**Minnesota Center for Environmental Advocacy**
**and**
**Friends of the Headwaters**

# Comments on the EAW and Draft Scoping Document for the Sandpiper Pipeline Project and the Line 3 Replacement Project

**Submitted to the Minnesota Department of Commerce and the Public Utilities Commission**

May 26, 2016

The EISs now being scoped are, in part, the result of years of work by FOH. FOH members have contributed thousands of volunteer hours in order to protect the Headwaters of the Mississippi from the dual threats of the proposed Sandpiper and Line 3 pipelines. The Headwaters of the Mississippi is a unique place, and its rivers, lakes, streams, wild rice waters and wetlands are uniquely threatened by both the immediate impacts of pipeline construction and the catastrophic impacts of a potential oil spill, a risk that will persist throughout the lifespan of these pipelines, which could easily be 50 years or more. FOH has never opposed all pipelines, but has sought from the beginning to show that there is a better place to put these pipelines. It brought forth alternative locations, including SA-04 and SA-05, to demonstrate its point.

The EIS is a critical step for these pipelines because it provides by far the best vehicle for considering alternatives to the applicant's proposal. While the Commission was persuaded that alternative locations for the proposed Sandpiper pipeline should be investigated in the Certificate of Need hearings, the Certificate of Need process never provided the platform that it should have to thoroughly investigate these alternatives. The limitation under the Certificate of Need proceedings is that, under the rules, the party presenting the alternative bears the burden of proof to show that there is a "more reasonable and prudent alternative" to the applicant's proposal.[1] This burden of proof, if interpreted literally under the rule,[2] raises real questions about whether *any* party could ever propose a "more reasonable and prudent alternative" unless they happen to be a pipeline company willing to build that alternative.

But an EIS can succeed where the Certificate of Need process failed, because "alternatives" under MEPA are different than "alternatives" under the Certificate of Need rule. Under MEPA, the statutory mandate is to consider "appropriate alternatives to the proposed action."[3] The MEPA rules clarify that the EIS must "compare the potentially significant impacts of the proposal with those of other reasonable alternatives to the project."[4] The EIS "must address one or more alternatives" of a range of types, including:

- alternative sites,
- alternative technologies,
- modified designs or layouts,
- modified scale or magnitude, and
- alternatives incorporating reasonable mitigation measures.[5]

If the EIS does not analyze alternatives of each type, it must explain why it failed to do so.[6]

Thus, under MEPA, there is no longer a problem with the burden of proof. The Commission and its delegate, the Department of Commerce, must make their own determination about alternatives to be considered in the EIS, and must engage in the work itself, without relying solely on the public (or the applicant) to provide all information about potential alternatives

[1] Minn. R. 7853.0130(B).
[2] As FOH noted in its exceptions to Judge Lipman's recommendations on the Certificate of Need, the authorizing law for this rule, Minn. Stat. § 216B.243, does not assign a burden of proof for alternatives, and thus FOH and MCEA continue to maintain that the Commission can turn to the statute, and not the rule, when evaluating alternatives in Certificate of Need proceedings.
[3] Minn. Stat. § 116D.04.
[4] Minn. R. 4410.2300(G).
[5] *Id.*
[6] *Id.*

Once completed, the EIS itself will dictate which alternatives may enter the Certificate of Need process. After the Commission has selected the range of alternatives to be considered through the scoping decision, the Commission must ultimately select its own preferred alternative as part of the final determination on the adequacy of the EIS. MEPA specifically prohibits the Commission from selecting a proposal that:

> is likely to cause pollution, impairment or destruction of the air, water, land or other natural resources located within the state so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction.[7]

Importantly, MEPA requires that the Commission look beyond the Applicant's private financial and business preferences when considering "feasible and prudent alternatives." The same provision of MEPA concludes, with crystal clarity: "Economic considerations alone shall not justify such conduct."[8] If the applicant's preferred route is not the environmentally preferred route, that will be decided before this project returns to the Certificate of Need hearings. A properly scoped EIS therefore provides a much more thorough assessment of reasonable alternatives than is typically seen in Certificate of Need proceedings, limited as they are by prohibitively restrictive burdens of proof.

But environmental review only works if the Commission's scoping decision reflects the public interest, and not the company's private interest. If the Commission decides that this EIS should be limited to analyzing NDPC's proposed corridor, than the State of Minnesota and its legacy of clean water will be at the mercy not only of this Applicant, but every other pipeline company for the foreseeable future who wishes to utilize eminent domain to cut a swath across the state for a new pipeline. These are the first state-only EISs on crude oil pipelines in Minnesota history, and the Commission stands at a historic crossroads. If the Commission scopes this EIS narrowly and does not allow a wide-ranging consideration of alternatives, the precedent will be set, and future pipeline EISs will look the same, absent legal challenge. Put simply, the Commission need not reject all pipelines, but if there are areas of the state that should be protected from pipelines, and FOH firmly believes that there are, now is the time to make that determination. Such an opportunity may never come again.

## SECTION 1: STATEMENT OF PURPOSE AND NEED

### 1.1 Inappropriately Narrow Statement of Purpose and Need

The Statements of Purpose and Need are Phrased so Narrowly as to Severely Restrict Analysis of Reasonable Alternatives in the EIS. The information developed in the EIS must inform two critical decisions: Do we need these pipelines to transport oil? And if so, where should they go? In order to supply information relevant to these two broad questions, the definitions of purpose and need that inform the scope of the EIS must also be broad.

[7] Minn. Stat. § 116D.04, subd. 6.
[8] *Id.*

The various problems with the statements of Purpose and Need, identified below, collectively demonstrate that when preparing this EIS, the Department will rely on NDPC, Marathon, and Enbridge expertise at its peril. While MEPA allows an agency to utilize the applicant's work, when appropriate, it also obligates the agency to be responsible for any such work if it appears in the EIS.[9] In other words, the agency must either do the work itself, or thoroughly and independently evaluate any work prepared by the applicant.

While this duty is incumbent upon the Responsible Governmental Unit (RGU) throughout the MEPA process, the RGU's duties are even more pronounced in relation to the purpose and need section of an EIS, where public and not private interests must predominate.

1.1.1 The Purpose Statements in the EAW and DSDD for the Sandpiper Project Have Been Stated Too Narrowly

The scope of an EIS is largely determined by the statement of purpose and need for the project. State regulations provide that any alternative that does not meet the purpose and need of the proposed project may be eliminated from consideration in the EIS.[10] Each of the four statements of purpose and need – for the Sandpiper EAW, the Sandpiper DSDD, the L3R EAW, and the L3R DSDD – are phrased so narrowly that they effectively limit the choice of reasonable alternatives, contrary to state and federal laws on environmental review. The statements of purpose included in these scoping documents represent statements of private, corporate need, and state and federal law clearly prohibit environmental review based on such a constricted premise.

Because the alternatives analysis is the heart of the environmental impact statement, state and federal law is clear that agencies should not "slip past the strictures" of environmental review by "contriv[ing] a purpose so slender as to define competing 'reasonable alternatives' out of consideration."[11] To avoid this, agencies cannot simply rely on statements of what is "desirable from the standpoint of the applicant"; they must also consider alternatives that are practical or feasible from the standpoint of common sense.[12]

None of the statements of purpose in the scoping documents for Sandpiper/L3R consider any purpose other than what the applicant prefers, and none bear a significant relationship to the types of public purposes that traditionally justify PUC decisions. The Sandpiper EAW, for instance, appears to have been drafted by the applicant, and states that production volumes in the Williston Basin have resulted in a need for "more oil pipeline capacity to reduce the use of trains and tracks for oil transport."[13] The only stated reason that such capacity would need to go through Clearbrook or Superior, however, is to "use existing NDPC and Enbridge pipeline facilities."[14] Clearly, if the stated purpose is to increase pipeline capacity by connecting to Enbridge's existing facilities, then many reasonable means of bringing Bakken crude to market would be eliminated from consideration, ultimately undermining the very purpose of environmental review. Similarly, the Sandpiper DSDD frames the project's purpose as transporting growing volumes of Bakken crude production to

[9] Minn. R. 4410.0400, subp. 2.
[10] Minn. R. 4410.2300.
[11] *Simmons v. U.S. Army Corps of Eng'rs*, 120 F.3d 664, 666 (7th Cir. 1997).
[12] 46 Fed. Reg. 18,026 (1981).
[13] Environmental Assessment Worksheet for the Sandpiper Pipeline Project (hereinafter "SPP EAW"), Minnesota Public Utilities Commission, April 11, 2016, at 7.
[14] *Id.*

"refinery markets in the US Midwest and beyond" via the terminal at Superior.[15] If Superior is a crucial component of the project's purpose, then there is only one way to meet that need: to go through Superior. This is not what environmental review is for. It is not intended to provide a *post hoc* validation of the applicant's private, corporate preference. It is not the state's obligation to facilitate the expansion of the applicant's infrastructure network, but by adopting the applicant's statement of purpose and need, the Department has done just that. The Department has transferred a private, corporate preference into a public preference, in violation of state law.

#### 1.1.2 The Purpose Statements in the EAW and DSDD for the L3R Project Have Been Stated Too Narrowly

The DSDD for the L3R Project states that the underlying purpose is to "address safety and integrity concerns of the existing Line 3 pipeline."[16] With this very narrow purpose, the DSDD proposes to restrict analysis of several reasonable alternatives, including rail and trucking. The DSDD reasons that rail and trucking will not address pipeline safety and integrity concerns, but it concludes that rail and trucking "will be looked at as an alternative to continuing to operate the Line 3 pipeline." MCEA and FOH are uncertain as to the meaning of these apparently contradictory statements, and recommend that the statement of purpose be broadened to reflect what the document appears to implicitly acknowledge: that the underlying purpose is to deliver diluted bitumen to oil refinery markets in the U.S., by safe and environmentally responsible means. The fact that the L3R proposal would virtually double the capacity of the existing line is a clear indication that the purpose of the project is not merely to address safety and integrity concerns. The increased capacity of the new pipeline as proposed is also not solely the result of enhanced pressure capabilities. The new pipeline will be two inches larger in diameter than the existing pipeline, and there is no identified safety concern that indicates a need for a larger diameter. The purpose of the project, rather, is to deliver large quantities of petroleum products to the refineries that can utilize it. This more accurate framing of the underlying purpose clarifies that alternatives such as rail and trucking are properly examined as alternatives in the EIS.

### 1.2 Sandpiper EAW and DSDD Purpose and Need

The internal inconsistency of the stated purpose for the Sandpiper project demonstrates the need to take a broader look at the underlying purposes behind the proposal. The EAW states that the purpose is to increase delivery capacity to "refineries located throughout the Midwest, Midcontinent, and East Coast via the existing Minnesota Pipe Line System at Clearbrook, Minnesota, via an existing terminal in Superior, Wisconsin."[17] But going through Enbridge's existing system is only one way to increase delivery capacity to refineries across the Midwest and East Coast. The statements in the scoping documents mistake *means* with *purpose*. The means to an end are not the purpose of that end. Perhaps the clearest indicator of this confusion is the statement of purpose in the DSDD for the Sandpiper Project, which states that the purpose "is to transport growing crude oil production from the Bakken Formation in North Dakota to the Superior, Wisconsin, terminal and then

[15] Draft Scoping Decision Document for Sandpiper Pipeline Project (hereinafter "SPP DSDD"), Docket Nos. PL-6668/CN-13-473; PL-6668/PPL-13-474, Minnesota Department of Commerce-Energy Environmental Review and Analysis, April 8, 2016 at 6.
[16] Draft Scoping Decision Document for Line 3 Replacement Project (hereinafter "L3R DSDD"), Docket Nos. PL-15-137/CN-14-916, Minnesota Department of Commerce-Energy Environmental Review and Analysis, April 8, 2016 at 5.
[17] SPP EAW at 30.

connect to various other pipelines expanding access to refinery markets in the US Midwest and beyond."[18] Pipelines terminating at Enbridge's terminal at Superior are one means of "transport[ing] growing crude oil production . . . to refinery markets in the US Midwest and beyond," but many other alternatives will achieve that same end without going through Superior.

The statement of purpose and need in the scoping documents must therefore be modified to encapsulate the true purpose, which is to deliver Bakken crude to the oil refinery market that can utilize it, thereby "expanding access to refinery markets in the US Midwest and beyond."[19] The EIS must analyze the means of achieving that end, including the applicant's preference for utilizing its existing infrastructure but also including any other means of achieving that same end.

### 1.3 Outdated Oil Market Conditions in Sandpiper Purpose and Need

The Report of Dr. Gunton, attached as Exhibit 1, provides more detail on the changes in the oil markets since the Sandpiper Project was initially proposed.[20] The oil market changes bear serious implications both for the overall need for the project and for the analysis of alternatives to the project in the EIS, and yet none of the scoping documents even acknowledge the drastic changes occurring in the Bakken. The Sandpiper EAW, for instance, states that "crude oil production in the Williston Basin . . . has risen rapidly in recent years"[21] and exceeded existing pipeline capacity, necessitating additional pipeline capacity from North Dakota. When the applicant conducted its open season in January of 2014, production volumes in the Bakken were indeed increasing rapidly. In that month, production had increased 30% from the previous January.[22] However, production peaked in December of that year, and since the peak production has actually declined 14%.[23] Production at individual wells has declined even further. Daily production per well has precipitously declined to a volume not seen since 2008.[24] Production volumes per well peaked in mid-2012, and have been declining ever since.[25]

Clearly it is no longer true that "crude oil production in the Williston Basin" is "growing." The statement of purpose and need in the Sandpiper DSDD, which states that the purpose of the projects is to "transport growing crude oil production from the Bakken formation," is demonstrably inaccurate and should be revised to reflect the fact that production volumes have in fact peaked and are in a state of accelerating decline.

### 1.4 Dr. Gunton's Report as a Separate Comment

The report, attached as Exhibit 1, details changes in the oil markets since the Sandpiper Project was initially proposed and analyzes the impact of those changes on the scoping process for the SPP EIS, particularly with regard to the DSDD's assessment of the project's purpose and need. Although it is submitted as an

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[18] SPP DSDD at 6.
[19] SPP DSDD at 6.
[20] Ex. 1 (Dr. Thomas Gunton & James Hoffele, *Evaluation of Minnesota Draft Scoping Decision Document for Sandpiper Pipeline Project*, May 21, 2016).
[21] SPP EAW at 6.
[22] *See* Ex. 2 (North Dakota Industrial Commission, Dep't of Mineral Resources, Oil & Gas Division, "Historical Monthly Bakken Oil Production Statistics," https://www.dmr.nd.gov/oilgas/stats/statisticsvw.asp, last retrieved May 2, 2016).
[23] *Id.*
[24] *Id.*
[25] *Id.*

attachment to the comments of FOH and MCEA, the report is an independent comment on the SPP DSDD, and should be responded to by the agency.

## SECTION 2: ALTERNATIVES PROPOSED FOR INCLUSION IN THE EIS

### 2.1 Alternatives Must Include SA-03, SA-04 and SA-05

Alternatives to the Applicant's preferred route for Sandpiper must include alternatives that do not terminate in Superior, Wisconsin, including, at a minimum, SA-03, SA-04, SA-05 and alternatives terminating in Patoka, Illinois. As noted above, the more appropriate statement of purpose and need for the Sandpiper Project is:

> The purpose of this project is to transport crude oil from Bakken oilfields to the refineries that demand it, in a manner that is safe and environmentally responsible.

This statement accords with state and federal environmental review principles that caution against uncritically accepting the applicant's account of the project's need. Properly framed, it is therefore clear that the EIS must include an analysis of alternatives that do not necessarily terminate at Enbridge's terminal in Superior, Wisconsin. Any alternative that offers a reasonable means of transporting Bakken light sweet crude to oil refineries that demand it, particularly in the American Midwest and Midcontinent regions, should be analyzed and compared to the applicant's preferred route. This would include system alternatives such as SA-04 (terminating in Joliet, IL), SA-05 (Joliet, IL), and other as yet-unidentified alternatives that could terminate in Patoka, Illinois, where anchor shipper Marathon maintains its system pipeline hub and the destination point for the great majority of crude oil proposed for shipment by the project. One such alternative could be the route of the Energy Transfer Partners' Dakota Access Pipeline, which is now fully permitted and will begin construction in the spring of 2016 with operations commencing in late 2016. The Dakota Access Pipeline begins at the Williston Basin near Stanley, North Dakota and terminates near Marathon's pipeline hub in Patoka, Illinois.[26] The pipeline is projected to transport up to half of all crude production originating in the Bakken oilfields.[27]

In addition to the alternatives discussed above, Dr. Gunton's report (Ex. 1) also details several transportation corridors and methods that would serve as alternate means of transporting Bakken crude to the refinery market.[28] FOH and MCEA hereby incorporate those comments by reference.

### 2.2 L3R Alternatives that May Not Include Continued Operation of the Existing Line 3.

Because the true underlying purpose of the existing Line 3 is to deliver heavy diluted bitumen from Canada to the American refineries that demand it and can utilize it, the purpose of the L3R project is to do so in a manner that is safe and environmentally responsible. The applicant's preferred alternative clearly fits this statement of purpose and need, as complete replacement of an aging pipeline is one way to deliver this petroleum product to American refineries. Other alternatives, however, would be to utilize different forms of crude transportation, such as rail and trucking, but the L3R scoping documents appear to exclude such alternatives, noting that they would not address safety and integrity issues in the existing Line 3.[29] Despite concluding that rail and trucking will not meet the stated purpose of the project, the DSDD nevertheless

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[26] Ex. 3 (Richard Nemec, *Construction Starts on Dakota Access Pipeline,* Natural Gas Intelligence, May 2, 2016).
[27] *Id.*
[28] *See* Ex. 1 at 3-5.
[29] L3R DSDD at 7.

concludes that rail and trucking "will be looked at as an alternative to continuing to operate the Line 3 pipeline."[30] As described above, MCEA and FOH are uncertain as to the meaning of these apparently contradictory statements, but a properly broadened statement of purpose would clarify that alternatives such as rail and trucking are properly examined as alternatives in the EIS.

### 2.3 Alternatives Based on Actual Demand

Alternatives utilizing alternate modes of transportation (rail, trucking) for either the Sandpiper Project or the L3R Project must be based on actual demonstrated demand for crude oil shipped via rail and truck, not on the volumes and destinations assumed by the Project As Proposed. Both the Sandpiper Project and the L3R Project will increase the transportation capacities of existing petroleum pipeline corridors.[31] The L3R Project would "restore the line to its historic intended operating capacity of 760,000 barrels per day (bpd) from its current capacity of 390,000 bpd."[32] Sandpiper "is being designed to expand by 265,000 bpd to an ultimate annual capacity of 640,000 bpd" from Clearbrook to Superior, and up to 365,000 bpd from Beaver Lodge to Clearbrook.[33] Absent future upgrades, the Sandpiper Project as currently proposed would transport 225,000 bpd from Beaver Lodge to Superior.[34]

Transportation choices do not take place in a vacuum. It is not reasonable to assume that if the Sandpiper project was not built (the No Action Alternative), producers would instead ship via rail or truck the same volumes that Sandpiper would otherwise carry. It is similarly unreasonable to assume that, if a rail or trucking alternative were chosen instead of Sandpiper, producers would utilize that transportation to the same extent that they would utilize a pipeline. Shipping decisions would instead be based on case-by-case consideration of fixed costs, which would be different in a rail or trucking alternative.

The DSDD should clarify that the alternatives of rail and trucking must not be evaluated as if they would transport Sandpiper's volumes, unless the alternative proposed actually increases capacity to ship oil via that method. The Draft EIS should conduct a separate analysis of alternatives in which rail or trucking were modestly scaled up to meet transportation needs from the Bakken, but projections of use of those alternatives should be based on actual economic analysis, not just an assumption that the same volumes would be shipped as Sandpiper and the Line 3 Replacement propose to ship.

### 2.4 Pipe Thicknesses as Modified Scale or Magnitude Alternatives to the Sandpiper Project

Both the Sandpiper and the L3R DSDDs state that "the EIS will not be evaluating alternatives of different pipe dimensions or different pipe metal thickness. Due to engineering requirements and requirements under PHMSA, this EIS will not address variations in different pipe dimensions or different pipe metal thickness as an alternative; pipe thickness will be discussed as a mitigation option."[35] These statements are overly conclusory, and provide no verifiable justification for excluding an alternative other than simply providing a

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[30] *Id.*
[31] Although the Applicant's preferred route for the Sandpiper Project deviates from its existing system, the preferred route nevertheless connects two endpoints that are connected today, and thus the preferred route maintains the same fundamental connectivity, albeit with increased capacity.
[32] Environmental Assessment Worksheet for the Line 3 Replacement Project (hereinafter "L3R EAW"), Minnesota Public Utilities Commission, April 11, 2016, at 6-7.
[33] SPP EAW at 6.
[34] SPP DSDD at 8.
[35] L3R DSDD at 12-13; SPP DSDD at 13-14.

generic reference to engineering and regulatory requirements. Presumably these requirements do not preclude consideration of higher engineering standards as a project option that might affect capacity, integrity and corresponding risks of releases. At a minimum, specific engineering or regulatory requirements that affect the viability of pipe thickness as an alternative must be identified and discussed, and an explanation must be given detailing why those requirements render the alternative unsuitable. Because environmental review is fundamentally an information-gathering exercise, cursory or generic statements that a particular alternative is unsuitable are not sufficient.[36]

### 2.5 Alternatives that Would Transport Lower Volumes

As described in more detail in Dr. Gunton's report, attached as Exhibit 1, production volumes in the Williston Basin have been declining since 2014.[37] The Sandpiper Project was originally proposed at a time when production volumes were continuing to increase, and the proposal reflects those assumptions. Those volumetric trends have since reversed, and it is now reasonable to consider alternatives that may increase pipeline capacities more modestly than the project as proposed. Such alternatives could include upgrading pump stations on the existing Line 81 corridor to increase capacity of the existing system. Modestly increased transportation capacities may now satisfy the needs posed by the current production volumes in the Williston Basin, while also avoiding many environmental impacts caused by the proposed project. Under the criteria of 4410.2300(G) requiring consideration of alternatives of modified scale or magnitude, then, such lower transportation volume alternatives should be analyzed in the EIS.

### 2.6 Contrasting Landscapes With Respect to Potential Impacts of Oil Releases

Many alternatives have been proposed for study in the EIS, including several by FOH. The Applicant's proposed routes cross landscapes often characterized by morainal hills, high value wetlands, rivers, and other natural resources, and that have fewer roads than alternative proposed locations to the west and southwest. Alternatives such as SA-04 cross much flatter landscapes with substantially higher road densities. FOH and MCEA contend that oil releases on the flatter terrain are easier to contain and much less likely to quickly move away from the pipeline. Oil releases on flat terrain with lots of roads are much less likely to cause long-term impacts and are more likely to permit rapid response to a pipeline ruptures. The EIS should therefore ensure that these two landscape types are thoroughly contrasted in the alternatives analysis.

[36] Minn. R. 4410.2300(G).
[37] Ex. 1 at 6 (Expert Report of Dr. Gunton).

## 2.7 No-Action Alternative for the Sandpiper Component of the EIS

### 2.7.1 The Analysis of the No-Action Alternative Must Incorporate the Increased Pipeline Capacity Provided by the Dakota Access Pipeline Currently Under Construction, As Well As Other Current and Future Proposals for Pipeline Capacity

As required by Minn. R. 4410.2300(G), a no-action alternative must be included in the EIS. The DSDD for the Sandpiper Project states that the "No Action Alternative assumes transport of Bakken oil will continue by other means, including rail, interstate highways and other pipeline systems."[38] Currently, Energy Transfer Partners' proposed Dakota Access Pipeline has received all necessary regulatory approvals, and construction for the pipeline has begun.[39] The project will provide new pipeline capacity of between 450,000 and 570,000 bpd, representing well over half of all production in the Bakken.[40] The new pipeline will terminate in Patoka, Illinois, providing access to oil markets in the Midwest, East Coast, and Gulf Coast.[41] Because Dakota Access Pipeline has moved from the proposal stage to the construction stage, the capacity that it will provide should be analyzed in the No Action Alternative as part of the assumptions concerning available transportation capacity.

But the Dakota Access Pipeline is not the only project that will provide crude oil transportation from the Bakken. As detailed in Dr. Gunton's report, current forecasts estimate *surplus* pipeline capacity from the Bakken of up to 866,000 bpd in 2020. Including rail, total surplus capacity is forecasted at up to 2.5 million bpd.[42] The analysis of the No Action Alternative in the EIS must include an assessment of total surplus transportation capacity that would exist should the Sandpiper Project not be built.

### 2.7.2 The Analysis of the No-Action Alternative Must Incorporate an Economic Analysis of the Effect of Continued Low Oil Prices on Production Volumes in the Williston Basin

As described in more detail in Dr. Gunton's report (Ex. 1), there is substantial evidence that, in an environment of continued low oil prices, total production volumes in the Bakken will decline. The EIS should therefore include the economic analysis exploring the relationship between oil prices, transportation capacity, transportation cost and production volumes, so that the environmental impacts associated with those production volumes can be compared.

### 2.7.3 The Analysis of the No-Action Alternative Must Clarify that It Will Avoid the Environmental Impacts of Increased Production Volumes in the Williston Basin, Including But Not Limited to Ground Water Contamination, Climate Change Impacts, Methane and Ethane Leakage, and Air Quality Impacts

Because denial of applicant's proposal will likely result in continued decreasing production volumes in the Williston Basin (as described in Dr. Gunton's report, Ex. 1), the environmental impacts associated with extraction of crude oil in the Williston Basin, including ground water contamination, methane and ethane

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[38] SPP DSDD at 14.
[39] Ex. 3 (Natural Gas Intelligence Article on Dakota Access Pipeline Construction).
[40] Ex. 4 (Dakota Access Pipeline Factsheet); Ex. 2 (Bakken Oil Production Statistics).
[41] *Id.*.
[42] Ex. 1 at 4 (Expert Report of Dr. Gunton).

leakage, climate change and air quality impacts, will be lessened in the No Action Alternative. The analysis of the No Action Alternative should clarify that denial of the applicant's proposal will avoid those environmental impacts.

2.7.4 The Environmental Impacts of Subsection 2.6.3 Must be Quantified as an Economic Value of Damages Utilizing Regulatory Impact Analysis Tools Such as the Social Cost of Carbon or Its Equivalent

To the extent practicable, all environmental impacts avoided by the No Action Alternative should be quantified and expressed as economic damages avoided. The environmental impacts avoided by the No Action Alternative – avoided climate change impacts, methane and ethane leakage, ground water contamination and air quality impacts – are all readily quantifiable by widely available regulatory impact analysis tools, such as the Federal Social Cost of Carbon. The Social Cost of Carbon can be used to estimate the avoided damages from avoided CO2 emissions as a result of low oil prices constraining extraction activities in the Williston Basin (thus avoiding combustion of the petroleum products that would have been produced by those extraction activities), and it can also be used to estimate avoided damages from methane and ethane leakage in extraction, once those gases are converted to tons of CO2 equivalent.

2.7.5 The No Action Alternative Must Indicate that Denial of the Applicant's Proposal Will Not Result in Higher Rail Traffic Volumes in Minnesota

As described in sections 2.7.2 and Dr. Gunton's report, Bakken production volumes in the No Action Alternative are likely to continue their currently decreasing trend. The applicant's original CON application, however, asserts that the No Action Alternative would involve greater rail transportation through Minnesota, arguing that "as Bakken production increases, so would train traffic carrying crude oil through Minnesota."[43] These assumptions are no longer true, and it now appears that Bakken production will *not* continue to increase in the absence of the Sandpiper Project's capacity. As described above, as oil markets stay in a low-price environment and the only transportation options are comparatively more expensive, producers respond by restricting production. This is empirically demonstrated by indicators of Bakken production from the last two years.[44] Rail shipments from the Bakken have also correspondingly declined.[45] Rail traffic from the Bakken peaked in 2014 and has been declining since that time.[46] This trend will continue in the No Action Alternative. The analysis of the No Action Alternative must therefore clarify that denial of the Sandpiper Project will not increase rail traffic through Minnesota.

2.7.6 The No Action Alternative Must Indicate that Denial of the Sandpiper Project Will Not Result in Higher Consumer Prices for Petroleum Products

Because petroleum transportation is diverse and interconnected in the U.S., there is no empirical evidence that consumer prices for petroleum products like gasoline are significantly affected by the construction of

[43] Docket Nos. PL-6668/PPL-13-473; PL-6668/CN-13-473, *Enbridge Pipelines (North Dakota) LLC Sandpiper Pipeline Project Environmental Information Report*, filed Nov. 8, 2013, at 2-2.
[44] Ex. 1 at 5-6 (Expert Report of Dr. Gunton).
[45] Ex. 5 (EIA Crude Oil Rail Transportation Statistics).
[46] *Id.*

new pipelines. In fact, "varying pipeline availability has little impact on the prices that that U.S. consumers pay for refined products such as gasoline."[47]

## 2.8 No-Action Alternative for the L3R Component of the EIS

### 2.8.1 The "No Action" Alternative for L3R Must Be Identified in the Draft EIS

Enbridge must clarify what would happen if the L3R project did not go through. Presumably, the choices are that Enbridge would either continue to run the line at increased cost, or it would decommission it because it would no longer be economical to operate. Either way, the "no action" alternative is a key part of the EIS because it gives decision-makers a baseline against which to compare impacts of the project.

If Enbridge would continue to operate the existing Line 3, the EIS should consider an additional alternative to decommission Line 3 entirely, utilizing alternative means of transportation for all volumes transported by the existing line.

### 2.8.2 The Analysis of the No-Action Alternative Must Incorporate an Economic Analysis of the Effect of Continued Pipeline Restrictions on the Production Volumes of the Alberta Oil Sands Deposits

As described in more detail in Dr. Gunton's report (Ex. 1) there is substantial evidence indicating that, in an environment of continued low oil prices and high transportation costs from restricted pipeline capacity, total production volumes in the Alberta oil sands region will decline.[48] The Final Supplemental Environmental Impact Statement for the Keystone XL Project noted that:

> Oil sands production is expected to be most sensitive to increased transport costs in a range of prices around $65 to $75 per barrel. Assuming prices fell in this range, higher transportation costs could have a substantial impact on oil sands production levels— possibly in excess of the capacity of the proposed Project—because many in situ projects are estimated to break even around these levels. Prices below this range would challenge the supply costs of many projects, regardless of pipeline constraints, but higher transport costs could further curtail production.[49]

The EIS should therefore include an economic analysis exploring the relationship between pipeline capacity and production volumes, so that the environmental impacts associated with those production volumes can be compared. The Draft EIS should address the fact that increased pipeline capacity will increase extraction and production of bitumen from the Alberta oil sands region in a low oil price market, identify the impacts of that increase, and clarify that the No Action Alternative will avoid the impacts of that increased extraction and production.

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[47] Ex. 6 at ES-12 (Keystone XL SEIS Executive Summary).
[48] Ex. 1 at 8 (Expert Report of Dr. Gunton); *see also* Ex. 6 at ES-12 (Keystone XL SEIS Executive Summary).
[49] Ex. 6 at ES-12.

2.8.3 The Analysis of the No-Action Alternative Must Clarify that It Will Avoid the Environmental Impacts of Increased Production Volumes of Alberta Oil Sands, Including But Not Limited to Water Withdrawals, Water Contamination, Energy Consumption, Air Quality Impacts and Climate Change Impacts

Because denial of applicant's proposal will likely result in decreased production volumes in the Alberta oil sands region,[50] the environmental impacts associated with extraction of oil sands and the production of bitumen products, including water withdrawals, water contamination, energy consumption, air quality impacts and climate change impacts, will be lessened in the No Action Alternative. The analysis of the No Action Alternative should clarify that denial of the applicant's proposal will avoid those environmental impacts.

2.8.4 The Environmental Impacts of Subsection 2.7.2 Must be Quantified as an Economic Value of Damages Utilizing Regulatory Impact Analysis Tools Such as the Social Cost of Carbon or its Equivalent

The environmental impacts avoided by the No Action Alternative – water withdrawals, water contamination, energy consumption, air quality impacts and climate change impacts – are all readily quantifiable by widely available regulatory impact analysis tools, such as the Federal Social Cost of Carbon. The Social Cost of Carbon can be used to estimate the avoided damages from avoided CO2 emissions as a result of low oil prices and low pipeline capacity constraining extraction activities in the Alberta oil sands region (thus avoiding combustion of the petroleum products that would have been produced by those extraction activities), and it can also be used to estimate avoided damages from other greenhouse gases, once those gases are converted to tons of CO2 equivalent. To the extent practicable, all environmental impacts avoided by the No Action Alternative should be quantified and expressed as economic damages avoided.

## SECTION 3: ANALYSIS OF THE PROPOSED PROJECT'S ENVIRONMENTAL, ECONOMIC, EMPLOYMENT AND SOCIOLOGICAL IMPACTS

### 3.1 Method for Assessing Impacts of Crude Oil Releases

Of all potential impacts of a pipeline, impacts to water from an oil spill may well be the most catastrophic. While FOH and MCEA expect the EIS to identify mitigation measures, we also expect the EIS to provide an independent assessment of potential oil spill scenarios and the devastating consequences on nearby lakes, rivers, streams and wetlands.

3.1.1 The EIS's Treatment of the Environmental Impacts of Oil Spills Must Include Narrative Descriptions in Addition to Any Numerical Risk Assessment

An EIS that analyzes the environmental impacts of oil spills by relying primarily on numerical risk assessments and engineering forecasts of oil release amounts (based on shutdown systems and other safety measures) is inadequate. The purpose of an EIS is full disclosure of potential impacts in a manner understandable to citizens and agencies.[51] Both the Sandpiper and L3R Projects are complex and

[50] Ex. 1 at 8; Ex. 6 at ES-12.

[51] *See, e.g.,* Minn. R. 4410.2300 ("An EIS shall be written in plain and objective language."); Minn. R. 4410.0300 (The purpose of the an EIS is to "provide usable information to the project propose,

controversial proposals that have the attention of many citizens and decision-makers that lack the technical expertise to appreciate impact analysis that is primarily technical and numerical. The oil spill risk assessment in the EISs for the proposed pipelines should be narrative-based, similar to the Oak Ridge National Laboratory's 2012 study submitted with the Direct Testimony of Paul Stolen in previous Sandpiper proceedings.[52] That study looked at a range of shut-down times and described the consequences that might ensue. The sites selected for modeling should include this type of narrative impact analysis in addition to any technical, numerical risk assessments.

#### 3.1.2 The EIS Should Economically Quantify the Environmental Impacts of Oil Spills Modeled by OILMAPLAND and SIMAP

The DSDD for the Sandpiper Project and the L3R Project state that large volume spill modeling will be conducted by RPS ASA using OILMAPLAND and SIMAP modeling software.[53] For any such spill modeling in the combined EIS, the environmental impacts of the modeled spills must be economically quantified as a projected estimate of socioeconomic damages. The accounting of damages is a routine practice, and there is no reason why an EIS would not include a quantification of modeled oil spill impacts. If a spill were to occur of the type modeled in the EIS, federal law requires that the environmental impacts be quantified in a Natural Resource Damage Assessment.[54] Federal regulations require that the degree and extent of oil spill damages are quantified relative to a baseline, and that quantification forms the basis for a demand for payment issued to the responsible party.[55] Because this process would be a requirement if a spill were to occur, the modeling of oil spill impacts in the EIS must include the economic quantification process as part of the EIS itself. One possible methodology for this quantification analysis is contained in the Oak Ridge National Laboratory's 2012 study referenced above.[56]

#### 3.1.3 The Economic Damages for Oil Spills Modeled in the EIS Must Be Compared Against the Coverage and Limits Included in the Applicant's Liability Insurance Policy

In the event that an oil spill should occur, any response or restoration costs that are not covered by the applicant's liability insurance policy would be borne by the responsible party. If such uninsured costs exceeded the responsible party's liquid assets, the responsible party's bankruptcy could result in the costs being borne by public funds. In 2014, for instance, Enbridge estimated that its total cost estimate for the Line 6B crude oil release near Marshall, Michigan was $1.21 billion.[57] Larger oil spills modeled in the EIS would of course incur larger estimated restoration costs, and to the extent that any potential cost estimates exceeded the limits of NDPC's liability insurance coverage, those costs could cause a liquidity crisis and potential bankruptcy proceeding that would imperil public funds. In order to provide some indication of the likelihood of a spill-induced corporate bankruptcy, the EIS should include a comparison of potential spill liabilities with

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governmental decision makers and the public concerning the primary environmental effects of a proposed project.").

[52] Ex. 16, at Apx. 1 (Direct Testimony of Paul Stolen, eDocket No. 201411-104748-02, Docket No. PL-6668/CN-13-473, Nov. 19, 2014).

[53] SPP DSDD at 27, L3R DSDD at 26.

[54] 15 C.F.R. Part 990, promulgated pursuant to the Oil Pollution Act of 1990.

[55] 15 C.F.R. § 990.52, 15 C.F.R. § 990.62.

[56] Ex. 16 at Apx. 1, Ex. 4.

[57] Ex. 7 at 19.

the applicant's insurance coverage and limits. Such an analysis requires transparency by NDPC and Enbridge on existing or projected insurance coverage.[58]

3.1.4 Oil Spill Modeling Should Not Be Based on Data Provided by NDPC

Both DSDDs indicate that "the Applicant will provide data on maximum spill volumes, spill frequency and the types of crude oil being transported" for the purposes of modeling large volume oil spills.[59] The project applicant's vested economic interest in limiting oil spill modeling requires that the RGU conduct an independent analysis of the risk of large volume oil spill releases. Spill volumes and frequencies are consistently underestimated by entities proposing pipeline projects, and federal agencies have noted that many estimates of Enbridge's 2010 Line 6B oil spill have been "substantially greater" than Enbridge's estimate.[60] There have also been discrepancies in the pipeline operator's estimate of shut down times in the event of a spill, as compared to actual shut down times. Data provided by the applicant is similarly unlikely to provide an adequate basis for evaluating the environmental impacts of a potential spill, and the oil spill modeling for the Sandpiper/L3R EIS must accordingly be based on an independent assessment of projected spill volumes and frequencies.

3.1.5 The Estimate of Spill Frequency Must be Based on Realistic Assumptions that Include the Incidence of Human Error

Because risk analysis is so greatly influenced by the probability of an event, the oil spill modeling included in the EIS is crucially dependent on accurate assumptions regarding spill frequency. Reliance on NDPC data for spill frequency assumptions is clearly inadequate, as NDPC's economic interest in minimizing the risk of oil spills ensures that any supplied data would be affected by a conflict of interest. Moreover, while NDPC and Enbridge will certainly propose mitigation measures designed to decrease the risk of a spill, human error poses a risk that cannot be mitigated. The probability of oil spills must therefore be independently evaluated in the EIS. Other studies indicate that human error is a significant cause of oil releases from facilities associated with pipelines, such as storage tanks.[61] The spill volumes resulting from incorrect operations of tank facilities, furthermore, tend to be larger than mainline spill volumes.[62] The EIS for the Sandpiper and L3R Projects must therefore include a consideration of the frequency of human error in equipment operations, the resulting likelihood that such human error would cause oil releases, and the environmental impacts of those potential releases.

3.1.6 Oil Spill Modeling for the L3R Project Must Include Diluted Bitumen

The L3R DSDD states that the oil spill models "will be run for a set of scenarios that include the following crude oil types: light sweet Bakken crude oil, Cold Lake Blend and Cold Lake Winter Blend."[63] Although the proposed pipeline is physically designed to transport a variety of crude products, including light, medium and heavy crudes, the primary purpose of the L3R Project is to transport diluted bitumen from Hardisty, Alberta. Diluted bitumen is a fundamentally different product than Bakken light sweet crude, and oil spills of diluted

[58] Minn. R. 4410.2400 ("No material may be incorporated [into an EIS] by reference unless it is reasonably available for inspection by interested persons within the time allowed for comment.").
[59] *See, e.g.*, L3R DSDD at 25.
[60] *See* Ex. 8 at i (Final Damage Assessment and Restoration Plan for Line 6B Spill).
[61] *See* Ex. 9 at 3 (Keystone XL SEIS Attachment K).
[62] *Id.*
[63] L3R DSDD at 26.

bitumen differ significantly in their environmental impact.[64] Any EIS that conducted oil spill modeling for the L3R Project without modeling the effects of a diluted bitumen spill would clearly be inadequate. The EIS should also include the results of the National Academy of Sciences recent study concerning the environmental impacts of diluted bitumen spills.[65] That study "brought together diverse expertise on the chemistry and environmental impacts of crude oils and broad experience in spill response," and its findings were independently reviewed by an extensive committee of experts.[66] Among its key findings was the conclusion that "spills of diluted bitumen pose particular challenges when they reach water bodies. In some cases, the residues can submerge or sink to the bottom of the water body."[67]

3.1.7 The Environmental Impacts of a Diluted Bitumen Spill Must Incorporate the Findings of the National Academy of Sciences

The EIS should address the implications of the NAS study of bitumen to the sensitive locations, including wetlands crossed by the proposed routes. The study suggests that it may be impossible to clean up diluted bitumen from certain locations, and/or that the attempts to clean up oil releases from such areas will in effect destroy these areas. The implication of this finding is that should Line 3 be permitted in the location desired by the Applicant the state of Minnesota would need to make this decision based on an assumption that no significant oil releases would ever occur for the life of the project.

3.1.8 The FSDDs Must Identify the Representative Sites Proposed for Oil Spill Modeling

Both DSDDs describe a modeling process consisting of 2-D modeling at five representative sites and 3-D modeling at two sites.[68] None of these proposed modeling sites are identified. It is accordingly impossible to assess whether the selected sites are indeed representative, or whether they represent best-case scenario oil spill locations. The selection of representative sites cannot be delegated to the applicant or to RPS ASA, the environmental modeling consultant for the EIS. The location of those sites is a critical detail in ensuring that the oil spill modeling assesses realistic scenarios based on a variety of sites along the proposed route. The selected sites should, at a minimum, sample critical terrains, ecosystems, water bodies, habitats, High Consequence Areas and Natural Disaster Hazard Areas crossed by the proposed route. Although the DSDDs indicate an awareness that releases at High Consequence Areas and Natural Disaster Hazard Areas represent particularly significant impacts, the documents do not provide any indication of the analysis of those impacts that will occur in the EIS. At a minimum, the oil spill modeling must incorporate High Consequence Areas and Natural Disaster Hazard Areas as representative sites. At least one site must be located beneath the bed of a large volume flowing river such as the Mississippi or St. Croix. These representative sites must be chosen by the RGU in the FSDD.

3.1.9 Oil Spill Modeling in the EIS Must Include Representative Sites on Enbridge's Pipeline System Outside the Tioga-Superior Segment, Including Sites at a Variety of Terrains, Ecosystems, Water Bodies and Habitats Crossed by Enbridge's System South and East of North Dakota

The direct effect of the Sandpiper Project and the L3R Project will be to increase the volumes of crude oil products being transported by Enbridge's pipeline system. This includes not only the proposed project within

[64] See Ex. 10 (NAS Study of Spills of Diluted Bitumen).
[65] *Id.*.
[66] *Id.* at viii, xiii.
[67] *Id.* at 3.
[68] L3R DSDD at 26, SPP DSDD at 28.

the borders of Minnesota, but the entirety of Enbridge's system south and east of North Dakota. The higher volumes enabled by the two projects will continue on to refineries in the Midwest, Midcontinent, and Gulf Coast regions.[69] These higher volumes being transported throughout the U.S. will necessarily increase either the volumes or frequency of spills occurring on Enbridge's system outside Minnesota. As an illustration, the 2010 oil spill near Marshall, Michigan occurred on Enbridge's Line 6B, which connects to Enbridge's hub outside Chicago.[70] The Chicago hub is supplied in part by connections from Superior, Wisconsin. [71] Both projects would therefore cause higher volumes of crude oil products to be transported through pipelines such as Line 6B, which accordingly increases the environmental impact of any oil spill that occurs, whether the location of that spill is within Minnesota or outside its borders. Any oil spill modeling in the EIS must therefore model potential spill sites at a variety of terrains, ecosystems, water bodies, habitats, High Consequence Areas and Natural Disaster Hazard Areas crossed by Enbridge's entire system south and east of North Dakota, not just those located in Minnesota.

3.1.10 Representative Sites Outside the Tioga-Superior Corridor Must Include Potential Worst Case Scenarios Such as a Line 5 Spill in the Straits of Mackinac

As described above, the increased capacities of the Sandpiper and L3R Projects will increase the volumes of crude oil products being transported by all of Enbridge's pipeline system, not just the segments proposed for Minnesota. From Superior, these increased oil volumes will be shipped southward and eastward on existing pipelines. One such pipeline that will connect with both Sandpiper and L3R is Enbridge's Line 5, which passes under the Straits of Mackinac, the waterway joining Lakes Michigan and Huron. The increased transportation volumes of both proposed projects will cause a corresponding increase in the risk of a spill outside Minnesota, including in Line 5. The potential impacts of a spill in the Straits of Mackinac has been studied and modeled by the University of Michigan's Water Center, and the results of that study should be incorporated in the both EISs as a means of analyzing the increased risks of such a catastrophic spill resulting from the higher pipeline volumes enabled by the two proposed pipelines.[72]

3.1.11 The EIS Must Evaluate the Potential Impact of a Large or Small Volume Oil Release on the Trout Streams Crossed by the SPP Project

The Sandpiper Project EAW identifies six trout streams crossed by the applicant's preferred route.[73] The DSDD for the project, however, does not specify that the oil spill modeling will incorporate an analysis of the effects of an oil spill on these designated trout streams. The FSDD must indicate that the analysis of potential oil spill impacts will include the impacts of a large or small volume oil release on the designated trout streams and the habitat therein crossed by the project as proposed.

3.1.12 The EIS Must Evaluate the Environmental Impact of the Spacing and Locations of the Automatic Shutoff Valves Designed to Limit Oil Releases in the Event of a Rupture

The oil spill modeling incorporated into the EIS should evaluate the effect of the project's proposed locations of mainline valves capable of limiting releases in the event of a rupture. The modeling should also incorporate

[69] SPP DSDD at 6, Ex. 20; Direct Testimony of C. Michael Palmer, Docket No. PL-6668/CN-13-473, Aug. 8, 2014, at 7.
[70] Ex. 20 (Enbridge Pipeline Map).
[71] *Id.*
[72] Ex. 12 (University of Michigan Straits of Mackinac Oil Spill Study).
[73] SPP EAW at 107.

an analysis of alternate locations as an aid in assessing potential mitigation options, as alternate locations of mainline valves could be strategically placed to mitigate impacts to particularly sensitive environments.[74]

3.1.13 The EIS Must Evaluate the Environmental Impact of Oil Spills with Ignition

As described in the Direct Testimony of Paul Stolen, oil spill modeling must incorporate the potential effects of an oil spill with ignition. Neither DSDD in this matter specifies that the oil spill modeling will incorporate the increased environmental impacts of an oil spill featuring ignition of a pool fire, flash fire, or vapor cloud explosion.[75] Bakken crude is known to be particularly volatile, and poses a significant risk of ignition upon release.[76] The effects of such spills have been evaluated and quantified by studies conducted by federal agencies, and given the DSDD's statements that the oil spill modeling will be conducted in accordance with federal PHMSA regulations,[77] the effects of oil spills with ignition must be included in the EIS.

3.1.14 The EIS Must Evaluate a Catastrophic Oil Spill Scenario in Which a Large Oil Spill with Ignition Damages Co-Located Pipelines

Environmental review principles require the evaluation of low probability, high-risk environmental impacts. Such impacts for the Sandpiper Project and the L3R Project would include a catastrophic oil spill with ignition, in a sensitive area, in which co-located pipelines are also damaged, increasing the volume of the release. Neither DSDD requires the modeling of such a scenario, and is therefore inadequate in assessing the likelihood and the impacts of such an event. The FSDD must require modeling for catastrophic scenarios, even those that are low probability, because the consequences would be so severe. Such consequences are unaccounted for in the EIS as currently scoped.

3.1.15 The EIS Must Evaluate the Potential for Groundwater Contamination by a Large or Small Volume Oil Release

The DSDDs for the two projects state that the EIS will analyze the potential for groundwater contamination within 1,000 feet of the pipeline corridor.[78] This boundary is based on "work done previously in Exponent's risk assessment of the Keystone XL Pipeline."[79] Although reliance on previously completed work is allowed by state environmental review regulations,[80] that work must be relevant to the current project. To the extent that the groundwater contamination modeling incorporated into the EIS for SPP and L3R is based on particular mixes of petroleum products that are unique to the Keystone XL proposal, or the terrain on which that pipeline was proposed, that modeling may not accurately represent the risks to groundwater posed by the SPP and L3R projects. Different crude oil products may pose different risks upon release into surface waters or onto permeable soils. The particular risks to groundwater posed by the transport of Bakken light sweet crude and diluted bitumen on SPP and L3R, respectively, must be independently evaluated in the EIS. That analysis should also include specific information about the aquifers crossed by the proposed projects,

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[74] *See* Ex. 16 at 27 (Stolen Direct).
[75] *See Id.* at Ex. A, 86-87.
[76] PHMSA Safety Alert, January 2, 2014, *Preliminary Guidance from Operation Classification*, available at http://phmsa.dot.gov/pv_obj_cache/pv_obj_id_111F295A99DD05D9B698AE8968F7C1742DC70000/filename/1_2_14%20Rail_Safety_Alert.pdf., last retrieved May 24, 2016.
[77] L3R DSDD at 26, SPP DSDD at 27.
[78] SPP DSDD at 28.
[79] *Id.*
[80] *See, e.g.*, Minn. R. 4410.2200; 4410.2400.

particularly shallow groundwater aquifers that may be especially vulnerable to contamination by large or small volume releases.

3.1.16 The EIS Must Analyze the Probability and Impacts of Small Leaks with an Unusually Long Detection Period

The DSDDs for the two pipelines indicate that the impacts of pinhole leaks will be assessed based on the assumption that a small volume leak would be detected within a matter of "several months."[81] The proposed projects, however, cross a significant acreage of remote and inaccessible areas, and it is therefore possible that a small leak would remain undetected for a longer period of time than assumed in the EIS as currently scoped. A small leak underneath a river bed could pose an especially damaging risk of evading detection for longer than "several months." The probability and impacts of such an event must be analyzed in the EIS.

3.1.17 The Oil Spill Analysis Must Evaluate the Potential Impacts of an Oil Spill Occurring During Winter Conditions, Including Under Ice

Minnesota's climate present unique obstacles in oil spill response and recovery. Access to a spill site can be severely restricted or prohibited in winter conditions, particularly if the location of the rupture is beneath ice cover. Montana's experience with the spill into the Yellowstone River in January 2015 was only one example of this problem. In that case, over 40,000 gallons of crude spilled into the river, and groundwater was contaminated while cleanup was hindered due to ice on the river. Any oil spill analysis included in the EIS must assess the probability and risks of an oil spill occurring during the winter months, including the possibility that the volumes of released oil would be affected by diminished access to the site during the response time.

**3.2 'Upstream' Environmental Impacts of Increased Crude Extraction at Production Sites**

3.2.1 The Environmental Impacts of Increased Crude Extraction in the Williston Basin, Including But Not Limited To Methane Leakage, Ethane Leakage, Air Quality Impairments and Ground, Surface and Drinking Water Contamination Must be Analyzed as Impacts of the Sandpiper Pipeline Proposal

A new crude oil pipeline can make a difference to suppliers of crude oil, as well as refiners and other users. Indeed, a large crude oil pipeline can change the face of the crude oil market across the nation. It can increase both supply and demand for crude oil. That, of course, is why NDPC wishes to build it. But changing the face of the crude oil market has consequences, and many of those are environmental.

An EIS must include "a thorough but succinct discussion of potentially significant adverse or beneficial effects generated, be they direct, indirect, or cumulative."[82] If the Sandpiper and Line 3 pipelines cause increased production of Bakken oil and/or tar sands oil in Canada, the two products they will carry, then that is surely an indirect adverse impact of the pipeline under MEPA.

As described in Dr. Gunton's report, the increased pipeline capacity provided by the Sandpiper Proposal will increase the pace of extraction in the Williston Basin, reversing recent declines caused by low oil prices and limited pipeline transportation availability. With the new, cheaper pipeline capacity of Sandpiper coming

[81] SPP DSDD at 28; L3R DSDD at 26.
[82] Minn. R. 4410.2300(H).

online, individual wells' break-even points will be lowered, and Bakken production volumes will begin to increase once again, even in a continued low oil price market. Well producers' investment decisions are based on current oil prices and the costs of production, of which transportation costs are a significant portion. Lowering these transportation costs will of course change those investment decisions, leading to more wells and more extraction by hydraulic fracturing. The federal courts have made clear that NEPA requires an EIS to consider the increased production (and ultimately consumption) that is the direct result of lowered transportation costs for fossil fuels.[83] This increased extraction activity carries a significant environmental footprint, all of which is currently ignored in the Sandpiper DSDD.

Bakken crude is a tight oil resource recovered by hydraulic fracturing techniques. These techniques have a variety of well-known and well-documented environmental impacts, including methane and ethane leakage, air quality impairments, and ground, surface and drinking water contamination.[84] These impacts significantly affect global climate change, human health, water quality and wildlife, but none are included for analysis in the EIS.

3.2.2 The Environmental Impacts of Increased Oils Sands Extraction in the Alberta Oil Sands Region, Including But Not Limited To: Emissions of Polycyclic Aromatic Hydrocarbons to the Air, Water and Soil; Air Quality Impairments; Adverse Effects on Wildlife and Habitats; and Ground, Surface and Drinking Water Contamination Must be Analyzed as Impacts of the L3R Proposal

As described above, the increased pipeline capacity provided by the L3R Proposal will increase the pace of extraction in the Alberta Oil Sands Region. The Line 3 replacement doubles the capacity of the line, resulting in over 300 bpd additional crude oil shipped out of the tar sands region. Moreover, the EIS must compare the effects of the project to the "no action" alternative. In this case, presuming that the existing Line 3 is no longer financially viable, then the "no action" alternative would be to retire the existing Line 3, but not replace it. In that case, the impact of the proposed Line 3 is the entire volume of tar sands at 750 bpd. The EIS must compare 750 bpd shipped out of the tar sands region on Line 3 to zero bpd.

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[83] *Mid States Coalition for Progress v. Surface Transportation Board*, 345 F.3d 520, 549 (8th Cir. 2003) ("But the proposition that the demand for coal will be unaffected by an increase in availability and a decrease in price, which is the stated goal of the project, is illogical at best. The increased availability of inexpensive coal will at the very least make coal a more attractive option to future entrants into the utilities market when compared with other potential fuel sources, such as nuclear power, solar power, or natural gas").

[84] *See* EA Kort, ML Smith, LT Murray, A Gvakharia, AR Brandt, J Peischl, TB Ryerson, C Sweeney, and K Travis, *Fugitive Emissions from the Bakken Shale Illustrate Role of Shale Production In Global Ethane Shift*, Geophys. Res. Lett., 43, doi: 10.1002/2016GL068703; J Peischl, A Karion, C Sweeney, EA Kort, ML Smith, AR Brandt, T Yeskoo, KC Aikin, SA Conley, A Gvakharia, M Trainer, S Wolter, and TB Ryerson, *Quantifying Atmospheric Methane Emissions from Oil and Natural Gas Production in the Bakken Shale Region of North Dakota*, J. Geophys. Res., May 11, 2016, available at http://onlinelibrary.wiley.com/doi/10.1002/2015JD024631/abstract, last retrieved May 12, 2016; Joshua P. Schwarz, John S. Holloway, Joseph M. Katich, Stuart McKeen, Eric A. Kort, Mackenzie L. Smith, Thomas B. Ryerson, Colm Sweeney, and Jeff Peischl, Black Carbon Emissions from the Bakken Oil and Gas Development Region, *Environmental Science & Technology Letters*, 2015; NE Lauer, JS Harkness, and A Vengosh, *Brine Spills Associated with Unconventional Oil Development in North Dakota,* Environmental Science & Technology, April 27, 2016, available at http://pubs.acs.org/doi/abs/10.1021/acs.est.5b06349, last retrieved May 12, 2016;

With the doubled pipeline capacity of a new Line 3 coming online, individual production projects' break-even points will be lowered, and production volumes will accelerate, even in a continued low oil price market.[85] Production projects in the oil sands region are based on current oil prices and the costs of production, of which transportation costs are a significant portion. Lowering these transportation costs will of course change those investment decisions, leading to more extraction and ultimately more consumption. The federal courts have made clear that NEPA requires an EIS to consider the increased production (and ultimately consumption) that is the direct result of lowered transportation costs for fossil fuels.[86] This increased extraction activity carries a significant environmental footprint, all of which is currently ignored in the L3R DSDD.

The environmental impacts of oil sands extraction and processing have been documented for decades. Primarily, those impacts are: (1) impacts on water quality from waste water releases; (2) water quality impacts from water withdrawal and use; (3) greenhouse gas emissions, (4) air pollutants (including SOx, NOx, volatile organic chemicals such as polycyclic aromatic hydrocarbons, and particulate emissions), (5) tailings disposal, and (6) land disturbances, including habitat fragmentation or destruction.[87]

### 3.3 "Downstream" Impacts of Increased Petroleum Production, Transport and Use.

#### 3.3.1 The EIS Should Examine the Impacts of Increased Bakken and Tar Sands Petroleum Use.

Federal courts have held that increased production from a new transportation corridor is an indirect impact that must be analyzed under MEPA.[88] In one case, a rail company sought to build a new rail line from the coal mines of Wyoming's Powder River Basin to service power plants in Minnesota.[89] At the Eighth Circuit, the Sierra Club argued that the rail line would increase the emissions of various noxious pollutants by increasing access to the low-sulfur coal. The Surface Transportation Board, which prepared the EIS, argued that its new rail line would not affect the demand for coal, but the court found this unlikely, as the stated purpose of the project was to increase availability and decrease the price of Powder River Basin coal. The rail company also argued that any such impact was too speculative to be determined, but the court also dismissed this argument. It held that increased use and access to low-sulfur coal fall under "indirect effects" that must

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[85] Ex. 6 at ES-12 (Keystone XL SEIS Executive Summary) (noting that increased pipeline capacity will increase oil sands production in a low oil price market).

[86] *Mid States Coalition for Progress*, 345 F.3d at 549 ("But the proposition that the demand for coal will be unaffected by an increase in availability and a decrease in price, which is the stated goal of the project, is illogical at best. The increased availability of inexpensive coal will at the very least make coal a more attractive option to future entrants into the utilities market when compared with other potential fuel sources, such as nuclear power, solar power, or natural gas").

[87] Council of Canadian Academies, *Technological Prospects for Reducing the Environmental Footprint of Canadian Oil Sands: Executive Summary*, 2015, available at http://www.scienceadvice.ca/uploads/ENG/AssessmentsPublicationsNewsReleases/OilSands/OilSandsExecSummEn.pdf, last retrieved May 12, 2016; A Parajulee and F Wania, *Evaluating officially reported polycyclic aromatic hydrocarbon emissions in the Athabasca oil sands region with a multimedia fate model,* March 4, 2014, PNAS 111: 3344-3349.

[88] MEPA is modeled on the National Environmental Policy Act, and Minnesota state courts often turn to federal courts for guidance on interpreting MEPA. *See, e.g., Minnesota Center for Environmental Advocacy v. Minnesota Pollution Control Agency*, 644 N.W.2d 457, 468 n.10 (Minn. 2002) (noting that NEPA is similar to MEPA in their primary procedural requirements, and that "therefore looking to federal case law is appropriate and helpful in this case.").

[89] *Mid States Coalition for Progress*, 345 F.3d at 520.

be analyzed under NEPA. Even if the *extent* of the impact is uncertain, the *nature* of the impact is not, and therefore it must analyzed with as much detail as possible.[90]

Similarly, in this case, the EIS must include the indirect impacts of increased usage of crude oil from both the Bakken associated with Sandpiper, and the tar sands, associated with Line 3. While it is may be difficult if not impossible to predict the precise uses of the crude oil shipped via the proposed Sandpiper and Line 3 pipelines, it is possible to make rough estimates. MEPA requires such calculations even where there is some uncertainty.[91] For instance, the EPA has determined that carbon dioxide emissions per barrel of crude oil may be analyzed using a formula of "heat content times the carbon coefficient times the fraction oxidized times the ratio of the molecular weight of carbon dioxide to that of carbon (44/12)."[92] Using this formula, the EPA calculated that the average carbon emissions per barrel of crude oil in the U.S. is 0.43 metric tons $CO_2$. The EIS could likely provide a more refined analysis specific to Bakken and tar sands crude oils. Similar calculations could also be performed for other pollutants from refining crude oil.

#### 3.3.2 The EIS Should Examine the "Downstream" Impact of Increased Impacts of Increased Crude Oil Transport.

Increasing the volume of oil shipped into Superior, Wisconsin will increase the volume of oil shipped out of Superior, Wisconsin to other refineries, especially in the Chicago area and lower Midwest. In the now-defunct Certificate of Need proceedings for the Sandpiper Pipeline, Marathon Petroleum made no secret of the fact that Superior, Wisconsin was not the final destination for the Bakken crude to be shipped on the Sandpiper. The same is certainly true for the oil on Line 3, as the refining capacity in Superior, Wisconsin is already greatly exceeded by the volume of oil coming in. All of that oil will need to be shipped elsewhere, either by pipeline, train or truck.

As a result of increased volume of oil arriving in Superior, the following indirect impacts may occur:

- New pipelines may need to be built;
- Existing pipelines may need to be expanded;
- Additional oil may be shipped on aging pipelines, resulting in increased pressure;
- Additional oil may be shipped on aging pipelines, resulting in prolonged life for those pipelines and increased risk of spill;
- Increased rail or truck traffic carrying crude oil out of Superior, Wisconsin.

There may be other indirect impacts that we have not identified here. All of these impacts are "indirect" impacts under MEPA, and must be analyzed.

When analyzing these impacts, NDPC's preferred route must be compared with similar indirect impacts of the system alternatives. SA-04 and SA-05 were proposed by FOH in part because those proposed alternatives terminate closer to the refineries that are the final destination for the oil, at least in the case of Sandpiper.

In addition, when analyzing Line 3, the EIS should compare the indirect impacts to the "no-action alternative" of not replacing Line 3. If the oil currently shipped on Line 3 is no longer shipped to Superior,

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[90] *Id.* at 549-550.
[91] Minn. R. 4410.2500.
[92] U.S. EPA, *GHG Equivalencies Calculator – Calculations and References*, https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references, last accessed May 24, 2016.

Wisconsin, then the indirect impacts may include retirement of existing pipelines out of Superior, WI; less utilization of existing pipelines out of Superior, WI; less rail or truck traffic out of Superior; etc. The impact of replacing Line 3 is to avoid those potentially advantageous outcomes.

### 3.4 Environmental Impacts of Pipeline Construction

3.4.1 The EIS must analyze the construction and permanent "footprints" of the two projects on the differing landscapes crossed by the proposed pipelines and not rely on Enbridge's estimates and descriptions

Construction of pipelines has both temporary and permanent impacts. Permanent impacts are caused by removal of, for example, forest vegetation over the permanent right of way for the project life. This in turn causes other impacts, including impacts to wildlife or of increased runoff. Another important potential permanent or long-term impact is from topsoil mixing over the trench or on side-hill cuts needed to construct the 50-60 foot wide flat work area needed for pipe installation. This results in, for example, increased erosion on hillsides, sediment reaching streams, and invasion of exotic species of plants. Other long term impacts include forest removal on hilly terrain outside of the permanent right-of-way that is needed for spoil storage and ROW needs during construction.

In addition, even temporary impacts must be accurately characterized in the EIS to assess impacts. The temporary area needed for pipeline construction in hilly terrain is much wider than that needed in flat terrain. Normally, the affected area in flat terrain can be limited to a 100-120 foot width for one pipeline. On hilly terrain, the temporary ROW can be as much as 350-400 feet in width, requirement extensive forest clearing in forested areas.

The EIS should independently analyze:

- The temporary and permanent size of the construction zone needs--the "footprint"--on flat terrain vs. hilly terrain.
- The geographic extent of topsoil mixing and over the trench and on side-hill cuts and on temporary and permanent access roads for these scenarios: 1) the Applicant's proposal to only separate topsoil in agricultural areas and leave the rest up to landowner desires; 2) the geographic extent of topsoil mixing if the Applicant's permit--if eventually given--requires topsoil separation on all locations over the trench and where there are side-hill cuts deeper than the topsoil (where topsoil is potentially lost by burial in parent material).
- The impacts of topsoil loss to burial in substrate based on the estimates of geographic extent cited above.
- The increases in ROW width due to topsoil separation in hilly terrain vs. flat terrain.
- The pros and cons of constructing the two pipelines at the same time, should they eventually be permitted.
- The pros and cons of winter construction on wetlands and uplands, including the difficulties in topsoil separation and replacement on frozen ground.
- The specific extent of land clearing and pipeline separation from existing pipelines and other linear facilities, and the extent to which the two new pipelines will or will not be able to maintain the 25 foot separation proposed by the Applicant. This will provide a more objective and accurate indication of the width of the expanded pipeline corridor. Such information is crucial to the analysis

of other impacts such as to wildlife and the cumulative impacts of adding pipelines. It is also crucially needed to determine whether the Applicant's portrayal of following existing corridors is accurate or reasonable. Due to many obstacles as additional pipelines have been added to the existing pipeline corridors, locating the new pipeline 25 feet from an existing pipeline is often not possible. Sometimes the new pipelines must cross over to the other side of the existing pipelines, or they must deviate from the existing pipeline corridor. The result is a much different actual on-the-ground impact than that indicated by the Applicant's limited environmental assessment.

### 3.5 Wetland Impacts

When analyzing the potential impacts of the project, the Commission should consider the purpose of the Wetland Conservation Act, which is to:

A. achieve no net loss in the quantity, quality, and biological diversity of Minnesota's existing wetlands;
B. increase the quantity, quality, and biological diversity of Minnesota's wetlands by restoring or enhancing diminished or drained wetlands;
C. avoid direct or indirect impacts from activities that destroy or diminish the quantity, quality, and biological diversity of wetlands; and
D. replace wetland values where avoidance of activity is not feasible and prudent.[93]

Under Minnesota law, the project must be designed to prevent or avoid impacts on wetlands.

#### 3.5.1 Impacts to Wetlands Due to Construction

Impacts to wetlands from construction are described as temporary, but the EIS should analyze whether that is the case. It is not enough to simply assume that because the soil is replaced, the wetland will be restored. It seems unlikely that sensitive wetlands can maintain their integrity when they are excavated, a pipeline put underneath, and then the materials put back. Previous pipeline projects through wetlands make this clear – once the construction is completed, the wetland has been permanently altered. Potential impacts to wetlands from construction include, but are not limited to:

- Some types of wetlands take decades or even centuries to form and cannot tolerate this type of treatment.
- Disturbance or destruction of wetlands is likely to present the opportunity for introduction of invasive plants, or loss of native plants.
- Disturbance is likely to change drainage patterns, which could cause wetlands to become drier or wetter. This could also have an indirect impact on nearby wetlands.
- Permanent impacts from spills of oil, gas, drilling fluid or other materials used during construction.

[93] Minn. R. 8420.0100, subp. 1.

#### 3.5.2 The EIS Should Clarify Actual Impacts to Wetlands

Constructing the pipeline clearly would result in permanent impacts to wetlands, yet the EAW misleadingly claims that "only 1.0 acres would be permanently filled wetlands." Sandpiper EAW, p. 90. Table 7-1 on p. 31 of the Sandpiper EAW similarly suggests that all wetland cover except for one acre will be maintained after construction. While only one acre may be permanently filled, there is no doubt that the other 958.2 acres will be altered, in many cases to be unrecognizable; a different type of wetland or even no longer wetlands at all. The EAW currently reads to suggest as if none of these wetlands will be permanently affected, let alone lost. The analysis should be refined to determine which acres will be permanently affected, and how.

#### 3.5.3 The EIS Must Analyze the Effects of Oil Releases in Wetlands Including the Effects of Bitumen

The EIS must analyze the effects of an oil release on wetlands, including especially sensitive, high-value wetlands, and assess whether bitumen can ever be cleaned up from such wetlands. It must also analyze the destructive effects of the bitumen clean-up processes themselves. It should assess the long term consequences and costs of both the spill and clean-up efforts and the time frame for when such wetlands will return to their current condition, whether it be 10 years or 500 or more years. Examples of such wetlands are those in the LaSalle Creek/LaSalle Lake area, along the Mississippi River, and the Upper Rice Lake area.

### 3.6 Impacts on Aquatic Life, Including Habitat Loss

In addition to permanent changes to wetlands, pipeline construction may also cause permanent changes to habitat for aquatic plants and animals. Although potential impacts on fish and other aquatic life beyond the pipeline boundaries are addressed briefly in the EAWs under cumulative impacts, these are also direct impacts of the proposed pipelines.

### 3.7 Environmental Impacts of Surface Uses

#### 3.7.1 The Proposed Consideration of the Impacts of Access Roads Necessary for Construction and Maintenance is Unreasonably Narrow

Although the DSDDs for both projects include access roads in their descriptions of the project, neither document gives any indication that the EIS will specifically include the environmental impacts of those roads. The new roads attract a variety of third party uses, including ATVs, motorbikes and snowmobiles, regardless of whether those uses are permitted by Enbridge or the state. The environmental impact of those uses are currently unaccounted for in the proposed scope of the EIS, which would therefore exclude consideration of impacts such as habitat fragmentation, soil erosion and compaction, poor air quality, aesthetic impairments, invasive species, turbidity impacts on designated trout streams and excessive noise. These impacts may be heightened by the intensity of the surface uses, which should therefore be analyzed in the EIS.

#### 3.7.2 The Proposed Consideration of the Impacts of the Cleared Right of Way is Unreasonably Narrow

A cleared right of way produced by a pipeline project attracts a variety of third party uses, including ATV use and snowmobile use. These uses cause direct environmental impacts through soil compaction and erosion, and also pose a risk of interference with the pipeline itself, including the risk of rupture. This is particularly

acute where surface uses have the potential to erode soil cover above the pipeline, compromising the structural integrity of the pipeline itself. The EIS should consider the probability and intensity of such surface uses and evaluate the environmental impact of the increased surface activity resulting from the pipeline construction. These impacts include habitat fragmentation, soil erosion and compaction, poor air quality, aesthetic impairments, excessive noise, turbidity impacts on designated trout streams and the risk of compromised pipeline integrity or rupture.

#### 3.7.3 The EIS Must Consider Impacts Resulting from Surface Clearance for the Impressed Current Cathodic Protection System

The proposed Sandpiper Project requires the construction of an impressed current cathodic protection system, which involves a 20-30 foot wide construction workspace 600 feet perpendicular to the pipeline.[94] The surface of this workspace must be routinely cleared of all woody plants. As noted in the sections above, these cleared areas attract a variety of third party uses, and the environmental impact of those uses must be evaluated in the EIS.

### 3.8 Potential for Failure of Mitigation Measures

#### 3.8.1 Impacts Resulting from the Failure of Mainline Shutoff Valves

The Sandpiper Project and the L3R Project both propose to install mainline shutoff valves (21 for Sandpiper and 22 for L3R) that can be remotely controlled from the NDPC Control Center.[95] Although the DSDDs for the two projects both propose to include oil spill modeling in the EIS, neither document identifies any analysis of the potential impacts of failures in the mainline intelligent valve control system, despite the fact that federal data indicate equipment failures cause 32% of pipeline spills.[96] These impacts could be the result of faulty valve operation or failures in the communication system between the valve and NDPC's Control Center (such as by interference from solar magnetic storms),[97] either of which would potentially increase potential oil releases by an order of magnitude in the event of a rupture. The EIS must also indicate the significant limitations of mainline valve shutoff systems in an oil spill event, particularly that a rupture would typically allow the release of the entire volume of petroleum in the affected segment. Valve shutoffs have the potential to prevent further releases from the pipeline, but the EIS must clarify the minimum and maximum quantities that would be released in a rupture event, even assuming optimal mainline valve operation as well as mainline valve failure.

#### 3.8.2 Impacts Caused by Corrosion Resulting from Failure or Inadequacy of the Cathodic Protection System

Cathodic protection is designed to protect the pipeline from the corrosive effects electrical currents induced in the pipeline by the earth's magnetic field or by stray AC or DC voltage interference. By directing the current to an anode, the cathodic protection system is intended to direct the corrosive effects to structures external to the pipeline itself, therefore protecting the pipeline integrity. The effectiveness of these cathodic

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[94] SPP EAW at 27.
[95] SPP EAW at 12; L3R EAW at 25.
[96] Ex. 9 at 11 (Keystone XL SEIS Attachment K)
[97] *See* U.S. Dep't of Homeland Security, Industrial Control Systems Cyber Emergency Response Team, *Solar Magnetic Storm Impact on Control Systems*, March 26, 2011, available at https://ics-cert.us-cert.gov/advisories/ICSA-11-084-01, last accessed May 23, 2016.

protection systems must be evaluated in the EIS, including the probability and impacts of pipeline corrosion resulting from cathodic protection system failure. In 2012, for instance, a portion of TransCanada's newly built Keystone pipeline was discovered to be severely corroded, despite the presence of the same impressed current ground bed cathodic protection system proposed for the Sandpiper and L3R Projects.[98] The report investigating that incident found that "highly accelerated rates of corrosion on buried pipelines" can be caused by microbial activity, stray direct current interference, and stray alternating current interference.[99] The report notes that one source of AC current interference is induced current caused by electromagnetic interference in collocated right of ways.[100] Possible sources of this interference include existing pipelines collocated in the right of way (particularly "foreign" cathodic protection systems) and high voltage transmission lines in close proximity to the pipeline.[101] High voltage transmission lines in particular have been studied as a likely source of pipeline corrosion, with one recent study concluding that "on pipelines suffering from A.C. interference traditional pipe-to-soil potential measurements do not guarantee efficient cathodic protection against corrosion."[102] The incidences of pipeline corrosion investigated by the report "rais[ed] the possibility that the Cathodic Protection in some areas was inadequate and/or interference conditions were rendering the CP system ineffective and likely accelerating corrosion."[103] The DSDDs for the Sandpiper and L3R Projects give no indication that the environmental impacts of such corrosive activity will be analyzed, and is accordingly inadequate.

### 3.9 Phased and Connected Actions

#### 3.9.1 The Line 3 and Sandpiper Pipeline EIS Should Also Cover Transmission Lines and Similar Related Actions.

The EIS should cover all related actions, including transmission lines. Confusingly, the notice for the Environmental Assessment of the Bull Moose Transmission Line Project and Clearbrook West Transmission Line Project have been noticed separately from the pipeline EISs, despite the fact that the transmission lines serve the applicant's proposed route for Sandpiper and Line 3.[104]

The Commission is legally obligated to include all "phased and connected actions" in the EIS.[105] These phased and connected actions include new transmission lines necessary for the operation of the pipelines, all "associated facilities" mentioned in the EAWs, and any other related projects not yet defined that are in the same geographic area and are necessary to the operation of the pipelines.

Also, all phased and connected actions must be identified at the time of the Draft EIS. Analysis of these actions may not be put off until a later date. The EAW states that there may be additional transmission lines required that are not yet specified. Any additional transmission lines must be identified and the impacts analyzed as part of the Draft EIS.

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[98] *See* Ex. 13 at 4 (Transcanada Keystone Corrosion Root Cause Report)
[99] *Id.* at 9.
[100] *Id.* at 11.
[101] *Id.* at 32; Ex. 14 at 6 (AC Transmission Line and Corrosion Study).
[102] Ex. 14 at 6 (AC Transmission Line and Corrosion Study)
[103] Ex. 13 at 31 (Transcanada Keystone Corrosion Root Cause Report).
[104] Ex. 15 (screen shot taken 5/9/2016).
[105] Minn. R. 4410.2000, subp. 4.

Even if the Commission were not legally obligated to include associated facilities and transmission lines, the Commission has the discretion to include these actions under the EIS as "related actions."[106] Putting these connected actions such as the transmission lines on separate tracks creates the appearance of bias because it looks as if the agency is proceeding with the applicant's preferred route by approving facilities that are only required to support the applicants preferred route. This was the problem that arose when the Bull Moose and Clearbrook West Transmission lines were noticed simultaneously - but separately - from the Sandpiper and Line 3 EISs. There is no reason to approve the Bull Moose or Clearbrook West Transmission lines if NDPC's proposed pipelines do not proceed in NDPC's preferred location. Thus there is no reason to keep them on a separate track for environmental review. It creates the perception that the Commission intends to approve NDPC's proposed route, illegally presupposing the outcome of the EIS.

### 3.10 Cumulative Impacts

Minn. R. 4410.2300(H) states that an EIS shall include a discussion of potentially significant cumulative effects, which are defined by rule as

> the impact on the environment that results from incremental effects of the project in addition to other past, present, and reasonably foreseeable future projects regardless of what person undertakes the other projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.[107]

The Draft Scoping Decision Documents for the Sandpiper and L3R Projects identify a few cumulative impacts that will be discussed in the EIS, including cumulative impacts of collocating two pipelines in one right of way and the impacts of high-voltage transmission lines and substations needed to serve pipeline pump stations.[108] Aside from those two impacts, the DSDDs articulate a 'cumulative impact methodology' intended to identify existing or proposed projects that may interact with the Sandpiper or L3R Projects. One such project that is not identified in the scoping documents is Minnesota Pipe Line Company, LLC's Reliability Project for Line 4,[109] which proposes to install pump stations and other upgrades to an existing pipeline that receives crude oil from Enbridge's facilities in Clearbrook, MN.

A particularly notable omission from the draft scoping documents is any mention of the cumulative impacts of climate change. The pipelines proposed by the applicant have a projected lifespan measured in many decades, and within that time climate change will cause numerous, wholesale change upon the landscapes of Minnesota. Warmer temperatures and changes in precipitation patterns will reduce the extent of wetlands in our state, further exacerbating any wetlands impact caused by the proposed pipelines. Climate change may also affect river flows or soil cover through increased evapotranspiration or extreme precipitation events, respectively, which could in turn affect the appropriate burial depth for the pipeline in order to mitigate potential oil spills. Minnesota is especially vulnerable to increases in extreme weather events that have the potential to quickly scour soil cover protecting the pipeline from interference by surface uses.[110] The FSDD

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[106] Minn. R. 4410.2000, subp. 5.
[107] Minn. R. 4410.0200, subp. 11.
[108] SPP DSDD at 29.
[109] Docket No. PL-5/CN-14-320, *ORDER GRANTING CERTIFICATE OF NEED*, August 31, 2015.
[110] Pryor, S. C., D. Scavia, C. Downer, M. Gaden, L. Iverson, R. Nordstrom, J. Patz, and G. P. Robertson, 2014: Ch. 18: Midwest. Climate Change Impacts in the United States: The Third National Climate Assessment, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 418-440; Saunders, S., Findlay, D., Easley, T., Spencer, T. (2012). Doubled Trouble: More

should clarify that the EIS will discuss these cumulative impacts in addition to those identified by the DSDD and the implementation of the DSDD's cumulative impact methodology.

### 3.11 Climate Change Impacts

Climate change impacts must be incorporated into the EISs for the proposed projects. Guidance from the Council on Environmental Quality states that "[c]limate change is a fundamental environmental issue, and the relation of Federal actions to it falls squarely within NEPA's focus."[111] Because the procedural requirements of MEPA hew so closely to those of its federal counterpart, any state-only EIS must also incorporate a full analysis of climate change impacts in an EIS.[112] The CEQ guidance further states that when addressing climate change, agencies should consider both "(1) the potential effects of a proposed action on climate change as indicated by its GHG emissions; and(2) the implications of climate change for the environmental effects of a proposed action."[113] As such, the EIS should quantify the greenhouse gas emissions that would result both directly and indirectly from the Sandpiper and L3R proposals and investigate how these emissions would affect the climate system.

Pursuant to the guidance, the acting agency should use "projected GHG emissions and when appropriate, potential changes in carbon sequestration and storage as the proxy" for potential climate change impacts.[114] The EIS must quantify the greenhouse gas emissions that would be produced during construction of the pipeline facilities. These include direct emissions such as construction vehicle and machine usage, and open burn land clearing as well as indirect emissions from electricity use. Additionally, CEQ's definition for emissions includes the "release of stored GHGs as a result of destruction of natural GHG sinks…as well as future sequestration capability."[115] Thus the EIS must quantify the loss of current and future carbon sequestration and storage from the clearing and destruction of forested areas and wetlands that would occur during construction of the Sandpiper and L3R projects.

As noted by the CEQ Guidance, per 40 CFR §§ 1508.7, 1508.8, agencies must consider cumulative (incremental), direct, and indirect effects when analyzing proposed actions.[116] The guidance clarifies that acting agencies should account for "emissions from activities that have a reasonably close causal relationship to the Federal action" including emissions predicate to the agency action (upstream emissions) and emissions that occur as consequence of the agency action (downstream emissions).[117] Emissions from the operation of facilities built for the two proposals should also be quantified. Additionally, as previously mentioned, Dr. Gunton's report found that the Sandpiper and L3R pipelines will increase the pace of extraction in the Williston Basin by decreasing transportation costs for producers.[118] This increase in extraction and production will produce further causally related downstream emissions that the EIS must quantify.

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Midwestern Extreme Storms. The Rocky Mountain Climate Organization and the Natural Resources Defense Council.

[111] Ex. 21 (Council on Environmental Quality, *NEPA Revised Draft GFG Guidance*, 2 (Dec. 2014)).

[112] *See supra* note 80.

[113] *Id.* at 3.

[114] *Id.* at 8.

[115] *Id.* at 1, 8.

[116] *Id.* at 10; 40 CFR §§ 1508.7, 40 CFR §§ 1508.8.

[117] *Id.* at 11*; see also* 40 CFR § 1508.8.

[118] Ex. 1 at 8 (Expert Report of Dr. Gunton).

The guidance also acknowledges that climate change "can increase the vulnerability of a resource, ecosystem, human community, or structure, which would then be more susceptible to climate change and other effects and result in a proposed action's effects being more environmentally damaging."[119] This makes the consideration of both climate change adaptation[120] and resilience[121] especially critical when coupled with the considerations of environments already vulnerable to the specific effects of climate change.[122] In addition to the previously mentioned impacts on wetlands the EIS must analyze, the EIS should analyze how climate change may directly affect wetlands and other vulnerable ecosystems or exacerbate other impacts resulting from the Sandpiper and L3R proposals. Such effects should be incorporated into the oil spill modeling results, so that the interaction between climate change and spill impacts may be more fully understood. Similarly, the EIS should incorporate the effects of climate change into its analysis of the Proposal's impact on aquatic life.

## SECTION 4: EIS FORMAT AND APPROACH

### 4.1 Cooperation With the Army Corps of Engineers

State law requires agencies to cooperate for the purposes of environmental review as much as possible. Under MEPA, the Commission "shall, to the extent practicable, avoid duplication and ensure coordination between state and federal environmental review and between environmental review and environmental permitting."[123] State agencies "shall…seek to strengthen relationships between state, regional, local and federal-state environmental planning, development and management programs."[124]

In this case, it appears that the Army Corps of Engineers will conduct environmental review as well, but NDPC has asked Army Corps to refrain from notifying the public at this time. The applicant should not be permitted to limit cooperation between state and federal agencies merely by requesting a delay in the federal agency's processes. For all their concern about efficiency and timing, NDPC appears to be actively preventing cooperation between state and federal agencies that would "avoid duplication and ensure coordination." Moreover, assuming that the Department and the Commission will be conducting additional pipeline EISs that also fall under Army Corps jurisdiction in the future, this would also appear to be a prime opportunity to "strengthen relationships" between state and federal agencies with overlapping jurisdiction. The Draft EIS should be performed in conjunction with the Army Corps of Engineers' review under NEPA, or it should explain why such cooperation is not practicable.

### 4.2 Combining Sandpiper and L3R into a Single EIS

There should be a single EIS completed for the Sandpiper pipeline, Line 3, and all related actions, including associated facilities and transmission lines. It is not clear why the Department chose to scope Line 3 and Sandpiper separately, especially since the documents are duplicative, but there should not be a separate EIS for each project.

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[119] Ex. 21 at 22 (CEQ *NEPA Revised Draft GFG Guidance*).
[120] *Id.* at 23 n.52.
[121] *Id.* at 23 n.53.
[122] *Id.* at 24.
[123] Minn. Stat. § 116D.04, subp. 2a(d).
[124] Minn. Stat. § 116D.03.

First, the Commission ordered an EIS that covers both Line 3 and Sandpiper, not two separate EISs. In its order in the Line 3 docket, the Commission authorized the Department to "prepare a combined EIS to address issues related to both dockets in accordance with Minn. Stat. ch. 116D and Minn. R. ch 4410." The Commission further clarified that it was authorizing a "combined environmental review of the need and routing dockets that considers the cumulative impact of the Sandpiper Pipeline Project and the Line 3 Project."[125] Thus, the most natural reading of the Commission's order is that the Department complete a single EIS for both projects, not two EISs.

Second, MEPA requires that the EIS for each project address the other project as a "phased and connected action."[126] "Multiple projects and multiple stages of a single project that are connected actions or phased actions must be considered in total when determining the need for an EIS and in preparing the EIS."[127] A "phased action" is defined as "two or more projects to be undertaken by the same proposer that a RGU determines…will have the same environmental effects on the same geographic area; and are substantially certain to be undertaken sequentially over a limited period of time."[128] Two projects are "connected actions" if "one project would directly induce the other; one project is a prerequisite for the other and the prerequisite project is not justified by itself; or neither project is justified by itself."[129] The proposed Sandpiper Pipeline and Line 3 are certainly phased actions. The record is not sufficiently developed to determine whether they are connected actions. In any event, in preparing the EIS, they should be treated as a single project under MEPA.

Third, a single EIS will avoid confusion and unnecessary burden on the public. When the public is asked to comment on two draft EISs for two pipelines proposed for a single corridor, it should be permitted to submit a single comment for both pipelines. The public should not be asked to comment separately on two pipelines as part of two different EISs.

Fourth, a single EIS will reduce the burden on the Department. If Sandpiper and Line 3 EISs are prepared separately, each EIS will need to address the other pipeline entirely.[130] MEPA requires that any project be analyzed in conjunction with other reasonably foreseeable actions.[131] If each pipeline is analyzed separately, the EISs will still significantly overlap due to this requirement. It would be much more efficient simply to analyze them in a single document. Moreover, the Department will find itself responsible for sorting out which public comments should be applied to Sandpiper and which ones apply to Line 3. This process would

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[125] Order Joining Need and Routing Dockets, *In the matter of the Application of Enbridge Energy, Limited Partnership for a Certificate of Need for the Line 3 Replacement Project in Minnesota from the North Dakota Border to the Wisconsin Border*, Docket No. PL-9/CN-14-916; *In the matter of the Application of Enbridge Energy, Limited Partnership for a Routing Permit for the Line 3 Replacement Project in Minnesota from the North Dakota Border to the Wisconsin Border*, Docket No. PL-9/PPL-15-137, at 3.
[126] Minn. R. 4410.2000, subp. 4.
[127] *Id.*
[128] Minn. R. 4410.0200, subp. 60.
[129] Minn. R. 4410.0200, subp. 9c.
[130] Minn. R. 4410.2300(H) ("there shall be a thorough but succinct discussion of potentially significant adverse or beneficial effects generated, be they direct, indirect, or cumulative."); Minn. R. 4410.2000, subp. 4 (connected actions and phased actions); Minn. R. 4410.0200, subp. 9c (defining "connected actions"); Minn. R. 4410.0200, subp. 60 (defining "phased action"); Minn. R. 4410.0200, subp. 11 (defining "cumulative impact").
[131] *Id.*

be both burdensome and fraught, as any comments incorrectly assigned (and therefore not addressed as the commenter intended) could form the basis for legal challenge.

Fifth, even if the Commission disagrees that it is required by law to order a single EIS, it has the discretion to do so, and it should exercise its discretion. An RGU may order a "related action EIS" – a "single EIS for independent projects with potential cumulative environmental impacts on the same geographic area if the RGU determines that review can be accomplished in a more effective or efficient manner through a related actions EIS."[132] Such an approach is certainly warranted here for the above-stated reasons.

### 4.3 Conducting a Tiered EIS

Where an agency must make consecutive decisions on a project, MEPA regulations permit an agency to conduct a tiered EIS:

> An RGU may use a series of tiered EISs to fulfill environmental review requirements for an action where decisions on which alternative to select must be made in stages, progressing from the general to the specific. Prior to each decision which would eliminate from further consideration any alternatives under consideration, a tiered EIS must be completed which addresses the issues and alternatives relevant to the decisions to be made in that tier, at a level of detail appropriate to that tier. The level of detail in earlier tiers need not be as great as that in later tiers, provided that it is sufficient to reasonably inform decision makers of the significant environmental, economic, employment, and sociological impacts of the choices made in that tier.[133]

A tiered EIS allows an agency to conduct an EIS on a limited number of alternatives relevant to a particular decision, then conduct a second process, more narrow, to a subsequent decision. The second stage may be "tiered" to the first stage, such that any analysis of environmental impacts conducted in the first stage need not be duplicated.[134]

In this case, the first tier could address system alternatives - I.e., the location of the pipeline - and the second stage could address routing concerns. At the conclusion of the first tier, the Commission would make a determination on the preferred system alternative based on the criteria in MEPA. At the conclusion of the second tier, the commission would make a determination on the best route alternative(s) based on the criteria within MEPA.

This structure would avoid a host of potential issues. First, it would avoid the problem where the EIS analyzes 54 potential route alternatives for the applicant's preferred system alternative, but no route alternatives for other system alternatives. Not only would this be a lot of wasted work if the applicant's preferred route is not selected, it creates the appearance of bias because the agency has worked to refine the applicant's preferred alternative but not the other system alternatives.

Second, it avoids confusion to the public. Already this is expected to be a large EIS; encouraging public comment on particular alternatives at different stages will focus public comment and increase the quality of public participation. It allows the public to digest the proposal in smaller pieces.

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[132] Minn. R. 4410.2000, subp. 5.
[133] Minn. R. 4410.4000.
[134] *Id.* ("A tiered EIS may incorporate by reference material developed in an earlier tier.").

Third, it fulfills the mandate of the Court of Appeals. The Court of Appeals was concerned, at least in part, about timing. MEPA specifically prohibits state agencies from granting permits or other approvals prior to completion of the EIS. Conducting the first tier of the EIS on system alternatives, then the certificate of need proceedings, complies with the timing requirements of the Court and is consistent with the provision permitted "tiered" EISs.[135]

Finally, it is permissible under MEPA at the scoping stage. The RGU may change the form of an EIS "if circumstances indicate the need or appropriateness of an alternative form."[136]

Although this model seems ideally suited for the situation at hand, there are few, if any, examples of tiered EISs in Minnesota. FOH and MCEA suggest that if the Commission chooses this option, it should allow an additional comment period to allow the public and agencies assist in determining how to split up issues between the tiers.

### 4.4 Cardno/Entrix as Contractor

FOH and MCEA understand that the Department has hired Cardno/Entrix as its consultant for the EIS. Cardno Entrix has a direct conflict because it has worked for Enbridge Energy. Moreover, Cardno has a public record of preparing EISs for pipelines that underestimate environmental impacts.

While agencies are empowered to hire consultants to assist with preparation of an EAW or EIS under MEPA, any consultants hired should be independent and neutral. The primary purpose of MEPA is to provide usable information to the project proposer, governmental decision makers and the public concerning the primary environmental effects of a proposed project.[137] An EIS cannot serve that purpose if it is not prepared by an objective party.

Additionally, this Public Utilities Commission is responsible under MEPA for "verifying the accuracy of environmental documents."[138] The Commission has made its own job much harder if it intends to rely on a contractor who has a conflict of interest.

Cardno Entrix has a history of working for government agencies while concealing a conflict of interest. Even worse, Cardno has a history of preparing documents that reveal its conflict of interest by failing to adequately evaluate the risks of the project. In 2010, Cardno Entrix was hired to prepare the EIS for the proposed Keystone XL pipeline. Notably, Cardno was hired at TransCanada's recommendation.[139] The EIS was prepared and it appeared, as President Obama began his first term, that the pipeline was on the brink of approval:

> Then the real bomb dropped: Cardno Entrix, the Houston (Tex.) company [the] State [Department] had contracted with to complete an environmental impact statement on Keystone—the substance of the evaluation Obama referred to—turned out to be a preexisting client of TransCanada and, as such, appeared to have a blatant conflict of interest. After several members of Congress requested a

[135] Minn. R. 4410.
[136] Minn. R. 4410.2100, subp. 7.
[137] Minn. R. 4410.0300, subp. 3.
[138] Minn. R. 4410.0400, subp. 1.
[139] "Pipeline Review Is Faced with Question of Conflict," *New York Times*, Oct. 7, 2011, available at http://www.nytimes.com/2011/10/08/science/earth/08pipeline.html?_r=0, last accessed May 24, 2016.

> review of the process, the inspector general was brought in to investigate and to establish new conflict of interest guidelines.[140]

Although the inspector general ultimately concluded that Cardno was not unduly influenced by its association with TransCanada, the State Department hired a new contractor to conduct a supplemental EIS that was considered superior by many.

Ironically, one of the major failings of the Keystone XL Pipeline EIS prepared by Cardno was that it failed to address the potential impacts of a spill of diluted bitumen, the particular crude oil being shipped from Canada on the pipeline.[141] But Cardno was one of the contractors hired to clean up the spill in Kalamazoo, so it should have had unique knowledge of the challenges.

And herein lies the problem for the Sandpiper and Line 3 EIS. Even a quick google search reveals that Cardno Entrix has recently or is currently working for Enbridge on the Kalamazoo River cleanup.[142] FOH has requested documents from Department regarding Cardno Entrix and the search for conflicts that the Department may or may not have undertaken. We have not yet received the requested documents. But as one NEPA expert put it:

> "Cardno Entrix should never have been selected to perform the environmental study on Keystone XL because of its relationship with TransCanada and the potential to garner more work involving the pipeline. The company provides a wide range of services, including assisting in oil spill response."
>
> Cardno Entrix had a "financial interest in the outcome of the project," Mr. Houck said, adding, "Their primary loyalty is getting this project through, in the way the client wants."[143]

In any event, the Commission should be extremely wary of a contractor with a blatant conflict of interest who has already been exposed once for preparing an inadequate EIS in favor of the industry it serves.

## 5.0 SPECIAL STUDIES OR RESEARCH

### 5.1 Socioeconomic and Environmental Impacts on Homeowners From the Use of Eminent Domain and the Construction of Pipelines and Related Facilities on Private Property

When a pipeline is permitted by the Public Utilities Commission, the pipeline company has virtually limitless ability to install the pipeline and associated facilities on private property. Minnesota law states that transporting crude oil via pipeline is "declared to be in the public interest and necessary to the public welfare, and the taking of private property therefore is declared to be for a public use and purpose."[144] The legislature

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[140] "Secrets, Lies, and Missing Data: New Twists in the Keystone XL Pipeline," *Bloomberg Businessweek*, July 12, 2013, available at http://www.bloomberg.com/news/articles/2013-07-11/secrets-lies-and-missing-data-new-twists-in-the-keystone-xl-pipeline, last accessed May 24, 2016.
[141] "Pipeline Review is Faced with Question of Conflict," *supra* note 112.
[142] The project is discussed on Cardno's website at http://www.cardno.com/en-au/Projects/Pages/Projects-Kalamazoo-River-and-Talmadge-Creek-Restoration.aspx, last accessed May 24, 2016.
[143] "Pipeline Review is Faced with Question of Conflict," *supra* note 112.
[144] Minn. Stat. § 117.48.

has further declared that any pipeline company "shall have and enjoy the power of eminent domain to be exercised in accordance with this chapter."[145]

Some of the risks posed by pipelines on private property are different than on public property. The following is a non-exhaustive list of potential impacts on private property:

- Loss of value of land from pipeline easements
- Cumulative loss of value of land from multiple pipeline easements (i.e. multiple pipelines, or pipelines plus transmission lines)
- Impacts on crop production and quality of farm land
- Displacement of buildings, including homes

While NDPC may argue that they are compensating landowners for these impacts, the EIS should investigate whether landowners are adequately compensated. In addition, impacts on farmland production and value have a public as well as a private cost that must be analyzed.

If there are questions about landowner compensation raised by the EIS, the PUC may wish to consider restrictions on the use of eminent domain as well as alternate strategies for compensation of crop damage.

## CONCLUSION

For the foregoing reasons and in accordance with state and federal law, FOH and MCEA respectfully request that the final scoping documents for the Sandpiper Pipeline and the Line 3 Replacement Project incorporate the suggestions contained herein.

[145] *Id.*; *see also* Minn. R. 7852.3200 ("After an applicant is issued a pipeline routing permit…the permittee may exercise the power of eminent domain as provided by Minnesota Statutes, section 117.48.").