge that the relocated segment of Line 5 contemplated by the Project will meet or exceed PHMSA's minimum depth standards, thereby minimizing threat of exposure.

Consequence Assessment

Release Volume

Considering the frequency and magnitude of historical spill volumes is a crucial part of assessing probability of potential spill volumes. Sections 7.2 and 7.3 of the DEIS provide an overview of the types of releases that may result in specific volume releases. However, there is no consideration of release volume or the likelihood and range of potential effects (*i.e.*, consequence). In general, Sections 7.2 and 7.3 of the DEIS provide a broad overview of potential size spills possible from a pipeline failure, but a more robust general analysis of inland pipeline spills followed by a state-specific analysis is warranted.

As noted in Section 2.6 of the L3RP Addendum, an unmitigated hypothetical full-bore rupture is extremely unlikely. Enbridge and numerous contracted 24-7 on-call response operators (Oil Spill Response Organizations) have numerous caches of response equipment and trained and capable response personnel nearby such that, in the unlikely event of a release, they would respond rapidly (within minutes to hours). Enbridge emergency response plans note that they have the ability to contain and recover the released product within hours of a release, which in many cases, based upon inference of downstream travel times for the Line 3RR assessment, would be prior to oil reaching the Bad River Reservation or beyond (Stantec and RPS 2019). The Department previously discussed those plans in the FEIS prepared for Line 3R Segment 18 in 2016. Copies of the excerpt of that discussion, as well as of Enbridge's current response plans, are submitted as Attachments E and F. Enbridge has prepared a map of the spill response Control Points, shows the potential control points to be further reviewed in 2022 in the Project area. One can see that many initial control points have been identified to contain and recover a release and additional control points would be added during the emergency response effort if required to contain the release. A copy of this map is provided as Attachment G.

The FEIS should include additional context such as the following from the L3RP EIS:

> Analysis of the data for crude pipeline spills of all sizes that occurred since 2000 indicates there were 91 spill incidents, with one incident occurring in 2017. For the years 2000 through the present (end of June 2017), there were 91 incidents of which nearly 30 percent involved less than one bbl. The average spill volume was 201 bbl. The median (*i.e.*, 50th percentile) was 2.0 bbl. For the years 2010 through the present, there were 37 incidents of which over 81 percent involved less than one bbl. The average spill volume was 7.8 bbl. The median was 0.54 bbl. The spill volumes have been significantly smaller since 2010. (MN DOC 2017 p. 10-19).

The graphs provided on Page 257 (Section 7.3) of the DEIS provide the net loss of oil due to all significant spills from all operators and would be more effective in providing context and quantification of the range of potential spill volumes that went into those values. It would be useful if release volumes were provided along with the context including total number of Significant (>10,000 gallons or 238 bbl) or Substantive (> 2,100 gallons or 50 bbl) U.S. Inland Pipeline Spills that went into these net values (see Figure 10.1-1 of the Enbridge L3RP EIS) (MN DOC 2017 p. 10-12). These figures would also be more informative if they were broken down by oil type (*i.e.*, crude, refined heavy, refined light, refined gasoline), as they currently include all types (most of which are not transported on Line 5).

A figure or table probability distribution of spill volumes for inland pipelines would be extremely effective in providing quantification of historic spills (see Table 10.1-2 in the Enbridge L3RP EIS provided below) (MN DOC 2017 p. 10-13). The risk is effectively defined by including the associated probability of a release volume (risk = probability x consequence).

Difficult to access areas

Section 7.6.3 of the DEIS posits that it would take years for recovery and cleanup if a spill were to occur in a "Difficult-to-Access Area." There is no source identified for this speculation. The accuracy of this conjecture depends upon many factors including release volume of the spill, the oil type, the environmental conditions at the time of the release, whether there was snow or ice cover when the spill occurred, the natural weathering and degradation of the oil, emergency response mitigation measures, and the geographic and hydrologic specifics of the receiving environment. As noted previously, the hydrocarbons that this pipeline carries would be highly volatile, meaning that large fractions of oil would be anticipated to evaporate and degrade within the first hours of a spill.

The Copper Falls State Park contains two large gorges and waterfalls that water moves through rapidly. As such, the Copper Falls region could be considered a turbulent and self-flushing system. Thus, while recovery and cleanup efforts would not be undertaken in the rapids or difficult to reach areas, the oil would not be expected to remain in the system for very long. A large rain event, snowmelt, or spring freshet would likely flush any submerged oil out of the system rapidly. Therefore, it is unlikely that oil would remain in the system for years. Additionally, response measures would be undertaken to contain and collect as much of the oil as possible upstream of Copper Falls. As the oil was transported through and downstream of Copper Falls into quiescent waters, response and clean-up efforts would resume on both floating and sunken oil.

Furthermore, although the Copper Falls region could be difficult-to-access, Enbridge maintains a robust amount of emergency response equipment along each ROW (see Section 2.5 of the L3RP Addendum) (Stantec and RPS 2019). Major equipment available in Enbridge's Midwest Region includes:

- Command Post Trailers
- Response Boats
- Air Boats
- Amphibious Vehicles
- All-Terrain Vehicles
- Fixed-Wing Aircraft (Enbridge Enterprise-owned)
- Helicopters (Enbridge Enterprise-owned)
- Portable ATV Vacuum Units
- Heavy Construction Equipment
- Spill Response Trailers (includes winter equipment such as chainsaws, augers, plywood, etc.)
- Wildlife Response Trailers
- Containment Boom (Multiple sizes)
- Oil Skimmers (Multiple types and sizes)

- Temporary Storage Tanks
- WaterGateTM
- Vacuum Trucks

Any and all of the above equipment would be utilized to access difficult-to-access regions where response would make sense.

Table 10.1-2. Probability Distribution of Spill Volumes for U.S. Inland Pipelines (2006–2015)

Spill Volume	% Spill Incidents	Number Incidents
<1 bbl	33.51%	1,027
1-9 bbl	34.78%	1,066
10-99 bbl	18.76%	575
100-999 bbl	10.15%	311
1,000-9,999 bbl	2.58%	79
10,000-90,000 bbl	0.23%	7
100,000+ bbl	0.00%	0

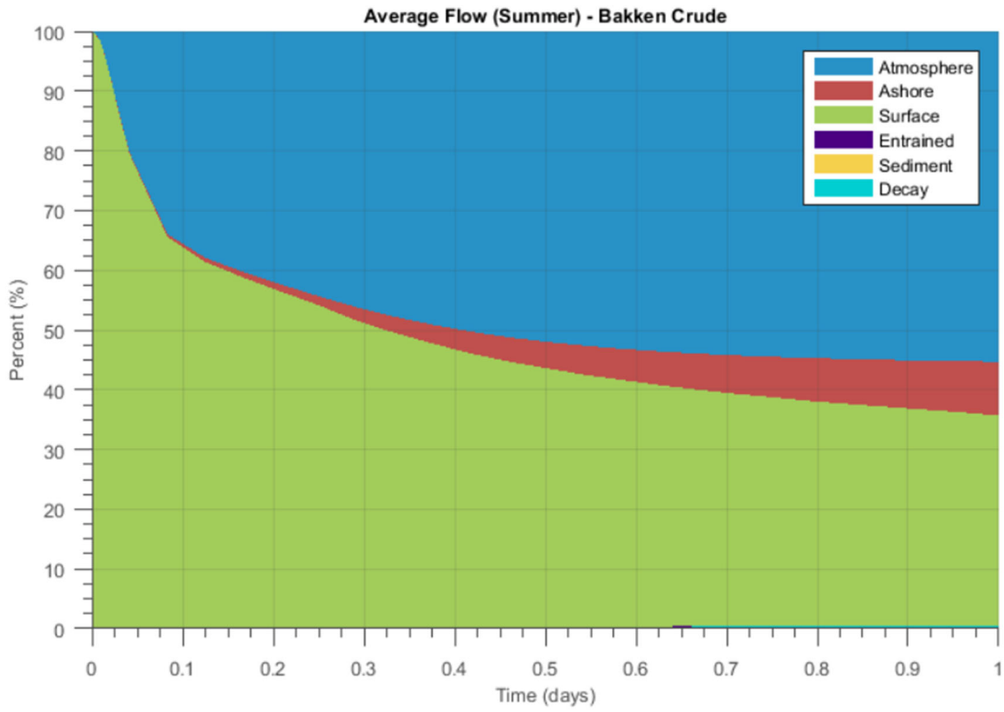
Effects of weathering

In Section 7.8, there is no consideration given for the variety of fate processes that affect released oil (*e.g.*, evaporation, natural degradation), and no quantitative assessment is provided to estimate the degree to which oil would weather upon release, depending on oil type and conditions. While all of these processes are possible, it is crucial to have an understanding of how much oil would be expected to disperse or sink. Typically, this is assessed through mass balance. Mass balance is an accounting of where oil may be found, with a fraction of the total release volume in the water column, on the water surface, on shorelines, in sediments, evaporated to the air column, or with another fate.

The Line 5 pipeline is used to transport unconventional light crude and NGLs, along with shale oil from the Bakken formation (WDNR 2021 p. 5). Such oils contain a significant fraction of volatile components (ranging from 50% to at least 80%) with 15-30% typically in the highly volatile range. When oil is on the water or land surface, the highly volatile fraction would evaporate rapidly within hours, while much of the remaining volatile fraction would evaporate over the next few days, depending on the level of entrainment by turbulence into water and other factors including most importantly what emergency response mitigation measures are undertaken (*i.e.*, source control, containment, and collection). For any spill that might occur from Line 5 into the tributaries and rivers described within the DEIS, evaporation is a major fate process to be considered.

The fractions that do not evaporate (primarily heavier residuals) will continue to naturally degrade (biodegradation and photodegradation) over time, meaning that oil remaining on shorelines or riverbeds after a significant period will typically become depleted of constituents of concern (such as PAHs). However, different fractions of oil can be more persistent in the environment and undergo slower degradation, so it is important to not only consider the trajectory and amount of oil that may be released from a spill, but what the ultimate fate will be as it relates to weathering, emulsion formation, tarballs, etc. and how specific compounds within these components will preferentially weather.

As such, the DEIS should appropriately consider the expected weathering of common oil types that are expected to be transported on Line 5 and how that weathering might differ under varying environmental conditions. The fate of released oil can be quantified using generalized weathering simulations, with consideration for unique circumstances (*e.g.*, ice cover or moving through rapids) that can affect oil fate. The characteristic parameters applied for different oils affect the weathering of the oil as it is released, as well as its ability to be retained on shorelines (Stantec et al. 2017, p. 5.166). An example weathering curve modeled from the L3RP project is provided below (Stantec et al. 2017, p. 6.282), depicting that approximately 55% of Bakken crude was predicted to evaporate within 24 hours, having a significant effect on the physical and chemical parameters of the oil and the resulting fate of the oil as it was transported downstream.



The discussion in the Line 5 DEIS of oil becoming "trapped in sediments and vegetation at the river bottom" does not take into account how volatility and potential spill responses would reduce the likelihood and conditions under which such effects could occur. Unless heavy crude (*i.e.*, a different product mix) were released, the oil would not be expected to sink on its own and would require specific conditions (*i.e.*, turbulence and presence of large mass of suspended sediments in the water column, followed by quiescent waters in which to settle) to collect as heavier oil formations on the river bottom. The presence of conditions conducive to oil particulate settling can be predicted by geography and are not equally present throughout the waterways.

A quantitative risk assessment of hypothetical releases at representative water crossings (targeting specific oil types being transported on Line 5) would be well suited to predict the potential movement, behavior, and potential effects of the range of releases that may be possible, particularly regarding how much oil may be found at specific locations and how weathered the oil would be. Conditions for greater adverse effects are also able to be identified. For example, the total hydrocarbon concentrations of Bakken crude on bed sediments following hypothetical completely unmitigated full bore rupture scenarios on the L3RP pipeline were generally predicted to be less than 0.01 g/m^2, with small areas as high as 0.5 g/m^2 based on the low potential for entrainment in specific project areas (Stantec et al. 2017, p. 7.758, 7.807).

Consequences to downstream receptors

The DEIS considers potential environmental impacts to several important downstream receptors, including Lake Superior (7.8.1), the Kakagon – Bad River Sloughs (7.8.1.2), and Wild Rice Beds (7.8.1.3). Each of these discussions can be better contextualized with an understanding of the pipeline crossing locations relative to the receptors of concern, as it relates to the potential timing and extent of hypothetical releases.

While the DEIS notes that "it is unlikely that a large volume of oil would reach [Lake Superior] …" (DEIS p. 272), additional context is helpful. The Bad River crossing for the proposed Line 5 pipeline route is approximately 49 miles upstream of Lake Superior. By comparison, hypothetical large volume releases from Line 3 were modeled at a location on Little Otter Creek in the Lake Superior watershed, as part of a technical addendum to the L3RP EIS (Stantec and RPS 2019). Across three seasonal simulations and flow conditions, full-bore rupture releases of Bakken crude were predicted to reach maximum downstream distances of 12.0 to 19.7 miles after 24 hours (based upon characteristics of that specific waterbody), and it was determined "unlikely that any substantial quantity of released oil would be transported…into Lake Superior once emergency response activities are taken into consideration." (Stantec and RPS 2019, p. 4.111, 5.166, 7.183). Similar considerations would apply to potential releases from the preferred Line 5 pipeline route. For example, oil released during winter months can become trapped within snow cover or on ice, which limits the potential for downstream movement or, in some cases, reaching the waterway at all (Stantec et al. 2017, p. 5.187-5.188). In most cases, substantial quantities of oil would be unlikely to reach Lake Superior (~49 miles downstream).

It is also important to note that Section 7.8 of the DEIS discusses possible release impacts despite very limited pathways for contact between the pipeline and the areas discussed. Section 7.8 discusses the Bad River and Kakagon slough complexes. As noted above, the Bad River crossing of the proposed Line 5 pipeline is approximately 49 miles upstream of the discharge of the Bad River into Lake Superior, and the Bad River Sloughs are located <0.25 miles upstream of the mouth of the river. The proposed route fully bypasses the Denomie Creek watershed, which drains directly into the Bad River slough complex and could therefore not be a possible pathway for oil under the proposed route. Also notable, the proposed route partially reroutes the Line 5 pipeline out of the watershed of Beartrap Creek, which drains into the Kakagon slough complex. The pipeline would now cross Beartrap Creek more than 6 miles upstream of the existing pipeline crossing and has a shorter segment passing through the watershed, which directly reduces the probabilities of accidental release in that area and potential impact to the slough complex.

The Project has the effect of moving the pipeline in all cases further away from impacting downstream areas (*e.g.*, wild rice). Review of documented wild rice areas indicates the only habitats downstream of the proposed reroute are located in the Beartrap Creek watershed (approximately 18 miles downstream of the proposed crossing) and in the Bad River watershed (approximately 45 miles downstream of the proposed crossing) (*see* WDNR 2021, p. 241 and Wild Rice Habitat Data). Although the DEIS appropriately acknowledges the value of wild rice to the local ecology, culture, and economy (WND 2021, p. 274), it does not quantify the much lower risk (probability and consequence) to wild rice posed by the proposed route. There is an extremely low probability of pipeline failure and resulting probability of oil reaching these downstream habitats. In addition, there is the reduced potential for impacts to wild rice, in that any hypothetical release would be required to travel greater distances (over which the oil would adhere to shorelines, evaporate, and further degrade – reducing the amount reaching the wild rice), resulting in a smaller magnitude and spatial extent of consequences for wild rice. Additionally, there is no discussion in the DEIS of how quickly and effectively emergency response mitigation would be implemented upstream of the habitats. Again, the proposed reroute places any hypothetical release (extremely unlikely) further from wild rice, allowing for even more time for emergency response efforts to contain and collect oil prior to reaching the wild rice habitats.

There is brief mention in the DEIS that the proposed Project terminates approximately two to four miles inland from Lake Superior (WNDR 2021, p. 274; [straight line distance]). However, these distances do not accurately reflect the distance required for the actual routes of potential transport for oil to reach wild rice areas or the form and concentration in which oil could arrive. The distances for oil to be transported downstream, potentially reaching wild rice, are much further than two to four miles, and only spills with very large release volumes (*e.g.*, FBR), limited mitigation opportunity, and conducive transport conditions would be able to reach wild rice areas with concentrations or thicknesses of oil that would be of a level to result in impacts. As noted above, the probabilities of spills on modern pipelines are typically very low (*i.e.*, unlikely).

Spill Prevention and Monitoring

Section 7.5 of the DEIS addresses pipeline safety standards and regulations but it does not fully characterize the Enbridge-specific measures that have been undertaken in the past 15 years to help prevent spills. In 2010 and 2014, Enbridge added a number of measures and procedures into its routine maintenance and operation activities, including the following:

- Augmented Control Center staff, including additional engineering and operator positions
- Provided additional training and technical support
- Re-organized the functional areas responsible for pipeline and facility integrity
- Increased the number of in-line inspection programs and integrity digs (excavation, examination, maintenance, and repair)
- Revised and improved many procedures within the IMP (Integrity Management Program)
- Implemented additional leak detection analysis procedures, including improvements to the leak detection escalation process, shift change transitions, alternate leak detection procedures, and analysis and communication procedures
- Formalized a quality management system to execute more effectively the critical work activities that meet pre-defined quality objectives
- Established a Pipeline Control Systems and Leak Detection Department, doubling the number of employees and contractors dedicated to leak detection and pipeline control
- Implemented a Leak Detection Instrumentation Improvement Program to add and upgrade instrumentation across its system based on the assessments
- Enhanced the Leak Detection Analyst Training Program

- Made changes to its pipeline remote monitoring and control systems

Section 7.5 also does not mention Enbridge's Public Awareness Program, which is a critical part of spill prevention planning, monitoring, and early detection.

> Since third-party damage is a leading cause of pipeline releases, Enbridge has a comprehensive Public Awareness Program in place. Enbridge maintains this Public Awareness Program to improve public awareness of the presence of its underground pipelines and related facilities. As a part of the program, Enbridge installs aboveground markers to identify the presence of pipelines and identifies ways to prevent damage to the pipelines from excavating equipment. The program includes communication with local, state, and national officials and agencies; emergency responders; local fire and law enforcement departments; state pipeline safety and emergency management agencies; landowners along their pipeline rights-of-way; excavators; and others. Enbridge also facilitates face-to-face communication, advertising, e-campaigns, sponsorships, events, mailings, publications in local newspapers, and grants (MN DOC 2017 p. 10-126).

These items should be incorporated into the FEIS.

Additionally, Section 7.5 does not include the following spill prevention measures:

- Pipeline Design
- Pipeline construction
- Prevention of Pipeline Exposure
- Valve placement
- Integrity Management
- Release Detection

<u>Pipeline Design</u>

Enbridge's focus on release prevention begins with sound pipeline design and construction. The Project has been designed by a team of professional engineers with experience in liquid pipeline design and construction.

Enbridge has established company standards that meet or exceed referenced regulatory (C.F.R., PHMSA, Canadian Standards Association (CSA) or industry (API or American Society of Mechanical Engineers (ASME)) standards. PHMSA regulations at 49 C.F.R. Part 195 prescribe safety standards and reporting requirements for pipeline facilities used in the transportation of hazardous liquids. PHMSA is the federal safety agency for the pipeline industry that interprets and enforces the pipeline standards. API is the national trade association that represents all aspects of America's oil and natural gas industry and has led the development of petroleum equipment and operating standards for more than 85 years. API maintains standards and recommended practices, many of which have been incorporated into applicable regulations. Enbridge, in the development of its own internal standards, references many of these state, federal, and industry standards.

To ensure proper manufacturing of pipe, Enbridge acquires pipe for all of the projects it, or one of its affiliates, is undertaking from reputable manufacturers with whom Enbridge has long-standing relationships.

The process for making large diameter pipes starts by establishing the specification for the high-tensile steel required for the type of pipe being produced. The pipe mill will then either produce this steel themselves or acquire it from a steel manufacturer who is able to meet the specification. Generally, steel is produced by utilizing electric arc furnaces to melt the right combination of recycled metals, new metals, and chemistry additives until it is ready to cast into large slabs. These slabs are then sent through a thinning process which converts the slab into a long coil of the precise wall thickness required. These coils are then formed into tubular shapes and welded. This exacting process ensures that the pipe can be relied upon to carry large volumes of oil at pressures required for pipeline operation. Producing the pipe requires meeting stringent requirements for quality and integrity.

In addition, a comprehensive inspection system at the mill helps Enbridge to achieve this quality and integrity by ensuring accuracy at every step of the process. Expert inspectors, employed by Enbridge, examine the formed pipe for possible defects at the manufacturer's facilities. Each length of pipe is visually inspected, every weld is examined with ultrasound or x-rays, and each pipe section is pressure-tested before a final fusion-bonded epoxy coating is applied to the surface under the close scrutiny of Enbridge's inspectors. The inspectors'

specific duties include monitoring ultrasonic or x-ray tests that examine the integrity of each weld; using calipers and micrometers to assess each section for exact tolerances on diameter, roundness, and straightness; and ensuring proper coating application. The state-of-the-art fusion-bond epoxy coating enhances the integrity of the pipe over previous coatings by decreasing the chance of dis-bondment and assisting with cathodic protection.

In designing the Project, Enbridge used a design factor of 0.72 as required by 49 C.F.R. Subpart 195.106 to meet the minimum wall thickness requirement for the planned Maximum Operating Pressure (MOP). Additionally, Enbridge took into account external loads (crossings and burial depth), installation stresses, and pressure cycling effects when designing the Project. As a result, the wall thickness for the Project is 0.500 inches for the majority of the route, with wall thicknesses of 0.625 inches and 0.750 inches as needed where the Project utilizes and Horizontal Directional Drill or Direct Pipe Installation method.

Further in designing the pipe for the Project, Enbridge requires that the pipe is:

- Manufactured according to API Specification 5L PS2
- Grade X-70 steel with a minimum yield strength of 70,000 pounds per square inch ("psi")
- Submerged arc welded, a common manufacturing process in the pipeline industry

External corrosion control is also an important part of pipeline design. The coating of the pipe in the manufacturing facility and coating of the girth weld during construction are specified in Enbridge specifications, referencing C.F.R., NACE International, and other industry specifications.

Another part of the design criteria for the pipeline is the operating parameters. The design is optimized to maximize the efficiency of transporting the oil, with the MOP being set by the maximum rating of any component in an operating section, or based on the hydrostatic test pressure of the section. These criteria are set forth in 49 C.F.R. Subpart 195.304, as well as ASME B16.5 and other specifications.

Installation practices of the pipeline are also taken into consideration for the design. For example, when installing the pipeline via bore or directional drilling method, additional analysis of the pipe wall thickness is done to ensure the stresses (e.g., fatigue, circumferential, radial, longitudinal, and total effective) experienced during installation are within the acceptable limits of the applicable regulations and standards. Similarly, clearances between pipe and underground structures are set forth in 49 C.F.R. Subpart 195.250 and included in Enbridge's design standards. Finally, bending practices of the pipe, whether it is in the field or a manufacturing facility, are also noted in the C.F.R. and ASME B31.4, and these parameters are included in Enbridge's design standards.

Pipeline Construction

Pipeline construction techniques also help ensure safe operation. Enbridge utilizes rigorous construction standards, specifications, and procedures to ensure proper construction, integrity, and operational reliability.

The timing of construction activities is taken into consideration to prevent adverse weather conditions from affecting the integrity of the pipeline and workers' safety. Cold, snow, wind, rain, and other weather conditions are accounted for when scheduling the project construction so that appropriate measures can be utilized. Additionally, Enbridge consults with federal, state, and local environmental agencies to determine timing restrictions for potentially affected species and/or resources. This includes, but is not limited to, trout streams and migratory or nesting birds.

Enbridge has sought to obtain and has obtained ROW access that allows construction activities to commence without limitations to workers or pipeline safety. Generally, access to the ROW is from existing public roads and private access roads where permission has been acquired by Enbridge in advance.

During pipeline construction, clearing and grading activities are completed to allow for unencumbered ROW. Following clearing, the topsoil is stripped and separated, and the ROW is graded so that there are safe working conditions for construction activities.

Mechanical bending of the pipe is performed at certain locations to prevent geometric deformation during installation. Bends can either be done in the field or, for greater bend angles, completed in a manufacturing facility. As part of Enbridge's specifications, the bend procedure is prescribed such that the integrity of the pipe and coating is maintained throughout the process.

Enbridge has an inspection and quality assurance program that verifies, tracks, and documents the construction activities. During construction, every field weld is visually inspected by qualified Enbridge inspection staff. Enbridge also hires professional non-destructive inspection firms that perform x-ray or ultrasonic inspections on 100 percent of field welds, which is more stringent than federal regulatory requirements. Each weld is covered with an epoxy coating compatible with the rest of the pipeline, ensuring consistent quality and integrity.

During grading and trenching activities, the topsoil and subsoil are separated in order to protect the various layers of soil stratification. The pipeline installation ditch is excavated to the contour of the land and in concert with the bending activities so that the pipe copies the shape of the trench bottom and undue stress is not introduced on the pipe.

Federal regulations require various minimum depths of cover on a pipeline depending on the type of soil and land use the pipeline will traverse. In all cases the Project will meet or exceed these requirements.

All crossings of waterbodies, roads, railroads, and foreign utilities shall meet the requirements set forth in their respective crossing permits. These may contain depth of cover, minimum separation distances, and required crossing methods in order to minimize stresses and ensure integrity of all assets.

Cleanup activities on the ROW are completed in accordance with appropriate regulations and Project construction specifications, as well as in consultation, and pursuant to agreement, with landowners. Reclamation is performed to prevent soil erosion and ground degradation, thus preserving the stability of the ground around the pipeline and reducing the likelihood for pipe movement.

Once the pipe is lowered into the excavated ditch and backfilled with appropriate material, the new pipeline is hydrostatically tested with water to ensure integrity and to verify the segment has the ability to withstand internal pressures up to the MOP of the segment being tested. The hydrostatic testing will be conducted in accordance with both Enbridge standards and 49 C.F.R. Subpart 195.304, which require a test pressure of at least 125 percent of the MOP for at least four continuous hours. In the case of a pipeline that is not visually inspected for leakage during the test, the pipeline will be hydrostatically tested for a minimum of another four continuous hours at a test pressure of at least 110 percent of MOP.

Following the hydrostatic testing process, each tested section is inspected with an in-line inspection tool, which assesses whether any dents, buckles, or geometric non-conformities are present and also provides a baseline for future inspections. Once the pipeline has been backfilled and the ROW restored, additional surveys are done to test the quality of the coating. These surveys and tests may include: Alternate Current Voltage Gradient (ACVG) Survey or Direct Current Voltage Gradient (DCVG) Survey; close interval study; and coating conductance testing.

Prevention of Pipeline Exposure

All flowing water bodies have some component of erosion that occurs. Enbridge performs a Hydrotechnical analysis to establish an appropriate depth of cover in each waterway to account for such erosion. This analysis establishes the minimum depth of cover in each waterway that is then met by either installing the pipeline via a surface installation method such as a dam and pump dry crossing method or via a trenchless installation method such as a Horizontal Directional Drill (HDD) or Direct Pipe Installation (DPI) method. HDDs and DPIs can be used to significantly increase the depth of cover where the hydrotechnical analysis suggests it is needed. WDNR and the Wisconsin Standards Oversight Council have recently developed for adoption Technical Standard 1072 for Horizontal Directional Drilling (HDD), which identified best practices for pipeline installation to prevent pipeline exposure. The public comment period ended on March 28, 2022.

Valve Placement

Valves are designed and installed to isolate sections of the pipeline for maintenance purposes or in the event of a release. Valves are also required to be installed per federal pipeline safety regulations (49 C.F.R. Part 195). The valves are remotely controlled by the Control Center to limit the extent of a release. Enbridge conducted an Intelligent Valve Placement (IVP) analysis for the Preferred Route, which ensures that Enbridge complies with federal law and places valves in the optimal locations.

In accordance with federal law, valves must be placed:

1. On the suction end and the discharge end of a pump station in a manner that permits isolation of the pump station equipment in the event of an emergency.

2. On each line entering or leaving a breakout storage tank area in a manner that permits isolation of the tank area from other facilities.
3. On each mainline at locations along the pipeline system that will minimize damage or pollution from accidental hazardous liquid discharge, as appropriate for the terrain in open country, for offshore areas, or for populated areas.
4. On each lateral takeoff from a trunk line in a manner that permits shutting off the lateral without interrupting the flow in the trunk line.
5. On each side of a water crossing that is more than 100 feet (30 meters) wide from high-water mark to high-water mark unless the PHMSA Administrator finds in a particular case that valves are not justified.
6. On each side of a reservoir holding water for human consumption.

The IVP methodology, which is a key element of Enbridge's broader risk management program, combines rigorous consequence assessment, competent engineering judgment, and sound engineering practices to determine optimal valve locations. The objective of the IVP methodology, and our guiding principle, is to reduce the potential release volume in the unlikely event of a pipeline release.

Enbridge's IVP methodology is designed to ensure valves are placed at the right location to reduce potential release volumes along a pipeline corridor. Enbridge's IVP analysis takes a rigorous approach to valve placement that considers and protects water crossings, as well as other HCAs, from potential impacts.

The IV modeling identified the need for valves and proposed locations for the relocated segment of Line 5. Since that modeling was conducted, PHMSA finalized a rulemaking published in the *Federal Register* on April 8, 2022*, Valve Installation and Minimum Rupture Detection Standards, (*Docket No. PHMSA-2013-0255-0005). Enbridge is evaluating these final rules and the addition of valves in connection with the Project. Preliminary evaluations of potential sites for additional valves are all located in upland areas and would be sized consistent with other valves.

Integrity Management

Enbridge's integrity management program is a key component of Enbridge's release prevention efforts. Enbridge's integrity management program collects pipeline integrity data through the use of high resolution in-line inspection (ILI) tools. This data is analyzed to identify integrity risks to the pipeline such as corrosion or cracking. The analysis is then reviewed to develop a plan for safely maintaining the pipeline with the objective of restoring the pipeline to its historical operating capability.

The sections that follow address components of Enbridge's integrity management program. Enbridge is an industry leader in investing in ILI development and has been instrumental in the advancement of new ILI technologies.

Inspections

Pipeline inspections – internal and external, below- and above-ground – are a key method by which Enbridge assesses the integrity of its pipelines. Enbridge uses sophisticated internal inspection instruments, referred to as "smart pigs" or ILI tools, to identify areas of corrosion, cracks, and deformations (dents) that may develop in a pipeline. Any anomalies that are discovered by the tools that meet specific criteria are identified for further inspection and are excavated, inspected, and repaired, as necessary.

For example, in the detection of corrosion, there are two types of sensor technologies –magnetic flux leakage and ultrasonic transducers – which provide a highly detailed profile of corrosion on external and internal surfaces. The figure below shows a magnetic flux leakage ILI tool. The tool is commonly used throughout the industry with a great deal of success in identifying metal loss anomalies.

The figure below depicts an ultrasonic crack detection ILI tool: the General Electric Phased Array Tool. The tool provides the highest resolution detection and characterization to identify cracking in welds and the pipe body.

The next figure depicts an MFL tool combined with a caliper tool that is used to detect and characterize pipeline deformations.

ILI tools use calipers (to measure geometry), gyroscopes (to gauge pipe movement), GPS (for precise pipe position), and ultrasonic or magnetic flux (to measure associated gouge, corrosion, and cracking) to measure the size, frequency and location of minute changes on both the inside and the outside of pipe walls. The ILI tools

Enbridge uses to inspect its pipelines are extremely sensitive and provide a level of detail similar to that provided by an MRI, ultrasound, or x-ray screening in the medical industry.

Once gathered, the data from each ILI run is analyzed by internal Enbridge and external engineering and integrity experts to align current and prior ILI data such as anomaly density and severity with pipe characteristics, relative location of anomalies, environmental conditions, coating materials, and operating history.

Data analysis requires significant expertise by engineers and integrity specialists that review the millions of pieces of data collected through the tool runs. Once the data is collected and analyzed, Enbridge then reviews the analysis to develop an integrity management plan to address the anomalies that have been identified. This maintenance plan addresses the work required to be undertaken and predicts the amount and type of work required in the future.

PHMSA's regulations require Enbridge to assess the integrity of its pipelines at five-year intervals, not to exceed 68 months. While that is the minimum, inspections are typically more frequent due to the wide variety of ILI tools employed by Enbridge. Enbridge also assesses integrity threats via a risk-based approach, which may require additional tool runs. In accordance with federal regulations, Enbridge will perform a baseline assessment of the Project when it is placed into service.

During operation Enbridge uses appropriate techniques to monitor the system and assess operational data in order to verify pipeline integrity and confirm that prevention mechanisms are effective. The monitoring techniques include ILI, on-line sensors, pressure cycle monitoring, active slope monitoring (*i.e.*, geohazard), hydrostatic testing, Non-destructive Examination (NDE), direct assessment techniques and other proven and new innovative methods and technologies.

1. ILI: For all mainlines and certain facility piping, ILI tools are capable of performing crack detection and metal loss inspection.
2. Sensory Instruments: Instruments that read pressures/cycling, pipe movement, external and internal corrosion, and vibration are installed on each new pipeline. Flexible power options and communication options allow installation at remote locations, and the ruggedized design assures reliable operation in the harshest environments.
3. Hydrostatic testing: Hydrostatic testing is conducted during pipe manufacturing, prior to pipeline commissioning, and as an integrity verification tool. The test involves filling a pipeline segment with water until it is at a pressure that is higher than the pipeline will ever operate. This can validate the safe operating pressure of the pipeline and ensure that the line is structurally sound.
4. NDE: NDE does not permanently alter the article being inspected. It is a highly valuable technique that can save both money and time in product evaluation, troubleshooting, and research. Common NDE methods include ultrasonic, magnetic-particle, liquid penetrant, radiographic, and remote visual inspection; eddy-current testing; and low coherence interferometry.
5. Surveys: Various surveys are used to measure pipe depth, assess river crossing and geotechnical conditions, determine the effectiveness of corrosion control, and identify third-party activity near the ROW. Aerial patrols are one of the types of surveys conducted.

Corrosion Protection Monitoring

Enbridge's pipelines have cathodic protection systems to prevent external corrosion of the pipes. The cathodic protection system is subject to regular maintenance and inspection. It is also continuously monitored. Enbridge takes actual readings each calendar year (not to exceed a 15-month interval) by taking pipe/structure to soil readings where possible. Enbridge also inspects the rectifiers and anode ground beds used in the cathodic protection system, conducting repairs as necessary.

Enbridge evaluates the susceptibility of its pipelines to internal corrosion by integrating and evaluating data on pipeline characteristics, ILI results, operating conditions, pipeline cleanliness, crude sampling, and historical leak data.

Monitoring and Mitigation of Pipeline Exposure

Enbridge reviews the depth of cover over all pipelines on a periodic basis. Enbridge's ongoing integrity management program includes evaluation of pipelines that have become exposed over time. Enbridge

maintains its existing assets in accordance with federal and state law, and all new pipelines are installed according to those requirements.

Enbridge's integrity management programs also include a Geohazard Management Program, which monitors extreme weather events and for potential line exposures at flowing water crossings. Enbridge has conducted a baseline review of all river crossings to determine the potential for exposed and shallow pipe, unstable banks, and steep slopes. Based on this review, Enbridge developed flood monitoring criteria for each crossing that describes events triggering inspection (*e.g.*, a 5-year rain event and a 25-year rain event) with the potential for several inspections based on water levels. When an inspection is triggered by an event, the regional engineering group is notified and it deploys a local pipeline maintenance crew to make visual inspection of the crossing. If the inspection finds damage, it is examined, and repair work is completed as needed on a site-by-site basis. In the unlikely event that a pipeline exposure does occur, the exposure itself does not necessarily increase the risk of release. Conditions around the exposed pipeline will be continuously monitored and assessed for potential risk of third-party strikes, pipeline movement, and planning for future repairs.

Prevention of Third-Party Damage

Third-party damage is a leading cause of pipeline releases. Enbridge strives to prevent any dents, scrapes, and other damage to its pipes and facilities during construction and operation or by third parties. Enbridge has a comprehensive public awareness program in place to engage landowners, community members, and first responders to ensure they are aware of our pipelines and related facilities. The program focuses on identifying the presence of the pipeline by installing markers above ground and how to prevent damage to the pipeline from excavating equipment. Enbridge supports and is a member of the State One-Call System.

Integrity Threat Mitigation

Threat prevention occurs over the complete lifecycle of a pipeline, and Enbridge assesses the "fitness" of the pipeline for the service it is intended to perform, considering hazards and risks. The need for remedial action or repair work is based on the goal of ensuring a long-life asset and preventing failures.

When Enbridge's ILI program identifies anomalies that require excavation and visual inspection, Enbridge obtains the required environmental and regulatory permits, notifies affected landowners, and identifies all existing utilities in the vicinity of the area to be excavated. Enbridge then excavates around the section of buried pipe so that it can be cleaned and examined and then repaired, as needed. This is referred to as a dig and repair program, and individual digs are referred to as "integrity digs." Repair methods include cleaning the pipe, addressing corrosion and/or crack features, and recoating the pipe with modern epoxy coating. Integrity features that cannot be sufficiently addressed in this manner may be encapsulated by another layer of pipe, called a sleeve, before being recoated with modern epoxy coating. In some rare cases, a section of pipe may be cut out to remove an anomaly and a new piece of pipe welded in its place. Upon completion of the examination and repair, subsoil and top soil are replaced, and the site is restored by grading, planting, and reseeding, as necessary. Integrity digs involve disturbance of the land, which may interfere with the landowner's use of the property. However, integrity digs are necessary to maintain the safety of the pipeline.

To ensure the safe operation of a pipeline, it may be necessary to reduce the pipeline pressure below its MOP. Temporary pressure restrictions may be imposed when an ILI reports a severe anomaly that necessitates a pressure reduction to ensure a factor of safety is maintained. The restriction may be removed after the anomaly is excavated, examined, and repaired. Temporary pressure restrictions may also be imposed if Enbridge is unable to verify the reliability of the ILI data. These restrictions may be removed after evaluating the pipe using additional inspection methods such as performing more ILI, completing more dig and repair programs, integrity digs, pressure testing, and/or completing an engineering assessment.

When it is determined that on-going maintenance activities will not feasibly restore the pipeline back to its MOP, a permanent pressure restriction may be imposed. The lowered MOP enables the continued operation of the pipeline, at a lower pressure, while maintaining a factor of safety on the condition of the pipeline. Pressure restrictions can cause significant operational challenges and typically limit capacity and operating flexibility.

Replacement is another mitigation measure that Enbridge employs. Enbridge has a formalized procedure for assessing pipeline replacement, which is continuously updated and refined based on increased knowledge and improved technologies. Enbridge's replacement analysis involves forecasting integrity digs required to address integrity threats, and also takes into account factors such as the impact to the environment and landowners, risk reduction, and operating reliability requirements, among others. Pipe replacement is neither an easy

decision nor a last resort. Instead, it is a calculated decision that takes into consideration the costs and benefits given the circumstances of the specific pipeline.

Internal Corrosion Prevention

Internal pipeline cleanliness is important for preventing internal corrosion. Cleaning tools, liquid inhibitors, and biocides can be used throughout the life cycle of pipelines to prevent the development of internal corrosion.

Release Detection and Emergency Response

Release detection is accomplished through pipeline monitoring and inspections. As with all Enbridge pipelines, the relocated segment will be monitored 24 hours a day, seven days a week, and 365 days a year from the Control Center Operations (Control Center) facility located near Edmonton, Alberta.

The state-of-the-art Control Center was constructed in 2011 and was purposefully designed to enhance the safety and reliability of our pipeline operations by creating optimal working conditions while supporting our operations team as they conduct critical around-the-clock activities. The Enbridge Control Center facility allows for greater interaction and enhanced support, with design measures to address fatigue management in conjunction with maximizing human performance through such features as ergonomic consoles, improved circadian lighting, and noise reduction paneling equipment.

Controllers are supported by additional on shift 24/7 peer support, Senior Technical Advisor support, and Shift Supervisor support. In addition, Controllers have access to the Control Center Technical Services group, and Engineering and Management teams. The Control Center Engineering and Management teams are also available 24/7 through a rotational, on-call program.

The systems operated by the Control Center include approximately 15,380 miles of pipe segregated into 59 distinct pipeline assets, 26 of which are located in the United States. Enbridge also maintains a fully functional back-up Control Center in the Edmonton area that can assume full control of the Enbridge system in the unlikely event the primary Control Center is unable to function properly.

Monitoring Systems

The Control Center employs multiple redundant systems that have been designed and optimized to prevent the release of hydrocarbons and mitigate the magnitude of a release in the unlikely event of a pipeline failure. The following methods are used by the Control Center to monitor and assess whether a release may have occurred:

Computational Pipeline Monitoring (CPM)

The Project will be protected by a computer-based pipeline monitoring system that utilizes measurements and pipeline data to detect operational anomalies that indicate possible leaks. This system employs a sophisticated computer model that applies a sequential probability ratio test to the corrected flow balance system. This system continuously calculates the statistical probability of a release based on fluid flow and pressure measured at the inlets and outlets of a pipeline. The expected pressures and liquid flow rate in each section of the pipeline are compared to the actual measured pressures and flow rate. Discrepancies between the expected and actual values result in a leak alarm that precipitates shutdown.

Supervisory Control and Data Acquisition (SCADA)

In addition to keeping in close contact with field operators via telephone and computer, Controllers use the SCADA computer system to monitor what is occurring within our pipeline and terminal systems. Using the SCADA system, computers in the control room and at remote sites continually relay information back and forth, enabling our Controllers to constantly monitor pressures, flow rates and other conditions on our pipelines and terminals, allowing for a quick response when abnormal or emergency conditions are identified. The system is designed to remotely control the line, detect anomalies, issue controller alarms, and initiate a station shutdown or line stop when allowable operating limits are exceeded or logical arguments fail.

Examples of SCADA controller alarms include:

- Explosive vapor alarms
- Pump seal failure alarms
- Equipment vibration alarms
- Station fire alarms

Examples of SCADA initiated station shutdown or stop line commands include:

- High pressure limits
- Low pressure limits
- Unintentional valve closures

Line Balance Calculations

Controllers will employ line balance calculations that compare the volume of oil injected into the pipeline with the volume of oil delivered from the line to identify unexpected losses of oil that would indicate a leak. Line balance calculations are performed every two hours using both two hour and 24-hour balance intervals. Enbridge also maintains a rolling 24-hour calculation based on the calculations done at the prescribed set times. These calculations identify unexpected losses of pipeline inventory during pipeline operation. Negative line balances that exceed the detection thresholds may indicate a release and result in the line being shut down.

Controller Monitoring

The Project will be monitored 24/7 by specially trained and qualified Enbridge employees located in the Control Center. Controllers are trained to monitor the operating parameters of the line and react to operational anomalies, CPM alarms, discrepancies in line balance calculations, SCADA alarms, SCADA station shutdown commands, and SCADA stop line commands.

Controllers continuously monitor SCADA data to identify the pipeline leak triggers. Pipeline leak triggers from the upstream side of a suspected leak site include:

- Sudden drop in upstream discharge pressure
- Sudden change in upstream control valve throttling or pump speed
- Upstream unit(s) shut down (or lock out) in combination with a sudden drop in upstream discharge pressure and/or a sudden change in upstream control valve throttling (or a sudden change in percentage Variable Frequency Drive (VFD) control)
- Sudden increase in upstream flow rate

Pipeline leak triggers from the downstream side of a suspected leak site include:

- Sudden drop in downstream suction pressure
- Sudden change in downstream control valve throttling or pump speed
- Downstream unit(s) shut down (or lock out) in combination with a sudden drop in downstream suction pressure and/or a sudden change in downstream control valve throttling (or a sudden change in percentage VFD control)
- Sudden drop in holding pressure at a delivery location
- Sudden decrease in downstream flow rate

Controllers also consider alarms from the CPM system and line imbalances that exceed the line balance thresholds from the line balance calculations as independent leak triggers.

The Control Center actively monitors all pipeline and terminal systems, including systems that are operating and systems that are shut down. The Control Center monitors all fieldwork and maintenance activities taking place on Enbridge assets. It has processes in place to ensure that these activities are considered and that alternate monitoring strategies are developed when required. In addition to monitoring and controlling the pipeline systems, the Control Center monitors the incoming and outgoing terminal flows and individual tank levels. The Control Center also performs volume balance checks on the Project while also monitoring gas alarms and fire alarms.

Enbridge Inspections

Visual inspections are also very important. Enbridge patrols all pipeline ROW by air at least 26 times per year (not to exceed a three-week interval) to assess the ROW for potential damage or other release threats. Typically, aerial inspections are made on a weekly basis, weather and other factors permitting. These inspections review conditions on or adjacent to the ROW. Line walking inspections are used, as necessary, to supplement aerial inspections in congested areas. To facilitate these regular inspections, Enbridge is required to maintain a ROW clear of woody vegetation.

Enbridge also inspects its facilities, such as pump stations and terminals, through targeted tankage, equipment, and piping inspections. A team of subject-matter experts in Engineering, Operations, and Integrity implement a release detection program for all facilities throughout the liquids pipeline system.

In addition, Enbridge checks the operation of isolating valves at least twice per year and regularly reviews the equipment used to limit, regulate, control, or relieve pipeline pressure.

Third-Party Reports

Enbridge operates an emergency telephone line whereby members of the public and public officials can notify Enbridge of any issues related to its pipelines. The emergency phone number is communicated to emergency officials and the public as part of a continuing public awareness program. The number is also advertised on the www.enbridge.com website and on Enbridge ROW signage. The Control Center continuously monitors the Enbridge emergency telephone line for reports of oil on the ground or reports of odor provided by third parties.

Emergency Response

Enbridge's emergency response plan, referred to as the Integrated Contingency Plan (ICP), was approved by PHMSA in July 2013. Enbridge reviews the ICP at least annually, with the latest update in November 2021. Enbridge's current ICP serves as the emergency response plan for all Enbridge Liquids Pipelines.

The ICP was developed in consultation with PHMSA and was the first industry plan to undergo an extensive, multi-agency peer review process. Agencies that participated in the review of the Enbridge ICP included, but were not limited to, the United States Environmental Protection Agency (EPA), the United States Coast Guard (USCG), the Occupational Safety and Health Administration (OSHA), and PHMSA. The Enbridge ICP follows the format of a document prepared by the National Response Team (NRT), which provides technical assistance, resources and coordination on preparedness, planning, response and recovery activities for emergencies involving hazardous substances. That document, known as the ICP Guidance, was developed by the EPA, USCG, OSHA, PHMSA, and the Minerals Management Service in the Department of the Interior (DOI) to provide a sample contingency plan outline that addresses the requirements of various federal regulations. The ICP Guidance format is the federally-preferred method of response planning, and plans prepared in accordance with the ICP Guidance are viewed favorably by the NRT and reviewing federal agencies. Using the ICP Guidance document allowed Enbridge to create a single plan that serves as the primary emergency response tool.

The ICP consists of two parts. Part 1 is the Core Plan that serves as the overall plan and is consistent across all operating regions. Part 2 is an annex based on the geographical Response Zone (or Region), which provides detailed supporting information and regulatory compliance documentation for each of the Enbridge Response Regions. The Project will be within the Midwest Region.

The ICP utilizes the Incident Command System (ICS), which is a system used by both public and private sector emergency responders to coordinate objectives and actions when responding to an incident. ICS is a management system that uses a Unified Command structure to set objectives for a response to any type of incident. A Unified Command is established when representatives from Enbridge, federal agencies, state agencies, and local agencies form a single chain of command to issue instructions relating to the response. Each leader is responsible for a limited number of workers, which increases safety and makes response management easier. Resources from the company and response agencies are also coordinated for maximum efficiency and effectiveness. All activities are documented in an Incident Action Plan, which is a written document created for each phase of the response.

The ICP is used by Enbridge responders to manage an emergency anywhere within Enbridge's United States system. Those responders include the Regional Incident Management Teams (IMTs), which are groups of Enbridge employees located in each region with training in the ICS, and the Field Response Teams (FRT), which

are groups of Enbridge employees in each region with specialized training in containment and recovery operations.

The ICP's primary purpose is to ensure an effective, safe, and comprehensive response to all types of incidents, regardless of where the incident occurs, or what type of resource may be impacted. Accordingly, Enbridge is prepared to respond to any incident, regardless of the type of oil, the location, or type of incident, such as fire or a security event. The two primary goals of any incident response are to prevent injury or damage to the public and Enbridge employees and mitigate any possible impact on the environment. The specific objectives of the ICP are to:

- Provide guidelines for handling an emergency response operation
- Develop alert and notification procedures to be followed when an emergency response incident occurs
- Document equipment, personnel, and other resources available to assist with an emergency response to an incident
- Describe response teams, assign individuals to fill the positions on the team, and define the roles and responsibilities of team members
- Define organizational lines of responsibility to be adhered to during an emergency response
- Outline specific response procedures and techniques to be used during an emergency response incident
- Comply with United States Homeland Security Presidential Directive 8 to take an "All Hazards" approach to emergency response, which means having a response plan to address not only a product release, but also a tank fire, power outage, or security incident

The ICP may undergo additional revisions in connection with a change in regulations or due to operational changes that require reporting per applicable regulations.

Field Emergency Response Plan

Each of the nine regional annexes to the ICP contains a Field Emergency Response Plan (FERP), which is a region-specific, condensed version of the ICP tailored to the unique features of the region. Each FERP is publicly available and specifically designed to be used by first responders and Enbridge personnel in the field. The current FERP for the Midwest Region, which will govern emergency response for the Project, is included as Attachment F. The FERPs are also available to the public at www.emergencyresponderinfo.com. Registration is required to obtain a copy of the FERP so that Enbridge can provide any updates to the FERP to those individuals that have requested the FERP in the past.

The FERPs include, but are not limited to:

1. HCA maps, which show areas of high population, other population, water, and environmentally sensitive areas;
2. Control point maps, which show downstream water access and collection points;
3. Facility Response Plans, which address pumping and terminal areas;
4. Line information, which includes valve locations;
5. Response maps; and
6. Equipment lists.

The FERP will be updated to include Project-specific information once the route is finalized and final construction design of the Project has been completed.

Enbridge's ICP and FERP meet or exceed all local, state, and federal requirements, including PHMSA's pipeline safety regulations specified in 49 C.F.R Parts 194 and 195, and applicable OSHA, USCG, API national technical standards, and API 1174 recommended practices for Liquid Pipelines Emergency Response.

Emergency Response Resources

Pipeline Maintenance (PLM) shops are equipped with emergency response equipment and pre-positioned and packed response trailers. These are the main repositories of Enbridge-owned emergency response equipment. Detailed lists of equipment maintained at each station are provided in the FERP for each region. Examples of maintained equipment at these locations include containment boom and related equipment, skimmers, pumps, trailers, boats, generators, specialized vehicles, and trucks.

Enbridge does not limit its response resources to only those located at staffed stations within the region where an incident occurs. Enbridge will mobilize any response asset that may be required, regardless of where the asset is located. Enbridge maintains its own Tier 1 response resources as defined in the USCG Oil Spill Removal Organization (OSRO) classification regulations. Enbridge will also mobilize resources from contracted OSRO companies and other OSRO companies as needed. Local suppliers are also used for equipment rentals and purchases of ATVs and boats. Additionally, Enbridge has an Enbridge Enterprise Emergency Response Team (E3RT), which is a cross-business unit response team that responds to large-scale events anywhere in North America that require more resources than a single region could provide.

In addition, in the event that the ICP Team determines additional resources are required to respond, Enbridge has developed a relationship with other contractors along the route who have been trained and have agreed to provide resources and participate in responding to any incident when called upon by Enbridge. For example, to assist with clean up, Enbridge could call on those companies that Enbridge contracts with on a regular basis, such as vacuum truck vendors and rental companies to provide additional equipment and personnel.

All of these resources described above have been identified and have agreed to participate or assist in the event Enbridge asks for their assistance. Any contractor involved in a response will first be trained and, at the incident, will be part of the ICS response. Enbridge enters into arrangements with hotels so that housing and conference space used during regular business operations is also available during emergency response.

Emergency Response Timing and Processes

Enbridge treats all incidents, regardless of type or location, in a uniform manner to ensure a consistent, effective response. An incident is any event that is outside of expected operating procedures and requires an emergency response. Enbridge has made the decision to immediately mobilize more resources than may be necessary to respond to an incident and then scale the response down rather than respond with minimal resources and then have to engage others as response occurs.

Initial Control Center Response

The Control Center is Enbridge's primary incident detection system. When one or two leak triggers are identified, the Controller has 10 minutes to analyze the information and conclusively rule out the possibility of a leak. If the possibility of a leak cannot be irrefutably ruled out within 10 minutes of the first leak trigger being identified, the Controller immediately initiates a shut-down of the affected line segment so that it is sectionalized and isolated. The Controller then notifies the appropriate personnel in Enbridge, who initiate the investigation process.

When three or more leak triggers occur, immediate steps are taken to sectionalize and isolate the pipeline using remote controlled valves. There is little to no time between detection of a release and execution of the line shutdown process.

The amount of time required to identify a leak is dependent on the nature of the release. Full-line ruptures will result in multiple leak triggers and alarms that will notify the Controller almost instantaneously. Small leaks are typically detected by the CPM system and the line balance calculation process (as described above), both of which are tuned to detect large and small leaks. Although the highest sensitivity leak threshold requires 24 hours to trigger an alarm, changes in operations and other monitoring techniques alert the Controller of changes in volume that will also be relied upon to shut the pipeline down and initiate an investigation in a shorter timeframe. Controllers are required to shut the line down in the event that they suspect that there is an issue with the pipeline operations.

Emergency Response Processes

Many activities are undertaken within a short period of time in response to an incident. Enbridge personnel are trained to respond to an incident in accordance with the FERP. The FERP provides specific response steps and tactics to be used within each region, considering the unique topography and features along a pipeline route within the region.

When notified of an incident, the Control Center will shut down the pumps and close the valves in the area of concern. On-call operations personnel and managers are notified internally by the Control Center. These include individuals that are part of the IMT and FRT. Notifications occur for both internal and external parties, including the National Response Center (NRC), the state, and local police.

Enbridge first responders work to confirm the nature and location of the incident as notifications occur. Trained Enbridge personnel will also be directed to the site of an incident after receiving notice of the incident.

External first responders will arrive on the scene within minutes of being alerted to an incident secure the scene, undertake evacuations when necessary, and deploy the FERP procedures, which are provided to Enbridge and external first responders. External first responders are public health or safety agents, such as fire or police departments, charged with responding to an incident during the emergency phase and alleviating any immediate danger to human life, health, safety, or property.

When notified, Enbridge follows the ICP and initiates a response using the ICS model. The goal is to prudently over respond. Initial indications of response needs are based on assessment of the level of emergency.

One of the first steps under the ICS is for a Qualified Individual, a person with specialized training in incident command, to take the role of Incident Commander. That Qualified Individual is charged with ensuring that *more* than the required resources are provided to respond to the incident. The Incident Commander will set incident objectives and Operations will identify tactical objectives for the response. The primary incident objective will always be ensuring the safety of the public and responders.

The IMT will use Enbridge's response plans and processes to create an Incident Action Plan (IAP) for each period of the incident response. An IAP is a work plan that guides response activities for the next work period, which can vary in duration from 12 hours to several days. The initial response periods are shorter and may increase in length if the objectives and tactics being used do not change. Command objectives and tactical objectives are used to create work plans, order resources, and communicate with those involved in the response.

Enbridge's emergency response plans include pre-determined steps to take in the event of an incident. Maps and tables have been developed by Enbridge that identify HCAs and ESAs along pipeline routes for each region. Response regions maintain control point map sets that identify product containment and recovery sites on high-risk water bodies that could be impacted by a pipeline release. The purpose of the control point maps is to identify in advance the best locations for deploying emergency response equipment, such as containment booms. This allows emergency responders to know exactly what equipment is required and what to do in the event of an incident.

The HCA, ESA, and control point maps and tables allow Enbridge to know where to locate response resources in advance of a release so that emergency responders can get to work immediately upon deployment. For example, Enbridge will have identified the location of sensitive resources, such as aquatic vegetation, sensitive shoreline areas, important habitats, and other features in advance and ensure that there is appropriate equipment in the vicinity, which is to be deployed at pre-determined locations. Emergency responders will use the HCA and control point maps and tables to begin placing booms and taking any other necessary response measures to protect resources and limit the impact of an incident.

These maps and tables are reviewed annually and updated in accordance with Enbridge policy along with the ICP. In addition to updating the maps and information to reflect updates from PHMSA, the management groups in each operating region are responsible for ensuring that a visual field reconnaissance of each control point is carried out at least once every three years.

From an emergency response perspective, if a pipeline can be built in an area, emergency responders can reach the pipeline. Enbridge has a wide variety of methods to access an emergency site in any terrain or location.

The ROW provides direct access to a pipeline. Enbridge can access the ROW from public roads, or from access roads built during construction. Federal law requires pipeline ROWs to be kept free of vegetation that would interfere with inspection, so emergency responders will be able to travel down the ROW.

If conditions are not conducive to regular vehicles traveling down the ROW, Enbridge has specialized vehicles that can travel through swamp and marsh areas to access an incident. These vehicles include airboats, Marsh Master utility vehicles (specialized amphibious work vehicles that can transport equipment and personnel through wetlands and other difficult to access areas), ATVs, and work boats. Tracked mini-vacuum systems and portable tanks are also available to respond to incidents. Enbridge has also stationed a helicopter dedicated to aerial inspection and emergency response in Bemidji, Minnesota.

While those vehicles can transport equipment and personnel to a response site quickly, Enbridge can also build temporary access roads or mat roads through difficult terrain along the ROW in short order to bring additional equipment and response personnel to an incident site.

Emergency Response Training

Enbridge's emergency response efforts include significant training and exercises for Enbridge employees, as well as emergency responders.

Employee Training

Personnel anticipated to be involved in responding to incidents receive training in ICS levels 100-400. ICS is the common system used by first responders, the military and civil authorities across North America for responding to incidents. ICS classes are categorized by the different levels of information provided. ICS 100-200 classes focus on basic ICS and are taken by all responders. ICS 300 and 400 are two-day courses for select personnel. The courses include training on staffing and response organization, reporting requirements, transfer of incident command, unified incident command structure for multi-jurisdictional or multi-agency incidents, documentation, resource management, and related topics. ICS role-specific training is also required for all IMT positions. Role specific training is a class focused on training for specific ICS positions. Also included in training is ICS 320, a three-day course that focuses on the proactive planning phase of a multi-day incident. ICS training is conducted on an on-going basis and ever-increasing numbers of Enbridge IMT team members will be trained and available to respond in the event of an incident.

The qualified individuals, who function as Incident Commanders within the ICS system in each region during an emergency response situation, receive additional training focused on their role in developing an ICP for a response, coordinating resources, and identifying the type and quantity of resource required for their respective regions in order to ensure more than the required resources are provided to respond to any incident.

Enbridge's preparedness and response exercise programs follow the National Preparedness for Response Exercise Program (NPREP) standards, which were developed by PHMSA, the USCG, the EPA and DOI to establish a preparedness exercise program for federally-regulated companies. The NPREP standards require a minimum number of different exercise types over a three-year period, including at least one spill IMT exercise and one FRT exercise annually. Also included is a Full-Scale Exercise (FSE) at a minimum of every three years. A FSE is an exercise that includes both equipment deployment and the IMT responding to the same scenario. Enbridge employees participate in regular emergency response drills and simulations to provide training, test, and improve upon Enbridge's preparedness procedures. Enbridge's exercise and drill program far exceeds federal standards.

Exercises are planned annually for employees and first responders to participate in hands-on training in their primary response area. Employees are trained through workshops, equipment deployment drills, and tabletop exercises where various scenarios are discussed. These training events occur regularly and frequently across all Enbridge Response Regions to ensure that personnel are trained to respond to an incident and able to address the unique features of their environment. Many of these exercises involve local emergency responders using emergency response equipment to practice recovery and cleanup in various terrains and/or on water.

First Responder Training

Enbridge's training is not limited to its employees. Enbridge currently bears the cost of training first responders and will continue to do so. Enbridge offers a free online Emergency Responder Education Program, which has been launched to more than 8,000 response agencies in North America, including those along the Preferred Route of the Project. The online program is for all public sector first responders. There is also a specific program for 911 dispatchers, which was created with the assistance of the National Emergency Number Association (NENA). The content for both programs is based on "Pipeline Emergencies," an industry-leading pipeline emergency response training program developed by the National Association of State Fire Marshals. The purpose of this training is to make sure that first responders know their role and are prepared to fulfill that role in the event of an incident. To that end, Enbridge works with first responders so that they know the following information:

- Names of companies operating pipelines in their community
- Emergency and non-emergency contact information for all operators
- The approximate location of the pipelines

- What materials or products are being transported in the pipelines
- The physical indications of an unintended release
- Potential impacts of an unintended release
- Steps that should be taken to protect the public

Some Enbridge employees are also trained as Emergency Response Ambassadors in each Response Region to provide additional face-to-face training and information to 911 operators and emergency responders at Enbridge's expense. Enbridge's primary focus is on those agencies and responders within a five-minute response time of an Enbridge pipeline because those are the agencies and individuals that will likely be first on scene for an incident. The goal of this additional training and information is to provide further, specific, practical information to be used by first responders when interacting with the public in response to an incident.

The level of training that incident response personnel receive, regardless of whether they work for a non-company agency or for Enbridge, is commensurate with the respective personnel's role in the incident response plan. First responders are therefore trained to be able to perform the following functions as part of an emergency response:

- Secure the scene
- Deploy or initiate the FERP procedures
- Respond to protect people, property, and the environment, including isolation of the area, rescue, and evacuation
- Call for assistance
- Work with Enbridge to remedy the situation

While non-company agency personnel fulfill important incident response roles, such as ensuring the safety of the public by controlling access to the area, implementing the procedures set forth in the FERP, providing medical support if necessary, and, if required, responding to fires or other immediate hazards to life or property, they are not expected to fulfill the role of halting or remediating a release. Enbridge employees and contractors with more specialized training will be used to perform those functions. As a result, Enbridge ensures that non-company agency personnel are trained to make sure they are, among other things, (i) aware of Enbridge and Enbridge assets in their areas, (ii) aware of and able to implement the FERP, and (iii) able to coordinate response efforts with Enbridge, using ICS and Unified Command, as effectively as possible during all phases of incident response, from first response through remediation. In this way, Enbridge ensures that everyone who is expected to respond to an incident is equipped with the information and resources necessary to fulfill their respective roles.

Enbridge sponsors annual emergency response information and training meetings that focus on pipeline response and response safety, such as annual meetings with the emergency response personnel along Enbridge's pipelines, to ensure they have the latest information on our operations. These emergency responders include Emergency Medical Services (EMS), fire chiefs, sheriffs, police chiefs, and state and county emergency managers. Enbridge offers training and, if requested, goes to the department's training night to give a presentation. Enbridge has also hosted pipeline emergency workshops and exercise drills for local first responders.

Emergency Response Funding

Enbridge's first priority and primary objective is to prevent incidents from occurring through its comprehensive operational risk management practices and processes. The safe operation of our pipelines is Enbridge's top priority; however, in the event of a release, Enbridge remains committed to returning affected areas to their pre-existing conditions. Enbridge has the financial capability to ensure that Enbridge responds to an incident and satisfies its commitments.

As the Project owner, Enbridge is responsible for emergency response. Enbridge has access to multiple sources of financial resources to fund the response to and remediation of a release. Enbridge is able to draw down cash from operations, issue debt, or acquire commercial paper as a result of its exceptionally strong credit rating. Enbridge is also well-capitalized to absorb unforeseen operational costs, maintains adequate insurance for operations, and has exceptional access to public debt markets to fund operational needs, including those stemming from pipeline releases or leaks. For example, Enbridge has spent more than $1 billion responding to the release at Kalamazoo, Michigan, demonstrating Enbridge's responsibility and ability to perform response and remediation operations.

In addition to Enbridge's ability to fully fund all response needs, during the Project operations, Enbridge will maintain a comprehensive insurance program that includes commercial general liability insurance consistent with coverage considered customary for its industry. Enbridge's general liability program provides insurance coverage under which Enbridge may submit claims to recover its incurred costs responding and cleaning up a release.

Notification of Spills

Section 7.6.2 of the DEIS very briefly discusses the required notification for pipeline spills. However, Enbridge has voluminous and detailed procedures to detect leaks, shut down pumps, close MLVs, and provide notifications to necessary personnel. These procedures are not referenced in the DEIS and should be noted in this section.

7.0 ENVIRONMENTAL JUSTICE AND MISSING AND MURDERED INDIGENOUS WOMEN (MMIW)

Appendix O to the DEIS includes the draft Environmental Justice Commitment Plan (EJCP) for the Project. That plan includes commitments for coordination and outreach, environmental controls, spill prevention and response, invasive species mitigation, tribal monitors, tribal economic participation and workforce development, and human trafficking prevention and awareness.

Section 5.9 of the EJCP addresses hunting, fishing, and gathering rights. Enbridge will not impede the lawful exercising of the right to hunt, fish, or gather on property open to the public. In areas where the rerouted Line 5 crosses public land, members of the Signatory Tribes and public can lawfully hunt, fish or gather; however, to ensure public safety, access to the right-of-way will be temporarily restricted during active pipeline construction or maintenance activity. During active construction or maintenance activity, Enbridge will make its best efforts to accommodate requests for access to the ROW for all such lawful activity, and will identify a point of contact to coordinate access locations and timing to ensure public safety.

In section 5.8 of the EJCP, Enbridge identifies that they have established a project-specific Human Trafficking Awareness and Prevention Program (HTAPP). The HTAPP began in October 2020 and is managed by Perodigm, a Bad River Native-owned media company. Perodigm has brought together an Advisory Group with unique knowledge, expertise, and skills to provide recommendations for training. The Advisory Group is diverse with both women and men, is led by a Native woman from Oneida Nation and includes two Enbridge employees, a sex trafficking investigator/trainer at Paramount Planning/ former TRUST Task Force Commander, a current sex trafficking investigator in Ashland, three employees of the New Day Advocacy Center in Ashland, citizens from Bad River, St. Croix Chippewa, and Stockbridge-Munsee Band of Mohicans, as well as a retired Ashland police officer. In addition to ongoing training for all employees and contractors working on the L5 Relocation Project throughout the term of construction, there will also be an outward facing public campaign to raise awareness in the greater region.

In Section 6.0 of the EJCP, Enbridge commits to continued engagement with all stakeholders. Enbridge provides a revised draft of the Environmental Justice Commitment Plan as Attachment H to this document.

8.0 EFFECTS OF NO ACTION AND SYSTEM ALTERNATIVES

While Section 1 discusses the "purpose and need" for the Project, that purpose and need are not addressed with respect to the alternatives discussed in Section 9. The defined Purpose and Need should be carried through Section 9. Likewise, the discussions of all non-pipeline alternatives fail to address the implications of the alternatives regarding compliance with the 1977 Pipeline Transit Treaty.

Sections 9.2.1, 9.3.1, 9.4.1, 9.5.1, and 9.6.1 address the so-called "no action alternative" and discusses the impacts to fuel supply and resulting impacts to residents and business in Wisconsin, Michigan, Illinois and Canada if WDNR does not authorize the permits required to complete the re-route. However, the discussion in these sections fails to address that the no action alternative does not meet the Purpose and Need of the Project. As noted in the comments on Section 1, the purpose and need for the Project are to re-route the transportation of petroleum products around the Bad River Reservation to allow the decommissioning of the existing segment falling within the lands of Bad River Band while allowing continued safe, economical, and efficient shipment of petroleum products on Line 5, and avoiding triggering a potential breach of the 1977 Pipeline Transit Treaty.

The discussion of greenhouse gas emissions, as well as the climate change impacts of the Project, is inconsistent. Section 9.5 states that Line 5 accounts for approximately 2.6% of all daily US consumption of petroleum products, and notes that not all of the product imported are combusted for heating or fuel. According to the U.S. EPA, emissions from combustion of petroleum represent 43.6% of U.S. total greenhouse gas emissions in 2020.[1] In 2021, the United States emitted an estimated 11% of global GHG emissions.[2] Conservatively assuming that all of the products carried on Line 5 are combusted for fuel, even if all emissions products carried on Line 5 were eliminated, those emissions would represent roughly one tenth of one percent of estimated GHG emissions. To the extent that Sections 9.4.2 and 9.5 discuss potential greenhouse gas emissions, an inclusion of the very limited magnitude of potential emissions that Line 5 contributes to global totals should be included to provide additional context with respect to discussion of climate change impacts.

9.0 OTHER ISSUES

State of Michigan Easement Termination

Two cases involving Line 5 are currently pending in the U.S. District Court for the Western District of Michigan involving the State of Michigan and Enbridge. In *Nessel v. Enbridge* (No. 1:21-cv-01057), the Attorney General of Michigan is seeking to force the closure of Line 5 at the Straits of Mackinac on the grounds that (1) the easement allowing the Line to be located in the Straits of Mackinac was void from its inception for failure to meet certain public trust requirements, (2) the operation of the Line is contrary to the State's public trust obligations, (3) the operation of the Line constitutes a public nuisance and (4) the operation of the Line violates the State's environmental laws. This case had been initiated in state court but has now been removed by Enbridge to federal court. The State has filed a motion to remand, which is pending.

The second case, *Enbridge vs. Whitmer* (No. 1:20-cv-1141), was initiated by Enbridge seeking a declaratory order and injunction to prohibit the Governor and Director of the Department of Natural Resources from taking steps to close Line 5 on the grounds that their efforts are preempted by the federal Pipeline Safety Act, by the federal government's exclusive control over foreign affairs and by the Interstate and Foreign Commerce Clause of the US Constitution. Enbridge has filed a motion for summary judgment in this case, which has now been fully briefed and is awaiting decision. . In addition, the Governor and Director have moved to dismiss the case on 11th Amendment/sovereign immunity grounds. That motion has also been fully briefed and is awaiting a decision.

A third case, *State of Michigan v. Enbridge* (No. 1:20-cv-1142), was voluntarily dismissed by the State in November 2021 following a ruling by Judge Neff that the case was properly removed to federal court by Enbridge. In that case, the State had sought to enforce its November 13, 2020 Notice purporting to require the closure of Line 5 by May 12, 2021. Enbridge has maintained that that order is unlawful and that it will not adhere to it.

1977 Pipeline Transit Treaty

Section 10 of the DEIS should include consideration of the 1977 Pipeline Transit Treaty (Transit Treaty). The Transit Treaty prohibits "public authorities" in either nation from implementing "measures" that would "have the effect of impeding, diverting, redirecting or interfering with in any way the transmission of hydrocarbons in transit." Hydrocarbons in transit are defined in the Transit Treaty as hydrocarbons moving via a so-called transit pipeline from one nation to the same nation through the other nation.

As is made clear in the U.S. Senate record considering the Transit Treaty, Line 5 is a transit pipeline covered by the Treaty because it transports crude oil and NGLs that originate in Western Canada to Central and Eastern Canada. Accordingly, any measure taken by any governmental authority in the United States that would impede the operation of Line 5 is contrary to the Transit Treaty. Enbridge has raised the Transit Treaty an affirmative defense in its answer to the Bad River Band's federal court complaint, in which the Band is seeking an injunction that would force the closure of Line 5. Enbridge asserts in its defense that the Band's lawsuit to force the closure of Line 5 and certain of the Band's other actions are measures barred by the Transit Treaty.

On October 4, 2021, Canada formally invoked dispute resolution under the Transit Treaty concerning pending efforts in Michigan to force a closure of Line 5. Under the Transit Treaty's dispute resolution provisions, the two

[1] *Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020*, at 2-14 (available at: https://www.epa.gov/system/files/documents/2022-02/us-ghg-inventory-2022-chapter-2-trends.pdf)
[2] BBC, *Report: China emissions exceed all developed nations combined* (May 7, 2021) (available at: https://www.bbc.com/news/world-asia-57018837)

nations will endeavor to negotiate a resolution, failing which the matter can then become the subject of an international arbitration.

Public Support

The Project has received significant local support. The Town of White River, the Town of Morse, and Iron County have each passed separate resolutions in approval and support of the Project. Each Resolution recognizes that Enbridge is a "dependable partner" and further notes that the Project "will respect native sovereignty and continue to protect the environment by moving product the safest way." The Resolutions all emphasize the economic benefits to be gained by the State of Wisconsin and by individual localities. For example, each Resolution finds that the Project will "add $135 million to Wisconsin's economic output, with Ashland, Bayfield and Iron counties seeing the bulk of those benefits" and that the Project "will result in an annual increase of $6.4 million in Wisconsin tax revenue."

The Project has also received international support. The Government of Canada and the Governments of the Provinces of Alberta and Ontario have all submitted comments in support of Enbridge's application for the Project, noting that Line 5 is vital infrastructure providing essential crude oil and NGL supplies for the residents and businesses of in the U.S. and Canada, and that closure of Line 5 would be devastating to those communities.

Memorandum on Finding of a Severe Energy Supply Interruption

On March 31, 2022, President Joseph R. Biden declared a national energy crisis. On that date, the White House issued a memorandum entitled *Memorandum on the Finding of a Severe Energy Supply Interruption.* That memorandum acknowledged that the war in Ukraine, disruptions to international trade, and sanctions had resulted in a national energy shortage that is likely to be of significant scope and duration, may cause significant adverse impact on national safety or the national economy; and is the result of an interruption in the supply of imported petroleum products. The Memorandum directed the Secretary of Energy to draft down and sell petroleum from the Strategic Petroleum Reserve (SPR). The White House announced an initial plan to draw one million barrels of crude oil per day for one hundred eighty days, for a total of 180 million barrels of crude oil. The White House determination that a national energy shortage exists follows the issuance by the President of an Executive Order on March 8, 2022, banning the importation into the United States of Russian oil and other energy products. Prior to the ban, the United States imported approximately 700,000 bpd of Russian oil.

For comparison, the daily average amount of crude oil carried on Line 5 is 460,000 bpd. Copies of the Memorandum and Executive Order are included as Attachments I and J.

10.0 CONCLUSION

Enbridge appreciates the extensive time and effort put into the DEIS by Department staff. The Line 5 Wisconsin Segment Relocation Project is an important project for ensuring the future safety, adequacy, and reliability of Wisconsin's energy infrastructure, and of the nation's energy supply. Enbridge respectfully requests that these comments be considered for inclusion in the FEIS so that the Department has the accurate and complete information available as it considers Enbridge's applications for the wetland and waterway permits.