

November 22, 2017

Mr. Scott Ek
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

RE: Certificate of Need and Route Permit for Enbridge Line 3
PUC Docket Numbers: PL-9/CN-14-916 (Certificate of Need) and PL-9/PPL-15-137 (Route)
OAH Docket Numbers: 65-2500-32764 (Certificate of Need) and 65-2500-33377 (Route)

The Minnesota Department of Natural Resources (DNR) is providing these comments as part of the Line 3 public hearings to assist in development of the record for the Administrative Law Judge's (ALJ's) recommendation to the Minnesota Public Utilities Commission (PUC). These comments are also provided in compliance with Minnesota Statute, 216B.243 subdivision 7a, which requires other state agencies with permitting authority for large energy facilities to participate in the public hearing process.

The DNR's comments are focused on those issues and considerations that fall within the department's areas of special expertise. We recognize that the ALJ and PUC must consider these and other factors in their deliberations, and we offer our comments in an effort to inform those deliberations. The DNR's comments are organized by the following categories: natural resource criteria for certificate of need, natural resource considerations for routes and route segment alternatives with recommendations in some instances, and permit conditions DNR recommends the PUC include if a certificate of need and route permit are granted.

Natural Resource Criteria for Certificate of Need

The DNR has reviewed the certificate of need criteria in Minnesota Rules Chapter 7853.0130 and determined that portions of the specific criteria identified in Minnesota Rules 7853.0130 B(3) and C(2) are relevant to the DNR's special expertise for conservation of natural resources. The DNR understands the PUC must consider all of the criteria in Minnesota Rules 7853.0130 when making a certificate of need decision, and the DNR offers its comments to assist the PUC in its efforts. The DNR's comments address only the specific natural environment portions of the criteria, which are identified in rule as:

7853.0130 B. (3) the effect of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives;

and

7853.0130 C. (2) the effect of the proposed facility, or a suitable modification of it, upon the natural and socioeconomic environments compared to the effect of not building the facility.

The information used in the following comparison was taken from the August 2017 Line 3 Project Final Environmental Impact Statement (FEIS) that is already in the PUC record for this docket. While the FEIS data are already in the record, the DNR is offering the comparison below to highlight some of the most relevant environmental information and provide additional context.

The DNR's comparison focuses on the Applicant's Proposed Route (APR) and the alternative called System Alternative 4 (SA-04). While the FEIS also addressed the continued use of the existing Line 3 and rail and truck system alternatives, the minimal construction-related environmental impacts of these alternatives compared to the APR are fairly evident and need little additional context to understand that the use of these existing transportation systems would have significantly lower construction-related impacts than the APR. This DNR comparison does not address operational impacts because they are much smaller than construction impacts. The DNR defers to the Minnesota Pollution Control Agency's analysis of oil spills and did not include spill-related impacts in the APR/SA-04 comparison below. At a high level, however, the DNR does observe that oil spills on routes with greater numbers and density of water features and sensitive natural resources could have greater natural resource impacts than spills routes with fewer and less dense sensitive areas.

There are two important caveats to the DNR's comparison that need to be considered as part of any determination of potential environmental impacts. The first caveat is the fact that the APR has been developed over many years by the Applicant, allowing for refinements in location and construction corridor widths to address problematic or environmentally sensitive features. In comparison, SA-04 was developed as part of the EIS scoping process and has not benefitted from the additional refinements that would have occurred if this alignment had been under consideration for the same length of time as the APR. The second caveat is related to the consistency of data from the various states that was used in the EIS. The EIS made good use of natural resource data that was available for Minnesota and nationally available data. Specific natural resource data collected by other states were not used to the same degree that Minnesota and nationally available data were used. This complicates the comparison for impacts in these other states, but does not prevent a reasonable understanding of potential impacts from the entire APR and SA-04.

Natural Resource Topic	APR	SA-04	Additional notes
Length of Pipeline	380.4 miles	795.4 miles	SA-04 would deliver oil directly to Illinois area refineries and distribution hubs, while the APR delivers to Enbridge's facility in Superior Wisconsin.
Long-term to permanent major construction-related impacts for loss or alteration of forests (including forested wetlands)	2,202 acres	161 acres	Forests are one of only two vegetation cover types for which the FEIS identified major construction-related impacts.
Long-term to permanent/major construction-related impacts for loss or alteration of rare native plant communities.	46 acres	3.6 acres	Rare native plant communities was one of only two vegetation cover types for which the FEIS identified major construction-related impacts.
Short-term/minor construction-related impacts for loss or alteration of croplands and pastures	2,734 acres	10,317 acres	Long-term/permanent major impacts to forests and rare native plant communities compared to

Natural Resource Topic	APR	SA-04	Additional notes
			short-term minor impacts to croplands and pasture represent a key tradeoff between the APR and SA-04 for loss or alteration of vegetative cover.
Long-term/major construction-related impacts to forested and scrub/shrub wetlands	440 acres	34.2 acres	Potential impacts to forested and scrub/shrub wetlands were the only construction-related wetland impacts that the FEIS classified as potential major impacts
Short-term/minor construction-related impacts to emergent wetlands	178.2 acres	252.4 acres	A difference of over 400 acres of long-term/major impacts to forested and scrub/shrub wetlands compared to a difference of less than 100 acres of short-term/minor impacts to emergent wetlands represents a key tradeoff between the APR and SA-04 for wetland impacts.
Wildlife Conservation Lands within 0.5 miles	23,198.6 acres	38,353.6 acres (The DNR has identified 3,546.8 acres for SA-04 as the more appropriate comparison.)	34,806.8 acres of FEIS-identified wildlife conservation lands within 0.5 miles of SA-04 are associated with the USFWS's Dakota Tallgrass Prairie Management Area. These ~35,000 acres are all within Richland County North Dakota and represent the area where USFWS is authorized to purchase conservation easements, not the acreage of actual easements. Including this acreage in the comparison of wildlife conservation lands misrepresents the level of potential impact for SA-04. Removing this acreage from the comparison results in 3,546.8 acres of wildlife conservation land within

Natural Resource Topic	APR	SA-04	Additional notes
			0.5 miles of SA-04, compared to 23,198.6 acres of wildlife conservation land within 0.5 miles of the APR.
Short-term to long-term/minor construction impacts from waterbody crossings	227 (192 in Minnesota)	636 (172 in Minnesota)	The greater number of waterbody crossings for SA-04 is associated with the longer length of SA-04. The FEIS clearly states that simply counting the number of crossings is insufficient to fully characterize the level of potential impact. The sensitivity and quality of the waterbodies must also be considered. Section 5.2.1.2.3 of the FEIS provides a regional analysis of the quality of existing surface water conditions that also needs to be considered.
Regional Analysis of the Quality of Existing Surface Water Conditions	The APR takes a route south of Clearbrook following an existing pipeline right-of-way, and then follows an existing transmission line corridor easterly toward Carlton. The APR passes through a large number of streams, lakes, wetlands, and accompanying resources, which are generally of high quality. The APR is located within 0.5 mile of 17 wild rice lakes, 17 trout streams, 8 lakes of high and outstanding biological significance, and 4 tullibee lakes.	System alternative SA-04 lies primarily in an agriculture-dominated area and generally has surface water resources of poorer quality. Landscape features such as ditching or altered landscapes are indicators of poorer water quality. These indicators are frequently seen in the south and west portions of Minnesota. These areas tend to rate low in perennial cover, terrestrial habitat quality and connectivity, reducing overall watershed health.	It is critical to consider these important differences in the quality of the surface waters being crossed, though these differences are more difficult to quantify than the number of crossings. It is clear that the potential impact of the additional water crossings associated with SA-04 are at minimum partially offset by the lower quality of surface waters along SA-04 relative to the APR.
High Vulnerability Water Table Aquifers (in MN)	25,765 acres	30,201 acres	The FEIS identified all potential impacts from construction and operation (excluding accidental oil releases) as negligible or minor.

Natural Resource Topic	APR	SA-04	Additional notes
High Groundwater Contamination Susceptibility (in MN)	26,382 acres	4,674 acres	The FEIS identified all potential impacts from construction and operation (excluding accidental oil releases) as negligible or minor.
Karst Topography	No karst topography	Known or potential karst topography along 11 miles in MN, 63 miles in IA, and 5 miles in IL	The FEIS identified all potential impacts from construction and operation (excluding accidental oil releases) as negligible or minor.
Wellhead Protection Areas	87 acres	1,203 acres	The FEIS identified all potential impacts from construction and operation (excluding accidental oil releases) as negligible or minor.

The potential degree/severity of impacts and quantity of sensitive resources potentially impacted indicate that the APR would have a greater impact on the natural environment than the SA-04 alternative. The DNR offers the comparison above to assist the PUC in assessing the effect of the proposed facility upon the natural environment compared to the effects of reasonable alternatives (Minnesota Rules 7853.0130 B. (3)).

Natural Resource Considerations for Routes and Route Segment Alternatives

Route Alternatives (RAs)

Comparing route alternatives for this project is very difficult due to high variability among the areas where routes are proposed and differences in perspective about the relative value of potentially impacted resources. Another complicating factor is the fact that the APR was developed over a longer period of time than the route alternatives. As a result, the APR has benefitted from many alignment refinements, while the route alternatives have not undergone this same refinement process. Reduction of natural resource impacts for route alternatives would likely occur if these alternatives went through further refinement.

As with the certificate of need-related comments above, the DNR is limiting its comments on routes and route alternatives to natural resource-related considerations. The DNR offers these comments in an effort to assist the PUC, and with the full understanding that the PUC must, if it grants a certificate of need, consider both natural resource impacts and other factors in evaluating routes.

The use of existing rights-of-way can be an important factor in limiting potential impacts, given that natural features and habitats in existing rights-of-way have been previously disturbed. The RA-06 alternative has the lowest percentage of existing right-of-way for all alternatives. Because of its poor use of existing right-of-way and other potential natural resource impacts, the DNR did not further evaluate RA-06 in developing these comments. The APR also does a poor job of following existing right-of-way in comparison to RA-07 and RA-08.

Public waters and state-owned land are natural resource features that can be used as a surrogate for predicting potential natural resource impacts. However, as detailed above, simply counting the number of crossings without considering the quality of the surface waters does not fully capture potential impacts. Similarly, not all land owned and managed by DNR is equal with respect to potential natural resource impacts. Moreover, there are many federal, local, tribal, and private lands that have significant natural resource values that should be considered in route selection. Understanding these limitations, the table below compares public water crossings, state-owned land, and new rights-of-way for the APR, RA-03AM, RA-07, and RA-08. RA-07 would require the fewest public water crossings, substantially fewer as compared to the APR and RA-03AM. Although RA-07 and RA-08 have a similar number of public water and state land crossings, the number of state lands that are managed for natural resource conservation is greater for RA-08. RA-03AM does the best job of avoiding state land managed for natural resource conservation, but a higher number of public water crossings and less utilization of existing right-of-way undermine the natural resource benefits of this route. The DNR has determined that RA-07 does the best job at minimizing potential impacts to state managed natural resources.

	APR	RA-03AM	RA-07	RA-08
Public water crossing	68	55	41	43
State-owned land	26 - total 2-Wildlife Management Areas 8-State Forests 1- Conservation Easement 2- State Trails	6 – total 1-Wildlife Management Area 1-Conservation Easement 1-State Trail	29 – total 4 State Forests 2-Conservation Easements 2- State Trails	32 – total 5-State Forests 2-Wildlife Management Areas 4-Conservation Easements 2 – State Trails
New ROW	59.8 miles	12.9 mile	0 miles	0 miles

Route Segment Alternatives (RSAs)

DNR believes that the following RSAs would reduce natural resource impacts relative to the APR:

- RSA-05 avoids Mud Lake, in the Wild Rice Watershed, which has known trumpeter swan nesting, although it would have 4 additional stream crossings.
- RSA-10 follows an existing transmission line near the road instead of the APR that goes through an area the Minnesota Biological Survey (MBS) has preliminarily identified as a site of high biodiversity significance. RSA-10 also avoids an Aquatic Management Area and areas with identified species of special concern.
- RSA-15 avoids several areas of native plant communities and avoids an unnamed public water basin and three watercourse crossings, although it does cross another creek and another area with a few native plant communities.
- RSA White Elk Lake follows existing disturbed area and avoids a forest legacy program easement that would likely raise permitting issues. RSA White Elk Lake also avoids fragmenting a site the MBS has identified as having moderate biodiversity significance. The DNR strongly recommends RSA White Elk Lake over the APR.
- RSA-33 appears to avoid some forest fragmentation.

DNR believes the following RSAs would have more adverse natural resource impacts than the APR:

- RSA Blandin involves a completely new greenfield crossing. RSA White Elk Lake is a much better alternative to RSA Blandin or the APR.

- RSAs-21 and -22 partially follow existing transmission lines, but these RSA corridors contain designated old growth, candidate old growth, identified future old growth and sites of high biodiversity significance.
- RSA-23 crosses the McGregor Marsh Scientific and Natural Area and thus may not be permissible by the DNR. RSA-23 also crosses MBS sites of high biodiversity significance, including McGregor Marsh, and crosses Rice Lake.
- RSA-27 crosses MBS sites of high biodiversity significance, including McGregor Marsh, and crosses Rice Lake.
- RSA-28 follows existing road, but passes through wetland mitigation banks, raising potential permitting issues.
- RSA-31 includes a greenfield crossing through Savanna State Forest and Grayling Marsh Wildlife Management Area. Grayling Marsh includes a federal funding restriction that would need to be addressed. In addition, RSA-31 passes through an MBS site of moderate biodiversity significance.
- RSA-35 crosses McGregor Wildlife Management Area.
- RSA-37 crosses Sandy River and Tamarack River, and contains a greenfield crossing through an MBS site of moderate diversity.
- RSA-42 follows a powerline, but intersects designated trout stream tributaries approximately 3 times
- RSA-43 crosses a designated trout stream tributary
- RSA-44 follows an existing utility corridor on the north side, and proposes to avoid Black Hoof watershed. However, it crosses a designated trout stream, Aquatic Management Area, and a conservation easement.
- RSA-45 crosses two designated trout streams, several trout stream tributaries, and a conservation easement
- RSA-49 crosses three designated trout streams, four trout stream tributaries, and school trust lands.
- RSA-51 follows and crosses a designated trout stream tributary and an MBS site of moderate biodiversity.
- RSA-53 crosses East Savanna River.

DNR Recommendations for PUC Route Permit Conditions

If the PUC grants a certificate of need and a route permit for the Line 3 replacement, then Enbridge will need a variety of other permits and approvals from other federal, state, and local agencies, including the DNR. The DNR's regulatory authority includes license to cross state lands, license to cross public waters, work in public waters, threatened and endangered species, water appropriations, and invasive species, through which the DNR would attempt to address natural resource impacts of the proposed project. However, a comprehensive approach to addressing natural resource impacts will require extensive coordination across permitting authorities. Toward that end, the DNR has identified a variety of ways in which the PUC could help reduce natural resource impacts through appropriate conditions in its route permit. The DNR's recommendations for route permit conditions are listed below:

Siting adjacent to existing powerlines: In the recent construction of the Otter Tail CAPX transmission line adjacent to the Alberta Clipper, Enbridge required the installation of copper wire for cathodic protection and AC mitigation. DNR recommends that this be considered for the Line 3 replacement.

Siting adjacent to existing pipelines: With the APR, there may be an overlap of easement areas between Enbridge and adjacent pipelines. If so, there will need to be a clear understanding between

the companies' responsibilities as to the route permit and MN DNR License to Cross conditions in the overlapping area. DNR recommends including a route permit condition to clarify these responsibilities.

Pipeline compatibility with adjacent utilities and infrastructure: Enbridge proposes to use existing utility and infrastructure corridors for its preferred route. Enbridge will need to coordinate with existing utility companies where utilities would be co-located with overlapping rights-of-way so as not to interfere with existing utility operations or infrastructure. DNR recommends a permit condition to ensure that Enbridge completes this coordination before installation.

Federal funding encumbrances on certain DNR administered state land: Some DNR administered state lands, including many Wildlife Management Areas and Aquatic Management Areas, contain federal funding encumbrances. Enbridge should identify state parcels with federal funding encumbrances and route around those parcels or ensure that those encumbrances do not preclude pipeline development. Obtaining approval to cross these parcels from the federal funding entity will require considerable time. The DNR recommends that the PUC require federal funding encumbrances be addressed prior to completion of routing to ensure that the encumbrances can be resolved.

Construction: DNR recommends the PUC require a Construction Environmental Control Plan (CECP) that would address all environmental control plans and special conditions imposed by permits or licenses issued by state or federal agencies related to agency-managed resources. Plans within the CECP should include, but not be limited to, the Agricultural Impact Mitigation Plan, the Vegetation Management Plan, the Mineral Resource Plan, and a Stormwater Pollution Prevention Plan. The CECP for a given segment of the route should be filed with the Commission 30 days prior to submitting the plan and profile for that segment.

The CECP should:

1. Describe how Enbridge proposes to adapt its construction methods and schedule to the extreme seasonal weather changes in Minnesota. It should explain how Enbridge will adjust to extremes in snow cover, frozen conditions, temperatures, and persistence of winter conditions and the converse of warmer winters, less frozen conditions, and extreme heat. Limiting construction to frozen conditions is one way of limiting construction-related impacts in sensitive areas and is a condition DNR would likely include as appropriate in water crossing and public land crossing licenses.
2. Identify the schedule for completing geotechnical work and developing final engineering plans and natural resource management plans. The schedule should address agency coordination.
3. Describe the maximum depth of rutting and compaction.
4. Outline measures Enbridge will take to address temporary disruption on state trails, recreational trails, and recreation areas in the CECP. Enbridge will have to work with agencies, trail clubs, and sponsors on temporary reroutes, if needed. Minimizing impacts during holiday weekends and hunting seasons, particularly the firearm deer season, will be important.
5. Describe how and when alternative crossing methods would be used for trout streams, wetlands, and other waterbodies.
6. Describe in detail why and when Additional Temporary Workspace may be needed within public water wetlands and within the 50-foot setback from a wetland or public water.
7. Address how Enbridge proposes to manage unauthorized activities on the license right-of-way such as all-terrain vehicle (ATV) use, both during and after construction.
8. Address the use and timing of temporary and permanent erosion control devices. DNR recommends the use of wildlife friendly erosion control measures.

Third party independent monitors: DNR strongly recommends that the route permit include a condition requiring independent third party environmental monitors. These dedicated independent environmental inspectors would monitor the construction process and compliance with the CECP and the requirements of the PUC permits and all other environmental permits. The route permit should also clearly define the roles and independent environmental monitors and agency staff overseeing regulatory requirements. It would be helpful to describe how an environmental inspector position will be used to coordinate, track, and manage all the complex environmental information with the various subcontractors across the regulatory agencies.

Mats: The DNR recommends that the PUC route permit include a condition for the use of mats and frozen ground conditions for sensitive natural areas such as high quality wetlands, native plant communities, and important habitat areas. Mats should be cleaned before redeployment to limit the spread of invasive species. Mats should be cleaned before initially arriving on the project and before being transported between project sites.

Vegetation and invasive species: The DNR recommends that the PUC require a vegetation management plan that is approved by state and local agencies (i.e. DNR, PCA, Watershed Districts, Department of Agriculture, etc.). This plan should address vegetation management in the right-of-way during construction, immediate post-construction, and over the long term. This includes management of native vegetation, noxious weeds, invasive species, and activities affecting vegetation such as ATV use.

The vegetation management plan should:

1. Require the use of seed mixes recommended by the Minnesota Board of Water and Soil Resources (BWSR) (see http://www.bwsr.state.mn.us/native_vegetation/).
2. Ensure that revegetation plans are appropriate for the specific habitat types.
3. Detail how Enbridge is going to fulfill its responsibility to control invasive species in the right-of-way.
4. Describe how woody debris from construction will be handled. Woody debris should be disposed of promptly in an appropriate manner to reduce future fire hazard and to reduce disease. Woody debris cannot be scattered so thickly that the debris inhibits germination or growth of the underlying plant material.
5. Describe how Enbridge will utilize merchantable timber.
6. Identify procedures for obtaining landowner approval prior to the use of herbicides.

On DNR administered state land and in public waters, Enbridge will be responsible for invasive species control for the term of the license. DNR will require a baseline inventory for noxious weeds and invasive species for state land and public water crossings. For herbicide use on state land crossings, DNR will also require annual reporting by Enbridge and written approval by the state prior to use. Disturbed state land crossings will be required to be reseeded using the most appropriate local native seed mix for the particular type of project habitat in accordance with BWSR guidelines.

State metallic minerals: The PUC should require the development of a mineral resource plan (MRP). The purpose of the MRP is to identify measures to avoid interference with minerals exploration or mining operations conducted on state-owned mining units, and to avoid or mitigate losses to metallic mineral leases on state lands. The MRP should include (1) general description of state-owned mineral resources in the project area and (2) documentation of consultation with the DNR regarding measures to avoid interference with exploration and encumbrance of state-owned minerals. The PUC should require early coordination with the DNR Lands and Minerals Division to determine if the project is

proposed to cross lands with mineral leases. Because this project is located in areas of known non-ferrous mineral potential, an MRP would be helpful as a coordination and communication tool between the PUC and DNR, similar to other CECP plans that help communicate overlapping jurisdictional issues.

Subsidence/crowning in wetlands/peatlands: The DNR recommends that the route permit require restoration over the pipeline to preconstruction conditions. Measures to address settling and crowning and to restore these areas to preconstruction elevations should be described.

HDD frac outs: The PUC should require a spill plan and/or horizontal directional drilling (HDD) plan that includes notification to state agencies when there is a frac out, or other inadvertent spill associated with HDD. Vacuum trucks and other appropriate spill response equipment should be within a reasonable distance and able to respond in a reasonable amount of time during HDD operations. The plan should also cover how observers can identify frac outs under snow and ice, during times of high flow conditions, and areas of deep water. The plan should include containment and clean up protocols in extreme conditions of cold, snow, wind, or high flows that will almost certainly be encountered during HDD operations. As part of its license to cross, the DNR will require notification to DNR if there is a release on state land/water.

Access across the pipeline: The DNR will identify and require access crossings at locations over the pipeline to ensure continued access to adjoining state land for resource management purposes. The DNR recommends that the PUC route permit include a condition that requires these crossings to be completed prior to completion of initial pipeline construction.

Equipment Limitations: The PUC route permit should include a condition requiring the Applicant to work with owners of forested land to allow the use of heavy equipment crossings of the pipeline for forest management and fire suppression activities.

Threatened and endangered animal species: The DNR recommends that the PUC route permit include a condition that addresses the United States Fish and Wildlife Service's restriction on tree clearing as a measure to avoid or minimize impacts to long-eared bats. The route permit should also include no-disturbance windows for endangered and threatened species, such as great grey owl, bald eagle, and osprey nesting periods. Enbridge should also identify sensitive areas early in the process and conditions for crossing these areas. Pipeline construction can be particularly hazardous to the Blanding's turtles, a state endangered species, because they can become trapped within the trench. Coordination with the DNR is recommended to identify specific best management practices for the Blanding's turtle.

Abandonment: The DNR recommends including a route permit condition requiring the Applicant to work with landowners to identify areas where the pipe needs to be removed or where special abandonment measures are needed. In some instances, pipe removal could result in additional natural resources impacts. In other cases it may be more advisable to remove the pipe. Additionally, over time, specific abandoned pipe could create environmental issues and the fact that it is abandoned would result in uncertainty around responsibility for addressing the issue. The full scope and location of these various scenarios has not been determined. It would be helpful if a permit condition provided a process by which areas could be investigated and approaches developed. This should also clarify responsibility of Enbridge and landowners for abandoned pipe.

River restoration plans: There are several existing Enbridge pipeline water crossings that have resulted in long-term aquatic ecosystem degradation. Any new water crossings also have the potential

for long-term aquatic ecosystem degradation. The DNR recommends that PUC include a route permit condition that would require Enbridge to work with state and local agencies (i.e. DNR, Watershed Districts, PCA, and BWSR) to identify proposed water crossings that are currently problematic and any new crossings that have a high potential for aquatic ecosystem degradation. Enbridge would then be required to develop and implement restoration plans, as part of future compliance filings, for these areas to mitigate existing and potential future aquatic ecosystem degradation.

Relationship between PUC and DNR regulatory authority: It will be very important that PUC route permitting and DNR review of permit and license applications occur in a coordinated fashion. Lack of a coordinated approach could result in DNR denying a crossing that was approved by the route permit. Less dramatic but equally important would be inconsistent or conflicting permit conditions. While the DNR has not received updated applications for Enbridge's proposed Line 3 replacement, the following issues/topics have been identified as part of EIS review and are being provided for the PUC's and applicant's awareness. This is not intended as an exhaustive list, and additional issues/topics may arise as part of application review.

- DNR has preliminarily identified the following water crossings as having potentially significant natural resource or technical concerns that would need to be addressed as part of license to cross application review: Spring Brook in Cass County, LaSalle Creek in Hubbard County, and Straight River in Hubbard County.
- DNR easement interests where there is private fee ownership. If there are properties crossed where DNR has easement interests, Enbridge should initially work with the landowner. DNR may need to review and approve the crossing. It may also be necessary to obtain approval from other agencies that provided funding for the easement. Compensation for encumbered easement interests may be required.
- Enbridge must obtain a takings permit from the DNR for any excavation or trampling by construction and maintenance activities that could result in a take. Location-specific avoidance plans depicting threatened and endangered species and all construction features must be submitted to the DNR and approved prior to initiation of clearing or construction activities.
- Location and use of shut-off valves at water crossings.
- Seasonal restrictions for in-channel work will be required as part of a license to cross public waters. A buffer strip of natural vegetation, including woody shrub species, should be maintained along stream or water body banks whenever possible (HDD crossings). Where stream banks will be disturbed, they should be reshaped following construction so that runoff is directed away from the waterbody and toward a swale or low spot to allow infiltration, rather than directing runoff to the water body. Where existing vegetation will be removed or disturbed and revegetated to herbaceous cover, native, deep rooted species should be used.
- Shut-off valves will likely be required at all trout stream crossings, with consideration given to the use of power generators at valve sites. Loss of riparian zone cover at trout stream crossings should be minimized to protect water quality, maintain desired water temperatures, and provide seasonal trout habitat and suitable conditions for aquatic insects and other prey. Water appropriations from designated trout streams will not be allowed.
- For public water crossings, DNR will likely require that stream banks be restored to their preconstruction cross sections. This could include a description of how the cross sections will be completed, require use of bioengineering method, and have site specific plans for most crossings.
- Cedar/conifer cover also provide (winter and summer) thermal cover for many animals providing critical refuge for deer and moose. Bobcat, lynx, fisher, martin, and other furbearers are also known to be associated with this habitat type. Avoiding cedar/conifer will help reduce impacts on

many of these species. Any potential project impact to cedar/conifer on state lands would likely require further avoidance and/or mitigation.

Thank you for the opportunity to provide comments for PUC's consideration in this important matter. If you have any questions about these comments please contact Randall Doneen at (651) 259-5156.

Sincerely,

A handwritten signature in blue ink, appearing to read "Luke Skinner". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Luke Skinner, Director
Division of Ecological and Water Resources