

DOC Hearing 8/19/15

Line 3 Replacement – PL-9/CN-14-916 and PL-9/PPL-15-137

Park Rapids, MN

My name is Lowell Schellack and my wife and I live on Hay Creek in Section 9, Arago Township, Hubbard County, Minnesota. The proposed Line 3 replacement crosses Hay Creek 1 mile above our house. Hay Creek is a tributary to the Fish Hook chain of lakes in Hubbard County. The Fish Hook chain of lakes is comprised of four lakes and connecting streams including Island Lake, Eagle Lake, Potato Lake and Fish Hook Lake. All are premier fishing and recreation lakes in Hubbard County. Eleven years ago, my wife and I built a new house on Hay Creek anticipating living near a stream rich with marine life. At the time we built, there were already 3 oil pipelines under Hay Creek and shortly after a fourth line was installed. Enough is enough! We do not need another oil pipeline crossing Hay Creek and Hubbard County. The cumulative effect of the proposed Sandpiper and the Line 3 replacement would be an average flow of 1,035,000 barrels per day. This is in addition to the four lines already in service. Hubbard County already has its share of risk for oil spills to contaminate its precious water resources. Line 3 must not be relocated through Hubbard County. There are safer and more environmentally friendly routes to be considered.

A large part of the Line 3 replacement would be placed in close proximity to high voltage electrical transmission lines. Recent developments have suggested that high voltage electrical transmission line stray voltage has caused premature deep corrosion pits in the Keystone 1 pipeline built in 2009. Before placing more steel pipe close to high voltage electrical transmission lines, an exhaustive study must be done determine the risks associated with steel pipes near such lines. The process is moving too fast and a moratorium on the review of Line 3 is demanded until conclusive studies have been performed.

No studies have been done to determine the economic and social impact of a major spill in the Headwaters of the Mississippi area. At a minimum 28 water crossings have been identified on the route as proposed and many are inaccessible by road. Responding to an identified spill would take an unacceptable amount of time. An Environmental Impact Statement must be done to adequately study the feasibility of the Line 3 replacement project. Recent 2015 spills in California and Canada demonstrate releases continue to happen, in spite of industries claims that pipelines are safe. Time and time again, we are reminded that the benefits of putting oil so close to our precious resources is never worth the risk.

Jamie MacAlister, Environmental Review Manager  
Minnesota Department of Commerce  
85 7<sup>th</sup> Place East, Suite 500  
St. Paul MN 55101

RECEIVED  
SEP 18 2015  
MAILROOM

**Re: Enbridge Line 3 Environmental Analysis (PL-9/CN-14-916 & PL-9/PPL-15-137**

Dear Mr. MacAlister,

Look at all of the positive human impacts of this project. It would be providing quality jobs, careers, and benefits for union members. Not only would it create jobs it would also have a positive impact on local businesses. It would also be good for the environment by reducing the risk of spills. Look at this as an opportunity lost if you were to let this contract go elsewhere.

Trenton Schmitz Trenton Schmitz

NAME

3936 Beard Ave. N. Robbinsdale, MN 55422

ADDRESS

(952) 737-8296 spacecowboy tj @ yahoo.com

PHONE/EMAIL

Please provide your contact information. This information and your comments will be publicly available.

Name:  **Mr. Gerald L. Schultz** Phone: (218) 732-3077  
32928 US 71  
Park Rapids, MN 56470-4598  
Street Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_  
Email: \_\_\_\_\_

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- ①
- What human and environmental impacts should be studied in the environmental analysis?
  - Are there any specific methods to address these impacts that should be studied in the analysis?
  - Are there any routes or route segments that should be considered? (Related to the Route Permit)
  - Are there any alternatives to the project that should be considered? (Related to the Certificate of Need)

① The largest Human impact on Line 3 relocating to an bridges selective route is "Money". The Leech Lake stands to lose a substantial amount and they are trying to in every way to avoid losing it,

As line 3 runs through miles of wetlands it makes it difficult to maintain. Therefore moving it to the new selective route is most needed for the future needs of our country and stabilize price and supply.

I see no alternative route that would be more workable than the one following the Sandstone route through that would destabilize less human impact and environmental disturbance.

As an operating Engineer for 34 years and a former pipe line employee, I feel I am highly qualified for what I have just put in writing. Therefore I highly suggest that line 3 be moved as Enbridge suggest.

Thank you for taking the time to read this - yours truly - Gerald Schultz

Please provide your contact information. This information and your comments will be publicly available.

Name: SCOTT SEATH Phone: 651.274.2544  
Street Address: 1727 HOYT AVENUE EAST  
City: SAINT PAUL State: MN ZIP: 55106  
Email: S.SEATH@COMCAST.NET

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the Route Permit)
- Are there any alternatives to the project that should be considered? (Related to the Certificate of Need)

THE STATE OF MINNESOTA NEEDS TO REPLACE THE  
CRUDE PIPELINE BETWEEN ALBERTA CA AND SUPERIOR WI  
TO ENSURE CONTINUED SAFE TRANSPORT OF PRODUCT.  
THERE IS DEMONSTRABLY NO SAFER WAY TO MOVE NEEDED  
CRUDE TO REFINING FACILITIES AND THE CURRENT PIPELINE THAT  
HAS BEEN IN SERVICE IN THE 1960S NEEDS REPLACEMENT.  
I TRUST THAT THE CORRECT DECISION WILL BE REACHED IN  
THIS MATTER AND THAT WE WILL CONTINUE TO LEAD THE WAY IN  
BOTH SERVING THE NEEDS OF OUR RESIDENTS AND STEWARDING  
OUR NATURAL RESOURCES.

THANK YOU  
*Scott Seath*

**From:** [margaret seibel](#)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** Line 3 pipeline replacement scoping PL-9 CN 14-916 PL-9 PPL-15-137  
**Date:** Tuesday, September 29, 2015 5:44:42 PM

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1)What human and environmental impacts should be studied in the environmental analysis?

So old line 3 is 34 inches in diameter and in between 6 other pipelines and sometimes only 10 feet from those other lines and 32 times other pipelines run under it. Wow! What happens if this thing corrodes when it is abandoned? This is way over my head and I don't even know exactly what it means when it says Enbridge will "Seal the ends of the pipeline segments left in place". Does the word seal mean to cap an end to stop flow? Is a segment the distance between pumping stations and valves or is it the original transportable segment that I'm guessing is around 100 ft in length? I am concerned that the pipeline could drain parts of 46.9 miles of wetlands and 33 permanent waterbodies.

What are the pipeline coatings made of?

I have no idea if the following could happen, but is it possible that an opening could occur, kids could play in it, and crawl far enough and somehow run out of oxygen?

The point is that it is hard for the public to comment on this because it is technically so complex and, yet, the public, and landowners, even more so, will be subject to the consequences. A complete environmental impact statement is needed to address abandonment issues.

And I don't think the new line 3 should run through the headwaters of the Mississippi or wild rice beds.

Thank you.

Margaret K. Seibel  
Vadnais Heights, MN

August 27, 2015  
Park Rapids, MN.

Jamie MacAlster  
MN Dep Commerce  
857 Place East-Ste 500  
St. Paul, MN, 55101-2198

Mr. MacAlaster:

I am writing this letter in order to address the proposal of the line 3 replacement project which is co-located with the proposed Sandpiper. Ref. to PL-9/GN-14-916. Rte. PPL -15-137. Line 3 is the Alberta, Canada, dirty black polluting Tar Sands oil!

I find this <sup>(1)</sup>morally and ethically against environmental justice and the <sup>(2)</sup>proponents of the big oil corporations as well as the Enbridge industry. Even the governor of Alberta is no friend of Enbridge.

I am opposed to a "milk toast" environmental analysis regarding this proposal. Rather a comprehensive human and environmental impact statement (EIS) must be procured.

Line three is a very poor placement that threatens a devastating break resulting in a dangerous leak in this pristine lakes area. A different route need be decided upon along with good responsible research having the MPCA involved. This would give a thorough and proper analysis rather than relying on the special interests of a department of commerce! Jobs don't trump the stewardship of land and precious water!

Sincerely,



Rev. Carole Shelby  
814 Woodland Ave. N.  
Park Rapids, MN. 56470  
218-237-8906

RECEIVED

SEP 10 2015

MAILROOM

<p>In the Matter of the Applications of Enbridge Energy, Limited Partnership for a Certificate of Need and a Pipeline Routing Permit for the Line 3 Pipeline Replacement Project in Minnesota from the North Dakota Border to the Wisconsin Border</p>	<p>PL-9/CN-14-916 – Certificate of Need PL-9/PPL-15-137 – Route Permit</p>
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TO: Jamie MacAlister, Environmental Review Manger  
Minnesota Department of Commerce  
85 7th Place East, Suite 500  
St. Paul, MN 55101

Public Comments – Eileen Shore

Please accept these comments, which are being filed in response to the Department’s August 17, 2015 Notice.

**1. The Department should obey the September 14, 2015 decision handed down by the Minnesota Circuit Court of Appeals.**

The Court has firmly, logically and definitively stated that the process the Department proposes to follow with the public meetings that have been held under this notice, and the public comment period outlined in its August 2015 notice, does not pass legal muster. As the Department and the Commission have heard throughout the administrative process in the Sandpiper Certificate of Need proceeding, this kind of massive project – construction of Sandpiper and Line 3 -- requires an Environmental Impact Statement. MEPA law 101 requires that the cumulative impacts, including a first-ever risk and consequences analysis, be carefully and competently described *and analyzed and seriously considered* by the Public Utilities Commission.

Unless that decision is appealed, and the Supreme Court then reverses the lower court, the Department and the Commission must obey this clear and definitive decision, which is not only good law, but also good public policy.

An EIS on the Sandpiper proposal, in order to be legally adequate, will have to include considering the potential environmental impacts of Line 3; therefore, all efforts related to a CEA in this docket will be, at best, duplicative. Given past experience, it will also result in a document that only a pipeline company could love.

Current Minnesota law does not allow the Department and the Commission to use a Comparative Environmental Analysis (CEA), a “high-level” Environmental Report, or any other document that does not meet the requirements long established for an adequate Environmental Impact Statement.

**2. The Department should stop wasting the state’s money and time and the time and money of its citizens by continuing to force a process that has been rejected by the Court of Appeals.**

The process initiated by the Department is not good public participation; it is not meaningful public participation, even if technically it were legally sufficient.

We have heard individual Commission members express concern about the costs of public participation. And yet, by continuing business as usual, just grinding out another public process for a discredited approach to public involvement, the Department is wasting the state’s money, it is wasting the time of its staff and, most importantly, it is wasting the time of the many members of the public who are concerned about the proliferation of pipelines in Minnesota. Many of these individuals have put a tremendous amount of time and energy into the Sandpiper proceeding. Now, without regard for the new realities, the DOC has forced them to show up at public meetings in the middle of summer and to file comments by September 30, all while trying to fend off Enbridge’s attempt to avoid the consequences of the Court’s ruling in the Sandpiper case.

This procedural morass would be a tremendous challenge to highly paid and luxuriously staffed parties, as, perhaps, Enbridge employees and attorneys can attest. For the general public and for small citizens' groups, it is just about impossible and is, therefore, an abuse of process. Perhaps that is the point.

If there were any justification at all for the Department to initiate this process before the Court spoke on the challenge brought by Friends of the Headwaters in the Court of Appeals, it disappeared on September 14, 2015.

**3. The Department's approach to the Line 3 process, even in the face of the Appeals Court's clear decision, could well end up extending the time that will be taken to complete this process, rather than expediting it, as is the evident intent behind the decision to proceed.**

In the early days of NEPA/MEPA law, company's fought tooth and nail against compliance. Boilerplate in these battles claimed that the environmental requirements were hurting business, introducing unreasonable delays and imposing gigantic costs. Some company's finally realized that their own attacks contributed substantially to delays. The more progressive companies finally reached the conclusion that good faith compliance saved both time and money. The Department's evident resistance to the Court's clear decision may end up doing the same thing here. In a desire to expedite, it may actually lead to delay, not to mention confusion.

**4. The Department's boilerplate language in its notice suggests an improper bias in favor of regulated pipeline companies.**

The laws the agency and Commission are charged with implementing are regulatory requirements; they are not designed to use the state's employees and money to subsidize the economic health of pipeline companies.

On page 3 of the notice, the Department inaccurately describes the reason for the certificate of need docket: "The certificate of need process determines the size, type and timing of the proposed pipeline and whether there is a better alternative for meeting Enbridge's stated need."

In other words, there is no possibility that there could be a finding that a pipeline is **not** needed. Cynics and discouraged citizens have suggested that this process is rigged. The Department's own boilerplate language supports that kind of interpretation and so undermines trust in government in general and this process in particular. This is a very serious perversion of the process and a serious misstatement of law and rule.

According to the Department's template language, the only reason members of the public should comment on the Enbridge proposal is to provide free advice to the company and to the state so that corporate goals, in the form of a new pipeline, can be built. This statement would be almost silly, if it didn't so accurately describe my experience with the Department's activities. As the former member of a public utilities staff, who is proud of my public service, I object. It also provides better proof than any adversarial brief about why the Department and the Commission must follow a process and create an EIS that has been defined and developed over many years by the state and federal courts.

It is not the state's business to facilitate the best approach "for meeting Enbridge's stated need." Unlike the Department's approach, the statute, though rather obscure for pipelines, does not suggest that any part of the process, including public participation, should be devoted to providing free staffing for a wealthy private pipeline company. At least in statute and rule, the public policy/public good goals remain somewhat intact.

The public interest is always the goal of good regulation, and the Department's notices, as well as its practices, must reflect that fact.

**STATE OF MINNESOTA  
PUBLIC UTILITIES COMMISSION**

Beverly Jones Heydinger	Chair
Nancy Lange	Commissioner
Dan Lipschultz	Commissioner
John A. Tuma	Commissioner
Betsy Wergin	Commissioner

<b>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</b>	<b>OAH 11-2500-32764 MPUC PL-9/CN-14-916</b>
<b>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</b>	<b>MPUC PL-9/PPL-15-137</b>

**SCOPING COMMENTS**

The Sierra Club submits the following comments in response to the Minnesota Public Utilities Commission's ("Commission") "Notice of Application Acceptance Public Information and Environmental Analysis Scoping Meetings" ("Scoping Notice"), which notice established a scoping comment period ending on September 30, 2015, in the above captioned dockets. This comment period relates to the Line 3 Replacement Project ("Proposed Project") proposed by Enbridge Energy Partners, LP ("Enbridge"), which project involves construction of a new 36-inch diameter crude oil pipeline through northern Minnesota.

The Scoping Notice identified the following topics for public comment:

1. What human and environmental impacts should be studied in the environmental analysis?
2. Are there any specific methods to address these impacts that should be studied in the environmental analysis?
3. Are there any alternative routes or route segments that should be considered? (Related to the Route Permit)

If proposing an alternative route or route segment, consider the following:

- Does the alternative address an unavoidable impact?
  - Does the alternative offer significant environmental or socioeconomic benefits compared to the Proposed Project?
  - Is the alternative feasible and prudent?
  - Does the alternative meet the described need and purpose for the project?
4. Are there any alternatives to the project that should be considered? (Related to the Certificate of Need)

If proposing an alternative to the project, consider the following:

- Project size – can a smaller or larger sized project better meet the decision criteria?
- Project type – can a different method (for example, existing pipeline, rail, or truck) meet the need?
- Project timing – is the project needed now or in the future?
- Is the alternative feasible and prudent?
- Does the alternative meet the described need and purpose for the project?

The Sierra Club understands that the foregoing list is not meant to be complete or exclusive. Rather, the full scope of the Proposed Project dockets is defined by applicable laws and regulations including but not limited to the Minnesota Environmental Policy Act, Minn. Stat. Ch. 116D (“MEPA”) and its implementing regulation at Minn. R. Ch. 4410; the Minnesota pipeline routing law, Minn. Stat. Ch. 216G and its implementing regulations at Minn. R. Ch. 7852; and the Minnesota certificate of need for large energy facilities law, Minn. Stat. § 216B.243 and its implementing regulations at Minn. R. Ch. 7853. We urge the Commission to develop a broad scope for the Proposed Project in accordance with law.

Rather than provide comments in the order provided by the Scoping Notice, the Sierra Club provides its substantive comments in the following order:

1. Non-route alternatives that the Commission should consider pursuant to Minn. R. 7853.0130.B, under the Commission’s statutory duty to analyze the substantive cost, appropriateness, and reliability of alternatives in its certificate of need hearing;
2. Route alternatives that the Commission should consider pursuant to both its Minn. R. 7853.0130.B duty to evaluate route alternatives related to cost, appropriateness, and reliability, as well as and the review required by Minn. Stat. Ch. 216G and its implementing regulations, related to selection of specific routes; and

3. Identification of environmental impacts of the Proposed Project and alternatives thereto required by MEPA .

Since the Commission has a statutory duty to evaluate the substantive merits of alternatives under both its certificate of need and routing permit hearing processes, which duty is separate from its MEPA-mandated analysis of the environmental merits of alternatives, the Commission's review under MEPA must inform the full scope of the alternatives analysis required by Minn. Stat. § 216B.243 and Minn. Stat. Ch. 216G and their implementing regulations. Therefore, it is appropriate to comment on the scope of the Commission's substantive review first, as the Commission's MEPA review must include the full scope of the Commission's substantive review.

**I. BACKGROUND**

Enbridge has proposed to abandon its existing Line 3 Pipeline and replace it with the Proposed Project, which would be an entirely new pipeline that would also be named "Line 3". The existing Line 3 Pipeline has a diameter of 34 inches, a capacity of approximately 390,000 barrels per day ("bpd"), and runs approximately 1,000-miles from Alberta, Canada, to Superior, Wisconsin, with a length in Minnesota of approximately 282 miles. Enbridge currently uses Line 3 to transport primarily light crude oils, but at prior times in its operational history it has also transported primarily heavy crude oils.

In contrast, the Proposed Project would differ from the existing pipeline in that it would have a length in Minnesota of 337 miles (approximately 20% greater length), a diameter of 36 inches (approximately 12% greater volume per unit length), and a capacity, alleged to be limited to 760,000 bpd (approximately a 95% increase in capacity). It would transport the types of crude oil historically transported by the existing Line 3 Pipeline. Although the Proposed Project could transport both conventional crude oil and crude oil extracted from the Tar Sands Region of Canada, Canadian supply forecasts show that projected net future increases in crude oil supply available for export, that in turn allegedly justify an increase in export pipeline capacity, come only from Tar Sands operations. Thus, the Proposed Project would primarily transport various forms of diluted bitumen, a heavy crude oil, and syncrude, a light crude oil, which are derived from mining and *in situ* extraction operations in the Tar Sands Region.

Enbridge has proposed to build the Proposed Project in a new right of way parallel to its existing Line 3 Pipeline between the North Dakota border and its terminal near Clearbrook, Minnesota, but to follow an entirely new route between the Clearbrook Terminal and the border with Wisconsin, which route does not parallel and is not adjacent to the existing Line 3 Pipeline.

Accordingly, it is inappropriate to describe the "Line 3 Replacement Project" as maintenance of the existing Line 3 Pipeline, because the Proposed Project does not "maintain" the existing pipeline. Instead, Enbridge plans to abandon the existing pipeline in place without repair.

Between the Clearbrook Terminal and the Wisconsin border, Enbridge plans to route its new pipeline parallel to the proposed Sandpiper Pipeline, which the Commission is currently reviewing in docket Nos. CN-13-473 and PPL-13-474, related respectively to applications for a certificate of need and a routing permit (“Sandpiper Project”). The Sandpiper Project comprises a proposal to construct a 612-mile crude oil pipeline from Tioga, North Dakota to terminals in Clearbrook, Minnesota, and Superior, Wisconsin. Approximately 300 miles of the proposed pipeline would cross northern Minnesota carrying between 225,000 and 375,000 barrels of oil per day. The Sandpiper Project was originally proposed by a subsidiary of Enbridge but Enbridge personnel were responsible for filing a revised application stating that the Proposed Project is now being developed by the North Dakota Pipeline Company, a joint venture between Enbridge and Marathon Petroleum Company.

The Proposed Project and Sandpiper Pipeline are part of broader network of pipelines operated by Enbridge. The Proposed Project would be a part of the Enbridge Mainline System, an interconnected network that currently includes Lines 1, 2a, 2b, 3, 4, 5, 6a, 6b, 7, 65, 10, 11, 62, 14/64, 61, and 67. Enbridge controls and operates this system from a central control center in Alberta. The Mainline System connects to a larger network of downstream pipelines operated by Enbridge, as well as other companies. If built, the Proposed Project would integrate into and impact the operation of other pipelines within the Enbridge pipeline network as well as pipelines operated by other companies, both within and outside Minnesota.

If built, the Proposed Project would be operated by Enbridge subsidiaries as part of Enbridge’s broader pipeline network. Likewise, the Sandpiper Project would be under Enbridge’s operational control and would connect to and impact the operations of Enbridge’s Mainline System.

## **II. PROCEDURAL COMMENTS**

### **A. The Commission Must Complete a Formal EIS Early in the Proposed Project Certificate of Need Process**

#### **1. The EQB Has Not Authorized Use of an Alternative Environmental Review for Certificate of Need Hearings**

MEPA authorizes the Minnesota Environmental Quality Board to approve alternative forms of environmental review at the request of governmental units. Minn. R. 4410.3600, Subp. 1. The EQB does not have the authority to make such approvals *sua sponte*. In 1989, the EQB had jurisdiction over both the pipeline routing permit process, then codified at Minn. Stat. Ch. 116I and Minn. R. Ch. 4415, as well as the approval of alternative forms of environmental review.

In 1989, the Commission – not the EQB – had jurisdiction over certificate of need decisions under Minn. Stat. § 216B.243. As a consequence, the EQB had no jurisdictional authority to request the approval of an alternative form of environmental review for Commission certificate of need decisions. Under the plain language of MEPA, such request could come only from the Commission.

To Sierra Club's knowledge, the Commission has never sought approval of an alternative form of environmental review for petroleum pipeline certificate of need hearings, even though it has done so for high voltage transmission line certificate of need hearings.

On February 9, 1989, the EQB submitted a request to itself to approve the use of the pipeline routing rules, Minn. R. Ch. 7852 (formally codified as Minn. R. Ch. 4415), as an alternative form of environmental review to the formal MEPA process. In 1989, the EQB approved a Resolution authorizing its chair to execute an order approving the use of Minn. R. Ch. 4415 as an alternative form of review pursuant to Minn. R. 4410.3600. The Resolution stated:

BE IT FURTHER RESOLVED that the EQB pipeline Routing Rules, Chapter 4415, are approved as an alternative form of environmental review pursuant to Minn. Rules pt. 4410.3600 and the Order of Approval.

Accordingly, the Chair of the EQB executed a Finding of Fact, Conclusions, and Order of Approval ("EQB Order") stating:

1. The Environmental Quality Board hereby approves the process contained in the Pipeline Routing Rules, Chapter 4415, as an alternative form of environmental review.
2. Upon the effective date of this Order of Approval all pipeline routing projects subject to and within the purview of the pipeline Routing Rules, Chapter 4415, shall be exempt from environmental review under Minn. Rules, pt. 4410.1100 to 4410.1700, and 4410.2100 to 4410.3000.

EQB Order at 5. (The EQB Request for Approval, Resolution, and Order are included as Attachment A). By this process, the EQB essentially gave itself permission to use the pipeline routing rules as an alternative form of review for its pipeline routing decisions.

The EQB order does not mention or discuss the certificate of need process for petroleum pipelines to even the slightest degree. Since the EQB had no statutory authority to approve an alternative form of review for Commission certificate of need proceedings, it would have been illegal for the EQB to consider and approve an alternative form of review for such Commission process. Moreover, the fact that the routing permit statute and regulations are expressly limited to review of pipeline routing means that Minn. R. Ch. 7852 does not and cannot legally address non-routing analyses, such as the Minn. R. 7853.0130.B consideration of non-route alternatives (discussion below). In accordance with these limitations, as shown by the EQB Order, the EQB did not – in the slightest – consider whether Minn. R. Ch. 4415 (now Minn. R. 7852) could serve as an alternative form of environmental review for the Commission's certificate of need process. Instead, the EQB's Order relates only to routing impacts and alternatives and expressly applies only to "pipeline routing projects" and not to environmental review for pipeline certificate of

need applications. As such, the EQB has not approved an alternative form of environmental review for certificate of need decisions.

The Commission has never sought approval of an alternative review process from the EQB for pipeline certificate of need decisions, even though it and it alone has this legal right. As such, no EQB approval of an alternative MEPA review for certificate of need decisions exists. Moreover, state law and the EQB order itself makes clear that Minn. R. Ch. 7852 serves as an alternative form of environmental review only for pipeline routing hearings and cannot legally be used as an environmental review for certificate of need hearings. Since the Minnesota Court of Appeals has made abundantly clear that MEPA applies to certificate of need hearings and the EQB has not approved an alternative form of environmental review for such hearings, the Commission's only choice here is to do a full EIS for the Proposed Project need hearing.

## **2. The Minn. R. Ch. 7852 Cannot Under Law Serve as an Alternative Environmental Review for Certificate of Need Hearings**

In 1989 and now, the certificate of need and routing permit hearings for petroleum pipelines were and are based on entirely separate statutory requirements with entirely different purposes and standards. *Cf.* Minn. Stat. § 216B.243 and Minn. R. Ch. 7853 versus Minn. Stat. Ch. 216G and Minn. R. Ch. 7852. For example, Minn. R. 7853.0130.B requires that the Commission consider potentially reasonable and prudent alternatives with regard to “size, the type, and the timing,” cost, impacts on “natural and socioeconomic environments,” and reliability. Similarly, Minn. R. 7853.0540 requires that applicants include discussions of alternatives in their applications, but its language also does not limit applicant consideration of only route alternatives. In accordance with the broad language of Minn. R. 7853.0130, the Commission has consistently considered non-route alternatives in its certificate of need analyses, such as different modes of transportation, and competing pipelines.

In contrast, Minn. Stat. § 216G.02, Subd. 3, limits the scope of Minn. R. Ch. 7852 to analysis of only route alternatives, and this restriction flows through to the fundamental structure of this chapter.<sup>1</sup> Moreover, the fact that Minn. Stat. Ch. 216G does not apply to capacity expansions of existing pipelines, whereas large expansion projects must obtain a certificate of

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<sup>1</sup> Minn. Stat. § 216G.02, Subd. 3, states: “The Public Utilities Commission shall adopt rules governing the routing of pipelines. The rules apply only to the route of pipelines . . .” (Emphasis added.) In accordance with this express limitation, Minn. R. Ch. 7852 addresses alternatives in a number of sections, but all of these are expressly limited to consideration of route alternatives. Minn. R. 7852.0900.G requires that the commission’s notice acceptance of an application identify “procedures for proposing alternate routes.” (Emphasis added.) Minn. R. 7852.1500, entitled “Alternative Route Analysis,” states that “A comparative environmental analysis of all of the pipeline routes accepted for consideration at public hearings shall be prepared by the commission staff or by the applicant and reviewed by the commission staff.” (Emphasis added.) Minn. R. 7852.2600 requires that “All other route alternatives considered by the applicant must be Identified . . .” (Emphasis added.) Minn. R. 7852.3100 states: “the applicant shall provide a summary discussion of the environmental impact of pipeline construction along the alternative routes consistent with the requirements of parts 7852.2600 to 7852.2700 and the rationale for rejection of the routing alternatives.” (Emphasis added.) As a consequence, the alternatives analysis required and allowed by Minn. R. Ch. 7852 is designed to consider and limited exclusively to consideration of routes.

need under Minn. Stat. § 216B.243 means that there is at least one category of oil pipeline certificate of need hearings to which Minn. Stat. Ch. 216G cannot logically apply at all.

Since Minn. R. Ch. 7852 is limited by the plain language of law to consideration of only routing matters, but the certificate of need process encompasses a much broader analysis of route and non-route alternatives as well as projects for which no new route is needed, it is not legally or logically possible to use the routing permit regulations as a MEPA review for certificate of need hearings. The routing regulations are simply too narrowly defined for this purpose.

### **B. The Appellate Court's Recent Sandpiper Decision Requires Completion of a Formal EIS Early in the Proposed Project Certificate of Need Process**

On September 14, 2015, the Minnesota Court of Appeals issued its decision in *In the Matter of the Application of North Dakota Pipeline Company LLC for a Certificate of Need for the Sandpiper Pipeline Project in Minnesota; In the Matter of the Application of North Dakota Pipeline Company LLC for a Pipeline Routing Permit for the Sandpiper Pipeline Project in Minnesota*, Case No. A15-0016 (“*Sandpiper Decision*”) (Attachment B). This decision required that the Commission complete a formal EIS in *In the Matter of the Application of North Dakota Pipeline Company LLC for a Certificate of Need for the Sandpiper Pipeline Project in Minnesota*, Docket MPUC Docket No. PL-6668/CN-13-473, OAH Docket No. 8-2500-31260. The *Sandpiper Decision* states: “Therefore, we reverse the grant of a certificate of need and remand to the MPUC to complete an EIS before conducting certificate of need proceedings consistent with this opinion.” *Sandpiper Decision* at 11. This decision makes clear that Commission hearings on certificates of need for new pipeline projects are subject to the MEPA EIS requirement, and that such EIS must be completed early in the Commission’s hearing process.

The Court of Appeals stated: “we point out that requiring an EIS during the initial certificate of need proceedings affirms the emphasis MEPA places on conducting environmental review early on in the decision-making process.” *Sandpiper Decision* at 10. This holding is in accordance with:

- Minn. Stat. § 166D.04, Subd. 2a, which states: “To ensure its use in the decision-making process, the environmental impact statement shall be prepared as early as practical in the formulation of an action.”
- Minn. R. 4410.0300, Subp. 3, which states in part: “Environmental documents shall contain information that addresses the significant environmental issues of a proposed action. This information shall be available to governmental units and citizens early in the decision making process.”

The Sandpiper Decision stated as *dicta* that the “MPUC generally has effective access to a MEPA-compliant environmental review while considering both [certificate of need and route] applications.” *Sandpiper Decision* at 7. However, the court did not address how an alternative

review process that was approved by the EQB for use only in routing dockets and that cannot, given the plain language of the law, analyze anything other than routing decisions, impacts, and alternatives legally apply to a certificate of need hearing. Since this issue was not before the court, the foregoing language is not binding on either future Court of Appeals decisions or the Commission.

On September 22, 2015, the Commission filed a “Motion for Clarification” with the Court of Appeals, in which it sought changes in the *Sandpiper Decision*. This motion questioned the clarity of the decision on two grounds. First, it noted that the Commission had not and has not issued a certificate of need in the Sandpiper need docket, such that the court could not “reverse the grant of a certificate of need . . . .” Second, the Commission alleged that “the Court cites no authority for the proposition that the MPUC must ‘complete an EIS before conducting certificate of need proceedings.’”

Setting aside the procedural validity of the motion, the Commission’s requests for clarifications are not difficult to answer. With regard to its first request for clarification, that the court could not “reverse the grant,” the odd thing about this argument is that the Commission’s motion discussed what the court could not do without also discussing what the court could do. If the Commission pointed out a limitation in the court’s jurisdiction, it also did not describe the source of the court’s jurisdiction and its scope of authority.

As the Commission well knows, the court’s jurisdiction in this matter arose under MEPA Section 116D.04, Subd. 10, MEPA, which states:

A person aggrieved by a final decision on the need for an environmental assessment worksheet, the need for an environmental impact statement, or the adequacy of an environmental impact statement is entitled to judicial review of the decision under sections 14.63 to 14.68. A petition for a writ of certiorari by an aggrieved person for judicial review under sections 14.63 to 14.68 must be filed with the Court of Appeals and served on the responsible governmental unit not more than 30 days after the party receives the final decision and order of the responsible governmental unit.

(Emphasis added.) Thus, MEPA permits judicial review of decisions “on . . . the need for an environmental impact statement . . . ,” a writ for which must be filed within 30 days after such decision. This language makes decisions to not prepare an EIS immediately reviewable before issuance of a decision on the merits.

It is true that the action filed by Friends of the Headwaters did not seek reversal of a final order for the certificate of need proceeding, but it did seek reversal of the Commission’s decision to not prepare an EIS for this proceeding and a remand for a certificate of need hearing in compliance with MEPA. As such, the court had authority to reverse the Commission’s decision

to not prepare an EIS pursuant to MEPA, and to order that the Commission complete an EIS in order to repair its administrative process, which is part of the court's order.

With regard to the Commission's second request for clarification, that the court cited no authority for the proposition that the Commission must ". . . complete an EIS before conducting certificate of need proceedings . . .," (emphasis added) the court in fact did cite authority related to the timing of preparation of EISs. Specifically, the court cited Minn. Stat. § 116D.04, Subd. 2a, which states: "To ensure its use in the decision-making process, the environmental impact statement shall be prepared as early as practical in the formulation of an action." *Sandpiper Decision* at 10 (emphasis added). The court did not cite Minn. R. 4410.0300, Subp. 3, which states in part: "Environmental documents shall contain information that addresses the significant environmental issues of a proposed action. This information shall be available to governmental units and citizens early in the decision making process."<sup>2</sup> (Emphasis added.) While the court did not spell out the MEPA requirement that environmental documents be provided "early," such requirement nonetheless exists.<sup>3</sup> A failure by the Commission to provide an EIS "early" in the Sandpiper need docket violated MEPA. As relief, the court ordered the Commission "to complete an EIS before conducting certificate of need proceedings . . . ." While this phrase does not spell out the law, it is clear that both Minn. Stat. § 116D.04, Subd. 2a and Minn. R. 4410.0300, Subp. 3, require that the Commission complete its environmental documents "early" in certificate of need hearings for the benefit of governmental units and citizens.

The Commission's Motion for Clarification may identify relief that is unclearly formulated, but it does not cast any doubt on the authority of the court to require that the Commission vacate its action to date, prepare a formal EIS, and restart its process so that the information in the EIS is available to citizens "early" in the remanded process.

The clarifications sought by the Commission do not strike at the Court's direction to prepare an EIS in accordance with MEPA for the Sandpiper need docket, and by extension to other certificate of need dockets, including the Proposed Project certificate of need docket, as well.

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<sup>2</sup> Minn. R. 4410.3600, Subp. 2, does not allow the EQB to exempt agencies from compliance with Minn. R. 4410.0300. Thus, even if the EQB had established an alternative environmental review for petroleum pipeline certificate of need hearings, which it has not, the Commission would nonetheless be required to make the information in an EIS "available to governmental units and citizens early in the decision making process."

<sup>3</sup> The Commission also failed to note the fact that its own regulations require that it submit its CEA in routing dockets as "pre-filed testimony," which timing is after identification of routing alternatives and is at the beginning of the evidentiary hearing process, which is obviously "early in the decision making process." The timing of release of the CEA initially derived from the DEQ 1989 Request for Exemption, and particularly the second attached table which shows that the EQB process included preparation of the CEA after selecting alternative routes and before the second round of informational meetings and public hearings. Although the Commission cites Minn. Stat. § 116D.04, Subd. 2b, as being relevant to the timing of EIS preparation, this section relates not to the specific timing of EIS preparation, which is addressed in Minn. Stat. § 116D.04, Subd. 2a, but to the overall requirement for compliance with MEPA before issuing a permit.

**C. The Proposed Project and Sandpiper Project Are Phased Actions; Therefore, the Commission Must Consider Them as a Single Project in Preparing an EIS**

MEPA requires that the Commission consider whether two or more projects that are pending before it are “phased actions” within the meaning of Minn. R. 4410.0200, Subp. 60, which states:

Subp. 60. Phased action. "Phased action" means two or more projects to be undertaken by the same proposer that a RGU determines:

A. will have environmental effects on the same geographic area;  
and

B. are substantially certain to be undertaken sequentially over a limited period of time.

Should projects fall within the definition of phased actions, then the Commission must consider them in total “when determining the need for an EAW, preparing the EAW, and determining the need for an EIS,” Minn. R. 4410.1000, Subp. 4 (emphasis added); and “when determining the need for an EIS and in preparing the EIS.” Minn. R. 4410.2100, Subp. 4 (emphasis added). In other words, the Commission is required by MEPA to combine the environmental reviews for phased actions.

MEPA contains language that treats phased actions similarly during both the EAW and EIS processes. Specifically, Minn. R. 4410.1000 and 4410.2000 contain nearly identical language that address the impact of phased actions on the EAW and EIS processes, respectively. This language states that when it is “not possible to adequately address all the project components or stages at the time . . .” the Commission may separate phased actions into an initial EAW and supplemental EAWs and initial and supplemental EISs. Minn. R. 4410.1000, Subp. 4, 4410, 2100, Subp. 4. The common language in these subparts also state:

For proposed projects such as . . . pipelines . . . where the proposed project is related to a large existing or planned network, for which a governmental unit has determined environmental review is needed, the RGU shall treat the present proposal as the total proposal or select only some of the future elements for present consideration in the threshold determination and [EAW and EIS]. These selections must be logical in relation to the design of the total system or network and must not be made merely to divide a large system into exempted segments.

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When review of the total of a project is separated under this subpart, the components or stages addressed in each [EAW, EIS or supplemental EIS] must include at least all components or stages for which permits or approvals are being sought from the RGU or other governmental units.

Minn. R. 4410.1000, Subp. 4; 4410.2000, Subp. 4. This language anticipates that pipeline projects may be considered “phased actions.” It provides the Commission with limited discretion to conduct separate EAWs and EIS for phased projects, but the Commission must include “all components or stages for which permits or approvals are being sought” from the Commission. The phrase “are being sought” means that contemporaneously pending actions must be combined into a single EAW or EIS. Thus, the Commission may segment its MEPA review for phased actions, but actions with pending permits must be combined. The phased action requirement implements MEPA’s overall policy goal of having agencies conduct broad and efficient environmental reviews and avoidance of unnecessarily segmented and duplicative reviews.

The Proposed Project and Sandpiper Project are “phased actions” within the meaning of Minn. R. 4410.0200, Subp. 60. Due to their common routing, concurrent reviews before the Commission, and similar proposed construction schedules, they undoubtedly “will have environmental effects on the same geographic area . . .” and “are substantially certain to be undertaken sequentially over a limited period of time.” Although the projects are being proposed by separate corporate entities, they also have sufficiently common ownership and control for the Commission to consider them to be proposed by “the same proposer.” MEPA’s use of the word “proposer” rather than “owner” provides the Commission with discretion with regard to whether it makes sense to combine environmental reviews.

On November 8, 2013, the Sandpiper Pipeline Project was first proposed by Enbridge Pipelines, North Dakota, a wholly owned subsidiary of Enbridge.<sup>4</sup> Enbridge personnel were responsible for filing revised applications for a certificate of need and routing permit on February 3, 2014. These revised applications stated that the Sandpiper Pipeline Project applicant was now NDPC, which is a joint venture between Enbridge and Marathon Petroleum Company

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<sup>4</sup> Application for a Certificate of Need for the Sandpiper Pipeline Project, Docket No. 13-473, at Section 7853.0230 Page 2 (“EPND is a wholly owned subsidiary of Enbridge Energy Partners, Limited Partnership (“EEP”), a Delaware master limited partnership headquartered at 1100 Louisiana, Suite 3300, Houston, Texas 77002. Enbridge Energy, Limited Partnership, a wholly owned subsidiary of EEP, and an affiliate of Enbridge Inc., owns and operates the United States portion of the existing Enbridge Mainline System. Collectively, these affiliated entities, excluding EPND, are referred to as “Enbridge.”); Application for a Routing Permit for the Sandpiper Pipeline Project, Docket No. 13-474, at Application Summary, n.1 (“Enbridge Pipelines (North Dakota) LLC, is a limited liability company duly organized under the laws of the State of Delaware and is referred to as “EPND” in this document. EPND is a wholly owned subsidiary of Enbridge Energy Partners, L.P. (“EEP”) which is a Delaware master limited partnership. Enbridge Energy, Limited Partnership, a wholly owned subsidiary of EEP and an affiliate of Enbridge Inc., owns and operates the U.S. portion of the existing Enbridge Mainline System. Collectively, the affiliated entities excluding EPND are referred to as “Enbridge” in this document.”)

(“Marathon”).<sup>5</sup> Marathon is mentioned exactly once in each revised application merely to note its ownership. Thus, it appears that Marathon has no management responsibility for the Sandpiper Project with regard to permit applications, development, construction, or operation. It is the Sierra Club’s understanding that Marathon is primarily an investor in the project and that Enbridge continues to have responsibility for the preparation, submission, and pursuit of the Sandpiper Project certificate of need and routing applications, as well as construction and operation of the project.<sup>6</sup>

The Proposed Project’s applications were filed with the Commission by Enbridge Energy, LP, which is owned by the same corporate entity, Enbridge Energy Partners, Limited Partnership, that submitted the original Sandpiper Project applications.

Given the wide range of possible project ownership structures, including but not limited to establishment of separate subsidiaries for major construction projects and a variety of ownership structures, such as joint ventures, that allow various entities to invest in different projects but that nonetheless are constructed, operated, and managed by the same company, it makes sense that MEPA would provide responsible government units with some flexibility in determining the identity of the “proposer” for a project. Otherwise, it would be a simple matter for permit applicants to use corporate structures to side-step MEPA’s “phased action” rule.

Here, the same entity originally proposed both the Sandpiper Project and Proposed Project. The changes in the revised Sandpiper Project Application related to Marathon were limited to only to identifying Marathon as an investor/co-owner in the Sandpiper Project. Since Enbridge and Enbridge personnel are responsible for project development including submission to and pursuit of the applications before the Commission, and should the projects be constructed Enbridge and Enbridge personnel would be responsible for construction and operation of the projects, the Commission should find that the projects were proposed by the “the same proposer.”

Therefore, the Proposed Project and Sandpiper Project are “phased actions” within the meaning of Minn. R. 4100.0200, Subp. 60, and the Commission must treat them as such. As the applications for both projects are currently pending before the Commission, under Minn. R. 4410.1000, Subp. 4, and Minn. R. 4410, 2100, Subp. 4, it must include both projects in a single EAW and EIS. Given the substantial overlap in route, similar timelines for application review, and Enbridge’s responsibility for the applications and any construction and operation that the Commission might approve, such combined review fits comfortably within MEPA’s overall policy objectives for its “phased action” requirement.

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<sup>5</sup> Revised Application for a Certificate of Need for the Sandpiper Pipeline Project, Docket No. 13-473, at Section 7853.0230 page 2; and Revised Application for a Routing Permit for the Sandpiper Pipeline Project, Docket No. 13-474, at Section 7852.2100 page 1.

<sup>6</sup> NDPC corporate ownership documents likely assign responsibilities for different aspects of project development to its owners. These documents likely assign responsibility for project development, construction, and operation to Enbridge, making Marathon primarily an investor.

Moreover, the Sierra Club notes that even if the Commission finds that the projects are not “phased actions,” MEPA still allows the Commission, at its discretion, to conduct a combined MEPA review under Minn. R. 4410.2100, Subp. 5. This regulation states:

An RGU may prepare 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. A project must not be included in a related actions EIS if its inclusion would unreasonably delay review of the project compared to review of the project through an independent EIS.

(Emphasis added.) There can be no doubt that two pipelines constructed in the same corridor during approximately the same timeframe would have “cumulative environmental impacts in the same geographic area.” Moreover, conducting two independent MEPA reviews for the projects would result in substantial duplication of effort and could easily complicate review and require more time than a combined EIS. Preparing a combined “related actions EIS” would not unreasonably delay review of either the Sandpiper Project or the Proposed Project Project. Instead, rationalizing this process by preparing a single EIS could very well reduce the overall time required for MEPA review. Therefore, the Commission could also reasonably exercise its judgment to authorize a combined EIS pursuant to Minn. R. 4410.2100, Subp. 5.

**D. Procedural Uncertainty in the Proposed Project Certificate of Need Process Requires that the Commission Address this Uncertainty and Then Allow Adequate Time for Scoping Comments**

The *Sandpiper Decision* has created substantial uncertainty about the future procedural path, not only for the Sandpiper dockets, but also for the Proposed Project dockets, due in large part to the significant overlap in route for the proposed Sandpiper Pipeline and Proposed Project and the fact that the timing of the Commission’s reviews of these projects are now likely to occur within the same time period. This uncertainty resulted in the ALJ’s September 15 decision to indefinitely suspend the prehearing conference for the Proposed Project need docket. Similarly, it is Sierra Club’s understanding that the ALJ in the Sandpiper routing docket: (1) suspended scheduling pending guidance from the Commission; and (2) requested that the parties in that process provide him with comments by September 25, 2015, to assist him in seeking direction from the Commission. In order to avoid additional confusion and possible future missteps by the Commission, it would be prudent for it to take a step back and publicly review and consider its full slate of procedural options for both the Sandpiper Project and Proposed Project dockets, before continuing with scoping.

Sierra Club notes that the *Sandpiper Decision* found that the Commission’s “high level environmental review” did not comply with MEPA and did not “serve as a substitute for the more rigorous and detailed review needed to satisfy MEPA, and it cannot take the place of a

formal EIS . . . .” *Sandpiper Decision* at 11. Yet, in its Scoping Notice, the Commission proposed to again rely on a non-descript “environmental analysis” for the Proposed Project certificate of need docket. Scoping Notice at 6. To the extent that the Commission’s undefined “environmental analysis” is not an EIS, it is in violation of MEPA.

Regardless of how the Commission chooses to interpret the *Sandpiper Decision*, it appears that the timings of the Sandpiper Project and Proposed Project dockets are now roughly similar, which begs the question about if and how the Commission might choose to coordinate these proceedings and its mechanism for doing so. Given the substantial route overlap for these proposed pipelines, approval of a route between the Clearbrook and Superior Terminals for one project would significantly impact the route selection for the other, but if these dockets are conducted separately and without coordination, it is entirely unclear which proceeding might reach a final decision first. Should the Commission reject routes proposed in one docket, which have also been proposed in the other docket, it would render moot consideration of such routes for the later-decided docket.

On the one hand, if the Commission does not coordinate the proceedings for the Sandpiper Project and Proposed Project, it would be faced with the possibility of conducting simultaneous but independent environmental reviews for the Proposed Project and Sandpiper Project. Such independent reviews would seem cumbersome, duplicative to a substantial degree, and therefore inefficient. Moreover, persons interested in commenting on the environmental review for one project would also need to comment on the other, otherwise such persons might lose their opportunities to comment on environmental issues of importance to them, particularly if scoping for the reviews is not coordinated. Coordination of the scoping for independent reviews would reduce the potential for confusion, ensure consistency of approach, and avoid potential gaps in review. Therefore, if the Commission does not formally coordinate the MEPA reviews for the Proposed Project and Sandpiper Project dockets, it should nonetheless coordinate the scoping processes for the proceedings to ensure that the Sandpiper Project and Proposed Project MEPA reviews are clearly defined relative to each other and consistent with regard to their scopes.

On the other hand, if the Commission does formally coordinate its Proposed Project and Sandpiper Project MEPA reviews, then it should also coordinate scoping for a combined process so that interested persons understand the full scope of such coordinated review.

Thus, regardless of whether it conducts independent or coordinated MEPA reviews for the Sandpiper Project and Proposed Project dockets, the Commission should suspend all scoping activities in the Proposed Project dockets pending resolution of its decision about how to proceed in light of the *Sandpiper Decision*.

Given the more-or-less concurrent timing of the Sandpiper Project and Proposed Project hearings, it is difficult to predict which dockets might reach a final decision first and what the impact of a first decision might be on the later. If the Commission attempts to undertake independent MEPA reviews of the dockets, this means that – to protect their rights and privileges

– all of the Sandpiper intervenors would need to intervene in the Proposed Project docket and visa versa. On the other hand, if the Commission chooses to coordinate its review of these dockets, it should still re-open the intervention period in the Sandpiper dockets so that intervenors in the Proposed Project dockets have an opportunity to participate fully in such combined process. Given that the Commission must complete an EIS early in a remanded Sandpiper certificate of need proceeding, which will take time, reopening the intervention period in the Sandpiper dockets would not delay or significantly disrupt this process going forward. Since the Proposed Project intervention period is not yet established, there is no hindrance to full participation in the Proposed Project dockets by Sandpiper intervenors.

#### **E. The Scoping Notice Is Legally Deficient with Regard to the 70-Day Deadline for Submission of Alternative Routes**

Minnesota Rule 7852.1400, Subp. 3(C), states: "The route proposal must be presented to the commission within 70 days of acceptance by the commission of the applicant's permit application." As such, the Commission does not have discretion to start this comment period on any date it chooses, but rather must allow parties 70 days from the date the Commission accepts an application as being complete, unless it extends the submission period for good cause.

The Minnesota Administrative Procedures Act, Minn. Stat, § 14.62, Subd. 1, states: "Every decision and order rendered by an agency in a contested case shall be in writing, shall be based on the record and shall include the agency's findings of fact and conclusions on all material issues." This means that decisions and orders of the Commission cannot be made except by, and do not legally exist until issuance of a written order that includes necessary findings of fact and the Commission's reasoning and conclusions on material issues. The purpose of this law is to provide interested parties to agency proceedings with certainty about the effective date of agency decisions; to ensure that decisions and orders based on sometimes extensive and confusing discussions at public meetings are clear; and to ensure that agency decisions comply with minimum due process standards for rationality. Until a written decision or order is issued, a party cannot be certain about the contents and basis for an agency decision or be certain that an agency action taken by vote is final. Moreover, as a general rule, parties should not be expected to rely on their understandings of agency actions based on agency discussions and voting, which are not always clear.

The Commission voted on its acceptance of the Proposed Project need and routing applications on July 1, 2015, but did not issue its orders accepting the applications until August 12, 2015. Thus, by action of Minn. Stat. § 14.62, Subd. 1, the Commission did not accept the Proposed Project route application as complete until August 12. Accordingly, the period in which parties may submit alternative routes starts on August 12, 2015, and ends no sooner than 70 days (10 weeks) later on October 21, 2015.

In contrast, the Commission's July 20, 2015, Scoping Notice states that the period in which parties may propose alternative routes ends on September 30, three weeks before the

October 21 deadline. As such, as it relates to the 70-day requirement in Minn. R. 7852.1400, Subp. 3(C), the Commission's scoping notice is not in accordance with law.

Further, the scoping notice cannot serve as a written order because it makes no findings of fact or conclusions, and instead notes only that the Commission voted to approve the need and route applications on July 1. Therefore, the Scoping Notice does not comply with the minimum requirements established by Minn. Stat. § 14.62, Subd. 1, for writings that constitute a decision or order, such that that the Scoping Notice cannot serve as a Commission order on completeness.

That the Commission's formal acceptance of the completeness of the routing application occurred on August 12 and is contained in its August 12 order cannot be reasonably contested. The Commission's August 12 order on page 6 provides an abbreviated discussion about the merits of its finding that the routing application is complete, and on page 11 in suborder number 2 it states: "The Commission accepts as substantially complete the application of Enbridge Energy, Limited Partnership, for a routing permit for the Line 3 project". Thus, the August 12 order is the Commission's formal decision in which it accepted the routing application as being complete, and its issuance triggers the start of the 70-day alternative route submission period.

Accordingly, the alternative route submission period established by Minn. R. 7853.1400, Subp. 3(C), does not end until October 21, 2015, unless extended beyond this date for good cause. Therefore, the Commission must amend its Scoping Notice to allow parties, at a minimum, the full period of time granted to them by law for submission of alternative route proposals.

#### **F. The Commission Must Reissue the Proposed Project Scoping Notice Because It Fails to Comply with MEPA**

Given the Sandpiper Decision's express order to complete an EIS for the Sandpiper certificate of need hearing, the Commission should also perform a full EIS for the Proposed Project certificate of need hearing. MEPA and its implementing regulations, Minn. R. Ch. 4410, ("MEPA Regulations") include a number of requirements for the scoping process, including but not limited to:

- the early notice requirements of Minn. R. 4410.5000 to 4410.5600, which include specifications for the content and publication of scoping comment notices;
- use of an environmental assessment worksheet ("EAW") as a scoping document, Minn. R. 4410.2100, Subp. 2; 4410.0200, Subp. 24; 4410.1000, Subp. 1.B;
- scoping period requirements, Minn. R. 4410.2100, Subp. 3; and
- scoping decision requirements, Minn. R. 4410.2100, Subp. 6.

The *Sandpiper Decision* effectively requires that the Commission comply with these requirements in the Proposed Project certificate of need hearing. In contrast, the contents of the Scoping Notice, its publication, and the scoping process proposed by the Commission does not

comply with the scoping process required by MEPA. Therefore, the Commission must re-issue a scoping notice in accordance with MEPA.

Since the Proposed Project process is currently delayed indefinitely, re-issuing the Proposed Project scoping notice in compliance with MEPA would not delay the process here relative to use of the “traditional” or “usual,” if illegal and illogical, CEA process, as has been proposed by NDPC/Enbridge in the Sandpiper need docket through its Rejoinder Petition. The Sierra Club asserts that use of the “traditional” process would not be less burdensome and more efficient than a formal comprehensive and rational EIS process, given the complex administrative situation created by Enbridge’s proposal to route two pipelines in the same corridor, the concurrent timings of these hearings, and in light of the controversy surrounding these projects. The CEA routing process was not designed for this complex administrative situation, such that attempting to use it here risks greater confusion and controversy. In contrast, the formal MEPA EIS process is sufficiently flexible, comprehensive, and robust to allow for a rational process.

### **G. The Commission Must Consider Mitigation Related to Abandonment of Line 3**

Enbridge has proposed to abandon the existing Line 3 Pipeline.<sup>7</sup> This proposal may be the first time that the Commission has considered approval of abandonment of major crude oil pipeline as part of certificate of need and routing permit applications. Since abandonment of the existing pipeline is a necessary element and result of the Proposed Project, the Commission should consider mitigation related to abandonment of Line 3 under Minn. Stat. § 216B.243, Minn. R. § Ch. 7853, Minn. R. 7852.3600, and MEPA.<sup>8</sup>

#### **1. Risks Related to Pipeline Abandonment and Mitigation Options**

Abandonment of large crude oil pipelines creates a wide variety of risks and costs. A 1996 paper by the Canadian Association of Petroleum Producers entitled *Pipeline Abandonment, A Discussion Paper on Technical and Environmental Issues* (“CAPP Abandonment Paper” Attachment C), in Section 3 identifies the following issues:

- land use management, including potential interference with future development, protection of natural lands, and ongoing productive use of property, including but not limited to interference with new building and infrastructure construction, agriculture operations, recreational uses, and property aesthetic values;
- ground subsidence resulting from sink holes caused by corrosion and collapse of pipe, together with potential transportation of silt into waterbodies and lower lands;
- soil and groundwater contamination, resulting from undetected leaks during operations that are not removed, release of hazardous materials remaining in pipe, and contamination resulting from the degradation of pipeline coatings;

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<sup>7</sup> Routing Permit Application at Section 8.0.

<sup>8</sup> Sierra Club is not aware of any other Minnesota state laws that regulate abandonment of crude oil pipelines.

- pipe cleanliness and methodology used to remove hazardous materials from inside abandoned pipe, including the standards applied to removal operations;
- water crossings, including the potential for corroded pipelines to drain waterbodies, contaminate waterbodies, and flood adjacent lands via water transport, as well as for abandoned pipes to be exposed by stream and riverbed erosion, leaving pipe suspended in or above water, and for empty pipe to float toward the surface in wet areas if buoyancy control mechanisms fail;
- erosion resulting from emerged pipe channeling runoff or exacerbating wind erosion, which effects are greater in highly erodible lands ;
- utility and pipeline crossings, including the potential for abandoned pipelines to interfere with roadways, railways, other pipelines, powerlines, and communications lines;
- creation of water conduits that could lead to unnatural drainage and material transport from a variety of water bodies and wetlands, including but not limited to stock ponds, lakes, rivers, streams, bogs, and marshes, which impact becomes greater with increasing pipeline size;
- disconnection, removal, and disposal of associated apparatus, such as valve sites and manifolds; underground tanks; pipeline scraper trays; line heaters; drip pots; access culverts; access roads, gates and fences; cathodic test posts, fink stations, rectifier sites, and ground beds; anchor blocks and steel piles; and other miscellaneous equipment; and
- cost of abandonment, which potentially may be very high including the cost of mitigating the foregoing risks through removal, stabilization, plugging and filling, and temporarily maintaining abandoned pipe.

The foregoing issues put a wide variety private and public financial and natural resources and rights at risk, which risk should not be borne by landowners and government agencies.

The CAPP Abandonment Paper also summaries a wide variety mitigation techniques that can effectively reduce the risks borne by landowners, other citizens, and local, state, and federal agencies. These include but are not limited to hazardous materials mitigation, pipe removal, pipe filling, plug installation, ground stabilization, and temporary maintenance through cathodic protection and monitoring.

The National Energy Board of Canada (“NEB”) conducted a multi-year nation-wide process to determine whether to require pipeline abandonment plans and required resources, called the Land Matters Consultation Initiative (“LMCI”), which ultimately required that pipeline companies develop pipeline abandonment plans and provide the financial resources needed to assure compliance with these plans.<sup>9</sup> The NEB undertook this process because Canadian federal law required consideration of pipeline abandonment costs. As discussed

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<sup>9</sup> A description of this process and access to NEB documents may be found at <https://www.neb-one.gc.ca/prtceptn/pplnbndnmnt-eng.html> .

below, the U.S. federal government does not regulate crude oil pipeline or easement abandonment, except with regard to the process of ceasing operations.

As part of the LMCI process, Enbridge prepared abandonment plans for each of its pipelines. A summary of the actions and costs for this plan for the Canadian portion of Line 3 is included as Attachment D. The total estimated cost of Enbridge's abandonment plan for Line 3 is over CA\$122 million for approximately 1,030 kilometers or approximately an average of CA\$188,000 per kilometer. This equals approximately US\$142,000 per mile. However, this assumes removal of the pipe for only 3 kilometers of the entire route and other forms of mitigation beyond cathodic protection for other portions of the pipeline.

Enbridge's applications propose to abandon almost all of the existing Line 3 in place.<sup>10</sup> However, the applications do not discuss all available mitigation options, but rather frame mitigation in terms of either same trench replacement, which would require removal of all pipe, or abandonment in place with cathodic protection and monitoring. The Canadian LMCI process provides ample evidence that a variety of mitigation techniques exist between the extremes presented by Enbridge. The Commission should consider a full range of mitigation options for abandonment to ensure that landowners are treated fairly and to ensure that public lands owned by the state also receive proper mitigation.

## **2. Federal Law Does Not Preempt State Action to Regulate Pipelines Once Abandoned**

Federal law does not regulate the disposition of abandoned pipelines beyond those actions required to cease operations. The federal Pipeline Safety Act, 49 U.S.C. § 60101 et seq. ("PSA"), contains only one requirement related to abandonment in 49 U.S.C. § 60108(c)(6), which states in relevant part: "The operator of a pipeline facility abandoned after October 24, 1992, shall report the abandonment to the Secretary in a way that specifies whether the facility has been abandoned properly according to applicable United States Government and State requirements." (Emphasis added.) This language implies that states may regulate abandoned pipelines.

With regard to federal regulations, 49 C.F.R. Part 195 implements the PSA and regulates the transportation of hazardous liquids by pipeline, including crude oil. Part 195 includes three provisions related to regulation of abandonment. First, 49 C.F.R. § 195.2 states that "Abandoned means permanently removed from service." Second, 49 C.F.R. § 195.59 requires that the last operator file a report upon abandonment, but only for onshore facilities that cross over, under, or through a commercially navigable waterway. These reports are minimal in nature and generally contain only the following information: "the date of abandonment, diameter, method of abandonment, and certification that, to the best of the operator's knowledge, all of the reasonably available information requested was provided and, to the best of the operator's knowledge, the

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<sup>10</sup> Route Application at Sections 6.6.1 and 8.4.

abandonment was completed in accordance with applicable laws.” Third, 49 C.F.R. § 195.402(c) states:

(c) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:

\* \* \*

(10) Abandoning pipeline facilities, including safe disconnection from an operating pipeline system, purging of combustibles, and sealing abandoned facilities left in place to minimize safety and environmental hazards. For each abandoned offshore pipeline facility or each abandoned onshore pipeline facility that crosses over, under or through commercially navigable waterways the last operator of that facility must file a report upon abandonment of that facility in accordance with § 195.59 of this part.

(Emphasis added.) Thus, federal law regulates safety while maintenance and normal operations are ongoing. When a company abandons a pipeline, federal regulation requires only that operators: (1) disconnect the abandoned pipeline from operating pipelines; (2) purge the pipeline of combustibles (but not liquid or solid hazardous wastes); and (3) seal abandoned pipelines to minimize safety and environmental hazards. These minimal steps define the final federal regulation of a pipeline and are intended to ensure that it is no longer in operation and therefore no longer subject to ongoing federal oversight.

Consistent with federal law, Minnesota’s regulation of pipeline safety pursuant to Minn. Stat. Ch. 299J, which authorizes limited state regulation pursuant to federal delegation of certain PSA requirements, does not regulate pipeline abandonment.

Federal law does not regulate:

- salvage of pipe after abandonment, which may be considered personal property and not real estate under state law, to allow reclamation of pipe steel, productive uses of land such as construction of new buildings and infrastructure, agricultural operations, and other forms of land use;
- termination of pipeline easements, especially because such easements are granted via state and not federal law;
- cleanup of hazardous materials that may be in or have already leaked from pipelines;<sup>11</sup>

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<sup>11</sup> Federal hazardous materials laws such as the Resource Conservation and Recovery Act, 42 U.S.C § 6901 *et seq.* (“RCRA”) and the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 *et seq.* (“CERCLA”) may impose standards, but these are generally delegated to states. The Pipeline Safety Act, 49 U.S.C. § 60101

- permanent and temporary ongoing mitigation measures, such as removal, plugging, filling, and maintaining of abandoned pipe, which actions are similar in nature to construction mitigation that may be ordered by a state during construction; and
- liability for damages caused by abandoned pipe.

Just as federal law allows states to grant easements, determine route, and regulate construction mitigation for new pipelines, federal law correspondingly also always states to regulate the fate of pipelines once they are formally abandoned and therefore are no longer in operation. What the state gives, the state may also take away.

### **3. Minnesota Law Provides the Commission with Authority to Require Mitigation that Protects Landowners and the Public From the Financial and Environmental Risks Caused by Abandoned Pipelines**

The Commission's authority to order mitigation related to abandonment of a crude oil pipeline derives from three sources.

First, Minn. Stat. § 216B.243, Subd. 5, gives the Commission authority to impose modifications on applications without express limitation, and Minn. R. 7853.0800, Subp. 1, states: "Issuance of a certificate may be made contingent upon modifications required by the commission." This broad statutory and regulatory discretion means that the Commission may impose reasonable modifications necessary to protect public health and welfare. Since Enbridge's Application for a Certificate of Need in Section 11.0 discusses abandonment and proposes mitigation related to abandonment, consideration of modification of the Application as it regards abandonment is within the Commission's jurisdiction.

Second, Minn. R. 7852.3600 provides the Commission with authority to impose conditions on pipeline rights of way. This rule is not expressly limited to only the right of way proposed by an applicant. Enbridge's Routing Permit Application in Section 8.0 discusses mitigation related to abandonment of Line 3, which implies that the Commission has discretion to consider mitigation related to abandonment as a factor in its decision on route. Since the Commission could order the reuse of the existing Line 3 right of way, logically it must have jurisdiction over existing rights of way, including authority to order mitigation terms related to such right of ways.

Third, MEPA requires that an EIS must "explore[] methods by which adverse environmental impacts of an action could be mitigated." Minn. Stat. § 116D.04, Subd. 2a. Consistent with this requirement, the EQB's alternative review approval regulations require that it may approve such reviews only if the alternative requires that "measures to mitigate the potential environmental impacts are identified and discussed." Minn. R. 4410.3600, Subp. 1.D. Thus, MEPA requires that all environmental reviews of any form consider mitigation to address the impacts of proposed pipeline projects. Since abandonment of the existing Line 3 Pipeline would create environmental impacts and such impacts clearly can be mitigated, the Commission must include consideration of such mitigation in its environmental review. Further, given that

the Commission apparently has not previously considered the abandonment of a major crude oil pipeline, the Commission's MEPA review must include a study of the risks of abandonment and mitigation measures for such abandonment. Such consideration would be pointless if the Commission found that it could not adopt such mitigation measures under, Minn. Stat. § 216B.243, Minn. Stat. Ch. 216G, or MEPA itself. Therefore, the Commission must conclude that it has authority to order mitigation measures related to abandonment of the existing Line 3 Pipeline.

A key policy concern for the Commission should be the right of landowners to determine which mitigation techniques are appropriate on their land, relative to the right of Enbridge or the Commission to make this decision for them. Enbridge has asserted that abandonment in place with ongoing cathodic protection and monitoring is the best abandonment practice for almost all of the existing pipeline route. This being said, Enbridge has a substantial self-interest in minimizing its costs and discounting future adverse impacts and costs to landowners. Therefore, landowners should have the right to evaluate and choose between various mitigation techniques and should be trusted to do what's best for their land. If Enbridge's mitigation approach is in fact the best option for landowners and their land, then landowners should be trusted to see its merits. On the other hand, if landowners have a reasonable belief that Enbridge's approach would externalize costs and risks onto them that should in fairness be borne by Enbridge and its customers, then the Commission should carefully analyze the efficacy of Enbridge's abandonment plans as they impact landowner interests. A Commission approval of the project that either allows by Enbridge in practice to determine mitigation, or that expressly approves Enbridge's abandonment mitigation plan, risks benefitting Enbridge at the expense of Minnesota landowners.

#### **H. The Commission Should Perform an Economic Analysis of All Alternatives in the Need Hearing Before Selecting Alternatives for Subsequent Analysis in the Routing Hearing**

The Commission faces a number of practical challenges in the administration of the routing and need dockets and their required MEPA reviews. One of these challenges is that the need hearing is intended in part to determine the commercial viability of both route-related and non-route related alternatives, whereas the route hearing assumes that need exists and reviews only route-related issues. This bifurcation of state law means that the Commission must ensure consistency of scope of its substantive reviews in these hearings with regard to the alternatives considered, as well as consistency with MEPA. A failure by the Commission to consider the commercial merits of an alternative that is studied in the route docket, or vis-a-versa, and to have both be consistent with MEPA would mean that the Commission could not fully consider the merits of each alternative. Such failure would render whatever analysis the Commission provides legally deficient.

The Commission may ensure consistency in consideration of alternatives by either:

1. performing a single MEPA-compliant review before both the route and need hearings that fully evaluates all alternatives and then completing concurrent evidentiary hearings that evaluate the substantive merits of all reasonable alternatives; or
2. Performing a single MEPA-compliant review for both the route and need hearing that fully evaluates all alternatives and then completing sequential evidentiary hearings, in which the need hearing would evaluate the merits of all reasonable alternatives with regard to their capacity to meet alleged need, and then the route hearing would consider only those route alternatives that meet a proven need.

Performance of separate MEPA reviews is generally not allowed by MEPA because it requires joint analysis of separate permitting actions undertaken by the same agency for the same project.

In the Sandpiper dockets, the Commission faced the prospect of performing detailed analysis of multiple routes through the Minn. St. Ch. 216G process, which the DOC deemed to be too time consuming and expensive. Enbridge argued that a number of the proposed route alternatives did not meet its commercial need for that project, but since commercial need must be determined in a need hearing, the Commission could not summarily toss out the routes to which Enbridge objected. As a solution, the Commission chose to winnow out the proposed routes by considering whether they met the commercial need for the project. This approach was rational. It would have reduced the number of routes that must be considered in the route hearing and put the decision about whether a new pipeline is needed, at all, and the extent of this need, before the decision about where a new pipeline should go. According to the Court of Appeals, the Commission erred not in bifurcating the route and need hearings, but in its failure to perform a MEPA compliant-review before making a decision in the evidentiary hearing.

Now, Enbridge has proposed that the Commission conduct concurrent need and route hearings for the present dockets. The challenge posed by this process is that it will require substantial detailed analysis of multiple routes. Thus, just as in the Sandpiper hearings, the issue with conducting concurrent hearings is one of resources and the time required for a more extensive analysis of multiple routes.

The Sierra Club asserts that scheduling need and route hearings sequentially is fundamentally a more rational and efficient approach. While sequential review requires more time to complete two hearings, concurrent review requires more time due to the much greater extent of analysis required by considering multiple routes. Moreover, it simply makes sense to determine if a pipeline is needed before deciding where it would go.

The delay in the Sandpiper docket was not caused by the Commission's rational bifurcation decision there, but by its failure to properly coordinate and complete its MEPA review. In turn, the root cause of the Commission's failure to comply with MEPA is based in its failure to properly apply the MEPA alternative review process with regard to its need hearing. The CEA process was never designed to cover both the route and need hearings, and cannot legally be made to do so because the CEA process is limited by law to consideration of route

issues only (not non-route issues that are a necessary part of need hearings) and because the CEA process does not formally finish until the Commission completes its route hearing. To the extent the Commission's joint need/route/CEA process "worked" in the past, it did so only because of limited intervenor and public engagement, particularly with regard to consideration of route and non-route alternatives. Application of the CEA process to a joint MEPA review of the route and need dockets was and is illegal and not sufficiently administratively robust with regard to controversial new pipelines proposed for entirely new corridors. In contrast, the normal MEPA EIS process is sufficiently robust to properly analyze the different environmental impacts and alternatives analyses required by law.

Therefore, the Commission should: (1) prepare and EIS for both the need and route hearings; (2) complete a need hearing to confirm that a new pipeline is needed and the extent and nature of this need; and (3) if need is confirmed, complete a route hearing to decide where the pipeline should go.

### **III. IDENTIFICATION OF ALTERNATIVES FOR CONSIDERATION IN THE PROPOSED PROJECT CERTIFICATE OF NEED DOCKET**

#### **A. Current Economic Conditions Including Low Oil Prices Require Monitoring and Study to Inform the Commission's Comparison of Alternatives**

The Sierra Club proposes that the Commission consider the following alternatives within its routing docket for Proposed Project. The Commission must consider the factors in Minn. R. 7853.0130, which broadly put include:

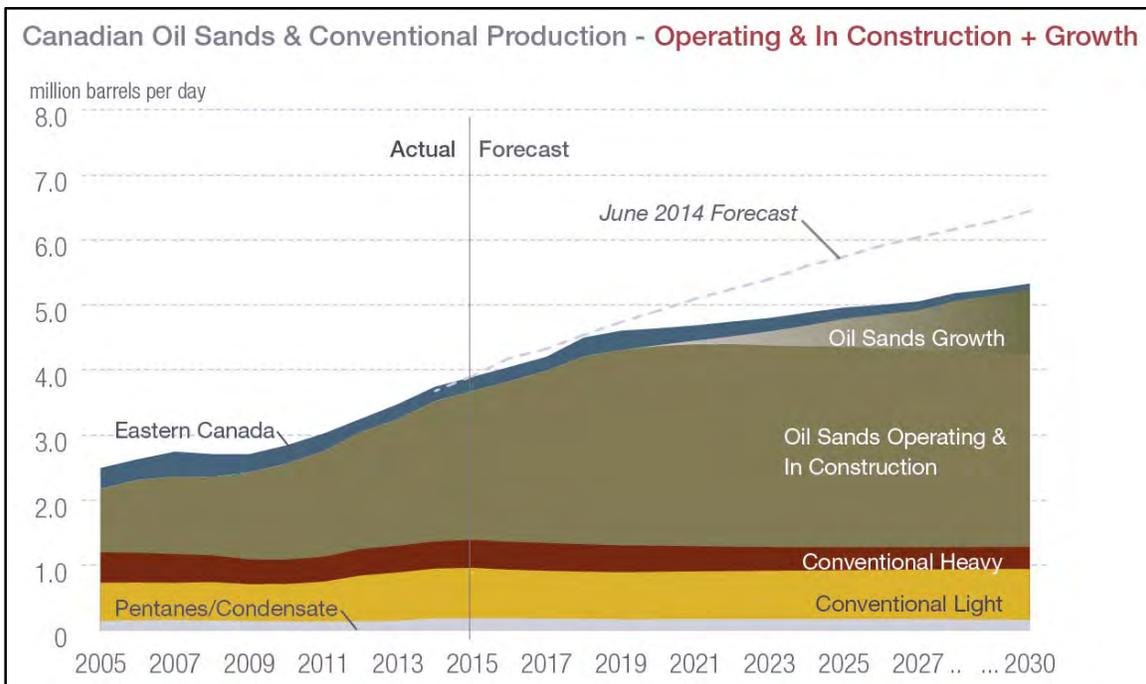
- expected consumer demand for increased amounts of petroleum products;
- the reliability of the crude oil supply that would be transported to meet this demand;
- the accuracy of Enbridge's demand forecasts;
- the utilization of current facilities as they might be expanded by without need for a certificate of need;
- the reasonableness of alternatives in light of the foregoing forecasts, their reliability, and their relative costs, socioeconomic and environmental impacts; and
- the impacts on society of not granting the certificate of need relative to doing so.

The Sierra Club notes that much of this analysis requires forecasting consumer demand into an uncertain economic future, made more uncertain by the oil price crash over the past year, which has seen oil price decrease by about 50%. As a result, CAPP forecast in June 2015 that investment in tar sands development will decreased from \$33 billion in 2014 to \$23 billion,<sup>12</sup> a 30% drop, and investment in new conventional oil supply has dropped, too. Further drops in oil

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<sup>12</sup> Edmonton Journal, *Capital investment in oil sands could decline further, CAPP president says* (Aug. 30, 2015) <http://www.edmontonjournal.com/business/Capital+investment+oilsands+could+decline+further+CAPP+president+says/11330674/story.html>

price since June indicate that the fall off in investment could be larger. According to Wood Mackenzie Ltd., approximately 800,000 bpd in new tar sands extraction capacity has been delayed or cancelled.<sup>13</sup> In its June 2015 annual report, Crude Oil Forecasts, Markets and Transportation (“2015 CAPP Report”), CAPP decreased its forecast of supply dramatically, though again, this forecast was made when oil prices were expected to be higher.



This chart also shows that during the last recession that oil production in Canada dropped in the near term despite industry assurances that development would increase in the near term, despite the 2008-09 recession. Given current economic conditions, including decreasing global trade and slowing economic growth, the Commission may very well face a situation similar to that when it approved construction of the Alberta Clipper Pipeline in 2009, which approval turned out to be premature given slowing Canadian oil exports and competition by other crude oil service transportation options.

Given current economic uncertainty about economic growth or decline and the possibility that economic conditions could worsen during the pendency of this hearing, the Sierra Club suggests that the Commission require the DOC to develop a range of crude oil supply forecasts, as continued low oil prices coupled with a global recession could dramatically reduce the need for new crude oil export capacity from Canada. If crude oil prices stay low for an extended

<sup>13</sup> Bloomberg Business, *The Oil-Sands Glut is About to Get a Lot Bigger* (Sept. 3, 2015) <http://www.bloomberg.com/news/articles/2015-09-03/canada-oil-sands-fork-over-billions-for-500-000-unneeded-barrels>

period of time, which has been predicted by many industry leaders,<sup>14</sup> and there is a global recession, then Canadian crude oil imports are very likely to drop. This would reduce the alleged demand for replacement of Line 3, and such reduced demand could be met through lower cost and/or lower capacity alternatives and/or delay in the start of construction based on the timing of need for new pipeline capacity.

**B. The Commission Should Study the Cost of Abandoning Existing Line 3 and Consider this in its Economic Analysis of Alternatives**

As discussed above, abandonment of pipelines results in significant costs, even if most of the pipeline is allowed to stay in the ground. However, should landowners choose to have pipe be removed from their properties or desire mitigation that falls short of removal but costs more than Enbridge's preferred mitigation approach, the cost of abandonment could increase substantially to the point that the cost of such mitigation could have an impact on the Commission's analysis. Therefore, the Commission should consider the financial impact of abandonment on the merits of alternatives.

**C. The Commission Should Consider the Impact of Railroad Transportation on the Viability of All Alternatives**

Railroad transportation has commercial characteristics that make it the preferred transportation method for some oil transportation service customers, including lower initial capital costs, shorter duration contracts, increased receipt and delivery flexibility, and the ability to serve East and West Coast markets that are not currently served and unlikely to ever be served by pipelines. Price per barrel delivery costs are only one aspect of the commercial calculus made when oil shippers select transportation mode. Further, some problematic aspects of rail service, such as track congestion, appear to be improving due to track and equipment upgrades. Thus, it is likely that railroads will continue to transport crude oil, and such transportation will have an ongoing impact on the need for new pipelines. Thus, the Commission should study the likely impact of railroads on the need for Enbridge's Proposed Project relative alternatives to this project.

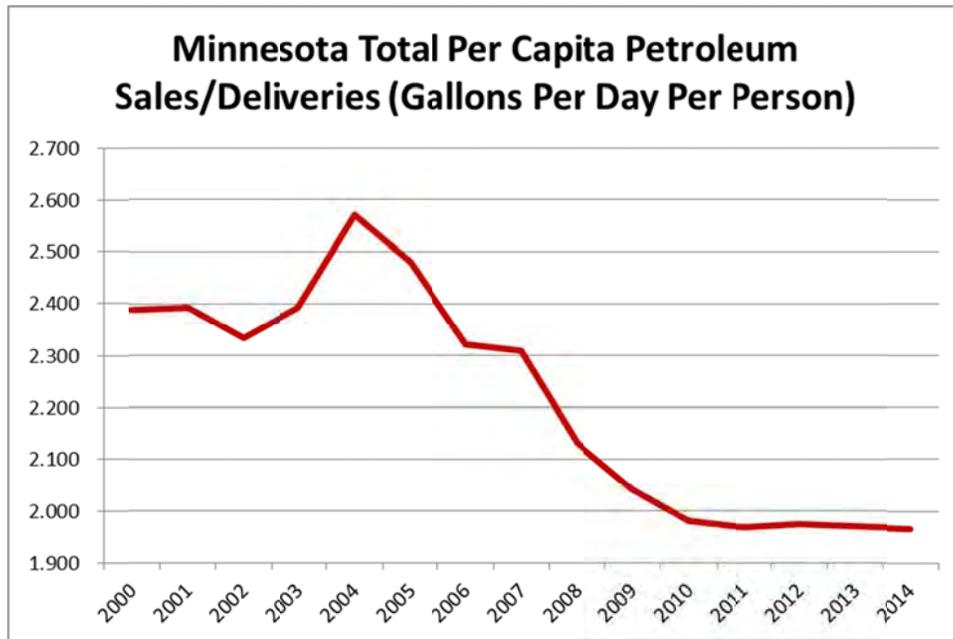
**D. The Commission Should Consider the Impact of Petroleum Conservation and Efficiency Measures on the Viability of All Alternatives**

Minn. R. 7853.0130.A(2) requires that the Commission consider: "the effects of the applicant's existing or expected conservation programs and state and federal conservation programs." In prior hearings, the Commission has refused to consider the impact of petroleum conservation and efficiency measures on need, and instead has allowed applicants to provide evidence of electricity conservation measures related to their pump stations, which measures are unrelated to the commercial need for transportation of crude oil.

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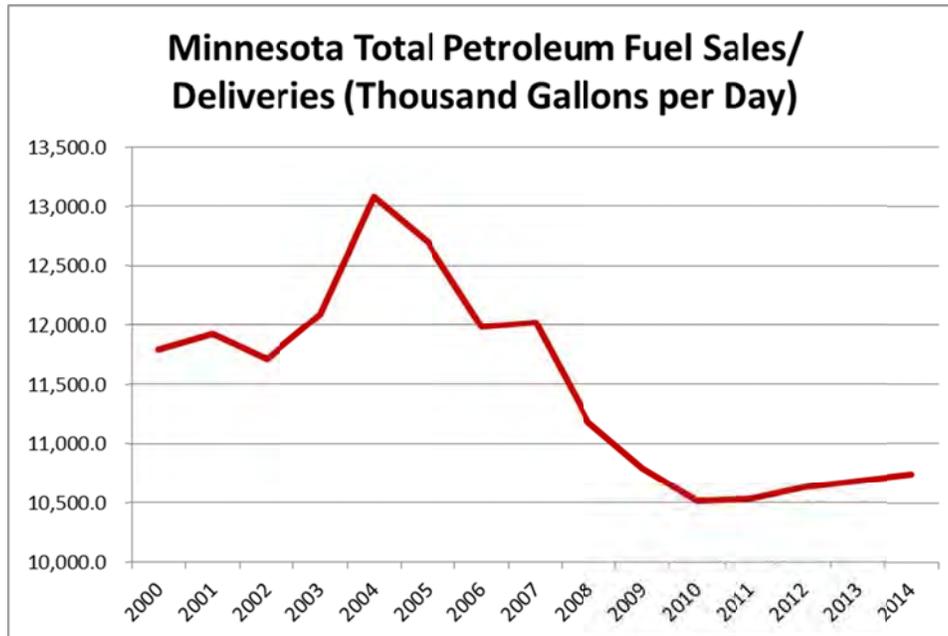
<sup>14</sup> E.g., Bloomberg Business, *Exxon CEO Says Expect Low Oil Prices for Next Several Years* (Apr. 21, 2015) <http://www.bloomberg.com/news/articles/2015-04-21/exxon-ceo-says-expect-low-oil-prices-for-next-several-years> .

Petroleum conservation can have a substantial impact on petroleum consumption. In fact, Minnesotans reduced their *per capita* petroleum fuels consumption between 2004 and 2014 by 23% since 2004.<sup>15</sup>



Yet, the world hasn't ended, in part because Minnesotans are using petroleum conservation and efficiency measures and technologies that help dramatically reduce the demand for petroleum fuels. Moreover, in terms of the total volume of petroleum fuels consumed by Minnesotans, the total consumption decreased by 18% between 2004 and 2014.

<sup>15</sup> U.S. Energy Information prime supplier data, available at:  
[http://www.eia.gov/dnav/pet/pet\\_cons\\_prim\\_dc\\_u\\_SMN\\_a.htm](http://www.eia.gov/dnav/pet/pet_cons_prim_dc_u_SMN_a.htm)



Thus, petroleum conservation can have a significant impact on demand for petroleum and the need for new pipeline capacity, such that it must be considered in the Commission's evaluation of alternatives.

#### **E. Alternatives that Should Be Considered Within the Need Docket**

The Sierra Club requests that the Commission consider the following alternatives pursuant to Minn. R. 7853.0130.B.

##### **1. Repair of Existing Line 3 to Allow Expansion That Does not Require a Certificate of Need (No Action Alternative)**

The Commission must consider the "no action" alternative, which would essentially allow Enbridge to perform ongoing repair and maintenance. The Commission should not assume that this alternative would result in no capacity expansion, because Enbridge could perform incremental repair and maintenance to expand capacity. In a November 2009 presentation entitled, "Enbridge Response to CAPP Near Term System Optimization," (Attachment E), Enbridge stated that Line 3's ultimate capacity could be as high as 630,000 bpd if Enbridge repaired the line to allow its maximum flow and modified other equipment. In this same presentation it also discussed the possibility of increasing capacity to 500,000 bpd, which would require fewer modifications. Enbridge alleges that it is more cost effective and safer to build a new pipeline. However, the industry has repeatedly said that pipelines have essentially unlimited life spans if they are properly maintained and repaired. The Commission should evaluate Enbridge's claims to ensure that repair is not a superior alternative, particularly in light of the increased environmental impacts and costs of constructing a new pipeline in a new corridor. Since the current Line 3 currently performs the same function as that of the Proposed Project,

repairing Line 3 would meet Enbridge's commercial need. The primary issues with this alternative appear to be the relative costs of this alternative and the preferred alternative assuming that Enbridge is able to repair Line 3 to the point that it meets federal safety standards.

## **2. Removal of Existing Line 3 and Construction of a New Pipeline in the Same Trench**

In its application Enbridge proposed a variation of this alternative but rejected it due primarily to alleged cost and practical constraints. Regardless, the Commission should consider this alternative and estimate its costs to determine if increased costs are merited due to avoidance of environmental impacts and increased landowner benefits related to removal of the old pipe and any associated contamination. Since a new pipeline in the same corridor would perform the same function as that proposed for the Proposed Project, constructing a new pipeline in the same trench would meet Enbridge's commercial need. The primary issues with this alternative appear to be its relative costs and benefits.

## **3. Partial or Complete Removal of Existing Line 3 and Construction in Existing Corridor**

Enbridge's removal alternative does not consider the possibility that portions of the existing corridor offer sufficient width to allow construction, such that removal of the existing Line 3 pipe and placement of new pipe in the same trench may be needed only in limited portions of the route. The Commission should examine mile-by-mile maps showing the exact locations of all pipelines in the existing corridor to determine the length of the corridor that offers no capacity for additional construction, and then determine the cost of construction if pipe is removed only in locations that are in fact constrained. Since a new pipeline in the same corridor would perform the same function as that for the Proposed Project, it would meet Enbridge's commercial need. The primary issues with this alternative appear to be its practicality and relative costs and benefits.

## **4. Construction of a New Pipeline on the Edge of the Existing Corridor**

Enbridge states that one of the reasons that it would be difficult to construct a new pipeline in the trench dug after Line 3 would be removed is because Line 3 is generally in the middle of the right of way, and this makes construction more difficult and expensive. This suggests that replacing a pipeline on the edge of the corridor would be less expensive. Figure 6.6.1-2, Typical ROW Configuration, on Route Application page 6-9 shows that Line 2, an even older pipeline, is generally on the north side of the right of way. Further, it is smaller in diameter so would cost less to remove. The Commission should review the precise location of the pipelines to determine if replacement of Line 2 is practically viable in terms of construction, as well as financially viable. Since a new pipeline in the same corridor would perform the same function as that proposed for the new pipeline, constructing a new pipeline in the same corridor would meet Enbridge's commercial need. The primary issues with this alternative appear to be its practicality and relative costs and benefits.

## **5. Expand Capacity of Lines 2A, 2B, LSr, and 4**

In March of this year, Enbridge informed its investors that it intended to increase the capacities of Lines 2A, 2B, LSr, and 4, for a total increase of 220,000 bpd (Attachment F). The Commission should consider whether these expansions projects could economically meet the alleged commercial demand for the Proposed Project, particularly if the current low oil price environment continues.

## **6. Reactivation of Midwest Pipeline and Integration into Enbridge System**

Minnesota currently hosts the Minnesota Pipeline, which runs from Clearbrook to the Twin Cities area, and the Wood River Pipeline,<sup>16</sup> which current runs from Hartford, Illinois (near Wood River), to the Twin Cities. Sierra Club understands that the Minnesota Pipeline will or has been expanded significantly, without corresponding increases in refinery demand. This suggests that it will have substantial excess capacity.

Sierra Club also understands that the 580 mile-long Wood River Pipeline is currently configured to run from Illinois to Minnesota, but that it is currently not in operation. As recently as 2013, Koch Pipeline investigated the possibility of incorporating the Wood River Pipeline into a project that would ship 250,000 bpd from North Dakota to Illinois.<sup>17</sup> Assuming that the maximum capacity of the Wood River Pipeline is 250,000 bpd, this capacity in combination with the existing Line 3 Pipeline's capacity would 640,000 bpd, or almost as much capacity as Enbridge's Proposed Project.

Together, the Minnesota Pipeline and a reversed Wood River Pipeline could move Canadian crude oil from Clearbrook, Minnesota, all the way to Illinois, potentially with limited need for a new pipeline corridor through Minnesota. Thus, a possible alternative would follow the existing Line 3 corridor from the North Dakota border to Clearbrook, and from there through the Minnesota Pipeline to its closest point of contact with the Wood River Pipeline, at which point connecting infrastructure would be built to the Wood River Pipeline, and then through the Wood River Pipeline to its terminus in Illinois, from where a connector would be built to the nearest Enbridge pipeline terminal.

The Commission should explore full use of Koch-owned pipelines, instead of assuming that these existing assets have no further utility in crude oil transportation. Given that use of this existing but unused pipeline capacity to transport oil to Illinois, which is an important destination for Enbridge shippers, would (1) result in much lower costs and much less environmental impact than Enbridge's Proposed Project, (2) could be constructed in an accelerated timeframe, and (3) would provide service to and from the Clearbrook Terminal to a terminal near Enbridge terminals in Illinois, the Commission should investigate: (1) the amount of unused capacity on the Wood River and Minnesota Pipelines; (2) the cost and practicality of integrating these

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<sup>16</sup> Koch Pipeline website: <http://www.kochpipeline.com/about-us/kpl-facts/>

<sup>17</sup> Reuters, Koch Pipeline seeks shipper Interest in Bakken pipeline (Jun. 18, 2013)

<http://www.reuters.com/article/2013/06/18/koch-pipeline-bakken-idUSL2N0EU00K20130618>

underutilized resources into Enbridge's midcontinent pipeline network; (3) the reasons why the oil industry has chosen to not use these resources; and (4) the environmental impacts of fully using these pipelines relative to the environmental impacts of Enbridge's Proposed Project.

#### **7. All Route Alternatives Proposed in the Sandpiper Route Docket**

By reference, the Sierra Club hereby incorporates into these comment the alternative routes proposed in the Sandpiper route docket and studied by the DOC in its July 16, 2014 analysis of alternative routes filed in Docket No. PPL-13-474. Since these routes are known by the Commission and DOC and were filed with the Commission, the Sierra Club does not believe it is necessary to further describe them in these comments or to include the DOC study as an attachment.

#### **IV. IDENTIFICATION OF ALTERNATIVES FOR CONSIDERATION IN THE PROPOSED PROJECT ROUTE PERMIT DOCKET**

The Sierra Club proposes that the Commission consider the following routes, which are described in more detail in the foregoing section:

- the existing Line 3 corridor;
- Enbridge's preferred route and other routes considered in its Application;
- all of the routes proposed in the Sandpiper route docket, which routes are incorporated herein by reference; and
- a route that would following the existing Line 3 corridor to the Clearbrook Terminal, and from there use of the Minnesota Pipeline and Wood River Pipeline to Hartford, Illinois, and from there to the nearest Enbridge Terminal.

#### **V. ENVIRONMENTAL IMPACTS THAT MUST BE ADDRESSED IN MEPA REVIEWS FOR THE CERTIFICATE OF NEED AND ROUTE PERMIT DOCKETS**

The Commission should use the MEPA process to study the environmental impacts of all of the route and non-route alternatives proposed above. The categories of impacts that should be studied include:

- all of the impact categories identified by the headings in Section 7.0 of the Route Application, not limited by Enbridge's discussion of these impacts;
- the impacts of abandonment of existing Line 3;
- potential cumulative impacts of the construction of additional pipelines in Enbridge's proposed corridor, including the proposed Sandpiper Pipeline and any other potential pipeline projects that may come to light during the hearing;
- the impacts of increased petroleum extraction in the Tar Sands Region on Minnesota's climate and air quality;

- the impacts of refineries that would receive the additional crude oil to be transported by the Proposed Project;
- the risks of oil spills in light of Enbridge's safety record;
- the inadequacy of pipeline safety oversight;
- migratory species; and
- at-risk resources.

More information about a number of these potential impacts are discussed below.

## **A. Identification of Potential Impacts Within the Scope of MEPA**

### **1. Impacts of Increased Tar Sands Development**

The Commission should study the direct, indirect, and cumulative environmental impacts of increased extraction, transportation, and consumption of crude oil from the Tar Sands Region resulting from the Proposed Project will not be adequately addressed. The EIS should also assess the direct, indirect, and cumulative environmental impacts of increased tar sands oil processing, transport, and combustion. These upstream and downstream impacts include those related to greenhouse gas emissions, as well as impacts on migratory species and affected communities. The EIS should adopt a broad definition of "cumulative" to assess environmental impacts.

Enbridge's proposal to build a new pipeline with almost double the operational capacity of the Line3 Pipeline, from 390,000 bpd to 760,000 bpd, would enable further expansion of development of Tar Sands deposits in the Western Canada Sedimentary Basin ("WCSB") in the province of Alberta. The EIS should specifically address the cumulative climate change impacts of increased tar sands development and calculate greenhouse gas ("GHG") emissions released in the extraction process as part of its GHG accounting.

### **2. Impacts of Related and Connected Infrastructure Projects**

The Proposed Project will impact the entire current pipeline infrastructure for the Great Lakes region and beyond – most notable are the expansions of pipelines found within the Lakehead System, which connects to Line 3 in Superior, Wisconsin. Line 3 connects directly with Lines 5, 6A, and 61, all of which run through the heart of the Great Lakes region. Also being expanded, and part of the Lakehead System, is Line 6B, which also is the line that tragically ruptured in July, 2010 sending approximately a million gallons of tar sands into Talmadge Creek and the Kalamazoo River. That spill, as detailed below, has caused likely permanent environmental damage, severe health problems for many affected residents, and led to a major evacuation of hundreds of homes. In the wake of the Kalamazoo spill, Enbridge is now working on replacing Line 6B with a larger pipe that can carry as much as 33.6 million gallons

per day, which is more than the existing Line 6B was running at when it ruptured.<sup>18</sup> Also, Enbridge has expanded the capacity of Line 5 - a 60 year-old line running four miles along the bottom of the Great Lakes through the Straights of Mackinaw.

Also, Enbridge recently completed construction of a major new pipeline from Flanagan, Illinois to Cushing, Oklahoma, called the Flanagan South Pipeline, which would allow large quantities of tar sands crude oil to flow to the Gulf Coast for refinement and export.<sup>19</sup> This line would cross both the Mississippi River and Missouri River. Additionally, Enbridge has an active application before the National Energy Board in Canada to increase the capacity of Line 9 to 300,000 bpd and reverse that line's flow and allow for tar sands to be transported to Montreal.<sup>20</sup> Line 9 flows on the northern side of Lake Ontario, cutting across tributaries of that lake. From Montreal, tar sands would likely travel to port in Portland, Maine along the Exxon-owned Portland-Montreal Pipe Line ("PMPL"). The PMPL threatens many treasured New England resources such as the Connecticut River, New England's longest river, the Sebago Lake watershed, one of the purest lakes in the country and a major drinking water supply, and Casco Bay, a key driver for Maine's economy. All of these projects will almost certainly be fed and enabled by tar sands oil from this expansion, making the indirect and cumulative impacts of this project massive.

Thus, the entirety of the Proposed Project – including, but not limited to, increases in mining and/or drilling, additions to pump stations, new or upgraded refineries, increased oil transport, and effects on end use – must be examined in the cumulative analysis, particularly on climate change impacts. A valid cumulative impacts analysis should address upstream extraction as well as downstream refining and combustion. The EIS should conduct a complete life-cycle assessment of environmental impacts from the Proposed Project.

### **3. Impacts of Refineries**

The Proposed Project will increase the volume of crude oil supply to the U.S., thus requiring increased refinery capacity. The EIS should identify and quantify increases in refinery capacity to process the increased amount of tar sands crude oil that would be imported into the U.S. by building a new pipeline with a capacity of 760,000 bpd. EIS should investigate whether U.S. refineries expected to receive crude oil from the Proposed Project will require the addition of upgraders. The environmental impacts of increasing refinery capacity and adding upgraders must be considered in the EIS.

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<sup>18</sup> David Hasemyer and Lisa Song, *Little Oversight for Enbridge Pipeline Route that Skirts Lake Michigan*, INSIDE CLIMATE NEWS, Dec. 27, 2012, <http://insideclimatenews.org/news/20121227/indiana-enbridge-pipeline-6B-lake-michigan-rivers-dilbit-oil-spill-wetlands>.

<sup>19</sup> Market News, *\$15B Enbridge Pipeline Network Aims to Move One Million Barrels of Oil to Market*, KLEENINDUSTRIES, Feb. 1, 2013, [http://www.kleanindustries.com/s/environmental\\_market\\_industry\\_news.asp?ReportID=568829](http://www.kleanindustries.com/s/environmental_market_industry_news.asp?ReportID=568829).

<sup>20</sup> See, National Energy Board: Enbridge Pipelines Inc.- Line 9B Reversal and Line 9 Capacity Proposed Project, <http://www.neb-one.gc.ca/clf-nsi/rthnb/pplctnsbfrthnb/nbrdgl9brvrs1/nbrdgl9brvrs1-eng.html> (last visited April 26, 2013).

Refining heavy sour (sulfurous) crude oil extracted from tar sands crude oil requires more energy inputs than refining conventional crude because of the energy needed to crack the heavy, long hydrocarbon molecules into final products and remove the high levels of sulfur contaminants. This process yields significant increases in emissions of pollutants, including heavy metals such as mercury, conventional air pollutants (in particular sulfur dioxide and carbon monoxide), and carbon dioxide. In evaluating the reasonable and foreseeable environmental effects of increased refinery capacity, the EIS analysis of impacts should include, but not be limited to, local air quality and public health, loss of animal and marine habitat, potential discharge of air and water pollutants, and increase in GHG emissions.

The EIS should not discount GHG emissions from increased refinery capacity based on the unjustified claim that crude oil transported by the Proposed Project would replace oil from other sources.<sup>21</sup> The Proposed Project EIS should quantify the real GHG emissions that will be released by expanding refining capacity – including GHG emissions from the refining process, itself – as doing otherwise would fall short of the *cumulative* impacts analysis required by NEPA.

The increased crude oil supply and increased refinery capacity that will accompany the Proposed Project will also require an expanded distribution system. The EIS should take into account the direct, indirect, and cumulative environmental impacts of transporting and distributing tar sands crude oil after it reaches Enbridge's Superior Terminal. This includes, but is not limited to, impacts on the local environment, economy, and communities along various crude oil transportation routes. As detailed above, this expansion and the connecting projects traverse a great swath of the country and most immediately place at risk resources in the Great Lakes region.

The EIS should also address the impacts of the end use of refined tar sands crude oil, whether burning in automobiles or elsewhere, as that will have the direct or indirect impact of contributing to GHG emissions and hence, to climate change, which will increasing impact Minnesota – regardless of where the crude oil that would be transported by the Proposed Project is burned. Increased access to tar sands oil will support refining and keep petroleum prices lower than without it, with the obvious impact of continuing to allow the increase of petroleum use.<sup>22</sup> Further, the result of increased access to crude oil is increased use of oil-based liquid fuels. Thus, the likely and foreseeable environmental effects of burning more liquid fossil fuels must also be included in the EIS.

In sum, this expansion represents not only potentially the largest Tar Sands crude oil infrastructure project in the country, but part of other major Tar Sands projects that present climate, safety and other impacts that need to be carefully examined. These impacts are contrary to energy policy objectives that seek to reduce carbon pollution, tackle climate change, and

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<sup>21</sup> U.S. Department of State, *Final Environmental Impact Statement for the Alberta Clipper Project* (June 5, 2009) at 4-394.

<sup>22</sup> See *Mid-States Coalition for Progress*, 345 F.3d at 549.

protect communities from the direct threats of disasters like spills that harm the environment and public health. Its review under MEPA must be viewed through this broad lens.

#### **4. Impacts to Climate Change**

Because climate change is such an important and far-reaching issue, we suggest that the EIS include a separate section on GHG and climate change impacts. The EIS cumulative impacts analysis should address GHG emissions and the resulting climate change impacts that are foreseeable from the expanded extraction, refining, and end use of the tar sands as fuel.

Over its entire lifecycle, the synthetic crude oil produced from tar sands emits at least 17% more global warming pollution than conventional oil. Furthermore, because Tar Sands oil is a heavier crude, the U.S. refineries that process it will produce higher levels of pollutants that damage human health and lead to more smog, haze, and acid rain. These aspects of the project must be given a thorough analysis in the EIS.

According to the Intergovernmental Panel on Climate Change (“IPCC”), a group of over 2000 of the world’s preeminent climate scientists, climate change is a fact. The IPCC concludes that “warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level.” Most of the observed increase in global average temperatures since the mid-20th century is “very likely due to the observed increase in anthropogenic greenhouse gas concentrations.”<sup>23</sup> According to the IPCC’s assessment of the latest scientific literature, evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases.<sup>24</sup>

Tar Sands crude oil production generates almost triple the GHG pollution as conventional oil production because of the massive amounts of energy needed to extract, upgrade, and refine the oil.<sup>25</sup> The EIS should take into consideration the cumulative increase in GHG emissions (methane, CO<sub>2</sub>, black carbon, etc.) that will result from each stage of the Proposed Project life cycle. This includes, but is not limited to, GHG emissions from the increased extraction of raw Tar Sands crude oil in Canada, the increased refinement of tar sands crude in the U.S., and the increased domestic and foreign combustion of tar sands oil.

If quantification of these GHGs cannot be made by the Commission, then it should identify what additional information would be necessary to make that determination. In addition, the impact of these GHGs on climate change should be analyzed. If the Commission believes it

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<sup>23</sup> *Id.* at 17.

<sup>24</sup> *Id.* at 9.

<sup>25</sup> Dan Woynillowicz, “Oil Sands Fever: The Environmental Implications of Canada’s Oil Sands Rush,” (The Pembina Institute, November, 2005) p. 22. Information gathered from Canadian Association of Petroleum Producers on conventional oil and from the Pembina Institute for oil sands mining and in situ drilling. Actual numbers are 28.6 conventional oil average GHG intensity/barrel of oil as compared to 85.5 oil sands average GHG intensity/barrel of oil.

cannot make that determination, it should identify what additional information would be necessary to do so.

The WCSB tar sands lie beneath approximately 149,000 square kilometers of Alberta's northeastern boreal forest. The destruction of the boreal forest due to open pit mining and intensive drilling is eliminating an extensive carbon sink, thereby releasing carbon back into the global atmosphere. Tar Sands extraction is also destroying peat bogs, the single best carbon sink of any habitat in terms of tons of carbon captured.

Black carbon, second only to CO<sub>2</sub> in atmospheric heat-trapping power, is emitted by diesel trucks, earth moving equipment, processing plants, and other extraction-related equipment and operations that burn fossil fuels, biofuels, and biomass. In addition to trapping heat like CO<sub>2</sub>, black carbon also deposits black soot on ice and in clouds, which increases absorption of sunlight and further contributes to atmospheric warming.

Carbon dioxide, black carbon, and other GHGs like methane released in Canada contribute to global atmospheric concentrations of GHGs, which in turn causes climate change impacts in the U.S. Therefore, the EIS should include these significant GHG contributions from increased Canadian tar sands extraction in its environmental impact analysis of the Proposed Project.

Refining tar sands crude oil results in more GHG emissions than refining conventional oil because the tar sands refining process is more energy-intensive. The requisite additional energy is most likely to come from sources that emit large quantities of GHGs, such as coal-fired power plants. It follows that the Proposed Project will cause both an increase in emissions from the refineries themselves and an increase in emissions from plants that power the refineries. Therefore, the EIS should account for the aggregate GHG emissions that will be released by expanding refinery capacity, including the increase in GHG emissions from all refining-related processes.

End use combustion of refined tar sands oil also contributes to climate change impacts by emitting GHGs. The EIS should quantify and include cumulative GHG emissions released from the increased combustion of tar sands oil on both domestic and foreign soil. Climate change impacts in the U.S. are affected by the aggregate amount of GHGs released globally and as such, foreign end-use emissions should be included alongside domestic end-use emissions.

The EIS should adopt a GHG accounting methodology that is broad in scope and satisfies the MEPA directive for a cumulative analysis of impacts. The EIS calculations should include GHG emissions generated from all activities related to the increased extraction, upgrading, refining, transport, and combustion of tar sands oil resulting from the Proposed Project.

This is of immense concern as GHG emissions contribute to climate change and a wide range of related adverse ecological and human health effects, including water shortages, coastal flooding, increased risk of wildfires and stronger hurricanes, new pests and insect-borne

diseases, and disruption of habitats. The EIS should consider the direct, indirect, and cumulative climate change impacts of the Proposed Project. It is especially important that the EIS address cumulative climate change impacts from the resulting intensification of tar sands development.

In sum, the EIS should analyze the impacts on climate by determining how many tons of GHGs will be emitted, what mitigating measures will be implemented, and by how many tons of GHGs each mitigating measure will reduce emissions, for each of the following stages of the Proposed Project: the extraction (and processing to crude oil) of the tar sands in Canada, including the resulting clear-cutting of forests, destruction of peat bogs and other ecosystems, and mining and drilling activities; the construction and modification of any Tar Sands-related facilities (including pump stations and terminals); the refinement of tar sands crude oil, including the projected increase in refinery capacity; the distribution and transport of tar sands crude oil to and from refineries; and the end-use combustion of the refined tar sands oil.

### **5. Risks of Spills in Light of Enbridge's Poor Safety Record**

The release of tar sands crude oil poses a significant threat to the natural and human environment, and cleanup of crude oil spills presents a greater challenge than the cleanup of conventional oil spills. The EIS should analyze the oil spill risks and potential impacts of building a new 760,000 bpd pipeline through northern Minnesota, including many of its most pristine lakes, rivers, streams, and wetlands.

The EIS should reevaluate and review both Enbridge's facility response plan ("FRP"), which is required by both the federal Oil Pollution Act and Minnesota's spill response law, Minn. Stat. Ch. 115E, and its Integrity Management Program ("IMP"), which are the primary mitigation measures to ensure the safe operation of the Proposed Project Pipeline and to ensure that Enbridge properly cleans up any spills. Since Minnesota has its own oil spill response law and has a federally delegated pipeline safety program, the Commission should prepare a comprehensive risk analysis of the Proposed Project.

MEPA requires a thorough analysis of environmental impacts considering on-the-ground circumstances in an effort to anticipate and mitigate for the certainty that spills and leaks will occur from the Proposed Project. It further requires analysis of the limits and measures in place to prevent or mitigate the harm that will result to environmental and human communities. Thus, the EIS should not only analyze the FRP and IMP for prevention and mitigation measures, but also evaluate the likelihood of spills of varying size and their potential impacts on different resources such as aquifers and wetlands. Additionally, the Commission should coordinate with the Minnesota Office of Pipeline Safety to analyze the safety risks of the Proposed Project. Defects in this risk analysis and mitigation plan could have catastrophic impacts on the environment and human health.

The EIS also must consider Enbridge's full pipeline operating history in the U.S., as well as in Canada. The scope of examination of Enbridge's pipeline incident history should be expanded geographically and updated temporally. The Proposed Pipeline's FRP would be

subsumed within Enbridge's regional FRP; therefore, the EIS should consider the entirety of Enbridge's incident history to accurately assess Enbridge's ability to respond to spills and leaks from the Proposed Project. This includes all "accidents", as defined in 49 C.F.R. § 195.50, that have occurred at Enbridge-owned and/or Enbridge-operated crude oil pipelines in the U.S. and Canada since the company's founding as Lakehead Pipeline Company, Inc., in 1950.

A compilation of Enbridge's own data reveals that between 1999 and 2010, there were 804 spills on Enbridge pipelines that released a total of 161,475 barrels (6.8 million gallons) of hydrocarbons into the environment.<sup>26</sup> As a frame of reference, this quantity is approximately half the amount of oil released from the Exxon Valdez oil tanker spill in 1988. The Commission should examine this troubling history of Enbridge spills and update the totals with data from 2010 to the present.

In addition to Enbridge's incident history, the EIS should consider the full history of Enbridge's safety violations in the U.S. and Canada. PHMSA investigations that were conducted in response to incidents at Enbridge pipelines have uncovered numerous safety violations and resulted in significant fines. For example, in 2010, following a crude oil pipeline explosion that killed two workers in Minnesota, PHMSA imposed a \$2.4 million fine against Enbridge for violations of federal pipeline safety regulations.<sup>27</sup> PHMSA also identified violations on Enbridge pipelines in North Dakota and Wisconsin after two separate crude oil spills in 2007, resulting in a \$105,000 and \$100,000 fine, respectively.<sup>28</sup> The EIS must take a hard look at Enbridge's comprehensive safety record, including its history of incidents and violations.

Recent inspections conducted by the Canadian National Energy Board revealed long-standing and serious violations at Enbridge pump stations in Canada. Of Enbridge's 125 pump stations, 117 lack an alternate source of power capable of operating the emergency shut down systems and 83 lack an emergency shut-down push-button.<sup>29</sup> These are violations of safety regulations that have been in place for more than a decade.<sup>30</sup> The Proposed Project EIS must acknowledge that Enbridge's disregard for Canadian pipeline regulations raises the plausibility of Enbridge's noncompliance with U.S. regulations. By failing to comply with the aforementioned safety measures, Enbridge put the people and environment of Canada at greater risk for spills in the event of an emergency and/or power outage. The EIS must consider the possibility that Enbridge's Proposed Project will put the people and environment of the Minnesota at greater risk for spills given Enbridge's poor safety record.

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<sup>26</sup> <http://www.tarsandswatch.org/files/Updated%20Enbridge%20Profile.pdf>.

<sup>27</sup> <http://www.phmsa.dot.gov/portal/site/PHMSA/menuitem.ebdc7a8a7e39f2e55cf2031050248a0c/?vgnextoid=1a0387e16584a210VgnVCM1000001ecb7898RCRD&vgnnextchannel=8fd9f08df5f3f010VgnVCM1000008355a8c0RCRD&vgnnextfmt=print>.

<sup>28</sup> [http://primis.phmsa.dot.gov/comm/reports/enforce/documents/320075022/320075022\\_FinalOrder\\_06022009.pdf?nocache=2855](http://primis.phmsa.dot.gov/comm/reports/enforce/documents/320075022/320075022_FinalOrder_06022009.pdf?nocache=2855); [http://primis.phmsa.dot.gov/comm/reports/enforce/documents/320095006/320095006\\_Final%20Order\\_10132011.pdf](http://primis.phmsa.dot.gov/comm/reports/enforce/documents/320095006/320095006_Final%20Order_10132011.pdf).

<sup>29</sup> [http://www.neb-one.gc.ca/clf-nsi/rsftyndthnvrnmnt/sfty/brdrdr/nbrdg\\_rft2013\\_001-eng.html](http://www.neb-one.gc.ca/clf-nsi/rsftyndthnvrnmnt/sfty/brdrdr/nbrdg_rft2013_001-eng.html).

<sup>30</sup> <http://www.cbc.ca/news/politics/story/2013/05/05/pol-enbridge-breaks-neb-safety-rules.html>.

Enbridge's Line 6B Pipeline is a 30-inch-diameter pipeline that transports tar sands crude oil as a segment of Enbridge's Lakehead System. The Line 6B rupture occurred in a wetland in Marshall, Michigan, during a planned shutdown. Enbridge failed to discover or address the rupture for *over 17 hours*, during which time additional oil was pumped into Line 6B during two startups. The total release was estimated to be 843,444 gallons (20,082 barrels) of tar sands crude oil, which saturated the surrounding wetlands and flowed into the Talmadge Creek and Kalamazoo River.

The resulting Tar Sands crude oil discharge severely damaged the environment and caused local residents to self-evacuate from their homes. Public health was also negatively affected by this accident, with about 320 people reporting symptoms consistent with crude oil exposure. As of the writing of these comments, cleanup efforts continue and costs exceed \$767 million.<sup>31</sup> Most recently, the U.S. Environmental Protection Agency ("EPA") issued an order on March 14, 2013, requiring Enbridge to perform additional dredging in the Kalamazoo River, where the tar sands crude oil travelled 35 miles downstream.

We strongly urge that the EIS address the findings of NTSB's Accident Report on the 2010 Marshall, Michigan, accident (hereafter, "the Report"). The Report notes that from 1986 to 2011, Enbridge incidents comprised 3 of the top 15 largest onshore crude oil spills in the U.S., with the 1991 Grand Rapids, Minnesota, release of 1.7 million gallons (40,476 barrels) in second place and the 1989 Pembina, North Dakota, release of 1.3 million gallons (30,952 barrels) in fifth place. The 2009 FEIS fails to include either of these massive crude oil spills in looking at Enbridge's safety record and instead imposes an arbitrary date range for examination. The EIS should consider the full record of Enbridge's crude oil pipeline operating history, as doing so may reveal patterns of negligence by Enbridge.

Almost two years, to the date of the 2010 Marshall, Michigan, release, Enbridge had another release on their Lakehead System, this time in Grand Marsh, Wisconsin, where Line 14 shot a geyser of oil into the air coating livestock and a farm house. This disaster resulted in PHMSA issuing a rare system-wide corrective action order on the Lakehead System, stating "PHMSA has communicated its longstanding concerns about this pattern of failures with Respondent over the past several years. Given the nature, circumstances, and gravity of this pattern of accidents, additional corrective measures are warranted."<sup>32</sup> This Corrective Action Order remains active on the entire Lakehead System even while Enbridge has been granted the authority to expand this same network of lines, bringing into question gaps in our regulatory structure.

The Report also notes that the entire Enbridge pipeline system is controlled from a single Supervisory Control and Data Acquisition ("SCADA") control center in Edmonton, Alberta,

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<sup>31</sup> *Id.*

<sup>32</sup> Letter from Jeffrey Wiese, Associate Administrator for Pipeline Safety at PHMSA, to Richard Adams, Vice President of U.S. Operations at Enbridge (Aug. 1, 2012), *available at* [http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/Press%20Release%20Files/320125017H\\_Amended%20Corrective%20Action%20Order\\_08012012.pdf](http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/Press%20Release%20Files/320125017H_Amended%20Corrective%20Action%20Order_08012012.pdf).

Canada. Thus, pipeline monitoring and emergency response for the Proposed Pipeline originates from Enbridge's centralized Edmonton Control Center. This is further reason why the EIS should reevaluate Enbridge's general pipeline FRP and analyze Enbridge's comprehensive operating history.

The Proposed Project EIS should specifically address the determination made by NTSB's investigation that "pervasive organizational failures at Enbridge" made the Line 6B Pipeline rupture and prolonged release possible. These pervasive organizational failures include deficient integrity management procedures, inadequate training of control center personnel, and insufficient public awareness and education. Particularly worrisome is the Report's identification of safety issues, such as the inadequacy of Enbridge's integrity management program to accurately assess and remediate crack defects, the failure of Enbridge's control center staff to recognize abnormal conditions related to ruptures, and the inadequacy of Enbridge's facility response plan to ensure adequate training of the first responders and sufficient emergency response resources allocated to respond to a worst-case release.

Most recently, there was a leak on Enbridge's Line 2 pipeline on April 23, 2013 at the Viking, Minnesota, pump station.<sup>33</sup> Line 3 also runs through the Viking, Minnesota, pump station. The EIS analysis should update Enbridge's incident history to include these and all other accidents that have occurred at Enbridge-owned and/or Enbridge-operated crude oil pipelines since 2008. This includes, but is not limited to, the 2010 Enbridge releases of 316,596 gallons (7,538 barrels) of crude oil in Romeoville, Illinois, and 158,928 gallons (3,784 barrels) of crude oil in Neche, North Dakota.

In evaluating the safety risks of the Proposed Project, the EIS should consider the overall safety of pipelines carrying tar sands by looking at all incidents that have occurred on tar sands pipelines in the U.S. and Canada. This includes, but is not limited to, release events on pipelines owned and/or operated by TransCanada, ExxonMobil, and Kinder Morgan. The safety record of tar sands pipelines in general should be examined alongside Enbridge's safety record as part of the EIS spill risk analysis.

In addition to the danger of spills to human communities, the EIS must take a hard look at the impacts of spills to plant and animals. In particular, the EIS should study and analyze the potential impact of oil spills on wild rice, a staple of the Ojibwe peoples in northern Minnesota. Such study should consider the impact of spilled tar sands crude oil, including heavy crude oil, on the viability and productivity of impacted rice beds. Wild rice is well known to be very sensitive to sulfur compounds, which are contained in heavy and light sour crude oils. The impact of oil spills on wild rice is not known but of critical importance to Minnesota's tribes; therefore, the EIS must study and analyze these impacts. Often not considered but of particular significance to Minnesotans are the impact of an oil spill on fisheries, both in terms of the loss of fish, loss of fish habitat, and potential contamination of fish used for human consumption.

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<sup>33</sup> <http://enbridgeus.com/Viking/>.

A look at the types of wildlife primarily suffering the adverse impacted by the 2010 Kalamazoo diluted bitumen spill and the recent Mayflower diluted bitumen spill reveals that these spills primarily hurt reptiles, amphibians, and birds such as ducks and geese that rely on aquatic habitat. Approximately 4,000 animals were treated for injuries as a result of the Kalamazoo spill and many required significant care before being released back into the environment.<sup>34</sup> Responders estimated that, “whatever the final tally of dead wildlife is, the real number will be almost three times higher because some oil in hard-to-get-to floodplain areas is being allowed to break down over time — oil that could potentially contaminate animals.”<sup>35</sup> The Binder Zoo veterinarian who cared for many of the reptiles and amphibians harmed by the Kalamazoo spill reported taking in 1,795 animals including eight varieties of turtles, two types of snakes, two frog varieties, and one toad species.<sup>36</sup> According PHMSA, about 2,500 animals were treated, but the overwhelming impact was to turtles.<sup>37</sup> Some of these turtles were badly enough injured that they still required the full time care of a veterinarian 15 months later.<sup>38</sup>

The recent and much smaller Mayflower diluted bitumen spill impacted 509 animals, with 44 birds and 34 reptiles and amphibians found dead upon arrival, 27 animals dying at the rehabilitation facility, and over 200 animals, mostly snakes, euthanized. From these two incidents it is clear that spills of diluted bitumen have especially significant impacts on reptiles and amphibians. In addition, it seems likely that these spills also have significant impacts on invertebrates, crustaceans, and species that rely on aquatic habitat, although these impacts are less apparent to wildlife rescuers for obvious reasons. However, this does not diminish the significance of these impacts and they must be considered in the EIS. Special emphasis should be given to sensitive, endemic, culturally significant, threatened, endangered, and otherwise protected wildlife species but should not preclude analysis of impacts to all potentially impacted wildlife species.

## **6. Inadequacy of Pipeline Oversight**

The EIS should also directly address the weaknesses of PHMSA regulations including, but not limited to, PHMSA’s lack of regulatory guidance for pipeline facility response planning, PHMSA’s ineffective oversight of pipeline IMPs, and PHMSA’s limited oversight of pipeline emergency preparedness.

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<sup>34</sup> National Transportation Safety Board, Enbridge Incorporated Hazardous Liquid Pipeline Rupture and Release (July 25, 2010), available at <http://www.nts.gov/doclib/reports/2012/PAR1201.pdf> at 63 (A wildlife response center was established with the cooperation of Enbridge, the U.S. Fish and Wildlife Service, and the Michigan Department of Natural Resources and the Environment. The response center cared for and released about 3,970 animals—of 196 birds treated, 52 were not released).

<sup>35</sup> [http://www.mlive.com/news/kalamazoo/index.ssf/2010/10/wildlife\\_rehab\\_continues\\_after.html](http://www.mlive.com/news/kalamazoo/index.ssf/2010/10/wildlife_rehab_continues_after.html).

<sup>36</sup> <http://www.binderparkzoo.org/kalamazoosriver/>.

<sup>37</sup> See [www.pstrust.org/docs/Kilian.ppt](http://www.pstrust.org/docs/Kilian.ppt).

<sup>38</sup> [http://www.battlecreekenquirer.com/article/20111104/OILSPILL/111040320/Tainted-turtles-still-suffering-15-months-after-river-oil-spill?odyssey=tab%7Ctopnews%7Ctext%7Cfrontpage&nlick\\_check=1](http://www.battlecreekenquirer.com/article/20111104/OILSPILL/111040320/Tainted-turtles-still-suffering-15-months-after-river-oil-spill?odyssey=tab%7Ctopnews%7Ctext%7Cfrontpage&nlick_check=1).

The EIS should consider the Report's findings and recommendations listed in Section 3.1 and 4.1, respectively, of the NTSB Accident Report. The EIS should also investigate to what degree Enbridge and PHMSA have remedied these serious issues and implemented the Report's recommendations. The Line 6B Pipeline spill in Marshall, Michigan, revealed significant flaws that could lead to a spill of similar magnitude from the Proposed Project. It is imperative that the EIS complete a comprehensive risk analysis in view of this new information.

Another issue in regards to safety is catastrophic events. The EIS should examine, for example, the danger of damage to the pipeline as a result of pipe corrosion, outside forces such as damage during third-party excavation, equipment failure, incorrect operation, failed welds, pipe failure, or natural forces such as flooding, lightning, landslides, or earthquakes, or other accidents including possible terrorist attacks. This analysis should include the potential impacts if crude oil is released into soil, bodies of water, agricultural lands, wetlands, forested areas, or near population centers.

Tar Sands crude from Alberta is known to contain higher amounts of sulfur as well as increased sediment/particles. Tar sands crude is also more corrosive than conventional crude and, as a result, the standard regulatory requirements related to maintenance and leak detection may not be sufficient to address the increased risk of leaks due to corrosion. NTSB identified corrosion fatigue cracks as the probable cause of the Marshall, Michigan, rupture. An analysis of these issues should include the likelihood of an accident occurring, the range of oil quantities that could potentially spill before containment, the impacts resulting from such range of potential spill amounts, and what methods will be used to detect leaks or other failures.

In addition, increased development and use of tar sands presents public health issues. According to a 2007 U.S. Geological Survey report, the type of oil extracted from Canadian tar sands contains eleven times more sulfur, six times more nitrogen, eleven times more nickel, and five times more lead than conventional oil.<sup>39</sup> Refining tar sands crude transported through the Proposed Pipeline will likely result in higher air emissions of harmful pollutants such as sulfur dioxide, hydrogen sulfide, sulfuric acid mist, and nitrogen oxides, as well as toxic metals such as lead and nickel compounds. According to the EPA, the human health effects of these pollutants may include premature death; cancer; permanent lung damage; reproductive, neurological, developmental, respiratory, and immunological problems; cardiovascular and central nervous system disorders; bio-mutations; respiratory illness, including bronchitis and pneumonia; and aggravation of heart conditions and asthma. The environmental damage caused by these pollutants includes acid rain; concentration of toxic chemicals up the food chain; creation of ground-level ozone and smog; visible impairments that migrate to sensitive areas such as National Parks; and depletion of soil nutrients. All of this should be considered in the EIS to be prepared as direct or indirect impacts of the Proposed Project.

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<sup>39</sup> Heavy Oil and Natural Bitumen Resources in Geological Basins of the World. 14, available at <http://pubs.usgs.gov/of/2007/1084/OF2007-1084v1.pdf>.

## 7. Migratory Species Issues of Pipeline Oversight

In addition to its contributions to climate change impacts, increased tar sands extraction also has a direct impact on migratory species. The boreal forest in the WCSB is home to many species that both migrate across the Minnesota-Canada border and are sensitive to industrial development. The extraction of tar sands through open pit mining is destroying acres of forest habitat, while the construction of wells, roads, and pipes is permeating the forest with industrial intrusion.

For instance, the tar sands operations destroy wide areas of critical habitat for migratory birds of importance to Minnesotans, both birdwatchers and hunters. The boreal forest of northeast Alberta is an important breeding area for over 292 species of birds, at least 130 of which use the tar sands area and are protected by the Migratory Bird Convention.<sup>40</sup> One square mile of forest in the northeast Alberta can support as many as 500 breeding pairs of migratory birds, some of the highest densities anywhere within Canada's boreal forest.<sup>41</sup> Between 22 million and 170 million birds breed each year in the tar sands area.<sup>42</sup> A 2009 study estimated that the impacts of tar sands operations on habitat have caused the loss of 58,000 to 402,000 birds.<sup>43</sup> Because the industrial footprint of the tar sands may double in the next 15 years, habitat loss will continue to increase mortality rates of migratory birds.<sup>44</sup> The effects of tar sands mining and drilling on bird habitat are projected to reduce the forest-dependent bird population by between 10 to 50 percent.<sup>45</sup> Strip mining of the 1,200 square miles allocated for mines will destroy habitat for an estimated 480,000 to 3.6 million adult birds.<sup>46</sup> Drilling infrastructure could eliminate or fragment another 19,000 square miles of migratory bird habitat.<sup>47</sup> Tar sands operations will also reduce bird births, with one estimate ranging from 9.6 million to 72 million fewer birds being born over a 40-year period.<sup>48</sup>

Tar sands extraction also reduces viable bird habitat by reducing water available to natural ecosystems, as very little of the water used in operations is returned to the natural cycle.<sup>49</sup>

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<sup>40</sup> Wells et al. 2008 at 2, 4-5; Migratory Bird Treaty Act List, <http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtandx.html>; Migratory Bird Convention, Protocol updating Article I at <http://www.treaty-accord.gc.ca/text-texte.asp?id=101587>.

<sup>41</sup> *Id.* at iv, 2.

<sup>42</sup> *Id.* at iv.

<sup>43</sup> Timoney, K.P. and P. Lee, *Does the Alberta Tar Sands Industry Pollute? The Scientific Evidence*, The Open Conservation Biology Journal (2009) at 71, available at <http://westcoastclimateequity.org/wp-content/uploads/2010/04/Timoney-and-Lee-2009-Does-the-Alberta-Tar-Sands-Industry-Pollute-The-Scientific-Evidence.pdf>.

<sup>44</sup> Timoney, K.P. and R.A. Ronconi, *Annual bird mortality in the bitumen tailings ponds in northeastern Alberta, Canada*, The Wilson Journal of Ornithology (2010) at 574.

<sup>45</sup> Wells et al. 2008 at 13.

<sup>46</sup> *Id.* at iv.

<sup>47</sup> *Id.* at 12.

<sup>48</sup> *Id.* at 8.

<sup>49</sup> M. Griffiths et al., *Troubled Waters, Troubling Trends: Technology and Policy Options to Reduce Water Use in Oil and Oilsands Development in Alberta* [\[PDF\]](#), The Pembina Institute, (2006) at 85.

Most of the water used in tar sands mining operations comes from the Athabasca River.<sup>50</sup> Up to 15 percent of the river's weekly flow can be taken,<sup>51</sup> causing concerns that low-flow periods will increase mortality of fish and other aquatic organisms that are a source of food for birds.<sup>52</sup> Low flows may also increase concentrations of pollutants and eliminate the annual floods that are critical for nutrient deposition in the floodplain.<sup>53</sup> Mining also "dewater" areas surrounding the mines by diverting streams from the mineable area, draining adjacent wetlands, and lowering the water table to keep water out of the open pit.<sup>54</sup> As mining operations change regional wetlands, rivers, and underground reservoirs, they threaten hundreds of thousands of birds dependent on these wetlands.<sup>55</sup>

Fragmentation of forests from tar sands drilling and transportation infrastructure leaves fewer areas of closed forest canopy and more forest "edges," where forests meet clearings.<sup>56</sup> Fragmented forests have different microclimates than intact forests, as well as more frequent habitat disturbances, an increase in bird predators and parasites, and invasions of introduced plants and animals.<sup>57</sup> Forest fragmentation also leads to changes in bird social structure and mating success, which decrease survival and reproduction of breeding birds.<sup>58</sup> Isolated bird populations in forest patches are more vulnerable to catastrophic weather or human disturbances.<sup>59</sup>

Noise pollution from compressor stations also impacts bird breeding success. The 5,000 existing compressor stations may have reduced local bird populations in Alberta by 27,000 birds due to habitat loss, and an additional 85,000 birds from noise effects.<sup>60</sup> Expansion of drilling as planned could eliminate another 425,000 birds from the noise effects of compressor stations alone.<sup>61</sup>

Further, the extraction of bitumen from oil sands produces large volumes of wastewater contaminated with polycyclic aromatic hydrocarbons ("PAH"), naphthenic acids, and salt, which

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<sup>50</sup> Government of Alberta, *Facts About Water in Alberta* (2010) <http://environment.gov.ab.ca/info/library/6364.pdf> at 42 (hereinafter Government of Alberta 2010 Water).

<sup>51</sup> Government of Alberta 2010 Water at 42.

<sup>52</sup> Wells et al. 2008 at 14.

<sup>53</sup> *Ibid.*

<sup>54</sup> Shlumberger Ltd., *Water Management for Oil Sands mining operations* (2011), [http://www.heavyoilinfo.com/feature\\_items/water-management-for-oil-sands-mining-operations#dewatering-of-theopen](http://www.heavyoilinfo.com/feature_items/water-management-for-oil-sands-mining-operations#dewatering-of-theopen) (accessed August 1, 2011).

<sup>55</sup> Wells et al. 2008 at vi.

<sup>56</sup> *Id.* at 12.

<sup>57</sup> *Id.*

<sup>58</sup> *Id.* at 12-13, citing 16 studies between 1995 and 2008.

<sup>59</sup> See, e.g., E. Bayne et al., *Modeling and field-testing of Ovenbird (Seiurus aurocapillus) responses to boreal forest dissection by energy sector development at multiple spatial scales*, 20 *Landscape Ecology* 2, 203 (2005).

<sup>60</sup> E. Bayne et al, *Impacts of Chronic Anthropogenic Noise from Energy-Sector Activity on Abundance of Songbirds in the Boreal Forest*, 22 *Conservation Biology* 5, 1186 (2008) at 1192.

<sup>61</sup> Wells et al. 2008 at 13.

is stored in wastewater reservoirs or “tailings ponds” and reclaimed in aquatic systems.<sup>62</sup> Water in Lake Athabasca downstream from the tar sands has shown levels of arsenic, total mercury, and PAHs sufficient to pose a threat to wildlife or humans.<sup>63</sup> This contamination of waterways and wetlands, and the creation of toxic tailings ponds threaten the habitat and health of migratory birds and other wildlife.<sup>64</sup> The EIS should address these environmental impacts on migratory species as a result of increased tar sands development in the WCSB.

## **8. Natural Resources at Risk**

The Proposed Project would pass through many of Minnesota’s most pristine waters, including the Mississippi River headwaters, the watershed of Lake Superior, the largest and remotest of the Great Lakes, and myriad smaller lakes, rivers, streams and wetlands. In addition, the Proposed Project would adversely impact a substantial amount of farmland and sensitive undeveloped upland areas. The intervenors and public commenters in the Sandpiper dockets provided substantial descriptions of the natural resources at risk along the route for the Proposed Project, as well as along other routes. The Sierra Club hereby incorporates all of those comments on resources at risk by reference into this comment letter and requests that the Commission fully consider those comments in its consideration of the scope here.

Since the Proposed Project would also create impacts along the existing Line 3 corridor west of Clearbrook, the Commission should also identify and analyze the resources that are at risk along that route. Further, the Commission should identify and analyze natural resources at risk along route alternatives not considered in the Sandpiper dockets.

## **9. Impacts Related to Pipeline Abandonment**

Section II.G.1, above, generally describes potential environmental and socioeconomic impacts related to pipeline abandonment. Since these potential impacts are a necessary result of “replacing” Line 3, the Commission’s MEPA review of the Proposed Project must consider them, as well as mitigation options available to reduce environmental and financial impacts.

## **VI. ANALYSIS OF PURPOSE AND NEED**

A fundamental element in any MEPA analysis for construction projects is its identification and analysis of the purpose and need for a project, because such analysis informs the required alternatives analysis. Such MEPA analysis of need is consistent with and supportive

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<sup>62</sup> Dixon, G., R. Smith, B. Greenburg, L. Lee, G. Van Der Kraak, and M. Power. Undated. “Assessing the Cumulative Impacts of Oil-Sands Derived Chemical Mixtures on Aquatic Organisms in Alberta,” Health Canada, available at [http://www.hc-sc.gc.ca/sr-sr/finance/tsri-irst/proj/cumul-eff/tsri-144\\_e.html](http://www.hc-sc.gc.ca/sr-sr/finance/tsri-irst/proj/cumul-eff/tsri-144_e.html).

<sup>63</sup> Kevin P Timoney, “A Study of Water and Sediment Quality as Related to Public Health Issues, Fort Chipewyan, Alberta,” Treeline Ecological Research, (November 2007), available at <http://www.borealbirds.org/resources/timoney-fortchipwater-111107.pdf>.

<sup>64</sup> Jeff Wells, “Danger In the Nursery: Impact on Birds of Tar Sands Oil Development in Canada’s Boreal Forest,” at 8, (December 2008), available at <http://www.nrdc.org/wildlife/borealbirds.pdf>.

of the need and alternatives analysis required by Minn. Stat. § 216.243 and Minn. R. Ch. 7853. In contrast, the Minn. Stat. Ch. 216G and Minn. R. Ch. 7852, and their use as a CEA, do not by definition consider the need for a project, but instead are limited exclusively to consideration of location.

Here, the Commission must consider the need for the project in broad terms. Minn. R. Ch. 7853.0130 requires that the Commission evaluate need based on, for example:

- “the future adequacy, reliability, or efficiency of energy supply to the applicant, to the applicant's customers, or to the people of Minnesota and neighboring states . . . .” Minn. R. 7853.0130.A;
- “the effects of the applicant's existing or expected conservation programs and state and federal conservation programs;” Minn. R. 7853.0130.A(2);
- “the relationship of the proposed facility, or a suitable modification of it, to overall state energy needs;” Minn. R. 7853.0130.C(1); and
- “the effect of the proposed facility, or a suitable modification of it, upon the natural and socioeconomic environments compared to the effect of not building the facility;” Minn. R. 7853.0130.C(1).

The Commission’s regulations require that the Commission consider need in the broadest terms and with regard to many factors. To be consistent with the breadth of the scope of the Commission’s substantive analysis of need, its MEPA review in support of this decision must be equally as broad, otherwise the Commission review in its need docket would not be fully informed by the MEPA process. Thus, the Commission may not excessively limit the scope of its MEPA review to a narrow pre-determined commercial need.

## VII. CONCLUSION

In closing, the Sierra Club thanks the Commission and its staff for your time and attention to these important matters. We look forward to reviewing and commenting on the Environmental Impact Statement when it is prepared, and for the subsequent stages in the Proposed Project dockets. In the meantime, if the Sierra Club can provide any further information please do not hesitate to contact me.

Date: September 30, 2015

Respectfully submitted,

/s Paul C. Blackburn  
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Minneapolis, MN 55417  
612-599-5568  
paul@paulblackburn.net  
*Attorney for Sierra Club*

# **ATTACHMENT A**



## MINNESOTA ENVIRONMENTAL QUALITY BOARD

300 Centennial Building • 658 Cedar Street • St. Paul, Minnesota 55155  
612-296-2603

February 9, 1989

TO: EQB MEMBERS

FROM: Larry Hartman *LH*  
EQB Staff

RE: Request for Approval of EQB Pipeline Routing Rules, Chapter 4415, as an Alternative Form of Environmental Review

### Summary

EQB staff is requesting EQB approval of the Pipeline Routing Rules, Chapter 4415, as an alternative form of environmental review. Approval of this request will provide for more timely environmental review and eliminate duplication. The EQB may approve an alternative form of environmental review when it meets the eight conditions set forth in Minn. Rules pt. 4410.3600, subp. 1. Staff has examined the review procedures in the pipeline routing rules and the conditions that must be met. Approval of alternative review is recommended.

### Background

Minnesota Statutes 116I.015, Subd. 3. (1988) requires the EQB to adopt rules governing the routing of pipelines. On January 19, 1989, approximately one year after initiating rulemaking, the EQB adopted pipeline routing rules. Following action by the Board, the rules were submitted to and approved by the Office of the Revisor of the Statutes (copy attached). Notice of adoption and publication in the State Register is scheduled for February 20, 1989. The pipeline routing rules take effect five working days after notice of adoption appears in the State Register.

While the pipeline routing rules meet the requirements of Minn. Stat. section 116I.015, the development of these rules also relied on the direction provided by Minn. Stat. section 116D.03, subd. 1., which states that "the legislature authorizes and directs that, to the fullest extent practicable the policies, regulations and public laws of the state shall be interpreted and administered in accordance with the policies set forth in section 116D.01 to 116D.06", which is the State Environmental Policy Act.

Critical to development and approval of pipeline routing rules was incorporation of equivalent environmental review requirements to provide for timely review and eliminate duplication.

To accomplish this EQB staff specifically included requirements that would provide for board approval of Pipeline Routing Rules, Chapter 4415, as an alternative form of environmental review.

Under this approach, pipelines subject to the routing rules would not actually be reviewed through environmental assessment worksheets (EAWs) or environmental impact statements (EISs), but would receive equivalent review under the routing and permitting process established in the pipeline routing rules.

The pipeline routing rules provide for equivalent: 1) EAW review requirements in the partial exemption from pipeline route selection procedures, part 4415.0035; and 2) EIS review requirements, parts 4415.0045 to 4415.0095. For information purposes, the equivalent EAW and EIS review procedures are summarized and attached.

#### Recommendation

The Pipeline Routing Rules, Chapter 4415, meet all the conditions for approval as a substitute form of environmental review as provided by Minn. Rules, pt. 4410.3600, subp. 1., items A. to H. Therefore, staff is recommending approval of EQB Pipeline Routing Rules, Chapter 4415, as an alternative form of environmental review.

EQB PIPELINE ROUTING RULES

PARTIAL EXEMPTION FROM PIPELINE ROUTE SELECTION PROCEDURES (Minn. Rules pt. 4415.0035)

DAYS 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

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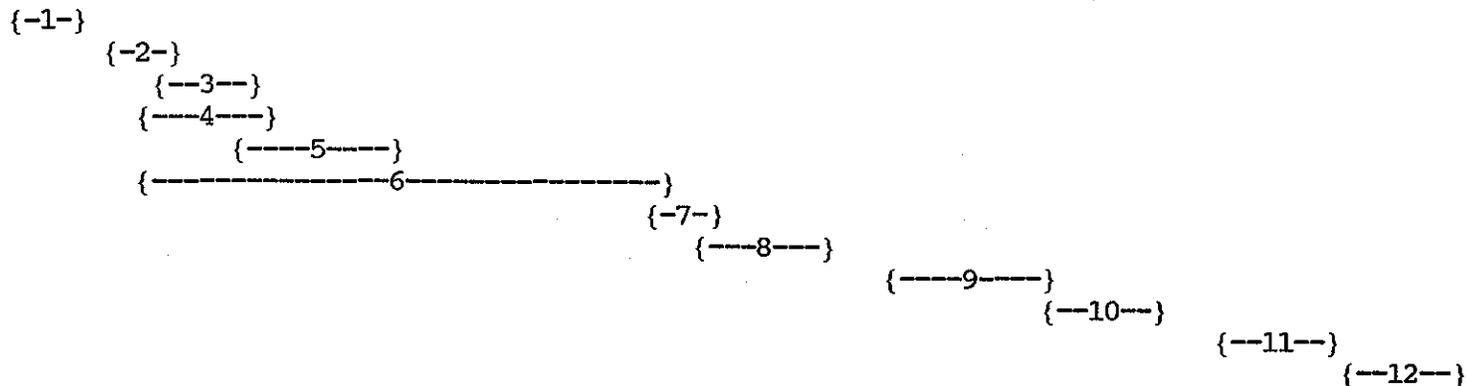
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1. Applicant submits application 21 days prior to EQB meeting (Minn Rule pt. 4415.0105 Subp. 4.).
2. EQB accepts or rejects application (Minn. Rule pt 4415.0105 Subp.4.). 90 day review process begins.
3. Within 15 days of acceptance, applicant publishes notice of exemption, distributes application and procedures for objection (Minn. Rules pt. 4415.0035 Subp. 2).
4. Required 30 day period for objections to exemption application (Minn. Rules pt 4415.0035 Subp. 3.).
5. Public information meetings held in each county (Minn. Rules pt. 4415.0035 Subp. 4).
6. Review of record and preparation of documents for EQB decision on partial exemption application (Minn. Rules pt. 4415.0035 Subp. 5).
7. Permit distribution by applicant within 10 days of receipt from EQB (Minn Rules pt. 4415.0175 Subp. 2.).

EQB PIPELINE ROUTING RULES  
 PIPELINE ROUTE SELECTION PROCEDURES  
 Minn. Rules pts. 4415.0045 to 4415.0095

MONTHS 0 | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11



1. Applicant submits application 21 days prior to EQB meeting (Minn Rule pt. 4415.0105 Subp. 4.).
2. EQB accepts or rejects application (Minn. Rule pt 4415.0105 Subp.4.). Nine month review process begins.
3. Within 20 days of acceptance notice must be published in each county in which a route is proposed (Minn. Rules pt. 4415.0050).
4. Board appoints a public advisor (Minn. Rules. pt 4415.0055) and may appoint a advisory committe to evaluate routes (Minn. Rules pt. 4415.0055).
5. EQB notices and holds public information in each county in which a route is proposed (Minn. Rules pt. 4415.0070).
6. Time frame for route proposals from agencies, advisory committeess, interested persons (Minn. Rules pt 4415.0075).
7. EQB accepts and identifies routes to be considered at public hearings. Notices published in newspapers (Minn. Rules pt. 4415.0085).
8. Comparative analysis of alternative routes prepared (Minn. Rules pt. 4415.0080).
9. Second round of information meetings and public hearings (Minn. Rules pts. 4415.0070 and 4415.0090).
10. Hearing examiners prepares findings of fact.
11. EQB reviews hearing record, designates route, and issues pipeline routing permit.
12. Applicant distributes pipeline routing permit within 10 days of receipts from EQB (Minn Rules pt. 4415.0175 Subp. 2.).

STATE OF MINNESOTA  
ENVIRONMENTAL QUALITY BOARD

In the Matter of  
the Approval of EQB  
Pipeline Routing Rules,  
Chapter 4415, as an  
Alternative Form of  
Environmental Review

FINDINGS OF FACT,  
CONCLUSIONS, AND  
ORDER OF APPROVAL

Based on the information in the record of this proceeding, the  
Minnesota Environmental Quality Board makes the following:

FINDINGS OF FACT

1. Minnesota Statutes, section 116D.04, subd. 4a and 5a (g) (1988) and Minnesota Rules, pt. 4410.3600 authorize the EQB to approve and provide for alternative forms of environmental review.
2. Minn. Rules, pt. 4410.3600, subpart 1., items A to H., state the conditions that must be met to obtain approval as an alternative form of environmental review.
3. The Pipeline Routing Rules, chapter 4415, provide for four different types of review procedures: 1) emergency procedures; 2) conditional exclusion; 3) partial exemption from route selection procedures; and 4) pipeline route selection procedures. The EQB may permit certain actions in an emergency situation; however, when the emergency has passed, the pipeline is subject to review under chapter 4415. When an applicant requests a conditional exclusion from the Board, under Minn. Rules, pt. 4415.0030, the applicant must complete the environmental assessment worksheet (EAW) review procedures as provided in parts 4410.1000 to 4410.1700, prior to the board taking action on whether to grant a conditional exclusion. The applicant must also comply with the requirements of Minn. Stat., sections 116I.02 and 117.49. The partial exemption from pipeline route selection procedures, part 4415.0030, is equivalent to the EAW review requirements and pipeline route selection, parts 4415.0045 to 4415.0095, is equivalent to the EIS review requirements.

4. Findings 5 to 12 contain the conditions in Minn. Rules, pt. 4410.3600, subpart 1., items A. to H., that must be met to qualify for board approval as an alternative form of environmental review and demonstrate how the procedures in the pipeline routing rules comply with each condition.
5. "A. the process identifies the potential environmental impacts of each proposed project;"

The pipeline routing rules at part 4415.0145 require an applicant to submit an analysis of the potential human and environmental impacts that may be expected from pipeline right-of-way preparation and construction practices and operation and maintenance procedures. These impacts include but are not limited to the impacts for which criteria are specified in part 4415.0040 or 4415.0100. The criteria that the board must consider in making a decision include but are not limited to: human settlement, existence and density of populated areas; the natural environment; features with historical, archaeological, and cultural significant; natural resources and features; the extent to which human or environmental effects are subject to mitigation by regulatory control and by application of the permit conditions in part 4425.0185.

Pipeline route selection procedures provide for identification of other environmental effects by: appointment of citizen advisory committees to advise the board, part 4415.0055; public information meetings, part 4415.0070; additional pipeline route proposals, part 4415.0075; environmental analysis of alternative routes, part 4415.0080; and public hearings, part 4415.0090.

For the partial exemption procedures, part 4415.0035, other possible environmental effects may be identified during the required 30-day comment period. A copy of the application for partial exemption must be sent to all persons identified in part 4415.0105, subp. 6 and to all affected landowners and governmental units. Part 4415.0035, subp. 2. A. requires published notice in each county in which a route is proposed. Part 4415.0035, subp. 4. requires a public information meeting in each county.

6. "B. the aspects of the process that are intended to substitute for an EIS process address substantially the same issues as an EIS and uses procedures similar to those used in preparing an EIS but in a more timely or more efficient manner;"

A pipeline routing permit application, parts 4415.0115 to 4415.0170, covers the subjects and information required in an EIS by part 4410.2300. The information required in the pipeline routing permit application must include but is not limited to: general background information, description of proposed pipeline and associated facilities, land requirements, right-of-way preparation procedures and construction activity sequence, location of preferred pipeline route, environmental impact of the preferred route, right-of-way protection and restoration

measures, operation and maintenance, list of government agencies and permits, and evidence of consideration of alternative routes.

7. "C. alternatives to the proposed project are considered in light of their potential environmental impacts in those aspects of the process that are intended to substitute for an EIS process;"

Pipeline route selection procedures, parts 4415.0045 to 4415.0095, and the application requirement at part 4415.0170 requires the applicant to present a preferred route and evidence of consideration of alternatives and provide a summary discussion of the environmental impact of pipeline construction along the alternative routes consistent with the requirements of part 4415.0140 to 4415.0145 and the rationale for rejection of the routing alternatives. Environmental review under route selection procedures provides for consideration of other route alternatives at part 4415.0075. This part allows the board to accept for consideration at public hearing any other route or route segment it considers appropriate for further consideration. Other route or route segment proposals may be made by board member agencies, board staff and the citizen advisory committee. Any other person may also propose an alternative route or route segment by providing the information required at part 4415.0075, subps. 3. and 4.

8. "D. measures to mitigate the potential environmental impact are identified and discussed;"

The pipeline routing rules, part 4415.0150, requires the applicant to describe what measures will be taken to protect the right-of-way or mitigate the adverse impact of right-of-way preparation, pipeline construction, and operation and maintenance on the human and natural environment. This part also requires the applicant to describe what measures will be taken to restore the right-of-way and other areas adversely affected by construction of the pipeline. The pipeline routing permit at part 4415.0175 specifies permit conditions that apply to pipeline right-of-way preparation, construction, cleanup and restoration that mitigate potential environmental impacts. Measures to mitigate impact are also addressed in the criteria that the board must consider in determining the route of a pipeline, part 4415.0100 or whether to grant a partial exemption from the pipeline route selection procedures, part 4415.0040.

9. "E. a description of the proposed project and analysis of potential impacts, alternatives (in those aspect of the process intended to substitute for an EIS), and mitigating measure are provided to other affected or interested governmental units and the general public;"

All of the information required by item "E." will be distributed to affected or interested governmental units and the general public as required by part 4415.0105, subp. 6. and as required by part 4415.0035, subp. 2.

10. "F. the governmental unit shall provide notice of the availability of environmental documents to the general public in at least the area affected by the project (a copy of environmental documents on projects reviewed under an alternative review procedure shall be submitted to the EQB; the EQB shall be responsible for publishing notice of the availability of the documents in the EQB Monitor);"

For pipeline route selection procedures notice of application acceptance is provided for at part 4415.0050; notice of routes accepted for public hearing at part 4415.0085; and notice of public hearing at part 4415.0090. Notice for partial exemption from pipeline route selection procedures is provided for in the rules at part 4415.0035, subd. 2., which requires the board to provide published notice of the proposed project, including size and type, and a map of the proposed pipeline route in each county in which the route is proposed to be located. Because the EQB is the RGU for chapter 4415, notice of availability and other notices provided for in these rules will be published in the EQB Monitor.

11. "G. other governmental units and the public are provided with a reasonable opportunity to request environmental review and to review and comment on the information concerning the project (the process must provide for RGU response to timely substantive comments relating to issues discussed in environmental documents relating to the project);"

Route selection procedures require public hearings, part 4415.0090, which afford all persons the opportunity to submit written or oral testimony on any aspect of the project. In the partial exemption procedure at part 4415.0035, any person may file comments with the board within 30 days after giving notice as required by part 4415.0035, subp. 2.

12. "H. the process must routinely develop the information required in items A. to E. and provide the notification and review opportunities in items F. and G. for each project that would be subject to environmental review;"

The review procedures in the pipeline routing rules provide the information required in items A. to E. and are discussed in Findings 5. to 9., while the notification and review opportunities in items E. and F. are discussed in Findings 10. and 11.

13. The review procedures in the Pipeline Routing Rules, Chapter 4415, meet the conditions for approval as an alternative form of environmental review pursuant to Minn. Rules, pt. 4410.3600, subp. 1., items A. to H.

#### CONCLUSIONS OF LAW

1. The EQB is authorized by Minnesota Statutes, section 116D.04 subd. 4a and 5a (g) and pursuant to Minn. Rules, pt. 4410.3600,

subp. 1., items A. to H., may approve alternative forms of environmental review.

2. The process for environmental review contained in the Pipeline Routing Rules, Chapter 4415, meets the conditions for approval of an alternative form of environmental review pursuant to Minn. Rules, pt. 4410.3600.

#### ORDER OF APPROVAL

Based on the Findings of Fact and Conclusions contained herein and the entire record of the proceeding:

1. The Environmental Quality Board hereby approves the process contained in the Pipeline Routing Rules, Chapter 4415, as an alternative form of environmental review.
2. Upon the effective date of this Order of Approval all pipeline routing projects subject to and within the purview of the Pipeline Routing Rules, Chapter 4415, shall be exempt from environmental review under Minn. Rules, pt. 4410.1100 to 4410.1700, and 4410.2100 to 4410.3000.
3. The Chair is hereby directed to provide for periodic review of the alternative process for the applicable pipeline routing projects to ensure compliance with environmental review requirements and intent.
4. The Chair shall report to the EQB and provide for the EQB's consideration of the withdrawal of the approved alternative process for pipeline routing projects, if the Chair's review of the alternative process indicates that it no longer fulfills the intent and requirements of the Minnesota Environmental Policy Act and Minn. Rules, pts. 4410.0200 to 4410.7800.
5. The Chair shall reasonably ensure that appropriate notice of this Order of Approval is provided to persons involved with pipeline routing projects subject to the alternative process and to other potentially interested persons.
6. This Order of Approval shall be effective on the same date as the Pipeline Routing Rules, Chapter 4415, become effective as having the force and effect of law.

Approved and adopted \_\_\_\_\_.

State of Minnesota  
Environmental Quality Board

\_\_\_\_\_  
John C. Ditmore, Chair



## MINNESOTA ENVIRONMENTAL QUALITY BOARD

300 Centennial Building • 658 Cedar Street • St. Paul, Minnesota 55155  
612-296-2603

### RESOLUTION OF THE MINNESOTA ENVIRONMENTAL QUALITY BOARD PIPELINE ROUTING ALTERNATIVE REVIEW PROCESS

WHEREAS, Minn. Stat. section 116D.04, subd. 4a and 5a (g) and Minn. Rules pt. 4410.3600 provide for alternative forms of environmental review; and

WHEREAS, the EQB staff is requesting EQB approval of an alternative form of review for pipeline routing;

WHEREAS, review under EQB Pipeline Routing Rules, Chapter 4415, provides for more timely environmental review and eliminates duplication;

WHEREAS, the environmental review procedures in Chapter 4415 meet the conditions for approval provided in Minn. Rules pt. 4410.3600 subp. 1. items A. to H.; and

WHEREAS, the EQB has considered the proposed Findings of Fact, Conclusions, and Order in the matter of approving Minn. Rules pts. 4415.0010 to 4415.0215 as an alternative form of environmental review.

NOW THEREFORE BE IT RESOLVED that the EQB approves and adopts the attached Findings of Fact, Conclusions, and Order of Approval; and

BE IT FURTHER RESOLVED that the EQB Pipeline Routing Rules, Chapter 4415, are approved as an alternative form of environmental review pursuant to Minn. Rules pt. 4410.3600 and the Order of Approval.

The Chair of the EQB, is hereby authorized to execute the attached Findings of Fact, Conclusions, and Order of Approval on behalf of the EQB in the matter of approving Minn. Rules pts. 4415.0010 to 4415.0215 as an alternative form of environmental review.

# **ATTACHMENT B**

**STATE OF MINNESOTA  
IN COURT OF APPEALS  
A15-0016**

In the Matter of the Application of North Dakota Pipeline Company LLC  
for a Certificate of Need for the Sandpiper Pipeline Project in Minnesota.

In the Matter of the Application of North Dakota Pipeline Company LLC  
for a Pipeline Routing Permit for the Sandpiper Pipeline Project in Minnesota.

**Filed September 14, 2015  
Reversed and remanded  
Klaphake, Judge\***

Public Utilities Commission  
File No. PL-6668/CN-13-473, PL-6668/PPL-13-474

Leigh K. Currie, Kathryn M. Hoffman, Minnesota Center for Environmental Advocacy,  
St. Paul, Minnesota (for relator Friends of the Headwaters)

Lori Swanson, Attorney General, Alethea M. Huyser, Leah M. P. Hedman, Max Kieley,  
Assistant Attorneys General, St. Paul, Minnesota (for respondent Minnesota Public  
Utilities Commission)

Richard D. Snyder, John E. Drawz, Patrick D.J. Mahlberg, Fredrikson & Byron, P.A.,  
Minneapolis, Minnesota (for respondent North Dakota Pipeline Company LLC)

Gerald W. Von Korff, Rinke Noonan, St. Cloud, Minnesota (for amicus curie Carlton  
County Land Stewards)

Considered and decided by Rodenberg, Presiding Judge; Cleary, Chief Judge; and  
Klaphake, Judge.

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\* Retired judge of the Minnesota Court of Appeals, serving by appointment pursuant to  
Minn. Const. art. VI, § 10.

## **S Y L L A B U S**

When certificate of need proceedings precede routing permit proceedings for a large oil pipeline, the Minnesota Environmental Policy Act requires that an environmental impact statement be completed before a final decision is made on the certificate of need.

## **O P I N I O N**

**KLAPHAKE**, Judge

Relator argues that conducting certificate of need proceedings for a large oil pipeline prior to the completion of an environmental impact statement violates the Minnesota Environmental Policy Act (MEPA). All parties agree that the pipeline is subject to environmental review under MEPA, but this review is set to occur during the routing permit proceedings after a certificate of need has been granted. Because the decision to grant a certificate of need for a large oil pipeline constitutes a major governmental action that has the potential to cause significant environmental effects, we conclude that MEPA requires an environmental impact statement to be completed before a final decision is made to grant or deny a certificate of need. Accordingly, we reverse and remand for respondent Minnesota Public Utilities Commission (MPUC) to reconsider whether to issue a certificate of need after an environmental impact statement has been completed.

## FACTS

Relator Friends of the Headwaters (FOH) challenges the MPUC's order to proceed with a final decision on a certificate of need for a large oil pipeline, arguing that to do so without preparing the required environmental analysis will violate the MEPA.

In November 2013, intervenor North Dakota Pipeline Company LLC (NDPC) filed applications for a certificate of need and a pipeline routing permit with the MPUC to construct a 612-mile pipeline to transport crude oil from Tioga, North Dakota to terminals in Clearbrook, Minnesota and Superior, Wisconsin. Approximately 300 miles of the proposed pipeline would cross northern Minnesota carrying between 225,000 and 375,000 barrels of oil per day.

In February 2014, the MPUC accepted the applications as substantially complete and referred both matters to the Minnesota Office of Administrative Hearings for joint contested case proceedings on the certificate of need and routing permit. The MPUC also directed the Energy Environmental Review and Analysis unit (EERA) of the Minnesota Department of Commerce to facilitate the development of alternative route proposals to those proposed by NDPC.

In March, EERA held seven public meetings in six counties along the proposed pipeline route. More than 1,000 comments were submitted by 940 commenters and organizations in response to the notice for comments. After reviewing these extensive comments, EERA identified 62 alternative project proposals for consideration as part of the ongoing proceedings. In identifying these proposals EERA made a distinction between proposed route and system alternatives. Consistent with previous MPUC

dockets, “route” alternatives were defined “as a deviation from the [NDPC’s] proposed route to address a concern or issue and met the stated purpose and need of the proposed project with no apparent major engineering or environmental issues.” In contrast, a “system” alternative represented “a pipeline route that is generally separate or independent of the pipeline route proposed by [NDPC], and that does not connect to the specified Project endpoints (the North Dakota border to Clearbrook and Clearbrook to Superior, Wisconsin).” EERA designated 8 of the identified proposals as system alternatives and 54 as route alternatives.

After additional comments and a public hearing, the MPUC accepted 53 of the route alternatives and one of the system alternatives for consideration in the routing permit contested case hearing. Around the same time, many organizations and agencies raised concerns about conducting the certificate of need and routing permit proceedings jointly based on the complexity of the issues facing the parties and the MPUC.

In September, the MPUC held a public hearing on the issue of bifurcating the proceedings and staying the routing permit proceedings pending completion of the certificate of need proceedings. At the hearing, the Minnesota Pollution Control Agency (MPCA) and the Minnesota Department of Natural Resources (DNR), as well as EERA recommended bifurcating the proceedings, with the certificate of need proceedings occurring first. These parties also urged the MPUC to forward the remaining system alternatives for consideration during the certificate of need proceedings. FOH and Amicus Carlton County Land Stewards supported bifurcating the proceedings, but also argued that MEPA required the MPUC to prepare an environmental impact statement

(EIS) evaluating both route and system alternatives prior to making a final decision in the certificate of need proceedings. NDPC opposed both the proposed bifurcation of proceedings and further consideration of the remaining system alternatives as part of the certificate of need process. NDPC also argued that preparation of an EIS at the certificate of need stage in bifurcated proceedings would be unnecessary and inappropriate, because a MEPA-compliant environmental review was already required as part of the routing permit proceedings.

In October, the MPUC ordered that the certificate of need and routing permit proceedings be bifurcated, with the certificate of need proceedings to be completed first. The MPUC also determined that six of the remaining system alternatives should be evaluated as part of the certificate of need proceedings, while the 53 route alternatives and one system alternative would still be reviewed during the routing permit proceedings. Finally, the MPUC directed EERA to conduct a “high-level” environmental review of the six system alternatives to be considered during the certificate of need proceedings. While the MPUC concluded that such a review would assist in developing the record, it acknowledged that this environmental review would “not be equivalent in terms of the specificity and level of detail to a comparative environmental analysis undertaken in the route permit proceeding.” FOH petitioned for reconsideration, which the MPUC denied. This certiorari appeal follows.

## **ISSUES**

Does MEPA require the completion of an environmental impact statement before the MPUC makes a final decision on a certificate of need for a large oil pipeline?

## ANALYSIS

This court will affirm an administrative agency's decision unless its findings, inferences, conclusions or decisions are:

- (a) in violation of constitutional provisions; or
- (b) in excess of the statutory authority or jurisdiction of the agency; or
- (c) made upon unlawful procedure; or
- (d) affected by other error of law; or
- (e) unsupported by substantial evidence in view of the entire record as submitted; or
- (f) arbitrary or capricious.

Minn. Stat. § 14.69 (2014). This court affords the decision of an administrative agency “a presumption of correctness” and defers to its expertise. *In re Excess Surplus Status of Blue Cross & Blue Shield of Minn.*, 624 N.W.2d 264, 278-79 (Minn. 2001). That deference extends to the agency's interpretation of a statute it is charged with enforcing only if the statute in question is ambiguous and the agency's interpretation is “one of long standing.” *In re Annandale NPDES/SDS Permit Issuance*, 731 N.W.2d 502, 514 (Minn. 2007). But this court does not defer to an agency's statutory interpretation when the language “is clear and capable of understanding.” *Id.* at 513. Rather, this court effectuates the intent of the legislature by interpreting the text of the statute according to its plain language. *Minn. Transitions Charter Sch. v. Comm'r of Minn. Dep't of Educ.*, 844 N.W.2d 223, 227 (Minn. App. 2014), *review denied* (Minn. May 28, 2014). This includes consideration of the statute “as a whole,” accounting for the context of the surrounding words and sentences. *In re Minn. Power*, 838 N.W.2d 747, 754 (Minn. 2013).

All parties agree that a MEPA-compliant environmental review must be completed at some point during the pipeline approval process. The sole issue on appeal is when that review must be carried out. Traditionally, certificate of need and routing permit proceedings for pipelines have been conducted jointly. Under the routing permit requirements in Chapter 7852 of the Minnesota administrative rules, an applicant must conduct a comprehensive environmental assessment. *See* Minn. R. 7852.1500 (2013). The Minnesota Environmental Quality Board (EQB) has approved this environmental assessment as an acceptable alternative to the formal EIS otherwise required by MEPA for large oil pipelines. *See* Minn. Stat. § 116D.04, subd. 4a (2014) (authorizing the EQB to “identify alternative forms of environmental review which will address the same issues and utilize similar procedures as an environmental impact statement”). While this alternative environmental review is associated with the routing permit process, because certificate of need and routing permit proceedings typically occurred simultaneously, the MPUC generally has effective access to a MEPA-compliant environmental review while considering both applications.

Here the MPUC deviated from its usual practice and chose to conduct the certificate of need proceedings prior to the routing permit proceedings. As a result, the MEPA-compliant environmental review associated with the routing permit would not occur until after a decision was made on the certificate of need. Neither party challenges the underlying decision to bifurcate the proceedings, but FOH argues that making a decision on the certificate of need in the absence of an EIS violates MEPA. The MPUC and NDPC contend that requiring an EIS at the certificate of need stage is inconsistent

with the EQB's longstanding determination that the alternative environmental review conducted as part of the routing permit proceedings satisfies MEPA. We agree with FOH, and see this as a simple question of statutory interpretation that requires us to examine the plain meaning of two MEPA provisions.

Minn. Stat. § 116D.04, subd. 2a (2014), requires the responsible governmental unit to prepare a detailed EIS before engaging in any "major governmental action" that creates the "potential for significant environmental effects." MEPA defines "governmental action" as "activities, including projects wholly or partially conducted, permitted, assisted, financed, regulated, or approved by units of government." Minn. Stat. § 116D.04, subd. 1a(d) (2014). The MPUC's overall approval of the pipeline project constitutes a governmental action under this definition. No one disputes that the construction of the pipeline has the potential for significant environmental impacts, and all parties agree a MEPA-compliant environmental review is required at some point during the pipeline approval process. *See* Minn. R. 4410.4400, subp. 24 (2013) (mandating EIS for pipelines). Accordingly, it is clear that under subdivision 2a, a detailed EIS is required for the pipeline.

Having established that an EIS is required under subdivision 2a, we must turn to subdivision 2b, which states:

If an environmental assessment worksheet or an environmental impact statement is required for a governmental action under subdivision 2a, a project may not be started and a final governmental decision may not be made to grant a permit, approve a project, or begin a project, until:

(1) a petition for an environmental assessment worksheet is dismissed;

(2) a negative declaration has been issued on the need for an environmental impact statement;

- (3) the environmental impact statement has been determined adequate; or
- (4) a variance has been granted from making an environmental impact statement by the environmental quality board.

Minn. Stat. § 116D.04, subd. 2b (2014). Relying on subdivision 2b, FOH contends that the issuance of a certificate of need constitutes a “final governmental decision” to grant a permit, and as such is prohibited until an EIS has been completed. We agree. For purposes of MEPA, the definition of permit includes a “*certificate*, or other entitlement for use or permission to act that may be granted or issued by a governmental unit.” Minn. R. 4410.0200, subp. 58 (2013) (emphasis added). This unambiguous definition encompasses a certificate of need. All parties also agree that once the MPUC decides to grant a certificate of need, its decision regarding the issuance of that specific permit is final. Therefore, based on the plain language of subdivision 2b, the MPUC’s issuance of a certificate of need constitutes a final governmental decision that is prohibited until the required environmental review is completed.

We are also not convinced that an EIS is not required before a certificate of need may be issued simply because the EQB has approved the environmental assessment associated with the routing permit process as an adequate alternative to a formal EIS. While the substance of this alternative review process may be equivalent to an EIS, its approval as an alternative by the EQB says nothing about when a final governmental decision to grant a permit may or may not be made in the absence of an EIS, which is specifically addressed by subdivisions 2a and 2b. Minn. Stat. § 116D.04, subds. 2a, 2b. We also note that the legislature could have clearly stated that a certificate of need for a

large oil pipeline was excluded from the environmental review requirements of MEPA, but it declined to do so. *See* Minn. Stat. § 116D.04, subd. 2a(a) (authorizing EQB to establish categories of action for which an EIS is mandatory and identifying certain actions for which an environmental assessment worksheet or EIS shall not be required). As a result, in the absence of a statutory exclusion or an explicit statement by the EQB that the approved routing permit application process supplants the need for environmental review at the certificate of need stage, subdivisions 2a and 2b must control our determination of whether environmental review is required. The unambiguous language of those provisions mandates that in a situation such as this, when the MEPA-compliant environmental review would not occur until after a certificate of need was issued, an EIS must be completed as part of the certificate of need proceedings.

Finally, we point out that requiring an EIS during the initial certificate of need proceedings affirms the emphasis MEPA places on conducting environmental review early on in the decision-making process. Specifically, MEPA states that, “[t]o ensure its use in the decision-making process, the environmental impact statement shall be prepared as early as practical in the formulation of an action.” *Id.*, subd. 2a. This emphasis on timing is also consistent with the way federal courts have applied the National Environmental Policy Act (NEPA), which we may look to for guidance when interpreting MEPA. *See Minn. Ctr. for Envtl. Advocacy v. Minn. Pollution Control Agency*, 644 N.W.2d 457, 468 (Minn. 2002). The United States Supreme Court has explained that the early-stage environmental review similarly required by NEPA is critical because it “ensures that that important [environmental] effects will not be overlooked or

underestimated only to be discovered after resources have been committed or the die otherwise cast.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349, 109 S. Ct. 1835, 1845 (1989).

In this case, the completion of an EIS at the certificate of need stage satisfies the imperative identified above by ensuring decision-makers are fully informed regarding the environmental consequences of the pipeline, before determining whether there is a need for it. Moreover, completion of an EIS at the initial certificate of need stage seems particularly critical here because once a need is determined, the focus will inevitably turn to where the pipeline should go, as opposed to whether it should be built at all. We acknowledge that the MPUC did order a high level environmental review to be considered during the certificate of need proceedings. But as the MPUC noted, this review was not meant to serve as a substitute for the more rigorous and detailed review needed to satisfy MEPA, and it cannot take the place of a formal EIS now. Accordingly, we conclude the MPUC erred by not completing an EIS at the certificate of need stage as MEPA requires.

## **D E C I S I O N**

Where routing permit proceedings follow certificate of need proceedings, MEPA requires that an EIS must be completed before a final decision is made on issuing a certificate of need. Therefore, we reverse the grant of a certificate of need and remand to the MPUC to complete an EIS before conducting certificate of need proceedings consistent with this opinion.

**Reversed and remanded.**

# **ATTACHMENT C**

## **Pipeline Abandonment**

### **A Discussion Paper on Technical and Environmental Issues**

*Prepared for the Pipeline Abandonment Steering Committee (comprised of representatives from the Canadian Association of Petroleum Producers, the Canadian Energy Pipeline Association, the Alberta Energy and Utilities Board, and the National Energy Board)*

**November 1996**

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#### ***Disclaimer***

*This Discussion Paper was prepared under the auspices of the Pipeline Abandonment Steering Committee, a Committee comprised of representatives and employees of the Canadian Association of Petroleum Producers (CAPP), the Canadian Energy Pipeline Association (CEPA), the Alberta Energy and Utilities Board (EUB), and the National Energy Board (NEB). While it is believed that the information contained herein is reliable, CAPP, CEPA, the EUB, and the NEB do not guarantee its accuracy. This paper does not necessarily reflect the views or opinions of CAPP, CEPA, the EUB, or the NEB, or any of the member companies of CAPP and CEPA. In particular, the paper cannot be taken to represent the regulatory policy of the EUB or the NEB and may not be relied on for such purpose. The use of this report or any information contained will be at the user's sole risk, regardless of any fault or negligence of CAPP, CEPA, the EUB, or the NEB.*

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## Executive Summary

The Canadian oil and gas industry and federal and provincial regulatory authorities recognize the need to develop guidelines that companies can follow in order to abandon oil and gas pipelines in an environmentally sound, safe, and economical manner. To meet this objective, the Canadian Association of Petroleum Producers and the Canadian Energy Pipeline Association (through their industry participants) have participated along with the National Energy Board and [various departments](#) of the Government of Alberta in the development of this discussion paper.

This paper reviews the technical and environmental issues associated with pipeline abandonment and is intended to provide a basis for further discussion on the issue. In order to complete the assessment of this issue, a review of the legal and financial aspects of pipeline abandonment need to be undertaken. More particularly, the core issues of long-term liability and funding need to be addressed both in the context of orphaned pipelines and those with an identifiable owner/operator.

This paper is intended to assist a company in the development of an abandonment plan through the recognition of the general issues which result from the abandonment of a pipeline and by providing the means to address those issues. Land use management, ground subsidence, soil and groundwater contamination, erosion, and the potential to create water conduits are among the topics addressed.

Some follow-up may be required in respect of the technical analysis presented on the issue of ground subsidence. It is suggested that tolerance criteria be developed and that the industry survey referred to in the paper be complemented with a field investigation program. Scale modelling could also be performed to confirm the theoretical ground subsidence calculations.

As illustrated by the diagram on the following page, the pipeline abandonment planning process is a multi-dimensional exercise that requires wide stakeholder input. The abandonment project schedule should also provide an opportunity for meaningful input into the planning process by the affected

public, as defined by the scope of the project. It is especially important that landowners and land managers have a central role in this process.

In practice, the decision to abandon in place or through removal should be made on the basis of a comprehensive site-specific assessment. In this context, the analysis presented in this paper has limitations in that all site specifics could not possibly be addressed, particularly in relation to potential environmental impacts or impacts on land use.

The development and implementation of a pipeline abandonment plan that will both minimize impacts to the environment and land use and be cost-effective requires many activities similar in scope to the planning or installation of a new pipeline. For any large-scale abandonment project, it is unlikely that any one abandonment technique will be employed. Rather, a project will usually involve a combination of pipe removal and abandonment-in-place along the length of the pipeline. A key factor influencing the choice between the two options is present and future land use.

In summary, the key features of a proper abandonment plan are (i) that it be tailored to the specifics of the project, (ii) that an early and open opportunity be provided for public and landowner input, and (iii) that it comply with current regulatory requirements. It is also necessary that the plan be broad in scope and encompass post-abandonment responsibilities in the form of right-of-way monitoring and remediation of problems associated with the abandonment.

A major issue still to be addressed is the question of who would assume responsibility if the owner/operator becomes insolvent. In this regard, industry has established a fund in Alberta to cover the cost of reclamation and abandonment of orphaned oil and gas wells and certain associated pipeline facilities.

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Alberta Agriculture, Food and Rural Development (Farmers Advocate)  
National Energy Board  
Pembina Corporation

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## **Abbreviations**

AEP

Alberta Environmental Protection

C&R

Conservation and Reclamation

CAPP

Canadian Association of Petroleum Producers

CEPA

Canadian Energy Pipeline Association

EPEA

*Environmental Protection and Enhancement Act (Alberta)*

EUB

Alberta Energy and Utilities Board (formerly the Alberta Energy Resources Conservation Board)

H<sub>2</sub>S

hydrogen sulphide

km

kilometre

mm

millimetre

NEB

National Energy Board

O.D.

outside diameter

PCB

polychlorinated biphenyl

ROW

right-of-way

---

## **Glossary of Terms**

### **Abandonment**

Refers to the permanent removal from service of the pipeline. A section of pipeline can be abandoned in place or removed. In the former case, it is assumed that cathodic protection of the pipeline is discontinued and that no other measures are taken to maintain the structural integrity of the abandoned pipeline (other than the potential use of solid fill material at roadway and railway crossing sites or other locations sensitive to ground subsidence).

### **Associated Apparatus**

All apparatus associated with a pipeline system, both above and below the ground surface, including pipeline risers, valve assemblies, signage, pig traps, culverts, tanks, and sumps.

### **Cathodic Protection**

A technique to prevent the corrosion of a metal surface by making the surface the cathode of an electrochemical cell.

### **Corrosion**

The deterioration of metal as a result of an electrochemical reaction with its environment.

### **Deactivation**

Refers to the temporary removal from service of the pipeline. In the context of this paper, it is assumed that corrosion control measures are maintained.

### **Decontamination**

The removal or neutralization of chemical substances or hazardous material from a facility or site to prevent, minimize, or mitigate any current or future adverse environmental effects.

### **Decommissioning**

One of the steps of pipeline abandonment, generally involving the physical removal of all above-ground appurtenances.

### **Discontinued**

See "deactivation".

#### Erosion

The process of wearing away the earth's surface through the action of wind and water.

#### Groundwater

All water under the surface of the ground.

#### Land Surface Reclamation

The stabilization, contouring, maintenance, conditioning, or reconstruction of the surface of the land to a state that permanently renders the land with a capability that existed just prior to the commencement of abandonment activities, and as close as circumstances permit to that which existed prior to pipeline installation.

#### Negative Salvage

The net cost of abandoning a pipeline through removal, calculated as the cost of removal less salvage revenue generated from the sale of the removed material for scrap or use by others.

#### Orphaned

Pipelines and associated facilities for which the licensee and successors are insolvent or non-existent.

#### Owner/Operator

The individual, partnership, corporation, public agency, or other entity that owns and/or operates the pipeline system.

#### Pipe Cleaning

The removal of all substances (solid, liquid, or gaseous) and build-ups within the pipeline to a pre-determined level.

#### Pipeline

All metallic onshore pipelines within the scope of the CSA Z662-94 "Oil and Gas Pipeline Systems" standard, including associated appurtenances such as valve assemblies, drip pots, cathodic protection beds, signage, and headers, but not including station facilities such as pump or compressor stations.

#### Pipeline System

The combination of pipelines, stations, and other facilities required for the measurement, processing, storage, and transportation of oil, gas, or other hydrocarbon fluid.

#### Reclamation

Any one of the following:

- the removal of equipment or buildings or other structures or appurtenances;
- the conducting of investigations to determine the presence of substances;
- the decontamination of buildings or other structures or other appurtenances, or land or water;
- the stabilization, contouring, maintenance conditioning, or reconstruction of the land surface; or
- any other procedure, operation, or requirement specified in the regulations.

(as defined in the Alberta *Environmental Protection and Enhancement Act*)

Removal

The pipeline is completely removed from the right-of-way.

Roach

Excess soil placed over the ditch line to compensate for soil settlement.

Road or Railway Crossing

The crossing by a pipeline of a highway, road, street, or railway.

Sight Block

A mechanism to restrict the visual impact of a pipeline right-of-way.

Soil

The naturally occurring, unconsolidated mineral or organic material at least 10 centimetres thick that occurs at the earth's surface and is capable of supporting plants. It includes disturbance of the surface by human activities such as cultivation and logging but not displaced materials such as mine spoils.

Spoil

Soil materials other than topsoil excavated from the trench. In most cases, the excavated soil is suitable for return to the pipeline trench, and allows for re-contouring of the right-of-way.

Subsoil

Although a common term it cannot be defined accurately. It may be the B horizon of a soil with a distinct profile. It can also be defined as the zone below the plowed soil in which roots normally grow.

Surface Water

Water in a watercourse and water at a depth of not more than 15 metres beneath the surface of the ground.

#### Suspension

The cessation of normal operation of a pipeline pursuant to its licensed use. The pipeline need not be rendered permanently incapable of its licensed use, but must be left in a safe and stable state during this period of suspension, as prescribed by the applicable regulations and guidelines. See also "deactivation".

#### Topsoil

The organo-mineral surface "A", organic surface "O" horizon, or dark coloured surface soil materials, used synonymously with first lift. First lift materials are usually removed to the depth of the first easily identified colour change, or to specified depth where colour change is poor, and contain the soil Ah, Ap, O, or Ahe horizon. Other horizons may be included in the first lift if necessary.

#### Water

All water on or under the surface of the ground.

#### Water Conduit

A channel for conveying water. In the context of pipeline abandonment, refers to a pipeline that has become corroded and perforated and transports ground or surface water to a different location.

#### Watercourse

- (i) The bed and shore of a river, stream, lake, creek, lagoon, swamp, marsh, or other natural body of water; or
- (ii) a canal, ditch, reservoir, or other man-made surface feature, whether it contains or conveys water continuously or intermittently.

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## **Section 1**

### **Introduction**

#### **1.1 Background**

Approximately 540,000 km of operating oil and gas pipelines currently exist in Canada, about 50 percent of which are located in Alberta. Ultimately, all oil and gas pipelines will reach the end of their useful lives, and will be abandoned. The issue of pipeline abandonment should therefore be reviewed by all stakeholders.

The Alberta Energy and Utilities Board (EUB) estimates that about 17,000 km of pipeline were abandoned or discontinued in Alberta as of April 1994. This number includes an estimated 3,600 km of orphaned abandoned pipelines. The majority of abandoned pipelines in Alberta are gathering lines 168.3 mm or less in outside diameter.

Regulatory requirements for pipeline abandonment vary across jurisdictions in Canada, and in many cases do not completely address associated long-term issues.

## **1.2 Review Initiatives**

In 1984, several parties at a National Energy Board (NEB) hearing into the tolls of a major natural gas transmission pipeline company showed an interest in addressing the issue of negative salvage as it related to pipeline abandonment. As a result, the NEB issued a background paper in September 1985 addressing the negative salvage impacts of pipeline abandonment. The issue was not pursued again until 1990, when industry, the Alberta Energy Resources Conservation Board (now the EUB), and Alberta Environmental Protection (AEP) discussed the issue of pipeline abandonment while considering amendments to the pipeline regulations issued pursuant to the *Pipeline Act* (Revised Statutes of Alberta 1980). The issue was not resolved at that time, and was again raised in 1993 by the Alberta Pipeline Environmental Steering Committee, an industry, government, and public stakeholder group established to address pipeline related issues.

In October 1993, the Canadian Association of Petroleum Producers (CAPP) received the endorsement of the Alberta Petroleum Industry Government Environment Committee to establish a steering committee to oversee the issue of pipeline abandonment. Shortly thereafter, the EUB requested that CAPP and the Canadian Energy Pipeline Association (CEPA) organize a steering committee to resolve the concerns surrounding abandonment.

In April 1994, representatives from CAPP, CEPA, the EUB, and the NEB met to establish a pipeline abandonment steering committee. It was also decided at that time that separate subcommittees be struck to address the technical, environmental, legal, and financial aspects of pipeline abandonment. The technical and environmental subcommittees were the first to be formed and, together with the steering committee, were responsible for this discussion paper. The legal and financial subcommittees have not yet been struck.

## **1.3 Scope**

This discussion paper is intended to apply to all buried metallic pipeline facilities falling within the scope of the CSA Z662-94 "Oil and Gas Pipeline Systems" standard, except for offshore pipelines. Many of the same issues and concepts (such as those relating to land use and pipe cleanliness) also apply to plastic and fibreglass pipelines. It addresses pipeline abandonment only (i.e. permanent removal from service), and does not consider pipeline deactivation (i.e. temporary removal from service). Likewise, this document does not address the abandonment of aboveground facilities associated with pipelines, such as stations or tank farms, or specific facilities such as underground vaults.

This paper addresses the technical and environmental aspects of pipeline abandonment. In order to complete the assessment, a review of the legal and financial aspects of pipeline abandonment needs to be undertaken. More particularly, the core issues of long-term liability and funding need to be addressed both in the context of orphaned pipelines and those with an identifiable owner/operator.

#### **1.4 Abandonment Options**

The two basic options that are considered in this paper are (i) abandonment-in-place and (ii) pipeline removal. In the former case, it is assumed for the purposes of this paper that cathodic protection of the pipeline is discontinued and that no other measures are taken to maintain the structural integrity of the abandoned pipeline (other than the potential use of solid fill material at roadway and railway crossing sites or other locations highly sensitive to ground subsidence).

As noted in [Section 2](#), for any large-scale abandonment project it is unlikely that only one of these options will be employed. Rather, a project will usually involve a combination of pipe removal and abandonment-in-place along the length of the pipeline. A key factor influencing the choice between the two options is present and future land use.

It is further noted that the abandonment techniques presented are confined to those possible using currently available technology. While developments in pipeline removal and abandonment technologies were evaluated, no major improvements to the methods currently in use were discovered. However, as pipeline abandonments become more prevalent, improved abandonment methods will likely be developed.

#### **1.5 Objective**

The objective of this discussion paper is to assist the user in the development of a pipeline abandonment plan, a framework for which is provided in [Section 2](#) of this paper. More particularly, the paper is meant to assist parties in making an informed decision between abandoning in place or through removal. [Section 3](#) outlines the general technical and environmental issues that should be considered when abandoning a pipeline, while [Section 4](#) elaborates on post-abandonment responsibilities. Site-specific issues should be addressed on a case-by-case basis.

The objective of creating an abandonment plan is to ensure that identified issues have been addressed and that the pipeline is abandoned in a way that provides a forum for meaningful stakeholder input and ensures that public safety and environmental stability are maintained.

#### **1.6 Regulatory Requirements**

The NEB is responsible for regulating interprovincial and international pipeline systems in Canada, while the individual provinces are responsible for regulating intraprovincial pipeline systems. Within each province, gathering, transmission, and distribution pipelines may be regulated by different agencies. For example, in Alberta the EUB regulates gathering and transmission lines as well as higher-pressure distribution lines (greater than 700 kPa), while lower-pressure distribution lines are regulated by Alberta

Transportation and Utilities. AEP, through the *Environmental Protection and Enhancement Act* (EPEA), regulates conservation and reclamation activities for all three categories of pipelines.

In addition to the primary regulators, there may be other governmental agencies within each of the respective jurisdictions that may have an interest in the abandonment and reclamation of a pipeline. These other agencies may include local governments, especially in populated areas where pipeline abandonment may impact upon land uses.

In Alberta, the EUB sets the requirements for the abandonment of gathering and transmission lines. In addition to meeting the EUB's abandonment requirements, the pipeline right-of-way must be reclaimed to AEP standards. Reclamation certificates are issued by inspectors designated under EPEA. For removal projects that are classified as Class I projects,<sup>1</sup> the operator is required to obtain an approval under EPEA from AEP to ensure that proper conservation and reclamation occurs. For smaller projects, AEP's *Environmental Protection Guidelines for Pipelines* are to be followed during construction.

For federally regulated pipelines, approval to abandon a pipeline must be granted by the NEB and pipelines must be abandoned in accordance with the requirements of the NEB's *Onshore Pipeline Regulations*. These regulations are in the process of being revised, and future regulations will likely require that applications for pipeline abandonment be treated on a case-by-case basis.

A summary of the current regulatory requirements for pipeline abandonment across Canada has been included as [Appendix A](#).

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<sup>1</sup> A Class I pipeline is defined by the *Activities Designation Regulation* (AR 110/93) under EPEA as any pipeline that has an index of 2690 or greater, determined by multiplying the diameter of the pipeline in millimetres by the length of the pipeline in kilometres (e.g. 168.3 mm x 16 km = 2693).

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## Section 2

### Developing an Abandonment Plan

This paper addresses the common issues that pipeline abandonment plans should address regardless of regulatory jurisdiction. It is intended to assist a company in the development of an abandonment plan through the recognition of the general issues which result from the abandonment of a pipeline and by providing the means to address those issues.

In practice, the decision to abandon in place or through removal should be made on the basis of a comprehensive site-specific assessment. In this context, the analysis presented in this paper has limitations in that all site specifics could not possibly be addressed, particularly in relation to potential environmental impacts or impacts on present and future land use.

The development and implementation of a pipeline abandonment plan that will minimize impacts to the environment and land use and be cost-effective requires many activities similar in scope to the planning or installation of a new pipeline. For any large-scale abandonment project, it is unlikely that any one abandonment technique will be employed. Once the principal technique has been chosen, therefore, the owner/operator should assess on a site-specific basis whether an alternate approach should be followed for selected segments of line.

The abandonment project schedule should provide an opportunity for meaningful input into the planning process by the affected public, as defined by the scope of the project. It is especially important that landowners and land managers have a central role in this process.

The development of an abandonment plan should be initiated by reviewing the general requirements of the regulatory jurisdiction(s) under which the pipeline is operated. Beyond the requirements of the principal regulatory agencies, other legislation may affect the particular abandonment project. For example, municipal requirements and federal legislation such as the federal *Navigable Waters Protection Act* or the *Fisheries Act* may affect the abandonment options.

It is also critical that easement agreements be reviewed, as their terms and conditions may bear on the abandonment decision-making process.

The development and implementation of an abandonment plan consists of at least the following seven steps:

- (1) review prevailing regulatory requirements applicable to the abandonment project;
- (2) compile all relevant information on the pipeline system, including easement agreements;
- (3) analyze by segment taking into account the factors addressed in [Section 3](#) of this paper, including present and future land use;
- (4) develop the abandonment plan in consultation with stakeholders (such as landowners, government authorities, and other directly affected parties), incorporating the information compiled in the above steps;
- (5) secure regulatory and landowner approvals as required for the pipeline abandonment and site reclamation;
- (6) implement the abandonment plan, the scope of which should include post-abandonment responsibilities (addressed in [Section 4](#)); and
- (7) secure final regulatory release.

A proponent undertaking an abandonment plan should follow these six steps, recognizing that site-specific conditions may require additional steps in the development of the plan.

Please refer to the next page for a flowchart of the abandonment planning process and to [Appendix B](#) for a detailed abandonment checklist.



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## Section 3

### Technical and Environmental Issues

#### 3.1 Issue Identification

Abandonment issues arise from the need to address public safety, environmental protection, and future land use. An initial scoping exercise was carried out to identify the various technical and environmental issues associated with abandonment. Following the development of a detailed issues list, field studies of existing abandoned facilities were performed to verify the issues. In some cases, detailed studies were commissioned in order to better understand the effects and interactions of certain issues. <sup>2</sup>

The primary issues that were identified, and which are addressed in this section, are as follows:

- land use management;
- ground subsidence;
- soil and groundwater contamination;
- pipe cleanliness;
- water crossings;
- erosion;
- utility and pipeline crossings;
- creation of water conduits;
- associated apparatus; and
- cost of abandonment.

It was determined that most issues are not unique to the abandonment phase of the pipeline life-cycle, but could involve an altered scope, varied timeline, or additional stakeholders when compared to the issues of pipeline installation and operation. In order to responsibly abandon a pipeline, the operator must consider all of the issues and determine how they relate to the specific pipeline under consideration, in addition to addressing stakeholder concerns and incorporating collected input.

In any abandonment project, it is possible that a combination of both the abandonment-in-place and removal options would be used, based on site-specific requirements. Thus, it is important that all aspects of the abandonment issues be considered. As the following discussion illustrates, the abandonment-in-place option does not eliminate the need for land disturbance or field activity, while pipeline removal need not encompass the same level of disturbance or activity as that of pipeline construction.

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<sup>2</sup> (Refer to the Bibliography in [Appendix E](#) for a list of the studies, copies of which are available for public viewing in the libraries of CAPP, CEPA, the EUB, and the NEB.)

### **3.2 Land Use Management**

Land use is the most important factor to consider in determining whether a pipeline section should be abandoned in place or removed. Therefore, an understanding of the current and potential land uses along the pipeline right-of-way is essential to making informed decisions on available abandonment options.

Of particular concern with respect to land use management are areas sensitive to land disturbance, such as native prairie, parks and ecological reserves, unstable or highly erodible slopes, areas susceptible to severe wind erosion, and irrigated land, particularly flood irrigation systems. Additionally, land improvement activities such as the installation of drainage tile or other drainage systems, landscaping, and permanent structure installations could be affected by a proponent's decision to abandon a line.

Future land use should be considered because a pipeline abandoned in place could become a physical obstruction to development, such as excavation for foundations, pilings, or ongoing management practices such as deep ploughing or the installation of sub-drains. It is critical that input be gathered from appropriate sources such as landowners, land managers, lessees, and municipal agencies to support the decision to abandon in place. In addition, sufficient documentation must be kept to allow for detailed location information for future developers or owners.

As noted in [Section 2](#), the decision to abandon in place or through removal should be made on the basis of a comprehensive site-specific assessment. In this context, the land management characteristics that may be better suited to pipeline abandonment-in-place include, but are not limited to:

- parks and natural areas;
- unstable or highly erodible surfaces;
- water crossings;
- flood irrigated fields;
- road and railway crossings;<sup>3</sup>
- foreign pipeline crossings;
- extra depth burial of pipe (i.e. depth well in excess of one metre);
- native prairie and native parkland;
- forest cut blocks;

- designated waterfowl and wildlife habitat; and
- areas exhibiting poor and/or limited access.

The key environmental protection measures to be considered when a pipeline is to be abandoned in place are as follows:

- minimal disruption to ongoing or future land management activities;
- a complete and documented pipeline cleaning procedure;
- the clean-up of any spills or contaminated sites to prevailing regulatory requirements;
- a revegetation strategy to achieve pre-abandonment conditions, keeping erosion control and soil stability as a priority;
- topsoil conservation for all areas disturbed during the abandonment process;
- reclamation of all site access roads, including those which had been developed for the operational phase of the pipeline and any opened or developed for abandonment activity;
- documented as-built information for future reference;
- application of sight blocks where appropriate (e.g. recreational areas and wildlife habitat); and
- a monitoring program acceptable to all affected parties to ensure a process to complete remediation.

Proper environmental protection measures should be implemented, including appropriate soil handling procedures, timber management, contingency plans (e.g. for spills and wind or water erosion), protection of cultural features, weed control, and site reclamation. For example, in Alberta, a Conservation and Reclamation (C&R) report may be required by AEP for pipelines which were constructed before the C&R regulations came into effect.

Prior to the commencement of field activity, reclamation criteria should be agreed upon by the owner/operator, regulatory authority, and landowner. The reclamation program will normally be designed to ensure that the condition of the right-of-way land surface is made at least equivalent to that existing just prior to the commencement of abandonment activities, and as close as circumstances permit to the condition of the land that existed prior to pipeline installation, and may entail:

- removing, storing, and replacing topsoil;
- soil contamination analysis and-clean up, if required;
- contouring disturbed land to control drainage;
- seeding affected areas to prevent erosion and establish vegetation;

- removal of all structures to a minimum depth of one metre below final contour elevation;<sup>4</sup>
- roaching and/or compacting excavated areas to compensate for future settlement; and
- site-specific environmental requirements (e.g. reforestation).

As noted in [Section 4](#), a right-of-way monitoring plan should be developed to ensure that reclamation efforts are successful and that no problems arise.

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<sup>3</sup> (as detailed in [Section 3.8](#), consideration should be given to filling pipeline sections abandoned in place underneath roadways and railways with a solid material such as concrete in light of potential ground subsidence impacts.)

<sup>4</sup> (In areas where circumstances such as special farming practices or nearby urban development exist, consideration should be given to removing structures more than one metre below the final contour elevation.)

### **3.3 Ground Subsidence**

#### **3.3.1 General**

The long term structural deterioration of a pipeline abandoned in place may lead to some measure of ground subsidence. This is a primary issue to consider for larger-diameter pipelines because of potential environmental and safety concerns. More particularly, ground subsidence could create the potential for water channelling and subsequent erosion, lead to topsoil loss, impact on land use and land aesthetics, and/or pose a safety hazard.

The acceptable subsidence limits and the potential factors affecting those limits are significant areas requiring attention in the development of any abandonment plan. Erosion may cause direct siltation to a watercourse, or cause slope failures and subsequent siltation. Where potential siltation is an issue, proponents must be prepared to deal with fisheries protection measures to remain in compliance with provincial and federal legislation.

The rate and amount of ground subsidence over time is difficult to predict as it depends on a complex combination of site-specific factors, such as the corrosion mechanics in the vicinity of the pipeline, the thickness and diameter of the pipeline, the quality of the pipeline's coating, burial depth, soil type, the failure mechanics of the pipeline material, and soil failure mechanics.

Given the absence of previously documented research, studies were commissioned on corrosion and soil mechanics in an attempt to establish the connection between pipeline corrosion, the structural deterioration of pipe, and the resultant ground subsidence that might be observed. Summaries of these studies and the conclusions that were reached follow.

#### **3.3.2 Pipeline Corrosion**

The corrosion consultant's report addressed the mechanism of corrosion leading to ultimate structural failure of a pipeline. The report stated that the rate of corrosion of an abandoned pipeline can vary significantly due to the many factors which must be present for corrosion to take place. Corrosion of buried pipelines occurs through an electrochemical reaction that involves the loss of metal in one location (called the anode) through the transfer of the metal ions to another location on the pipeline (called the cathode). The rate of metal transfer depends on a number of factors such as the quality of the pipeline coating, soil aeration (which supplies oxygen to the pipe to allow the corrosion process to occur), types and homogeneity of soils, soil moisture, and electrical factors which create the potential differences for a corrosion cell to be established.

The corrosion of a coated pipeline is normally restricted to those isolated areas where there are defects in the coating or where the coating has become disbonded from the pipe. Corrosion can be expected to be almost negligible in areas where the coating integrity is intact. Based on his experience, the consultant observed that coating holidays or disbondment occur on less than one percent of the length of most pipelines. Pipeline corrosion in most cases occurs as localized pits, or spiral corrosion areas, which eventually result in random perforations throughout the length of the pipeline. It is extremely rare for corrosion to cover large areas of pipeline, rendering a long segment of the pipeline susceptible to sudden and complete structural failure.

To illustrate typical corrosion rates, the consultant used an example of a 323.9 mm O.D. pipeline in soils commonly found throughout Alberta and estimated that penetrating pits would occur in the range of 13 to 123 years. Based upon the slow rate of pitting corrosion that would occur in most cases, complete structural failure is not likely to occur for decades or even centuries. Furthermore, given the non-uniform nature of the corrosion process, it can be concluded that it is highly unlikely that significant lengths of the pipeline would collapse at any one time.

### **3.3.3 Soil Mechanics**

The soil mechanics report indicated that there has been no documented incidence of ground subsidence due to pipeline structural failure. In order to predict soil reaction to pipeline structural failure, the consultant modelled its review on shallow mining and tunnelling research and documented case histories. The focus of the study was to estimate possible surface subsidence that could be attributed to the complete failure of tunnels of equal diameter and depth as the pipelines being modelled. This represented a worst-case scenario, since as noted earlier a complete pipeline collapse of any significant length is considered highly improbable.

The report employed two different theoretical soil modelling techniques, the Rectangular Soil Block and the Active Soil Wedge, to reflect the most common types of soils that may be encountered. The ranges of subsidence calculated for varying sizes of pipelines provided an approximation of the impacts that a significant pipeline collapse would have on soils. The analysis indicated that ground subsidence associated with the collapse of pipelines up to 323.9 mm in diameter at typical burial depths would be negligible. The analysis further indicated that while there would be some degree of subsidence associated with larger pipeline sizes, it may be of sufficiently small scale so as to be in a tolerable range.

### **3.3.4 Field Investigation Program**

In order to validate the conclusions of the technical reports, the subcommittees undertook to document the ground subsidence of known abandoned pipelines.

As a first step, the subcommittees searched the EUB's records and identified pipelines 168.3 mm or larger in diameter that had been abandoned in place. Questionnaires were forwarded to the owners/operators of some of those lines, requesting information on pipeline diameter, coating type, year abandoned, whether cathodic protection had been removed, and ground subsidence observations (reference [Appendix C](#) for copy of questionnaire). The responses to the survey, as well as industry discussions, did not reveal any instances of observed subsidence.<sup>5</sup>

<sup>5</sup> (As indicated in Appendix C, all of the survey results gathered by the subcommittees are available for public viewing in the libraries of CAPP, CEPA, the EUB, and the NEB.)

### **3.3.5 Summary of Findings**

The analyses indicated that the structural failure of an abandoned pipeline due to corrosion may take many decades, and that significant lengths of the pipeline would not collapse at any one time due to the localized nature of the pitting process. Furthermore, the analyses indicated that, even if the worst-case scenario of uniform and total structural collapse was realized, ground subsidence would be negligible for pipelines up to 323.9 mm in diameter.

The degree of subsidence associated with larger-diameter pipelines is highly dependent on pipeline diameter, depth of cover, and local soil conditions, but can be expected in many cases to be in a tolerable range. It should be noted that tolerance to soil subsidence is in itself a site-specific issue, as it depends on land use and the local environmental setting. Any pipeline owner/operator considering the abandonment-in-place of a larger-diameter pipeline should therefore conduct a site-specific analysis in order to evaluate both the degree and tolerability of any long-term subsidence that might be expected. Such analyses should take into account the potential for heavy vehicular loadings (e.g. farm equipment or logging trucks).

On the basis of the foregoing, it is suggested that ground subsidence associated with the structural failure of pipelines abandoned in place will not usually be a critical issue. This conclusion was corroborated by the industry survey referred to in [Section 3.3.4](#). In areas where no settlement is allowed, either by regulation or agreement (such as at highway crossing sites, as further explained in [Section 3.8](#)), the option would exist to fill the pipeline with an approved solid material such as concrete or sand.

In terms of follow-up on this issue, it is suggested that tolerance criteria be developed and that the industry survey referred to in this paper be complemented with a field observation program. Scale modelling could also be performed to confirm the theoretical ground subsidence calculations.

### **3.3.6 Subsidence as a Result of Pipeline Removal**

The physical act of removing a pipeline is essentially the reverse operation of pipeline construction and involves topsoil removal, backhoe excavation of the subsoil to a depth at least even with the top of the pipe, pipe removal, backfilling and compaction of the trench, replacement of the topsoil, and revegetation measures.

During pipeline construction, a roach consisting of subsoil overlaid with topsoil is usually employed to compensate for the settlement that will occur as the ditch line settles. The same strategy can be employed at the abandonment stage to avoid the need for reclamation in future years due to settlement and erosion. In general, if extra topsoil or soil materials are required for this operation, it could be recovered from areas immediately adjacent to the pipeline right-of-way. For older pipelines built before mandatory soil conservation, this is where extra topsoil or soil materials may have been disposed. Further surveys or examinations of topsoil depths and soil volumes may be required to identify these potential borrow areas.

Without the concern of compaction damaging the pipeline, a company may undertake a more rigorous compaction of the soil being replaced in the ditch following pipe removal than after backfilling for new construction. Additional compaction may also result in less topsoil handling and, therefore, fewer impacts due to the decreased need to strip topsoil to accommodate the feathering out of subsoil material caused by the excavation.

### **3.4 Soil and Groundwater Contamination**

The abandonment plan should address the potential for contamination associated with the abandonment activities, as well as the need to eliminate any contamination that may already exist, and include the appropriate pipe cleaning or pigging procedure. Any contamination noted prior to abandonment activity should be cleaned up to the applicable regulatory standards prior to full project disturbance, unless it is more economically efficient to include the cleanup in the scope of abandonment activity and it can be demonstrated that environmental damage will not be amplified.

In order to gain additional insight into the issue of contamination, a study was commissioned into the types and quantities of contaminants that might be released from pipelines abandoned in place.

The potential sources of contamination were identified as:

- the substances produced from the reservoir in the hydrocarbon stream and deposited on the walls of the pipeline;
- treatment chemicals which could enter the pipeline and be deposited;
- the line pipe and associated facilities;
- pipeline coatings and their degradation products;
- historical leaks and spills of product that were not cleaned to current standards; and

- possible PCB contamination, if PCBs were used in the pump or compressor lubricants at some point in the history of the pipeline.

The quantity of residual contaminants can be expected to decrease as the product moves from the wellhead through the gathering, processing, and distribution systems. Traditionally, oil pipelines contain a greater volume of wax and scale than do natural gas pipelines, but this is dependent on the circumstances of the particular production field. The study concluded that the effectiveness of pipeline pigging and cleaning procedures prior to abandonment was the most critical determinant of the potential quantities of residual contaminants.

The subject of pipeline cleaning is addressed at length in [Section 3.5](#) and [Appendix D](#). An operator should become familiar with prevailing regulatory standards for soil and groundwater, as these standards may dictate the minimum acceptable level of pipe cleanliness. Sound environmental protection practices should be observed throughout the pipeline cleaning process, such as the use of properly engineered containment and storage for all collected material, proper labelling, disposal processes conforming to local regulations, and effective spill contingency plans. Detailed documentation should be recorded on the results of the cleaning process or the clean-up of a contaminated site.

Operators should also have an understanding of the composition of pipe coatings and their associated characteristics to assess any potential risk that may be derived from abandoning the pipeline in place. For example, pipeline coatings containing asbestos should be handled through special means by trained personnel. It has been suggested that if pipe coating compounds would be accepted at local landfills, then abandoning a pipeline with the same compounds in place may not be a concern, depending on site conditions and concentration levels. Presently, limited information exists regarding the long-term decomposition of pipeline coatings. However, it can be assumed that as the coating adhesive degrades, or is consumed by soil organisms, coatings will eventually disbond and contribute to the corrosion process.

Many of the same contamination prevention measures to be employed for abandonment-in-place also come into play in the context of pipeline removal. Of prime importance is the need to clean the pipeline to accepted standards prior to the commencement of the removal operation, and the employment of measures to prevent spills of the substances collected as a result of the cleaning process. Collection trays should be used during the pipe cutting operation to catch any residual fluids.

During pipe removal, proper soil handling measures must be implemented to ensure topsoil conservation.

In addition to the pipeline itself, the dismantlement of any connected facilities should be carried out such that the potential for contamination is controlled by proper containment and storage for disposal at an approved facility.

### **3.5 Pipe Cleanliness**

#### **3.5.1 Cleanliness Criteria**

In light of potential contamination concerns, the cleanliness of the pipeline is an issue for both abandonment techniques. Although responsible cleaning procedures have been defined and are discussed in detail in [Section 3.5.2](#) and [Appendix D](#), the question of "how clean is clean" has not been resolved. In addition, the question remains as to whether pipe that will be removed should be subject to the same cleanliness criteria as pipe that will be left in place. It should be assumed that pipe that is to be removed should be cleaned to a level where any remaining residues will not cause harm in any future intended use of the pipe. Removed pipe that may eventually be put to some alternative use (e.g. pilings) may require more study to determine the appropriate cleanliness requirements for the future use. For pipe that is targeted for disposal, existing disposal or landfilling guidelines will determine the required cleanliness of the pipe.

For pipe that will be abandoned in place, the issue of pipe cleanliness is related to corrosion and the creation of water conduits. Eventually the pipe will corrode until perforated and, aided by the destructive forces of the freeze-thawing of infiltrated water, the structural integrity of the pipe will suffer. Whether the rate of deterioration will be greater than the life of the contaminants left as internal residue of the pipe is unclear. Similarly, an issue remains over the rate and structural location of any corrosion, in that it may allow water to infiltrate the abandoned pipe and transport pipe residues to some other exit point.

### **3.5.2 Cleaning Procedures**

The pigging procedure used during the final operating stages and during evacuation of the pipeline is critical in preparing the line for abandonment. The study on contaminants concluded that the small quantities of hydrocarbons left in the line after a concerted pig cleaning effort will not result in any significant environmental concerns.

The factors impacting the effectiveness of any pig cleaning procedure will vary with each pipeline. Cleaning programs must therefore be customized to the specific circumstances of the pipeline under consideration for abandonment. For guidance purposes, [Appendix D](#) sets out general cleaning considerations and describes typical cleaning methods for an oil pipeline in a medium duty service<sup>6</sup> or for a pipeline carrying relatively dry natural gas. Operators planning a pigging program for a specific line should consider these guidelines as a starting point only. The abandonment of pipelines carrying products other than the two noted above require customized pigging procedures to ensure proper cleaning. Care should be taken in all cases to properly contain and dispose of pigged effluent.

A pipeline to be abandoned in place should be left such that no solids or waxy build-up are visible at any point along the pipeline as observed through standard pipe openings such as opened flange or sample connections and the contents have been cleaned out to the extent that no more than a thin oily film on the inside pipe wall surface can be detected by feel or sight. Sour liquid or natural gas pipelines should be checked to confirm that H<sub>2</sub>S levels are below acceptable limits.

Pipe cleaning is also of critical importance in the context of pipeline removal, given the desire to minimize the risk of soil and groundwater contamination during the removal process and the hazards associated with pipe removal (e.g. health and flammability hazards of exposed vapours). Cleanliness

considerations relating to the future intended use or disposal of the pipe should also be taken into account, bearing in mind that supplementary cleaning techniques may be employed once the pipe has been removed from the ground.

Cleaning effectiveness can be determined by taking pipe coupons and swabs of any film found on the inside of the pipe and analyzing them for contamination, using cutout means such as hot tapping or line cutouts.

After allowing some time for the collection of remaining liquids in low areas (minimum one week suggested), the pipeline should be excavated at random low areas. A minimum of one excavation site per scraper trap or 80 km interval is suggested. However, in undulating areas multiple excavation sites may be required. Excavation sites should be chosen to avoid environmentally sensitive areas and to minimize clearing associated with the opening of access roads. If the examination of the inside wall shows that the cleanliness criteria has been met, the cleaning task can be considered complete.

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<sup>6</sup> *Medium duty service refers to relatively wax and direct free operation with a scraping program undertaken occasionally to move along anything collected or adhering to the pipe wall.*

### **3.6 Water Crossings**

The effect of pipelines on water crossings is an important issue at any stage of a pipeline project. This issue is a significant social consideration due to the visibility of crossing activities, the importance of fisheries resources, public use of waterways, the sensitivity of the resource, and the fact that waterways are an important cultural and historical feature of the land.

There are many factors to consider in deciding whether a section of pipeline crossing a water body or wetland (e.g. muskeg, swamp, or flood plains) should be abandoned in place or removed. More specifically, the risks associated with abandoning the pipeline in place, including the potential for contamination and pipe exposure, have to be weighed against the cost and environmental impact of removal.

These trade-offs should be assessed on a site-specific basis, taking into account the size and dynamics of the water body, the design of the pipeline crossing, soil characteristics, slope stability, and environmental sensitivities. While these issues must be evaluated, in most cases it can be expected that abandonment-in-place will be the preferred option.

If the pipeline crossing is to be abandoned in place, the pipe should be left in as clean a state as possible to minimize the potential for contamination of the waterbody should the eventual perforation and failure of the pipe allow any internal residues to escape. As described in [Section 3.9](#), the strategic placement of caps and plugs will also help mitigate this concern by interrupting the movement of potential contaminants through the abandoned pipe.

The risk of pipe exposure is two-fold. First, the pipeline could become exposed if the overlying soil is gradually eroded or washed away because of the dynamics of the water body (e.g. stream bank migration, scour, or flood conditions). Secondly, an empty pipeline crossing a water body or wet area could float toward the surface if buoyancy control mechanisms fail (e.g. if concrete saddle weights slide off). In either case, the owner/operator should assess the probability that the pipeline could become exposed and the impacts that exposure would entail. If the risk of flotation is a concern, it could be addressed by either perforating the line following an appropriately sensitive line cleaning program to allow it to fill with water or by filling the line with concrete or some other solid material. In the case of the former option, plugs and caps should be used to prevent water migration through the pipeline.

If applicable, the risks associated with abandoning a pipeline in place which runs parallel to an operating pipeline at a water crossing should also be assessed.

If the pipeline is to be removed in whole or in part, the issues would be similar in many ways to those associated with initial construction across the water body or wetland. More specifically, many of the same construction techniques and environmental protection measures would apply. Aspects to address include fisheries resource timing sensitivities, habitat protection, sediment control, vehicle and equipment crossing methods, backfill material specifications and source, erosion control measures (both short term and long term), and bank restoration. Damage to any existing bank stabilization structures or destabilization of previously stable banks should be considered.

It is crucial that the pipe be as clean as possible prior to excavation to minimize the potential for contamination of the waterbody should the pipe be damaged and a spill occur during the removal procedure. Blinding off the ends of the section being removed is recommended to prevent contamination by any remaining traces of material.

### **3.7 Erosion**

Soil erosion is a concern during all phases of the pipeline life-cycle, particularly as it relates to slope stability. Leaving a pipeline in the ground may entail a certain amount of activity along the right-of-way to ensure responsible abandonment, such as excavations to confirm cleaning quality and the installation of caps or plugs. The potential impact of the ensuing right-of-way disturbance will vary greatly with the geographic location of the activity. For example, a forest area "duff" layer may not be as susceptible to erosion and slope instability as a region of native prairie topsoil.

If the pipe is to be removed, erosion and slope stability concerns will be similar to those for pipeline construction. For example, traffic, soil compaction, and the wind and water erosion of disturbed soil may be of concern. In addition, the pipeline may have become a structural support to many slopes over time, and its removal may affect the integrity of the slope.

When developing an abandonment plan, the pipeline owner/operator should review any erosion remediation that had occurred over the operating life of the pipeline. If erosion control measures have been regularly required at specific locations, the owner/operator should determine if it would be appropriate to implement longer term erosion control measures.

If the abandonment activities necessitate disturbing erosion-prone areas including slopes, protection measures designed to current standards should be implemented. In addition, the integrity and effectiveness of any existing ditch plugs, sub-drains, berms, or other installations should be reviewed.

It is usually more appropriate to abandon pipe at unstable slopes in place, due to the potential requirement for extensive remediation if the pipeline is removed. On sensitive slopes, the use of sight blocks or other measures should be considered to discourage use of the right-of-way. In areas where the right-of-way has been traditional access for recreational users or hunters, the operator should attempt to reach an agreement with the land manager for ongoing remediation, if necessary.

In areas where slope movement was being monitored during the pipeline's operating life, the monitoring program should be re-evaluated and continued, if warranted. Temporary access roads to slopes should be reclaimed as appropriate.

Protective measures to be considered when removing a pipeline from a slope would be similar to those used during pipeline construction. The integrity of the slope must be maintained during the removal activities, as well as after the line is removed. If the removal calls for spot excavations (bellholes) instead of an open ditch removal, the stability of the entire slope, as well as the region surrounding the bellholes, should be evaluated. Re-installation of diversion berms and ditch plugs to prevent water channelling may be required.

Development of the abandonment plan should include consultations with other pipeline owners/operators that may be affected by right-of-way disturbances on the slope. In addition, regulators and landowners should be consulted in order to determine an appropriate period for right-of-way monitoring after the pipeline is removed. A typical monitoring period would be two years. Revegetation programs should consider the inclusion of a species that is quick to establish in the revegetation mixture, as this may help to provide short term erosion control; however, the environmental effect of introducing a non-native species must be considered. Regulatory/landowner approval of the seeding mixture would likely be required. A weed control plan should be initiated during the pipe removal process to address potential concerns immediately following surface disturbance.

### **3.8 Road, Railway, and Utility Crossings**

All crossings associated with a pipeline that is being abandoned must be addressed in an appropriate manner. Of particular importance are the agreements relating to the crossings of railways, primary and secondary highways, roads, other pipelines, power lines, and communication lines, and the constraints they may place on the abandonment process.

The parameters to be considered in selecting an abandonment technique for a crossing site include the line diameter, installation details (including burial depth), subsidence tolerance, impact of excavation, impacts on other cathodic protection systems (e.g. for crossings of other pipelines), and long term development plans. Special consideration should be given to the sensitivity of roadway and railway crossings to slight ground depressions that could result from any abandonment related subsidence. The potential may also exist for disruption to crossing traffic, both during and as a result of the pipeline

abandonment. As a result, more stringent abandonment requirements may be imposed, such as filling the pipeline at the crossing site with concrete or other approved material. Similarly, cased crossings may require a solid fill even if the carrier pipe is removed.<sup>7</sup>

The proper notification and location of the pipeline or utility being crossed is essential to maintaining a safe working environment. Operators of utilities and other pipelines may have established plans or expectations that may affect the design and timing of the abandonment. Utility crossing or pipeline crossing locations may be of concern when a pipeline is removed, due to the loss of support for the remaining facility, or the interference of the abandonment operation or the abandoned pipeline with the operation of the crossed utility or pipeline. Thus, discussions with utility and other pipeline companies will add value to the resulting abandonment plan and initiate protection planning.

The main steps of the abandonment evaluation and implementation process for any particular crossing site are as follows:

- review the existing crossing agreement and determine if there are any terms and conditions relating to abandonment-in-place or pipeline removal;
- establish communications with the utility or pipeline being crossed and negotiate terms and conditions (both technical and legal) to abandon the pipeline in place or remove the pipe;
- amend the existing crossing agreement to address the terms and conditions of the abandonment plan;
- notify all affected parties about abandonment activities and responsibilities;
- ensure that necessary approvals (e.g. from regulatory authorities, the utility being crossed, and the landowner) are obtained and kept on record;
- obtain proper location and identification of pipelines and utilities in the area using agencies such as Alberta First Call prior to commencing removal activities, and alert landowners to the activities taking place;
- file the necessary permanent records of the pipeline abandonment plan with interested parties (including pipeline regulatory authorities, provincial one-call systems, environmental groups, land titles, pipeline registers, and the affected crossing parties); and
- in the case of abandonment-in-place, ensure that the inspection requirements for the crossing are part of the post-abandonment monitoring plan.

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<sup>7</sup> *If the carrier pipe remains in situ, both it and the casing annulus may require a solid fill (need should be assessed on a site-specific basis.)*

### **3.9 Creation of Water Conduits**

The potential to create water conduits as a result of the abandonment process is of concern as it could lead to unnatural drainage and material transport. This issue is primarily of concern when a pipeline is abandoned in place, since water will eventually infiltrate the pipe through perforations in the pipe wall caused by corrosion.

Unless water pathways through the pipeline are interrupted, this could lead to the unnatural drainage of areas such as muskegs, sloughs, or marshes, thus affecting the natural balance of the ecosystem. Likewise, a previously stable low area could be flooded by volumes of water exiting from a perforated pipeline. This issue can be related to the concern for contamination and the protection of wetland systems. If water infiltrates the pipeline, the potential exists for that water to carry any residual contaminants left in the abandoned pipeline to some point of exit. The point of exit could be a watercourse, thereby contaminating the watercourse if contaminant levels are sufficiently great in volume and concentration at the point of exit. The possibility of soil contamination may also exist, depending on the nature of the contaminant transported through the pipeline.

Plugs should be installed at appropriate spacings to ensure that changes in surface and ground water conditions will not result in water flow through the pipeline. When identifying locations for the plugs, consideration should be given to pipeline access during the placement of the plugs and the resulting effects of the ground disturbance. Where the pipeline crosses a wet area, a plug should be placed just downstream of the wet area, to prevent its drainage, and also at an appropriate location upstream of the wet area, to prevent the wet area contamination by water flowing along the pipeline. The plugs should be long enough so that corrosion downstream of the plug will not result in water entering the pipe.

On slopes, water could seep into the pipeline through perforations and exit at unacceptable locations such as agricultural areas or areas where excessive erosion would result. The water should be allowed to exit at frequent intervals and at preferred locations in order to minimize potential impacts from the flow of water and the disruption to natural drainage patterns. Typical locations for plugs are provided in the following table.

**Table 3-1**  
**Recommended Plug Locations**

**Terrain Feature**

**Plug Locations**

waterbodies/watercourses

above top of bank

long inclines (>200m), river banks

at top and bottom of slope and at mid-slope for long inclines

floodplains

at boundaries

sensitive land uses (e.g. natural areas, parks)

at boundaries

near waterfalls, shallow aquifers, groundwater discharge and recharge zones, marshes, sloughs, peatlands, highwater table areas

at boundaries and should include an adequate buffer zone

cultural features (population centres)

at boundaries

The plugs should adhere to the pipe, be impermeable and non-shrinking, and able to resist deterioration. Examples of suitable materials are concrete grout or polyurethane foam. The use of impermeable earthen plugs may also be a viable option.

In the case of pipeline removal, water pathways through the uncompacted pipeline trench material must be prevented or interrupted. The principles governing the locations of trench breakers are the same as those governing the locations of plugs for pipelines abandoned in place.

### **3.10 Associated Apparatus**

The development of any abandonment plan should also give consideration to the disconnection, removal and disposal of apparatus associated with the pipeline, including:

- aboveground valve sites and manifolds;
- underground valve sites and manifold piping, as well as protruding elements such as valve topworks;
- underground tanks;
- pipeline scraper traps;
- pipeline risers;
- line heaters;
- drip pots;
- pipeline access culverts (e.g. for tie-ins, valves, liners, etc.);
- cathodic test posts, fink stations, rectifier sites, and ground beds (to a depth of one metre);

- aboveground tanks and containment berms;
- access roads, gates, and fences;
- anchor blocks and steel piles; and
- miscellaneous apparatus such as radio antennae, buildings, fencing, wiring, electrical equipment, and slope monitoring equipment.

It is recommended that all surface and subsurface apparatus (including signage) along the route of a pipeline that is to be abandoned through removal also be removed as part of the abandonment process.

For pipeline sections that are to be abandoned in place, it is recommended that all surface apparatus as well as subsurface apparatus to a depth of at least one metre be removed, with the notable exception of signage identifying the location of the buried line pipe (i.e. line markers and aerial markers). This applies to apparatus located on operator owned land as well as apparatus located on pipeline-specific surface leases on public or private land.

Any apparatus that is left in place should be secured and properly marked and recorded, and should not pose a hazard to people, equipment, or wildlife and livestock.

### **3.11 Cost of Abandonment**

The cost of abandoning a pipeline may be quite significant. There is a broad scope of costs to consider, from the traditional costs associated with abandonment to more intangible items such as a company's public image and the costs of environmental consequences. In order to make responsible decisions regarding abandonment, all of these costs must be considered.

The cost of abandoning a pipeline will depend on the resources required to complete the work, the value of any salvaged material, the extent of remediation and reclamation work required (as well as any associated security requirements<sup>8</sup>), and many other factors. Proponents should also consider the costs associated with monitoring a site and potential future remediation, as well as the consequences of the abandonment activities and any legal issues that may arise. Changes in the regulatory environment may also give rise to unanticipated abandonment costs to ensure "no responsibility by the owner/operator" after a prescribed monitoring period.

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<sup>8</sup>For example, in Alberta, if an approval under EPEA is required for the abandonment of a Class 1 pipeline, security is to be provided to AEP before the approval is issued. The security amount is determined using an estimate of the cost of reclamation.

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## **Section 4**

### **Post-Abandonment Responsibilities**

Once a pipeline has been abandoned, the owner/operator may retain a number of responsibilities. More particularly, the owner/operator may be responsible for ensuring that the right-of-way and any facilities left in place remain free of problems associated with the abandonment. For that reason, a right-of-way monitoring program should be included in the post-abandonment plan and accounted for in the abandonment budget.

Monitoring plans will vary from case to case, depending on the location and size of the pipeline, the land use, and the features of the terrain traversed by the right-of-way (such as water crossings or slopes). When developing a monitoring plan, the effects of each abandonment issue described in [Section 3](#) should be thoroughly examined for each specific segment of the pipeline being abandoned. Specific monitoring requirements should be included for potentially sensitive areas.

Right-of-way maintenance should also be considered in the post-abandonment monitoring plan and factored as necessary into the abandonment budget. As noted in [Section 3.2](#), the reclamation program will normally be designed to ensure that the condition of the right-of-way is made at least equivalent to that existing just prior to the commencement of abandonment activities, and as close as circumstances permit to the condition of the land that existed prior to initial pipeline installation. The degree to which the right-of-way has to be maintained in that state depends largely on land use and environmental sensitivities. For pipe left in place, the owner/operator would normally remain responsible for the maintenance of signage.

Additionally, the owner/operator may be responsible for maintaining post-abandonment information about the pipeline. This information should be recorded in a post-abandonment log book, so that it is available when needed and can be turned over to an alternate responsible authority if required by future regulations. The post-abandonment log book should contain:

- any regulatory permits and conditions attached to permits (including reclamation certificates);
- full particulars on any pipeline facilities abandoned in place, including a physical description, location and depth of cover, plug locations, and details of any sections filled with a solid material;
- copies of all past crossing agreements;
- records of post-abandonment aerial surveillances;
- records of any slumping over the pipe, or water flow through the pipe, that was noted during post-abandonment monitoring;
- records of any changes in pipeline state from the original abandonment plan (e.g. if pipe sections abandoned in place are subsequently removed);
- records of any remedial work performed on the pipeline after abandonment; and

- records of any areas that become contaminated after the abandonment and reclamation work is complete.

The owner/operator will also be responsible for notifying landowners, municipal authorities, and other affected parties (such as one-call associations) of the abandonment of the pipeline. Any input provided by these groups should be recorded in the post-abandonment log book.

Finally, any pipeline abandoned in place should remain part of any provincial one-call program, so that third parties can be advised whether the lines they wish to have located are active or abandoned.

In closing, a major issue still to be addressed is the question of who would assume responsibility if the owner/operator becomes insolvent. In this regard, industry has established a fund in Alberta to cover the cost of reclamation and abandonment of orphaned oil and gas wells and certain associated pipeline facilities.

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## **Appendix A**

### **Current Regulatory Requirements**

#### **REGULATORY REQUIREMENTS FOR PIPELINE ABANDONMENT<sup>1</sup>**

##### **JURISDICTION**

##### **AGENCY**

##### **LAW**

##### **SCOPE**

##### **ABANDONMENT/ REMOVAL CLAUSE**

##### **ACTION REQUIRED**

##### **FEDERAL**

National Energy Board

*National Energy Board Act*

All pipelines

Part V, Para. 74(d)

Leave of the Board

.

*Onshore Pipeline Regulations*

All pipelines

Sec. 55

For abandoned facilities left in place, disconnect from operating facilities, fill with approved medium, seal ends, empty storage tanks then purge of hazardous vapours, and maintain cathodic protection.<sup>2</sup>

YUKON

National Energy Board

*Canada Oil and Gas Operations Act (COGOA)*

All pipelines

none specified

none specified

N.W.T.

National Energy Board

*Canada Oil and Gas Operations Act (COGOA)*

All pipelines

none specified

none specified

BRITISH COLUMBIA

Employment and Investment (Energy and Minerals Division)

*Pipeline Act*

All pipelines

Part II, Sec. 9

Approval of Minister. Removal of structures which may be likely to menace public safety or create a fire hazard

<sup>1</sup> This table lists current regulatory requirements for pipeline abandonment only and does not address the abandonment of stations or other above-ground facilities. Similarly, it does not address the requirements for pipeline deactivation or discontinuance.

<sup>2</sup> The NEB is in the process of amending its Onshore Pipeline Regulations and has proposed that these specific requirements be revoked, on the basis that abandonment applications will be treated on a case-by-case basis pending the outcome of the industry/government review into the matter.

## **REGULATORY REQUIREMENTS FOR PIPELINE ABANDONMENT (continued)**

### **JURISDICTION**

#### **AGENCY**

#### **LAW**

#### **SCOPE**

#### **ABANDONMENT/ REMOVAL CLAUSE**

#### **ACTION REQUIRED**

##### **ALBERTA**

Alberta Energy and Utilities Board

*Pipeline Act*

All pipelines

Part IV, Sec. 33

Consent of the Board

.

.

*Pipeline Regulations*

All pipelines

Secs. 66-69

For facilities abandoned in place, disconnect abandoned pipeline from operating facilities, clean and purge with approved medium, cap all open ends and advise the Board when work is complete.<sup>3</sup>

.

Alberta Environmental Protection

*Environmental Protection and Enhancement Act (Alta. Reg. 115/93)*

All pipelines on private land & Green Area

Sec. 122

Reclamation Certificate from AEP

.

Alberta Agriculture, Food & Rural Development

*Environmental Protection and Enhancement Act (Alta. Reg. 115/93)*

Class I & II lines on White Area public lands

.

Reclamation Certificate from AFRD (responsibility delegated under EPEA)

SASKATCHEWAN

Department of Energy and Mines

*Pipelines Act*

All pipelines

none specified

none specified

MANITOBA

Oil and Gas Conservation Board

*The Oil and Gas Act*

All pipelines

Part 14, Sec. 171

Application to an inspector. Responsible for any repairs required within six years from the day of issuance of the Certificate of Abandonment in respect of the oil and gas facility site.

ONTARIO

Ministry of Consumer and Commercial Relations

The Energy Act

All pipelines

none specified

none specified

.

.

Gas Pipeline Systems Regulations

Gas pipelines

none specified

none specified

.

.

Oil Pipeline Systems Regulations

Oil pipelines

none specified

none specified

<sup>3</sup> Presently the EUB does not require the removal of an abandoned pipeline; however, in most cases it will expect a notification to the landowners, occupants, and those affected by sour gas setback distances of the abandonment. This is to ensure that affected parties are made aware of the abandonment and that their land will no longer be impacted by the pipeline.

<sup>4</sup> Starting in May 1997, Ontario's pipeline safety regulation program will be administered by the Technical Standards and Safety Authority, a private non-profit organization.

## **REGULATORY REQUIREMENTS FOR PIPELINE ABANDONMENT (continued)**

### **JURISDICTION**

### **AGENCY**

### **LAW**

### **SCOPE**

**ABANDONMENT/ REMOVAL CLAUSE**

**ACTION REQUIRED**

QUEBEC

Regie du Gaz Naturel

Gas Distribution Act

Gas pipelines

none specified

none specified

.

.

Regulations Respecting Gas and Public Safety

Gas pipelines

none specified

none specified<sup>5</sup>

NOVA SCOTIA

Energy and Mineral Resources Conservation Board

Pipeline Act

All pipelines

Sec. 20

Consent of the NSEMRCB

NEW BRUNSWICK

Natural Resources and Energy

Pipeline Act

All pipelines

none specified

none specified<sup>6</sup>

.

.

Pipeline Regulations

All pipelines

Sec. 85

Consent of Minister and approval of Board.

For facilities abandoned in place, disconnect abandoned pipeline from operating facilities, purge with approved medium, cap open ends and advise Minister when work is complete.<sup>7</sup>

PRINCE EDWARD ISLAND

Department of Energy and Forestry

No applicable legislation

N/A

N/A

N/A

NEWFOUNDLAND

Canada-

Newfoundland Offshore Petroleum Board

The Petroleum and Natural Gas Act

Offshore pipelines<sup>8</sup>

none specified

none specific

## **Appendix B**

### **Abandonment Checklist**

#### **1.0**

#### **Alternate Use Analysis**

a. \_\_\_ Review alternate uses within company or corporate family

- b. \_\_\_ Determine if asset can be sold to another company for continued or alternate use
- c. \_\_\_ Decision that pipeline should be abandoned

## **2.0**

### **Product Removal & Cleaning**

#### **2.1 Liquids Pipeline**

- a. \_\_\_ Pre-Abandonment pigging for cleaning
- b. \_\_\_ Temporary piping modifications
- c. \_\_\_ Temporary product measurement, storage & transportation
- d. \_\_\_ Product removal pigging, propellant
- e. \_\_\_ Post removal cleaning, solvents
- f. \_\_\_ Product toxicity analysis
- g. \_\_\_ Pipe testing for contaminants
- h. \_\_\_ Waste disposal

#### **2.2 Gas Pipeline**

- a. \_\_\_ Pre-abandonment pigging for cleaning/liquid removal
- b. \_\_\_ Liquids disposal
- c. \_\_\_ Temporary piping modifications
- d. \_\_\_ Pressure reduction by operating facilities
- e. \_\_\_ Pressure reduction by pulldown compression
- f. \_\_\_ Sour/toxic product analysis
- g. \_\_\_ Blowdown, Flaring
- h. \_\_\_ Post removal cleaning using pigging, solvents
- i. \_\_\_ Pipe testing for contaminants

## **3.0**

### **Information Required for Planning/Approvals**

#### **3.1 Facility Description/History**

- a. \_\_\_ Lineal Description of the Pipeline
  - pipe specification
  - coating
  - appurtenances
  - connections to other facilities
  - road, highway, railroad crossings (obtain crossing agreements)
  - pipeline/utility crossings (obtain crossing agreements)

- water crossings
- topography/terrain
- soil information
- weed/vegetation information
- environmentally sensitive areas
- land use/developed areas
- parallel pipelines, connections
- slope instabilities
- road accesses

b. \_\_\_ Operating History

- all products
- potential contamination
- operating failures/spills/clean-up
- slope movement monitoring

### **3.2 Regulatory Jurisdictions/Approvals**

a. \_\_\_ Operating Authority: Liaison, Application and Approvals (Federal and/or Provincial)

b. \_\_\_ Environmental Authority: Liaison, Application and Approvals (Federal and/or Provincial)

c. \_\_\_ Public Lands Disposition (e.g. Land Administration Branch of AEP)

d. \_\_\_ Other Authorities: DFO, Coast Guard, etc.

e. \_\_\_ Municipal Authorities: Permits/Bylaws

### **3.3 Landowner/Public Contact Activities**

a. \_\_\_ Title Search

b. \_\_\_ Landowner/Tenant Contact, Survey Clearance

c. \_\_\_ Abandonment Rights in Pipeline Easement/Disposition Documents

d. \_\_\_ Landowner/Tenant Contact/Negotiations

e. \_\_\_ Public Lands Managers Contact/Negotiations

f. \_\_\_ Release of Land Rights/Warranties/Setback Requirements

- g. \_\_\_ Public Participation/Stakeholder Contacts (for federally regulated facilities, early public notification as per NEB's guidelines)
- h. \_\_\_ Damage Negotiation/Payment

### **3.4 Environmental Assessment**

- a. \_\_\_ Soil conservation, stability (possible C&R report)
- b. \_\_\_ Fish & Wildlife population, habitat
- c. \_\_\_ Groundwater
- d. \_\_\_ Erosion, stream sedimentation potential
- e. \_\_\_ Natural Areas, Native Prairie and Native Parkland
- f. \_\_\_ Archaeological study

## **4.0**

### **Identify Abandonment Activities (Develop Abandonment Plan)**

- a. \_\_\_ Identification of activities required to meet regulatory requirements
- b. \_\_\_ Identification of activities required to meet environmental conditions
- c. \_\_\_ Economic analysis and decision regarding activities where remove/salvage and abandon in place alternatives are available.

### **4.1 Appurtenances Removal/Modifications**

- a. \_\_\_ Valve Assemblies, Line Heaters, Drip Pots
- b. \_\_\_ Cathodic Protection Facilities
- c. \_\_\_ Warning Signs, Aerial Markers, Fence Posts
- d. \_\_\_ Access Roads, Bridges, Culverts
- e. \_\_\_ Fences, Power lines, Antennas, Buildings
- f. \_\_\_ Aerial Crossings
- g. \_\_\_ Slope Monitoring Equipment
- h. \_\_\_ Sumps and Tanks
- i. \_\_\_ Any facility/equipment buried less than 1 m deep

### **4.2 Crossings**

- a. \_\_\_ Review of appropriate measures to prevent settlement/collapse and/or disturbance
- b. \_\_\_ Liaison with Crossed Facility Operator
- c. \_\_\_ Road, Highway Crossings
- d. \_\_\_ Railway Crossings
- e. \_\_\_ Water Crossings (Minor, River, Lake, Swamp)
- f. \_\_\_ Foreign Pipeline Crossings

- g. \_\_\_ Utility Crossings
- h. \_\_\_ Drainage Crossings

#### **4.3 Environmental Protection/Reclamation Activities**

- a. \_\_\_ Remediation of Historical Spill Sites
- b. \_\_\_ Gravel Removal, Topsoil Replacement at sites
- c. \_\_\_ Topsoil conservation
- d. \_\_\_ Surface Stone Removal
- e. \_\_\_ Erosion control, Ditch Plugs, Slope/Soil Stabilization
- f. \_\_\_ Revegetation
- g. \_\_\_ Weed Control
- h. \_\_\_ Reforestation (if required)
- i. \_\_\_ Access Road Reclamation
- j. \_\_\_ Timing windows
- k. \_\_\_ Fish and Wildlife Habitat

#### **4.4 Pipe Removal**

- a. \_\_\_ Right-of-Way Boundary and Pipe Location Survey
- b. \_\_\_ Access Development
- c. \_\_\_ Grading
- d. \_\_\_ Trenching
- e. \_\_\_ Coating removal if required (precautions if asbestos containing)
- f. \_\_\_ Pipe cutting and removal
- g. \_\_\_ Pipe loading, transportation, storage
- h. \_\_\_ Backfill/Compaction
- i. \_\_\_ Clean-up

#### **4.5 Salvage Analysis**

- a. \_\_\_ Sale of pipe for structural or piling applications
- b. \_\_\_ Sale of pipe, valves, fittings for remelting scrap
- c. \_\_\_ Sale or reuse of valves, pipe fittings
- d. \_\_\_ Sale of fencing and other minor materials
- e. \_\_\_ Sale of Land and/or Land Rights

#### **4.6 Pipe Abandoned In Place**

- a. \_\_\_ Filling to eliminate settlement/collapse risks
- b. \_\_\_ Pipe cuts or pipeline plugs for groundwater stability
- c. \_\_\_ Soil conservation/stability measures at excavation sites

- d. \_\_\_ Measures to prevent floating pipe
- e. \_\_\_ Slopes, erosion control

## **5.0 Monitoring/Maintenance Activities**

- a. \_\_\_ Aerial Patrol
  - b. \_\_\_ Specific site visits
  - c. \_\_\_ Weed Monitoring/Control
  - d. \_\_\_ Liaison with landowners, tenants, public land managers
  - e. \_\_\_ "First-Call" response and location of underground pipe
  - f. \_\_\_ Crossings
  - g. \_\_\_ Erosion Control Maintenance
- 

## **Appendix C**

### **Industry Questionnaire**

*Refer to the following two pages ([page 1](#) and [page 2](#)) for a copy of the abandonment questionnaire that was used for the industry survey conducted in autumn 1995.*

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## **Appendix D**

### **Cleaning Guidelines**

#### **D.1 General Considerations**

The operating history of the pipeline to be abandoned should be reviewed to enable the planning of the specific cleaning procedures required for abandonment. Information such as oil/gas analysis, piping modifications, operating flow records, records of anomalies, and maintenance records may provide some insight into additional work needed to develop an effective pipeline cleaning plan.

The owner/operator should ensure that there are adequate sending and receiving traps in place. This may require the use of temporary assemblies. If the pipeline in question is part of a larger system, the section to be abandoned should be physically disconnected upon completion of the cleaning process.

Safety precautions appropriate to the in-service product hazards (i.e. flammability and explosivity of hydrocarbons, toxicity of sour products) must be established throughout the activity.

For gas pipelines, any residual gas should be vented or flared once the pressure in the pipeline has been reduced to the extent possible using operating facilities or a pull down compressor. The

residual gas should be monitored for signs of liquid.

For liquid pipelines, before line flow ceases, a sufficient number of scraper pigs should be run through the line to remove the bulk of any solids or waxy build-up. As illustrated by the figure below, a batch of solvent-type hydrocarbons such as diesel fuel or condensate inserted between two scraper pigs is recommended as an effective method of reducing solids or waxy build-up. This process should be repeated until solids can no longer be detected on the pigs as they are removed from the receiving trap.

#### **Figure D-1**

#### **In-Service Initial Cleaning for Liquid Pipelines**

Specialized chemical cleaning may be required if the routine cleaning method described is not successful, if the pipeline is known to have an unusually high contamination level, or if unusually high cleanliness standards are to be met. Special precautions must be exercised when the pipeline is opened up to control vapour hazards of flammability, explosiveness, and toxicity (e.g. hazardous compounds such as benzene).

#### **D.2 Cleaning Methods for Natural Gas Pipelines**

A stiff rubber scraping pig should be pushed through the pipeline (at a constant speed consistent with the pig manufacturer's recommendation) using nitrogen or some other inert gas to prevent explosive mixtures. Free liquids pushed ahead of the pig may be either pushed into the downstream pipeline section or collected in a containment tank designed and isolated according to prevailing local guidelines, for disposal in accordance with area legislation or local by-laws. This process should be repeated until free liquids are no longer evident by visual inspection. Low areas of the pipeline should be checked for the collection of liquids or other contaminants.

After these initial pigging runs, the pipeline should be checked for cleanliness. If contamination is evident, the pigging procedure should be repeated using a slug of solvent between two pigs. As with the free liquids, the solvent should be collected in a containment tank and disposed of in accordance with area legislation or local by-laws. Solvent fumes should be purged with nitrogen or a similar inert gas.

#### **D.3 Cleaning Methods for Liquid Pipelines**

Following completion of the initial in-service cleaning efforts, a final cleaning step should be done in conjunction with line evacuation. The following procedure is commonly used, although many variations exist which should be considered. Consultants specializing in the cleaning of

contaminated facilities can advise and provide plans for both normal and unusual circumstances.

A slug of liquid hydrocarbons having solvent properties such as condensate or diesel fuel is pushed through the pipeline between two stiff rubber scraper pigs at a constant speed by an inert gas such as nitrogen. Other additives or treatment chemicals may be added if desired. As a rule of thumb, the volume should be calculated to maintain a minimum pipe wall contact time by the fluid ranging from five to ten minutes (or longer), depending on the effectiveness of the initial in-service cleaning process.

For lines having encrusted or high paraffin build-up, an additional volume of solvent preceding the first pig can be considered. All contact times should be increased for excessive lengths of line as the solvent may become saturated with hydrocarbons before completion of the run. The following diagram illustrates the pipeline sequence of movement. At the endpoint, the solvent and hydrocarbons are pushed into another section of pipeline or collected in a containment tank for disposal.

#### **Figure D-2**

#### **Final Cleaning and Evaluation for Liquid Pipelines**

A repeat run of the pig train described above should be conducted if there are any indications of liquids or contaminants remaining on the pipe wall in excess of the established cleanliness criteria. The effectiveness of the cleaning process can be gauged by either obtaining samples of the solvent near the tail end of the passing batch, at approximate 25 km intervals, and analyzing the samples for hydrocarbon content, or by monitoring the quality and quantity of the solvent hydrocarbons expelled from the line and comparing it with that injected.

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#### **Appendix E**

#### **Bibliography**

*The documents that were used in the preparation of this discussion paper are listed below. Copies of the studies that were commissioned by the Pipeline Abandonment Steering Committee are available from the Canadian Association of Petroleum Producers, the Canadian Energy Pipeline Association, the Alberta Energy and Utilities Board, and the National Energy Board.*

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# **ATTACHMENT D**

**NATIONAL ENERGY BOARD**

**LAND MATTERS CONSULTATION INITIATIVE – STREAM 3**

**ENBRIDGE PIPELINES INC.**

**APPLICATION**

**FOR**

**APPROVAL OF ABANDONMENT COSTS – PRELIMINARY ESTIMATE**

**NOVEMBER 29, 2011**

## **INTRODUCTION AND RELIEF REQUESTED**

1. Enbridge Pipelines Inc. (“Enbridge”) makes this Application pursuant to the National Energy Board (“Board” or “NEB”) RH-2-2008 Reasons for Decision dated May 26, 2009.
2. Enbridge hereby requests approval of the estimated cost of the future abandonment of its facilities as provided in this Application.

## **BACKGROUND**

3. In its RH-2-2008 Reasons for Decision, the Board set out a timeline for the Land Matters Consultation Initiative (“LMCI”) Stream 3 process. An Action Plan was presented, which included deadlines for various submissions. On March 7, 2011, the NEB issued a letter stating that in order to allow additional time for consultation, the deadline for Group 1 physical plans (not for approval) remained at May 31, 2011, but the deadline for the cost estimates and updates to physical plans was changed to November 30, 2011. The deadline to submit the filings of proposed collection and set aside mechanisms remains as November 30, 2012.
4. Enbridge filed its physical plans for abandonment with the NEB on May 25, 2011. With one exception, those plans served as the basis for determining the preliminary estimates of abandonment costs for which Enbridge seeks approval by the Board in this Application. At the time that the Enbridge physical plans for abandonment were filed, it was understood that sections of Line 1 and Line 13 deactivated pipeline had been transferred to the Enbridge Southern Lights Pipeline. In fact, those facilities remain as part of the Enbridge pipeline system. Enbridge has therefore amended the description of deactivated lines, as found in paragraph 8 below, and is filing as Appendix A to this Application, revisions to its May 25, 2011 filing as follows: revised Tables 2a, 2b and 2c and a Revised Appendix C (Stantec Report entitled “Land Matters Consultation

Initiative”). This resulted in a slight change to the percentage of total pipeline length respecting abandonment methods as follows:

- 90.7% - abandonment in place;
- 8.7% - abandonment in place with special treatment; and
- 0.6% - removal.

The estimated future abandonment costs included in this Application have been determined based on the revised abandonment physical plans.

5. Enbridge remains committed to basing any decision that it will make regarding the actual method of abandonment – including removal versus abandonment in place – on the most current sound scientific studies and accepted industry practice at the time such abandonment is contemplated.

## **ENBRIDGE PIPELINES**

6. The Enbridge pipeline system and the Lakehead System in the United States together transport liquid petroleum eastbound for delivery primarily to markets in the U.S. Midwest and in Ontario. Appendix B to this Application is a map illustrating the routes of the Enbridge pipeline system and the Lakehead System.
7. The Enbridge pipeline system includes:
  - Lines 1, 2, 3 and 4 (all originating in Edmonton, Alberta), Line 67 (Alberta Clipper, originating in Hardisty, Alberta), and Line 65 (LSr Pipeline – Light Sour Capacity Replacement, originating in Cromer, Manitoba). All of these lines extend to the Canada/U.S. border near Gretna, Manitoba where they connect with the Lakehead System.
  - The Canadian sections of Line 5 and Line 6B extend from connections with the Lakehead System on the Canada/U.S. border under the St. Clair River to Sarnia, Ontario.

- Line 7 extends from Sarnia to Westover (Hamilton), Ontario where it connects with Line 10 and Line 11. These two pipelines in turn extend from Westover to, respectively, the Canada/U.S. border under the Niagara River near Chippawa, Ontario and to Nanticoke, Ontario on the north shore of Lake Erie.
- Line 8 extends from Sarnia to Millgrove Junction in Hamilton, Ontario.
- Line 9 extends from Montreal, Quebec to Westover, Sarnia and Corunna, Ontario.
- The Shell lateral and Suncor lateral extend from takeoff points on Enbridge Lines 5, 6B and 9 to the associated refineries in Sarnia, Ontario.

8. In addition to its active pipelines, Enbridge has a number of deactivated pipeline segments and terminals, all of which are included in the overall scope of the physical plans for abandonment that form the basis of the cost estimates reflected in this Application. These include:

- Line 1– Ten sections of medium diameter pipe located in Alberta, Saskatchewan and Manitoba (totaling 25.1 kilometres) as per Board Order XO-E101-12-2002;
- Line 7 – Westover Junction, Hamilton, Ontario to Bronte Junction, Oakville, Ontario as per Board Order MO-11-2006;
- Line 8 – Millgrove Junction, Hamilton, Ontario to Bronte Junction, Oakville, Ontario as per Board Order MO-J1-24-95;
- Line 12 and Bronte Lateral - Bronte Terminal, Oakville, Ontario to Clarkson Terminal, Oakville, Ontario as per Board Order MO-11-2006;
- Line 13 – One section of medium diameter pipe located in Manitoba (totaling approximately 72 kilometres);
- Line 22 – Ninth Line Junction, Mississauga, Ontario to Clarkson Terminal, Oakville, Ontario as per Board Order MO-11-2006; and

- 20" (508 mm) mainline pipe lying between Clarkson Terminal, Oakville, Ontario and Port Credit, Oakville, Ontario as per Board approval D1793-J1-20.

## **STAKEHOLDER CONSULTATION**

9. Consultation with stakeholders (i.e., landowners, landowner associations, government representatives and shippers) preceded preparation of this Application. Enbridge considers such consultation to be important and it will continue in the future. More particularly, in-depth consultation with stakeholders will be conducted when an application for abandonment of a pipeline facility is being prepared.
10. Enbridge conducted two workshops for landowners, landowner associations and government representatives. The first workshop occurred in Edmonton on July 13 and 14, 2011. Moving Forward Limited prepared a report of the workshop; a copy of the report, along with the workshop presentation, is attached as Appendix C to this Application. The second workshop was conducted in Montreal on September 20 and 21, 2011. A report of the workshop was prepared by Groupe CETU Inc. and a copy of the report (in both official languages, although the workshop was conducted primarily in French), along with the workshop presentation, comprise Appendix D to this Application.
11. The results of the workshops were considered by Enbridge in developing the preliminary cost estimates that are discussed below. For example, as explained in paragraphs 23 through 25, the cost assumptions related to the provision for post-abandonment activities reflect landowner input received through the workshops.
12. In addition, the Canadian Energy Pipeline Association ("CEPA"), through its consultant The Praxis Group ("Praxis"), conducted a landowner survey on behalf of CEPA member companies in 2011. Praxis has prepared a summary of the results of the CEPA survey as they pertain to pipeline abandonment. Praxis also provided a summary of Enbridge-specific results. The survey summaries are provided in Appendix E to this Application.

13. Finally, Enbridge hosted a shipper consultation session on November 10, 2011. A copy of the invitation to shippers, a list of attendees, the presentation that was made at the session, and a summary of questions and answers are attached as Appendix F.

## **PRELIMINARY COST ESTIMATES**

14. For the purposes of this Application, Enbridge has adopted the definition of “abandonment” that appears in the Glossary of the NEB Discussion Paper for LMCI – Stream 3, i.e., “to permanently cease operation such that the cessation results in the discontinuance of service”.
15. With two exceptions, the preliminary cost estimates included in this Application were prepared utilizing the assumptions and methods set out in Appendix A to the Board’s March 4, 2010 letter<sup>1</sup>. The 80/20 abandon in place/removal assumption was not applied. Instead, the cost estimates provided in this Application are based on the physical abandonment plans that were set out in the Enbridge Pipelines Inc. Abandonment Physical Plans submission that was filed with the NEB on May 25, 2011, as amended in this filing. Further, for applicable cost categories, the cost estimates have been determined on a diameter-inch basis. The diameter-inch method was selected because, in Enbridge’s view, it yields more accurate cost estimates within a pipe size category – an important factor given the range of pipe sizes within the Enbridge pipeline system. For example, within the large diameter category established by the Board of greater than 26” (660.4 mm), Enbridge has four pipe sizes: 30” (762 mm), 34” (863.6 mm), 36” (914.4 mm) and 48” (1219.2 mm).
16. Table A-3 from the RH-2-2008 Decision incorporating Enbridge’s pipeline specific unit costs for each category of pipeline abandonment activities is provided in Appendix G. Each category of abandonment activity is discussed further below.

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<sup>1</sup> Table A-3 as modified by the Board’s December 21, 2010 letter.

## **Cost Estimation Assumptions and Methods by Activity Category**

17. A discussion of the methods and assumptions utilized by Enbridge in estimating the costs of each category of abandonment activity and explanations of any departures from the Board's Base Case assumptions and cost ranges follows.

### **Category 1 – Engineering and Project Management**

18. Enbridge has utilized the NEB Base Case assumptions.

### **Category 2a and 2b – Abandonment Preparation**

19. Enbridge has utilized the NEB Base Case scope and developed Enbridge-specific cost estimates based on the pipeline terrain (flat) and product shipped (liquid hydrocarbons). The Enbridge estimate is presented as cost per diameter-inch-kilometre. Given that Enbridge's system is primarily comprised of 36" and 48" pipe, the unit cost factors for this category are at the high end, or above the high end, of the NEB Base Case range.
20. The Cleaning Guidelines found in an appendix to the CEPA document entitled "Technical and Environmental Consideration for Development of Pipeline Abandonment Strategies, September 2006 – April 2007" provided detail for the scope of work.<sup>2</sup> The Guidelines are consistent with the NEB Base Case scope.
21. Nitrogen pipeline purge cost estimates were obtained from a third party supplier, Trican Well Service Ltd., on a dollar per diameter-inch-kilometre basis. A bottom-up cost estimate was produced using standard estimating practices for the remaining scope items on a dollar per diameter-inch-kilometre basis.

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<sup>2</sup> A copy of the CEPA document was filed as Appendix D to the Enbridge May 25, 2011 submission.

### **Category 3a – Basic Pipeline Abandonment in Place**

22. The activities in this category, as described by the Board, are intended to segment a pipeline to prevent water movement. Categories 4 and 6 include segmentation activities and related costs. The installation of plugs at valve sites, the majority of special treatment locations, and stations results in an average pipeline segmentation of 2.5 kilometres. Enbridge is of the view that this general spacing assumption is reasonable for preliminary cost estimation purposes. Therefore, no further costs for this category have been included. Final pipeline segmentation decisions will be determined at the time of actual abandonment and will be based on the results of site specific risk assessments.

### **Category 3b – Provision for Post-Abandonment Activities**

23. Enbridge's stakeholder workshops reinforced for Enbridge the importance to landowners and others of post-abandonment activities. Landowners emphasized a multi-generational view towards land stewardship as well as the need for both long-term monitoring of facilities that are abandoned in place and a corresponding ability to address any issues that may arise in the future.
24. In response to the input received during the workshops, Enbridge estimated costs for activities in this category on the basis of the NEB method. However, the Enbridge unit cost factor for removal as determined in Category 5a was substituted for the NEB Base Case unit cost factor for removal.
25. The cost estimates contemplate periodic monitoring and reflect contingencies such as future removal or contamination clean-up. Enbridge has implemented programs for the detection, remediation and restoration of hydrocarbon contamination. These programs will reduce the potential for residual contamination clean-up requirements during the post-abandonment phase.

**Category 4 – Special Treatment**

26. The Enbridge estimate is presented as cost per diameter-crossing. The unit cost factors range from below the low end to the low end of the NEB Base Case range. Enbridge has utilized the low end of the cost factor range provided for road, rail and utility crossings. This is consistent with the Board's direction in Table A-3, dated December 21, 2010. While the Board provided a range of costs for small to large diameter pipelines the differences are less material for this activity category than for some others, therefore Enbridge's costs are closer to the costs set out by the Board for small diameter pipelines.
27. The following general process was used to estimate unit costs for this activity category:
- (1) A bottom-up estimate was developed using a combination of Enbridge historical dig program costs and Enbridge's proprietary Dig Estimating Tool<sup>3</sup>.
  - (2) A typical crossing scope was developed, consisting of a 50 metre average length and 10 metre bell hole for working space and line access on each side of the crossing.
  - (3) 20" and 36" pipes were used to develop a cost per diameter-inch factor.
  - (4) The costs were developed for each of a cut and cap scenario and a cut, cap, and fill scenario.
28. In order to determine the number of crossings requiring fill and the number of crossings not requiring fill, the following process was used:
- A. Road Crossings:

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<sup>3</sup> The Tool, which has been consistently treated as confidential information by Enbridge, has been developed over time, capturing the company's knowledge, experience and confidential economic data. As a result, the Tool is proprietary. Disclosure of the Tool could reasonably be expected to result in a material loss to Enbridge or prejudice Enbridge's competitive position.

1. Standard Road Crossing (2-lane gravel, dirt, alley) – the cost estimate assumes that 25% of standard road crossings will be cut, capped and filled.

The 25% factor was determined as follows:

- a. Sample portions of the right of way along the Enbridge pipeline system in the provinces of Alberta, Saskatchewan, Manitoba, Ontario and Quebec were analyzed.
- b. A total count of standard crossings was determined for the sample sections.
- c. Each crossing was reviewed to determine whether synergies exist with other crossings (such as railway or water crossings), valve sites, or stations. It was determined that 50% of the standard crossings have such synergies.
- d. A review was completed of the remaining 50% of the crossings to determine the probability and the consequence of a remediation event occurring. Enbridge considered such factors as thicker wall pipe, mechanical protection and roadway use.

From this information, it was determined that 50% of the remaining standard crossings would be candidates for the cut, cap and fill method.

As a result, a 25% factor (50% from d of the 50% in c) was applied to the total number of standard crossings for each line.

2. Highway (paved 2 or 4 lane) road crossing – all highway road crossings cut, capped and filled.
- B. Railway Crossings – all railway crossings cut, capped and filled.
  - C. River and Creek Crossings – all cut and capped with no fill.

- D. Utility Crossings – all utility crossings are assumed to be located within the road allowance right of way and are accounted for in the crossings discussed above.
- E. Environmentally Sensitive Areas – no additional costs have been included for crossing environmentally sensitive areas. Pipeline segmentation is planned for valve sites, crossings as discussed above, and stations. Enbridge is of the view that this general spacing assumption is reasonable for preliminary cost estimation purposes. Therefore, no further costs for this category have been included. Final pipeline segmentation decisions will be determined at the time of actual abandonment and will be based on the results of site specific risk assessments.
29. In order to validate the assumptions developed for Standard Road Crossings, Enbridge surveyed the entire Vector pipeline. The survey confirmed that cutting, capping and filling would be required to abandon the pipeline at approximately 25% of the standard road crossings.
30. Table 1 below provides the estimated number of crossings that will require fill and the estimated number of crossings that will not require fill.

**Table 1: Special Treatment Summary – Category 4**  
**(Number of Crossings)**

Line	1	1 (D)	2	3	4	5	6B	7	7 (DS)	8	8 (DS)	9 (20")	9 (30")	10 (12")	10 (20")	11	12	L13 (D)	22	65	67
Standard Crossings (Total)	1065	21	1065	1065	1065	27	28	98	16	84	6	27	304	5	9	14	84	61	4	237	797
Standard Crossings (25%)	266	5	266	266	266	7	7	25	4	21	1	7	76	1	2	4	21	15	1	59	199
Highway Crossings	85	2	85	85	85	0	0	1	0	1	0	0	2	1	0	1	1	5	0	15	81
Railway Crossings	43	1	43	43	43	0	0	12	2	11	1	0	16	0	1	1	11	2	1	5	22
<b>Total with Fill</b>	<b>394</b>	<b>8</b>	<b>394</b>	<b>394</b>	<b>394</b>	<b>7</b>	<b>7</b>	<b>38</b>	<b>6</b>	<b>33</b>	<b>2</b>	<b>7</b>	<b>94</b>	<b>2</b>	<b>3</b>	<b>6</b>	<b>33</b>	<b>23</b>	<b>2</b>	<b>79</b>	<b>302</b>
River Crossings	6	0	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7
Creek Crossings	31	1	31	31	31	1	1	1	0	1	0	1	4	0	0	0	1	2	0	21	44
<b>Total without Fill</b>	<b>37</b>	<b>1</b>	<b>37</b>	<b>37</b>	<b>37</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>24</b>	<b>51</b>
Note: Zero special treatment areas for the Suncor Lateral, Shell Lateral and Clarkson to Port Credit pipeline																					
Note: DS means Deactivated Section and D means Deactivated																					

**Category 5a – Pipeline Removal (Pipeline Removal and Backfilling)**

31. The Enbridge estimate is presented as cost per diameter-kilometre. Enbridge’s unit cost factors are below the NEB Base Case range. The general process followed for estimating pipeline removal costs was as follows:

- (1) Actual construction cost data was obtained from the Enbridge Line 67 (Alberta Clipper) project (2008 to 2010 construction). The Line 67 (Alberta Clipper) project scope consisted of the installation of a 36" pipeline from Hardisty, Alberta to Superior, Wisconsin largely within the existing Enbridge right of way.

A second estimate from Enbridge's proprietary Cost Estimating Tool<sup>4</sup> was developed in order to validate the Line 67 (Alberta Clipper) project data. New construction costs were developed from the bottom-up in the Cost Estimating Tool.

- (2) Scope items not applicable to pipeline removal or items that were captured elsewhere within Table A-3 were removed from both the (Line 67) Alberta Clipper actual costs and the Cost Estimating Tool results. Line pipe and welding are two of the significant examples of such excluded costs.
- (3) Items that are either smaller in scope, such as tree removal and mobilization/demobilization, or less demanding, such as material handling, were assumed to be 50% of such costs for construction due to the removal nature of the activity in the abandonment context.
- (4) Items that are similar in nature regardless of removal or installation, such as grading and top soil management, were assumed to be 100% of such costs for construction.
- (5) The average of the resulting per kilometre cost estimates (from the Line 67 (Alberta Clipper) project and the Enbridge Cost Estimating Tool)) was used as the Enbridge pipeline removal unit cost factor.

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<sup>4</sup> The Tool, which has been consistently treated as confidential information by Enbridge, has been developed over time, capturing the company's knowledge, experience and confidential economic data. As a result, the Tool is proprietary. Disclosure of the Tool could reasonably be expected to result in a material loss to Enbridge or prejudice Enbridge's competitive position.

In addition, a synergy factor of 85% of the unit cost factor for removal was applied to all pipes after the first pipe within the same right of way. This factor was determined by removing the mobilization/demobilization, right of way clearing and right of way access scope from the removal estimate of the second pipe as these tasks are only required to be completed once. The Enbridge factor of 85% differs from the NEB Base Case factor of 25% because multiple trenches would be required for removal of Enbridge facilities as each Enbridge pipe is physically separated from the other. A summary of the application of the synergy factor (by Enbridge pipe line number) is provided in Table 2 below.

**Table 2: Synergy Summary – Category 5a**

<b>First Pipe (Line)</b>	<b>Synergy Pipe (Line)</b>
1	1 (D), 2, 3, 4, 13(D), 65, 67
5	6B, 9 (20")
9 (30")	7, 8

32. Enbridge’s experience suggests that the estimates provided in the Board’s Base Case for pipeline removal and backfilling are more reflective of the cost of constructing a pipeline than its abandonment. As explained above, for the purposes of preparing the cost estimates provided in this Application, Enbridge has removed or reduced elements that are unique to construction activities. Although the resulting cost estimates are below the Board’s Base Case range, Enbridge is of the view that the rigor used to establish its cost estimates justifies the departure from the Board’s cost range.

**Category 5b – Pipeline Removal (Land Restoration)**

33. The unit cost to restore the terrain once removal activities are completed is included in the Category 5a estimate. Further, the Enbridge system does not traverse rough or mountainous terrain; hence no costs for this Category were included.

**Category 6 – Above Ground Facilities**

34. The Board’s Base Case provided unit cost estimates for block valve assemblies, meter stations and pump stations. Enbridge’s unit cost estimate for block valve assemblies –

developed through the processes discussed in paragraph 38 below – is higher than the Board’s Base Case range. The Enbridge cost estimate for meter station abandonment is at the mid-point of the Board’s Base Case range and the cost estimate for pump station abandonment is at the low end of the Board’s Base Case range. Since the Board did not provide a method for determining pump station abandonment costs, Enbridge has derived cost estimates on a dollar per horsepower basis, taking into account the factors specified by the Board. In Enbridge’s view, horsepower is a better indicator of the costs of abandoning pump stations than is the number of pump stations. This is consistent with the Board’s notes in Table A-3 regarding abandonment of compressor stations.

#### *Historical Removal Costs*

35. The first source of Enbridge data used to estimate this category was historical removal costs. Enbridge performs numerous maintenance replacement projects each year and as a result, has collected cost data for three of the activities identified within this category. The historical cost data was retrieved from the Enbridge financial system and escalated to 2011 dollars for the following items:

- Electrical Buildings;
- Maintenance Buildings; and
- Sump Tanks.

#### *Cost Estimating Tool*

36. In the case of activities for which historical cost data was not available, the Enbridge proprietary Cost Estimating Tool was applied according to the following general process:

- (1) New construction costs were developed from the bottom-up in the Cost Estimating Tool.
- (2) Scope items not applicable to pipeline removal or items that were captured elsewhere within Table A-3 were removed from the Cost Estimating Tool results.

Structural steel and valves are two of the significant examples of such excluded costs.

- (3) Items that are either smaller in scope, such as mobilization/demobilization, or less demanding, such as material handling, were assumed to be 50% of such costs for construction due to the removal nature of the activity in the abandonment context.
- (4) Items that are similar in nature regardless of removal or installation, such as grading, were assumed to be 100% of such costs for construction.
- (5) In order to determine unit costs for various sizes of equipment, steps 1 to 4 were repeated for different sizes of equipment and the results were plotted as a scatter diagram.
- (6) A linear trend line was applied to the scatter diagram in order to determine a cost factor for the facilities to be abandoned.

37. The Enbridge Cost Estimating Tool and the process described above were utilized for the following items:

- Above Ground Tanks;
- Booster Pump Stations;
- Meter Manifolds;
- Valve Manifolds; and
- Pump Stations.

*Bottom-up Estimate*

38. The Enbridge Cost Estimating Tool was not designed to provide estimates for certain facilities. For such items, and if historical cost data was not available, a bottom-up cost estimate was produced using standard estimating practices. This approach was used to estimate the costs of abandoning the following facilities:

- Mainline Valve (Remote Control);
- Mainline Valve (Manual Control);
- Mainline Instrumentation Building; and
- Pig Trap Assembly.

**Category 7 – Contingency**

39. Although the Board’s Base Case contemplated a contingency of 25%, details of the derivation of that contingency factor were not provided. Therefore, Enbridge applied its proprietary Systemic Contingency Estimating Tool<sup>5</sup> to determine a contingency amount for its abandonment cost estimates. A 13% contingency, with a 50% probability of under-run or over-run, resulted.
40. Enbridge considers that applying the Enbridge Systemic Contingency Estimating Tool is appropriate and reasonable given the consistency in Enbridge’s approach between construction and abandonment. In particular, activities such as general scoping, planning, engineering and construction are similar in nature in both the construction and abandonment contexts. Enbridge’s substantial experience in estimating and executing projects confirms that 13% with P50 is a reasonable and appropriate contingency and confidence range for the purposes of this Application.

**Cost Estimate Summary**

41. Enbridge estimates the overall cost for the future abandonment of its facilities to be \$779.7 million (\$2011). Table 3 provides a summary of estimated costs by NEB Cost Category.

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<sup>5</sup> The Tool, which has been consistently treated as confidential information by Enbridge, has been developed over time, capturing the company’s knowledge, experience and confidential economic data. As a result, the Tool is proprietary. Disclosure of the Tool could reasonably be expected to result in a material loss to Enbridge or prejudice Enbridge’s competitive position.

**Table 3: Total Cost Estimates by NEB Cost Category**

	<b>NEB Cost Category</b>	<b>Cost Estimate</b>
<b>1</b>	<b>Engineering and Project Management</b>	<b>\$ 21,298,906</b>
<b>2</b>	<b>Abandonment Preparation</b>	
a	Land Access and Cleanup	
b	Pipeline Purging and Cleaning	\$ 115,647,880
<b>3</b>	<b>Pipeline Abandonment-in-Place</b>	
a	Basic Pipeline Abandonment-in-Place	\$ -
b	Provision for Post Abandonment Activities	\$ 284,301,969
<b>4</b>	<b>Special Treatment</b>	
a	With Fill	\$ 86,612,350
b	Without Fill	\$ 6,900,011
<b>5</b>	<b>Pipeline Removal and Backfilling</b>	
a	Pipeline Removal and Backfilling	\$ 9,222,309
b	Pipeline Removal - Land Restoration	\$ -
<b>6</b>	<b>Above-Ground Facilities</b>	
a	Meter Manifolds	\$ 9,954,000
b	Valve Manifolds	\$ 7,300,000
c	Electrical Buildings	\$ 11,020,000
d	Maintenance Buildings	\$ 9,000,000
e	Above Grade Tanks	\$ 53,963,000
f	Booster Pump Stations	\$ 10,712,000
g	Below Grade Sump Tank	\$ 754,000
h	Mainline Valve (Remote Control)	\$ 25,844,000
i	Mainline Valve (Manual Control)	\$ 15,624,000
j	Mainline Instrumentation Building	\$ 3,268,000
k	Pig Trap Assembly	\$ 9,328,000
h	Pump Station	\$ 44,377,200
<b>7</b>	<b>Contingency</b>	<b>\$ 54,538,478</b>
	<b>Total Preliminary Cost Estimate</b>	<b>\$ 779,666,104</b>

42. The tables in Appendix H provide a breakdown, by line and terminal, of the costs shown in Table 3 above using the format set out in the Board's Table A-4. The pipe size for each line is indicated in each table along with the average cost for the line.

## **COLLECTION PROCESSES AND SET-ASIDE MECHANISM**

43. Subject to any further directions by the Board, Enbridge will file the collection and set-aside mechanism application on or before November 30, 2012. If any updates to either the physical abandonment plans or the preliminary cost estimates should be required, they will be included in that filing.

## **CONCLUSION**

44. Enbridge submits that the cost estimates provided in this Application were established on the basis of careful, reasonable, and appropriate assumptions and analysis. Enbridge respectfully requests approval of its cost estimates as filed.

# **ATTACHMENT E**

# Enbridge Response to CAPP Near Term System Optimization



Canadian Association of Petroleum Producers

Enbridge Committee

November 2009

# Line 3 Conversion to Light Project Stage 2 – 500kbpd Option

Exhibit \_\_\_\_ (DDA-5)



There are several modifications required to achieve flow rates beyond 390kbpd up to 500kbpd

- reversing some pump modifications installed during Stage 2 of Line 3 Conversion to Light
- Additional maintenance and integrity work would be necessary
- DRA

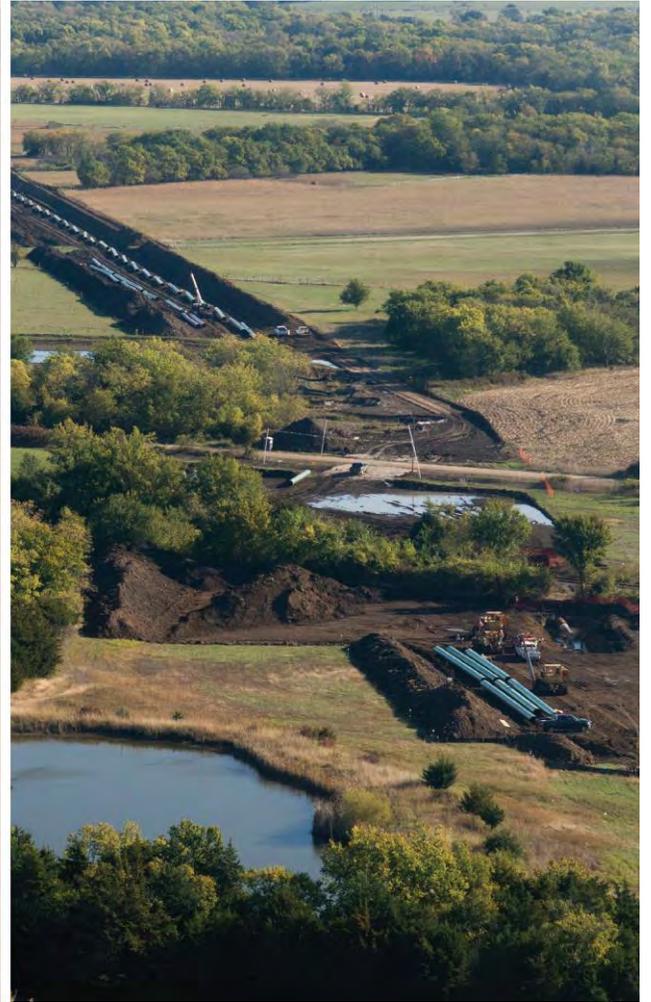
# Line 3 – Ultimate Capacity



Ultimate capacity of Line 3 is 100,000m<sup>3</sup>/d (630kbpd) annual in Synthetic Light service

- Assumes that all pressure restrictions are removed (conditional on regulatory approval)
- Requires reversing all pump modifications under Line 3 Stage 2 scope
- DRA
- New booster pump and manifold upgrade required
- Definitive scope and cost are unknown at this time

# **ATTACHMENT F**



# Enbridge Energy Partners, L.P.

## Investment Community Presentation

March 2015

EEP  
LISTED  
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# Legal Notice



This presentation includes forward-looking statements and projections, which are statements that do not relate strictly to historical or current facts. These statements frequently use the following words, variations thereon or comparable terminology: “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “forecast,” “intend,” “may,” “plan,” “position,” “projection,” “should,” “strategy,” “target,” “will” and similar words. Although Enbridge Energy Partners, L.P. (the “Partnership”) believes that such forward-looking statements are reasonable based on currently available information, such statements involve risks, uncertainties and assumptions and are not guarantees of performance. Future actions, conditions or events and future results of operations may differ materially from those expressed in these forward-looking statements. Many of the factors that will determine these results are beyond the Partnership’s ability to control or predict. Specific factors that could cause actual results to differ from those in the forward-looking statements include: (1) changes in the demand for or the supply of, forecast data for, and price trends related to crude oil, liquid petroleum, natural gas and NGLs, including the rate of development of the Alberta Oil Sands; (2) the Partnership’s ability to successfully complete and finance expansion projects; (3) the effects of competition, in particular, by other pipeline systems; (4) shut-downs or cutbacks at the Partnership’s facilities or refineries, petrochemical plants, utilities or other businesses for which the Partnership transports products or to whom the Partnership sells products; (5) hazards and operating risks that may not be covered fully by insurance, including those related to Line 6B and any additional fines and penalties assessed in connection with the crude oil release on that line; (6) changes in or challenges to the Partnership’s tariff rates; (7) changes in laws or regulations to which the Partnership is subject, including compliance with environmental and operational safety regulations that may increase costs of system integrity testing and maintenance; and (8) permitting at federal, state and local levels in regards to the construction of new assets.

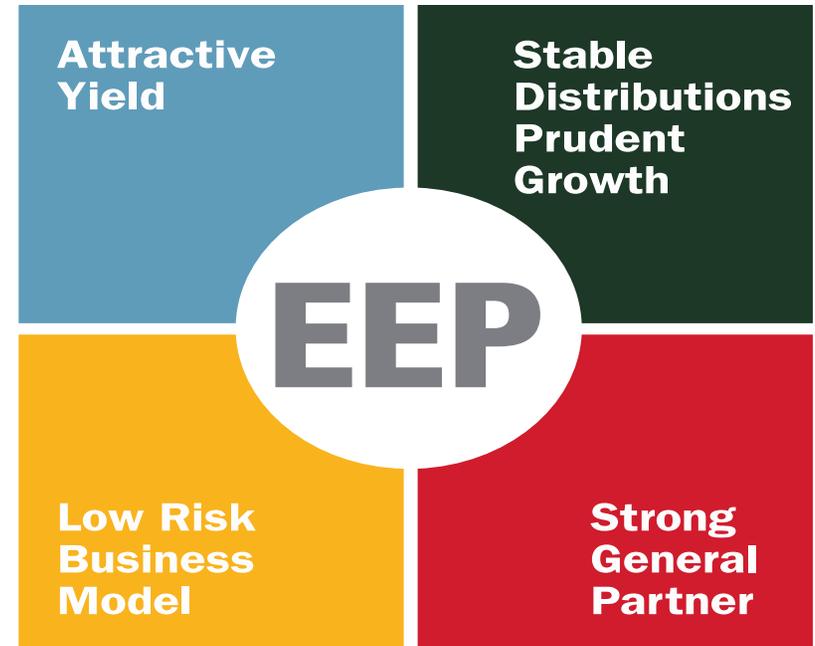
Forward-looking statements regarding “drop-down” growth opportunities from Enbridge Inc. are further qualified by the fact that Enbridge Inc. is under no obligation to offer to sell us interests in its U.S. projects, and we are under no obligation to buy any such interests. Similarly, any forward-looking statements regarding potential “drop-down” transactions of interests in Midcoast Operating to Midcoast Energy Partners are further qualified by the fact that we are under no obligation to sell to Midcoast Energy Partners, L.P. any such interests, and Midcoast Energy Partners, L.P. is under no obligation to buy any such interests. As a result, we do not know when or if any such transactions will occur.

The Partnership’s forward looking statements are subject to risks and uncertainties pertaining to operating performance, regulatory parameters, project approval and support, weather, economic conditions, interest rates and commodity prices, including but not limited to those discussed more extensively in our filings with the U.S. securities regulators. The effect of any one risk, uncertainty or factor on any particular forward looking statement is not determinable with certainty as these are independent and our future course of action depends on management’s assessment of all information available at the relevant time. Except to the extent required by law, we assume no obligation to publicly update or revise any forward looking statements, whether as a result of new information, future events or otherwise. Reference should also be made to the Partnership’s filings with the U.S. Securities and Exchange Commission (the “SEC”), including its Annual Report on Form 10-K for the year ended December 31, 2014, for additional factors that may affect results. These filings are available to the public over the Internet at the SEC’s web site ([www.sec.gov](http://www.sec.gov)) and at the Partnership’s web site.

# Investment Proposition

## Strong Business Fundamentals: Strength & Stability

- ✓ Migrating to a Much Lower Risk Business Model
- ✓ Strong General Partner
- ✓ Stable Distributions & Prudent Growth
- ✓ Attractive Yield



Market Cap*	\$17.3B
Yield*	5.8%
Current Cash Distribution	\$2.28/unit annual
Total Unitholder Return (10yr CAGR)**	12%

\* Yield as of 2/25/15; \*\* Total Unitholder return CAGR as of 12/31/14 (nominal).

# Investment Highlights

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**~\$24B\***

Enterprise Value - Large-Cap MLP

**BBB+, Baa2, BBB**

Strong Investment Grade (S&P, Moody's, DBRS)

**~\$11.5B**

Commercially secured organic growth underway

**Pure-Play Liquids Pipeline MLP**

Low-risk transformative growth underway

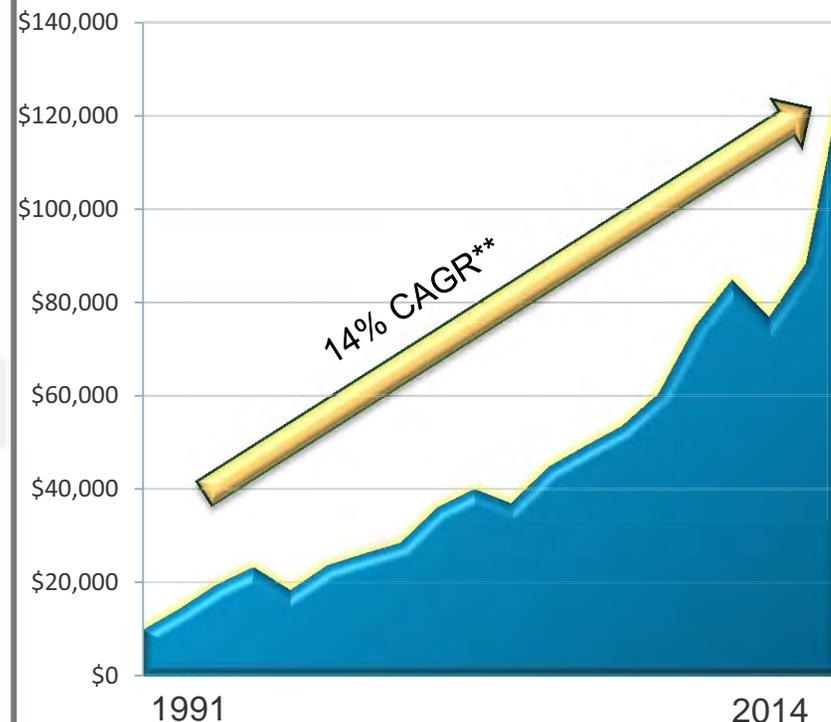
## Highlights

- ❖ One of the longest established pipeline MLPs (1991)
- ❖ Track record of consistently delivering cash distributions (never reduced)
- ❖ Largest pipeline transporter of crude oil production growth from Western Canada
- ❖ Largest pipeline transporter of crude oil production growth from Bakken formation

## 2014 Highlights

- ❖ Delivered 41% total unitholder return; increased distribution 4.9%
- ❖ Equity restructure to reset IDRs and establish single tier IDR structure
- ❖ Completed \$1 billion drop-down acquisition from ENB
- ❖ ENB is reviewing potential restructuring plan to drop-down its U.S. liquids pipeline assets to EEP <sup>(1)</sup>
- ❖ ~\$2.3 billion of growth capital placed in service

## Total Unitholder Return



\*Enterprise Value as of 1/30/15; \*\*Return CAGR since inception to 12/31/2014 (nominal)

# Strength of GP – Enbridge Inc.

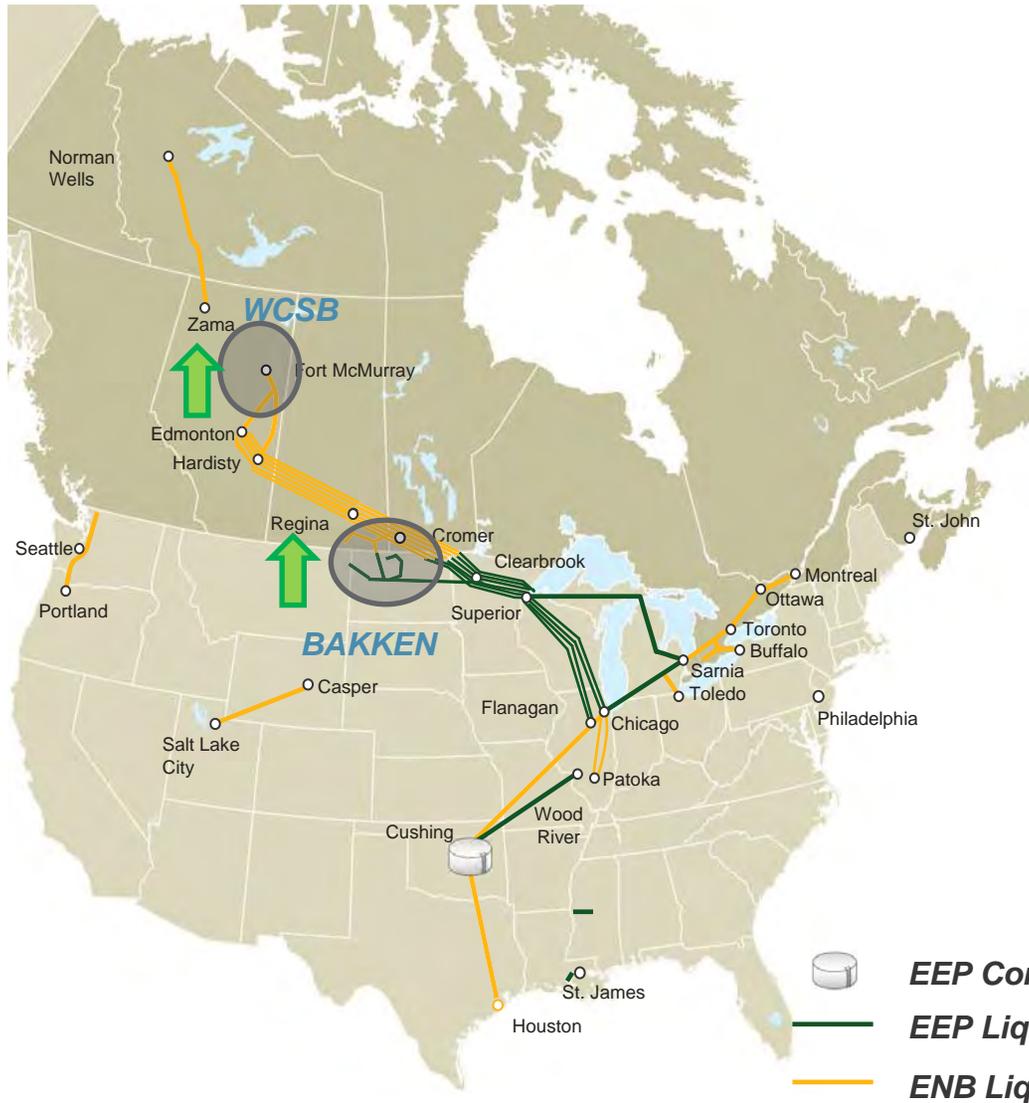


## ENB: North American leader in energy delivery

- Owner and operator of largest crude oil pipeline system
- ~\$41 billion equity market cap
- Strong investment grade (A-, Baa1)
- Proven track record: industry leading EPS and DPS growth
  - 19% 10-year TSR CAGR
  - 12% 10-year DPS CAGR
  - 33% dividend increase in 2015
  - 14%-16% DPS growth forecast 2015-2018
- Strategy aligned with Partnership
- ~\$44 billion organic growth program underway

Note: Standard & Poor's/Moody's credit ratings respectively. Market capitalization as of February 25, 2015

# Strategic Position



## Competitive Advantages

- ✓ Refiners: Access to multiple crude streams
- ✓ Producers: Access to multiple premium markets
- ✓ Flexible system
- ✓ Size and scale unmatched: Will expand to ~2.85 MMb/d in 2017

## Positioned for Long-Term Growth

- ✓ Direct connection to growing supply basins (Heavy & Light)

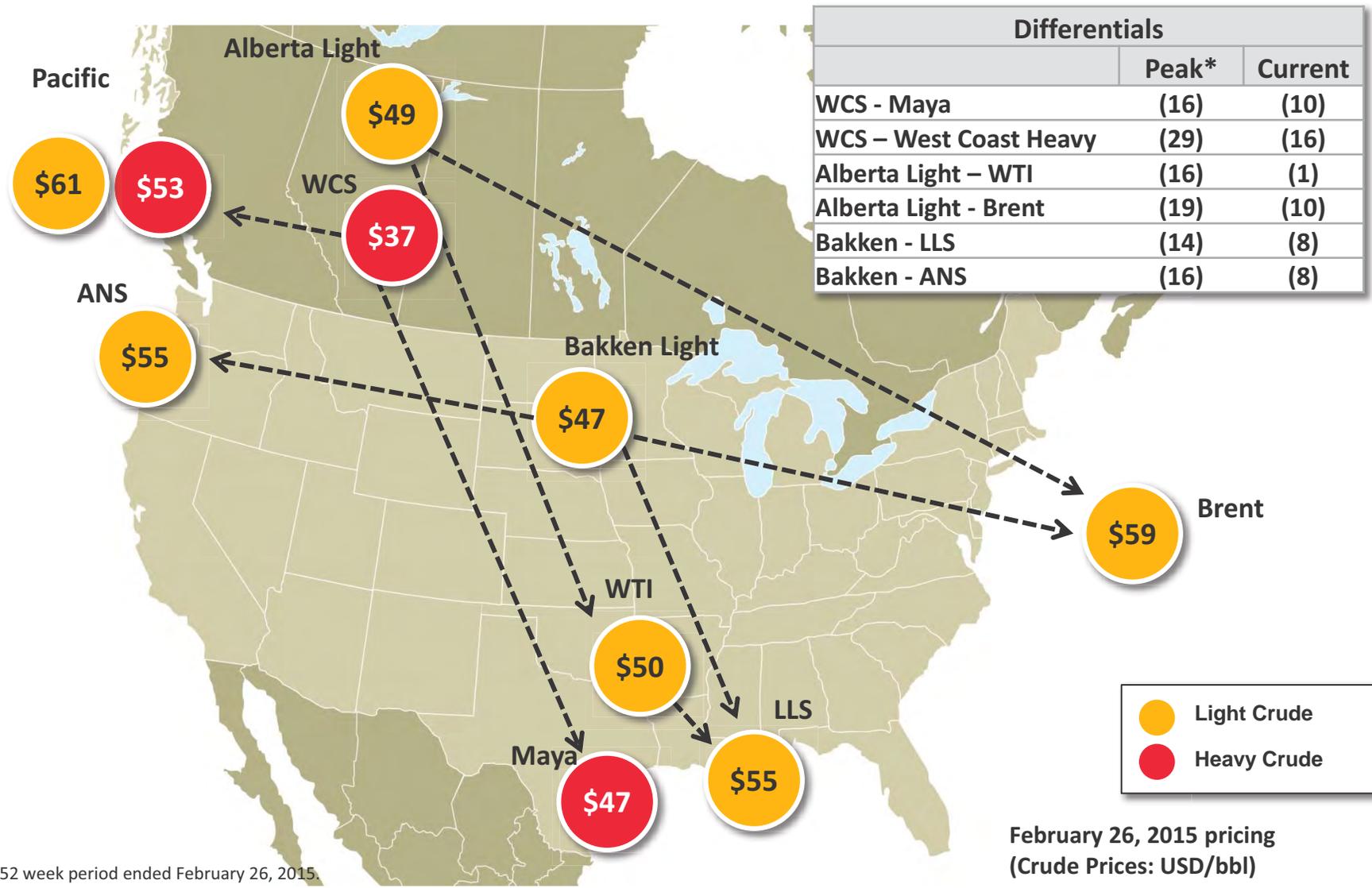
**High quality customer base**

**ENB and EEP Strategically Aligned**

-  **EEP Contract Storage**
-  **EEP Liquids Pipelines**
-  **ENB Liquids Pipelines**

# North American Crude Oil Pricing Differentials

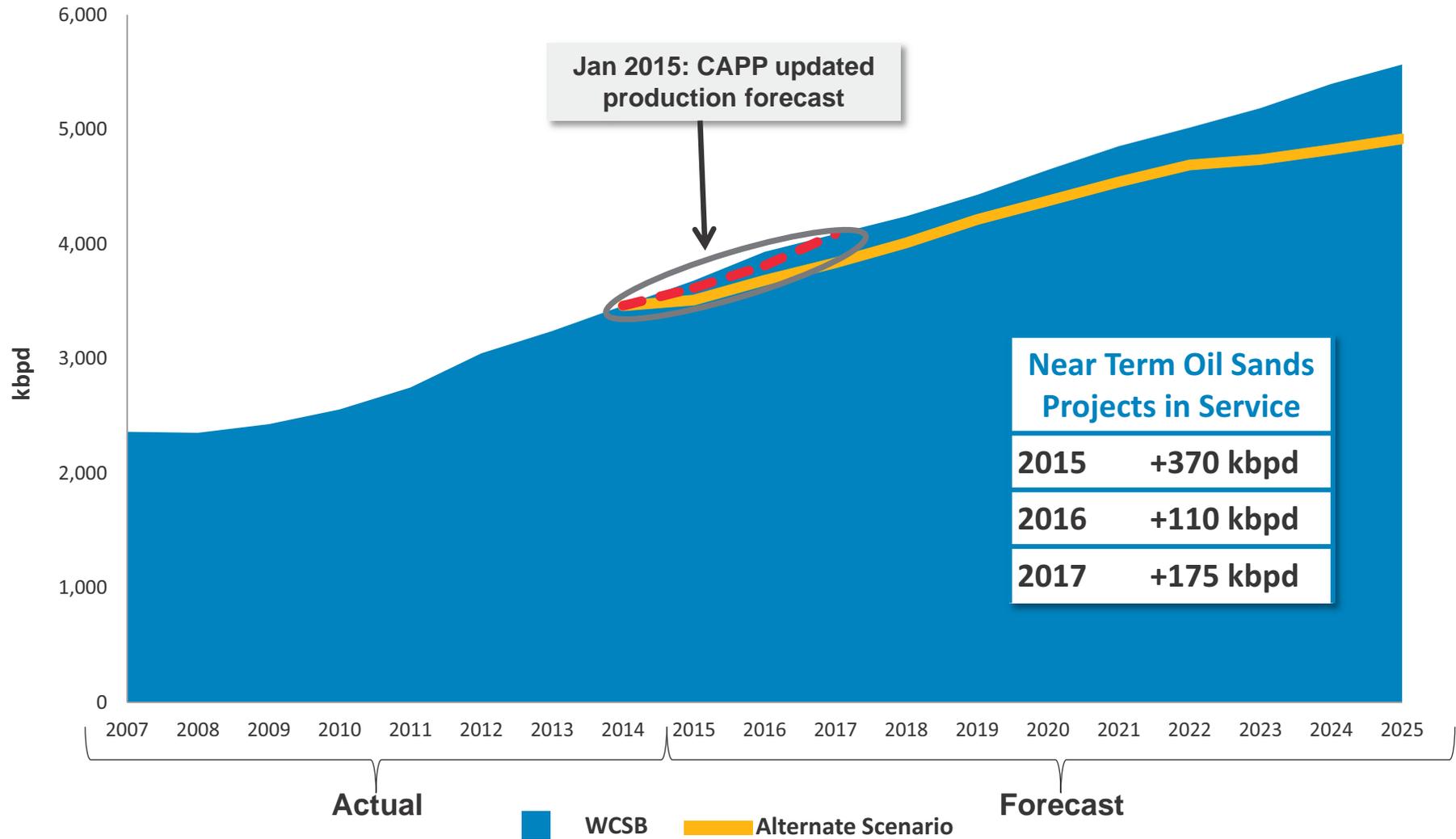
Enbridge is the low cost transportation provider and we will continue to grow our pipeline systems



# WCSB Crude Oil Fundamentals and Outlook

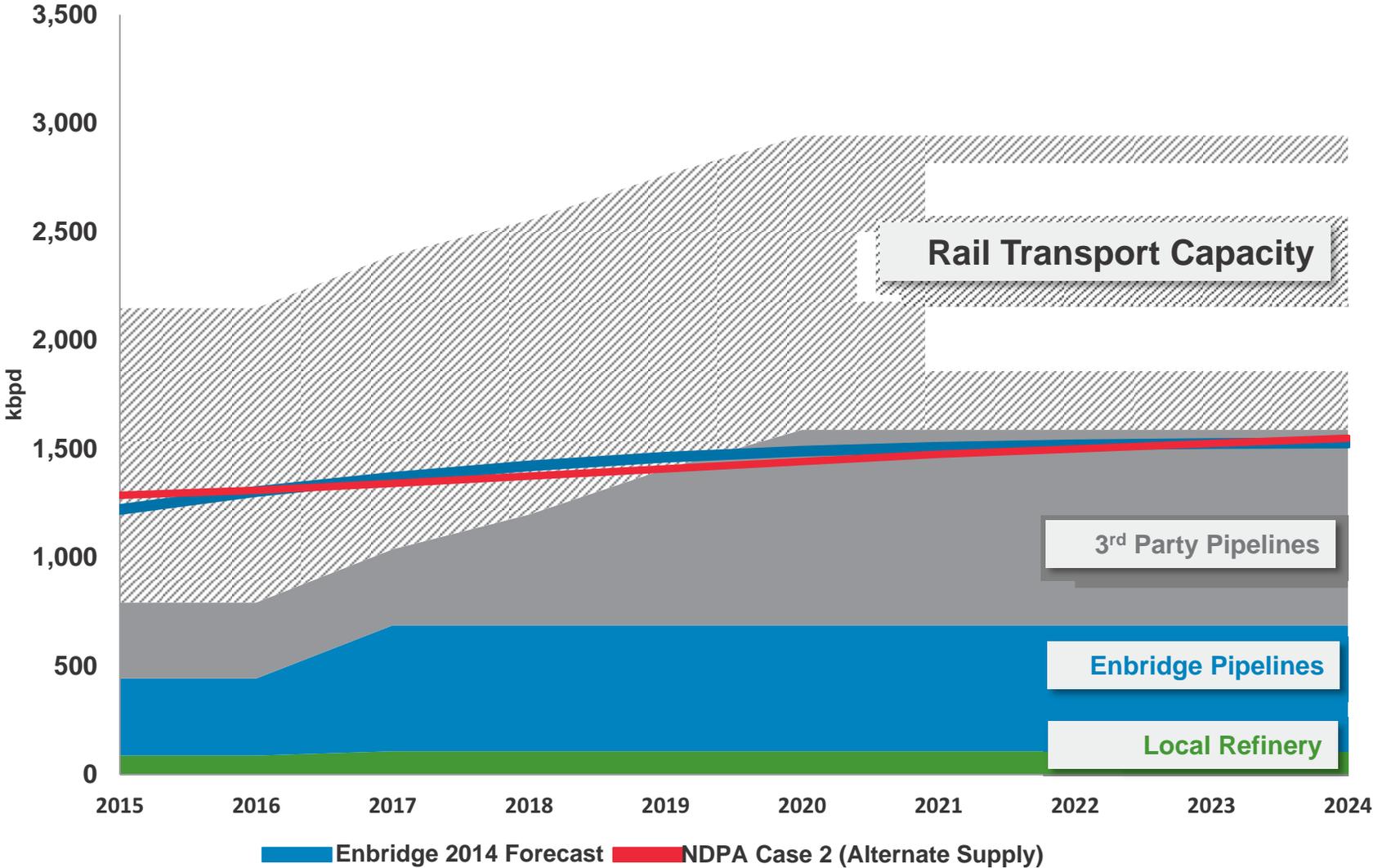
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Long-term investment horizon of Western Canadian producers



Sources: CAPP – Crude Oil Forecast, Markets and Pipelines (June 2014) with January 2015 updates, NEB, Enbridge

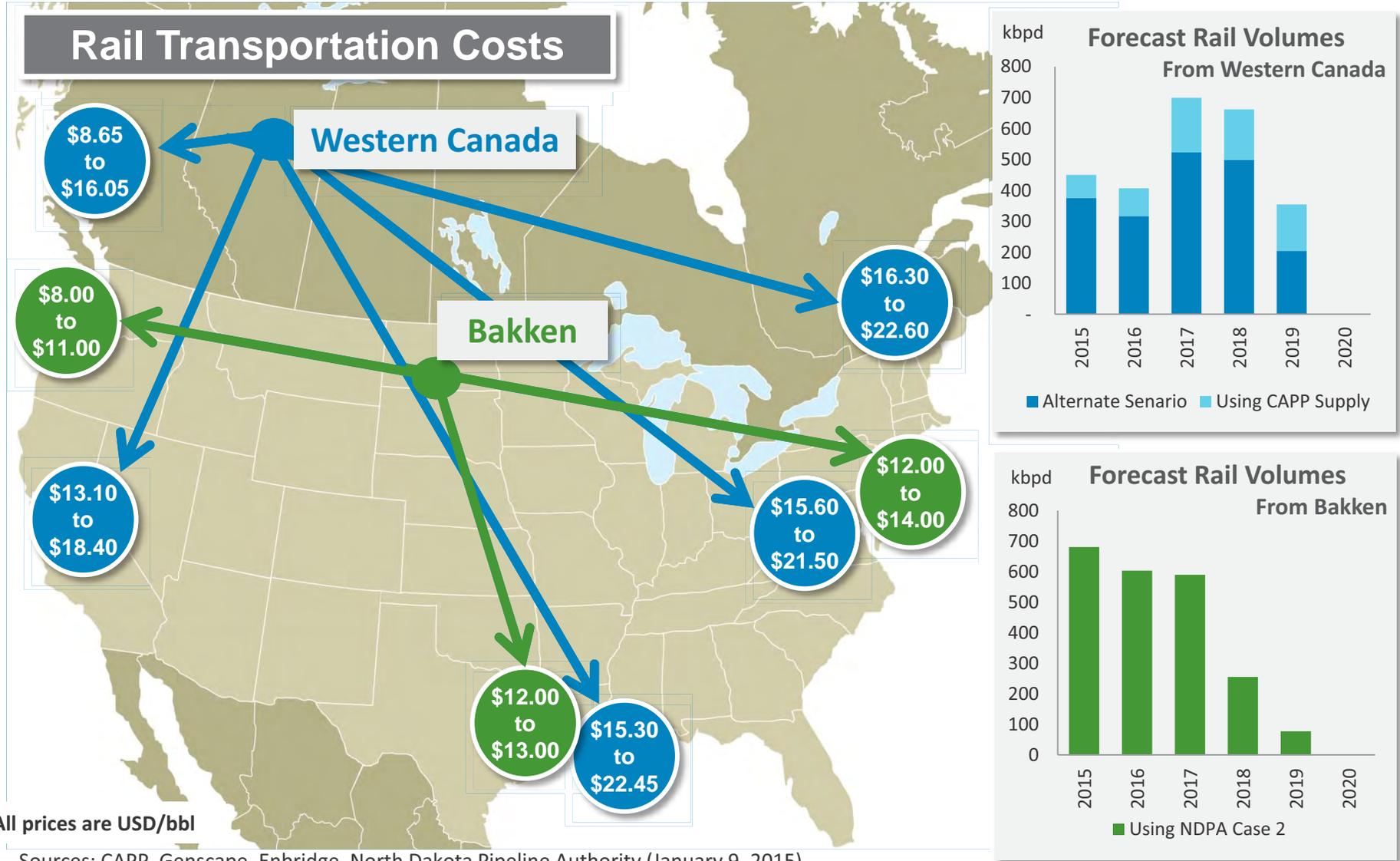
# Bakken Crude Supply Forecast vs Take Away Capacity



Sources: Enbridge, North Dakota Pipeline Authority (January 9, 2015)

# Rail Perspective

Pipelines provide the most economical transportation to market



All prices are USD/bbl

Sources: CAPP, Genscape, Enbridge, North Dakota Pipeline Authority (January 9, 2015)

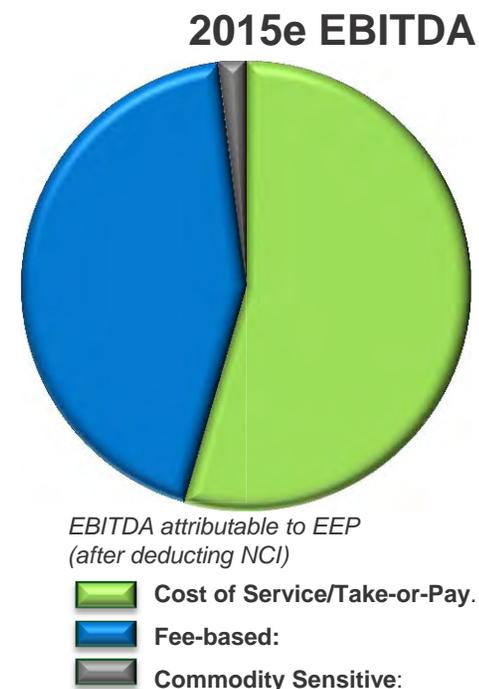
# Strong Commercial & Fundamental Underpinnings

Defensive nature of cash flows position EEP to navigate through commodity price uncertainty



- ✓ Low-risk business model largely mitigates volume sensitivity
- ✓ Demand for crude oil and pipeline capacity from Western Canada and Bakken remains strong
- ✓ Customer demand & connectivity
- ✓ Enbridge/Partnership's system is currently oversubscribed
- ✓ Pipelines provide the most economical transportation to market

*still plenty of supply moving by rail from WSCB and Bakken*

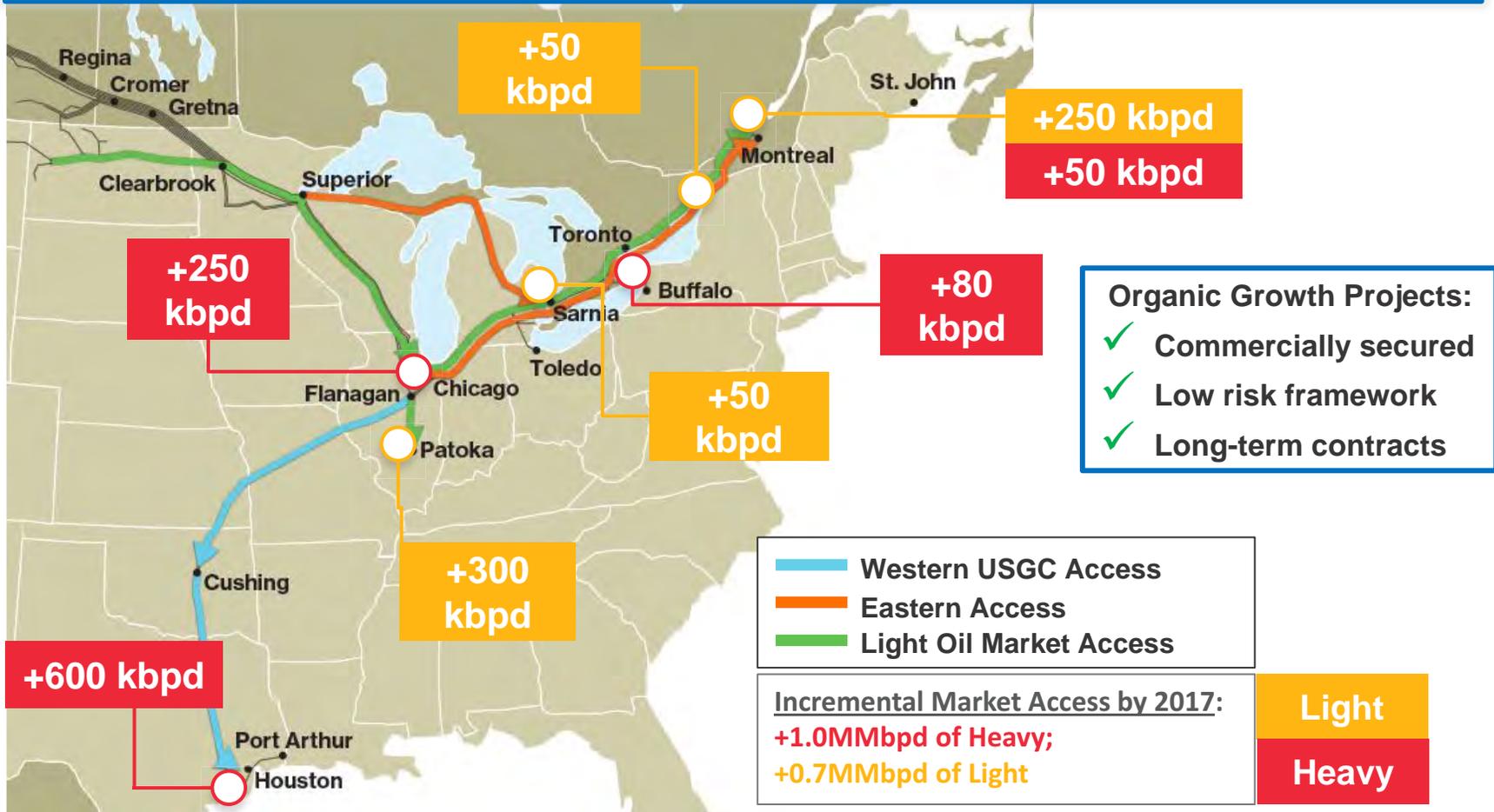


**Liquids pipeline system volume outlook remains strong despite low crude oil prices**

# Market Access Well Advanced

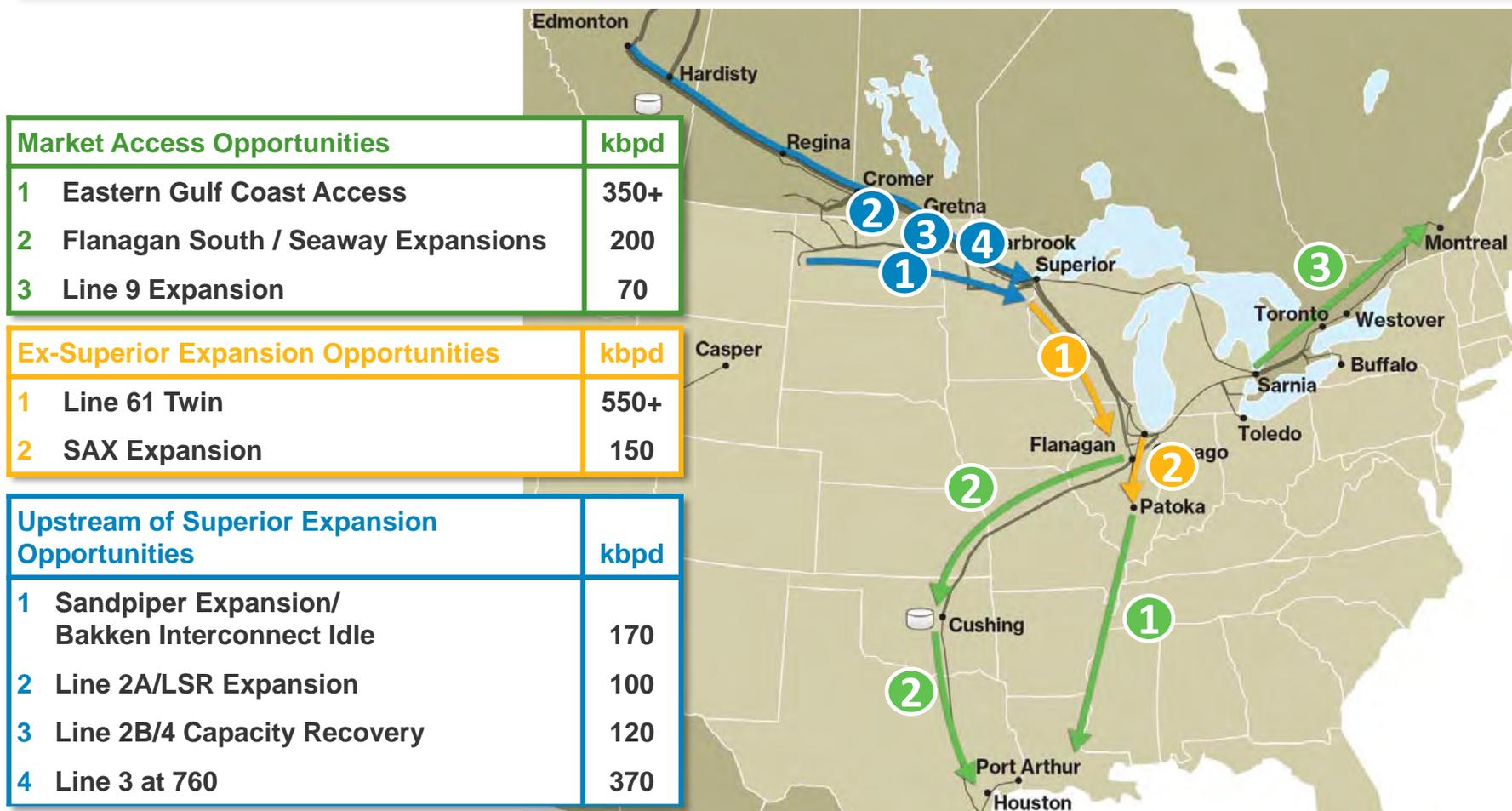
Transformative low-risk organic growth expected to provide substantial cash flow growth

Three major initiatives provide 1.7 MMbpd of increased market access and diversification



# Low Cost Expansion & Extension Opportunities

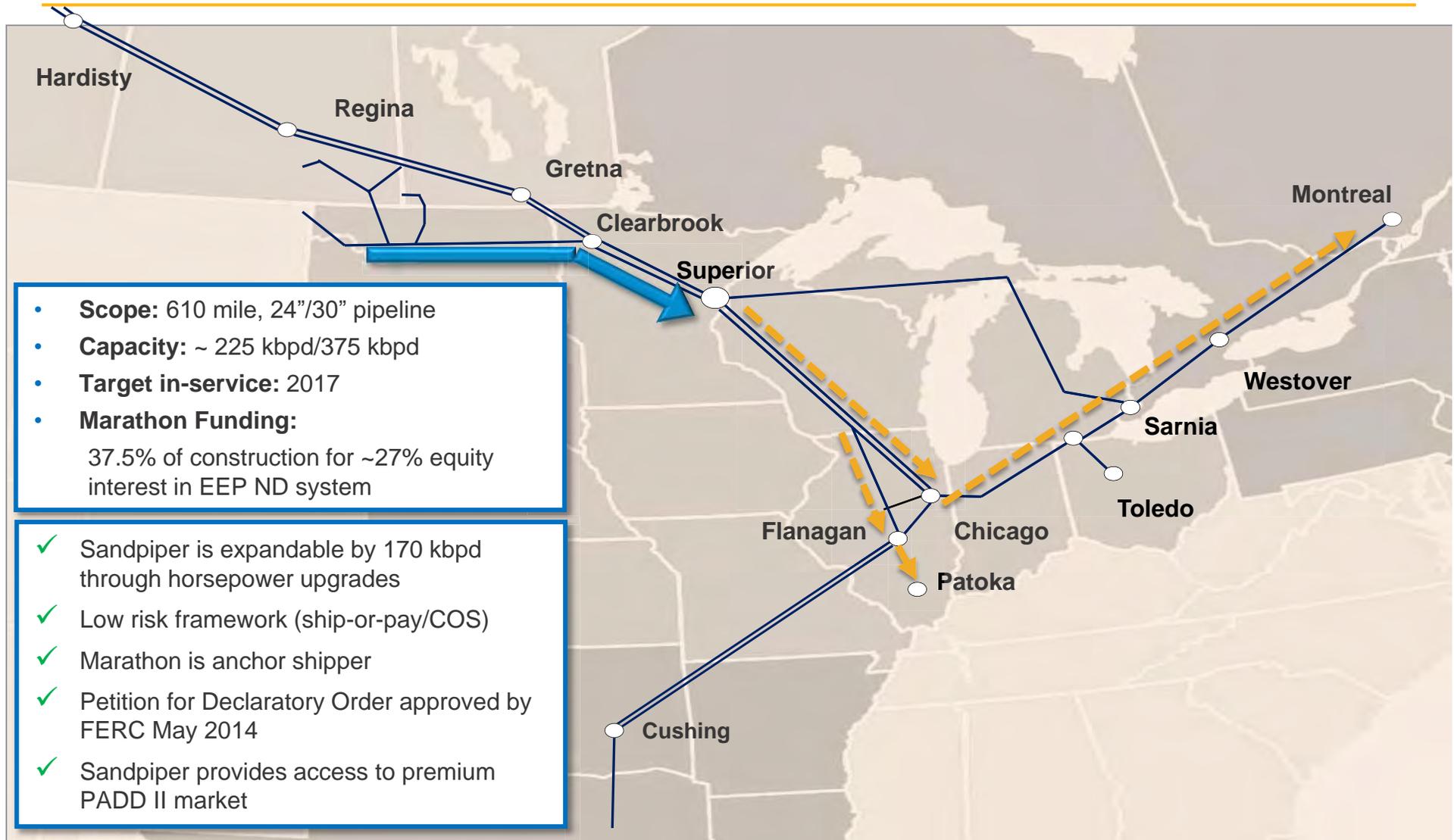
Low cost phased expansions are attractive in a low crude price environment



# Bakken Expansion – Sandpiper Pipeline

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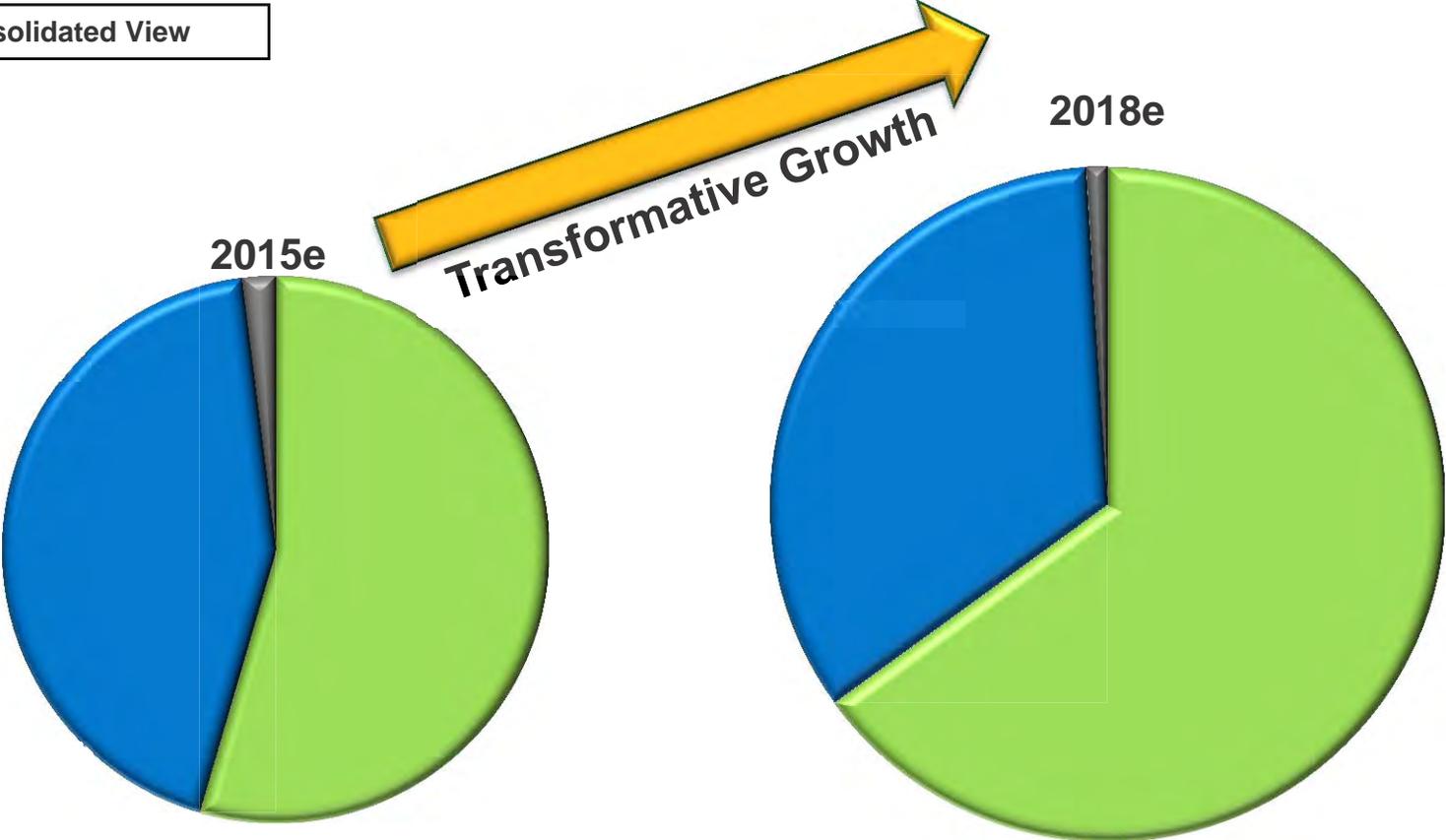
# Line 3 Replacement



# Risk Profile – Low Risk Business Model

Defensive nature of cash flows position EEP to navigate through commodity price uncertainty

Unconsolidated View

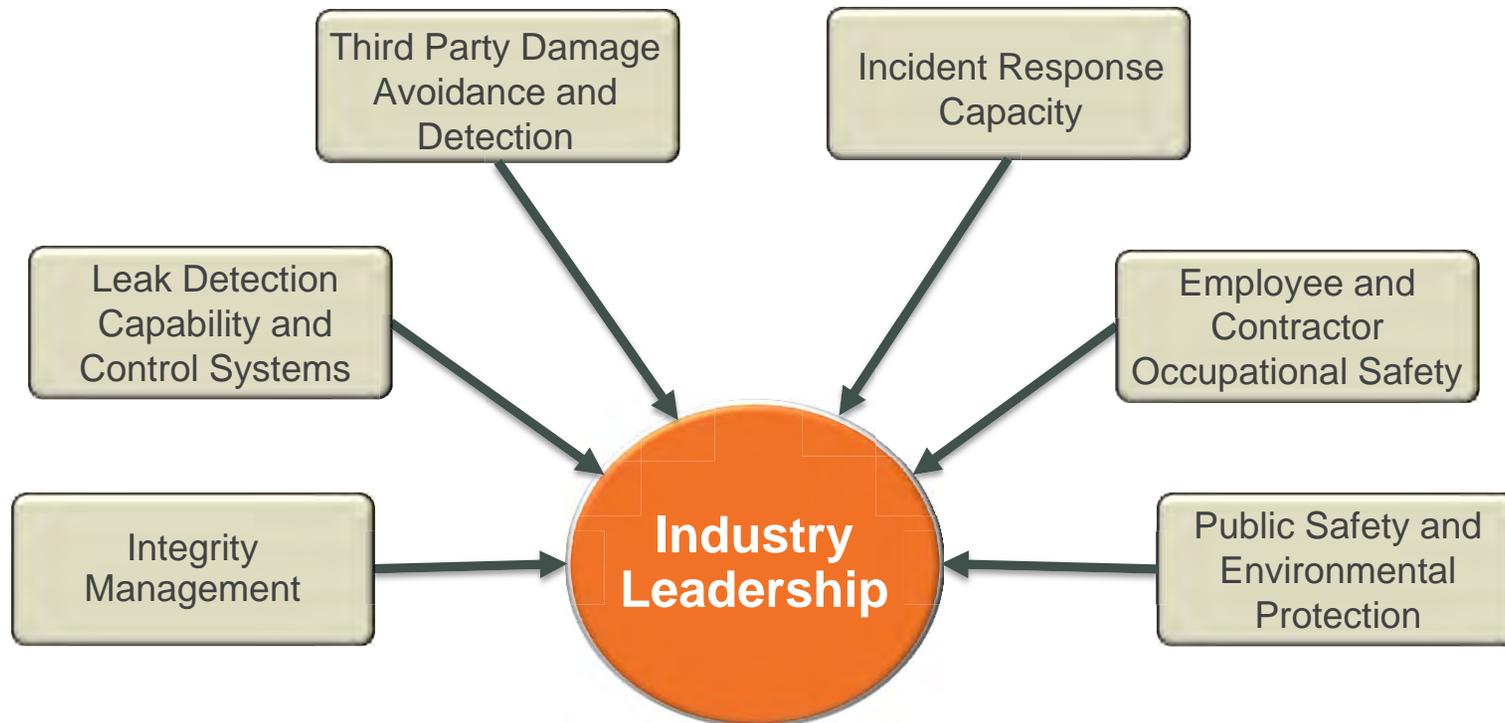


**Crude oil projects progressively transform EEP to much lower risk business model**

- **Cost of Service/Take-or-Pay:** Contribution from Liquids and Natural Gas business cost of service and take-or-pay contracts.
  - **Fee-based:** Contribution from Liquids and Natural Gas business fee-based service.
  - **Commodity Sensitive:** Contribution from Natural Gas business commodities length; 2015 contribution is after-hedging. Assumes natural gas business as held by Midcoast Operating, L.P. is dropped down to MEP by the end of 2017.
- Contribution is based on revenues from Liquids segment and gross margin from Natural Gas segment, after deducting non-controlling interest.*

# Priority One – Focus on Safety & Operational Reliability

## Operational Risk Management Program



- State-of-the art Liquids Pipelines control center
- Most extensive maintenance, integrity and inspection program in the history of the North American pipeline industry
- Liquids Pipelines completed 615 in-line inspections and 8,975 verification digs (2010-2013)

# Natural Gas and NGL Midstream Business

Key Assets	
Natural Gas Deliveries	2.2 bcf/d
Gathering and Transportation Pipelines	11,100 miles
Processing Capacity (25 plants)	2.3 Bcf/d
Treating Capacity (11 plants)	1.3 Bcf/d
Texas Express NGL system	35% JV interest

**Anadarko System**  
 ✓ Secured new demand-based volumes from nearby play

**Texas Express NGL System**

**East Texas System**  
 ✓ Beckville Processing Plant - 2015

**CLINE SHALE**

**North Texas System**

**COTTON VALLEY**

**MIDCOAST ENERGY PARTNERS PIPELINE SYSTEMS**

**LIQUIDS SYSTEMS**  
 — MEP Liquids Pipelines

**NATURAL GAS AND NGL SYSTEMS**  
 — MEP Natural Gas Pipelines  
 — MEP NGL Pipeline and Joint Venture

**EAGLEBINE**

**Eaglebine Investments**  
 Ghost Chili Lateral – late 2015  
 NGR acquisition

2015e adjusted EBITDA ~90% Liquids segment; ~10% Natural Gas segment

# Drop Downs Boost Distributable Cash Flow

Substantial drop down opportunities from ENB supports Partnership's long-term growth outlook

## Initial Drop Down:

- **\$1 billion drop down from Enbridge closed 1/2/2015**
  - 66.7% interest in the U.S. segment of Alberta Clipper pipeline (Line 67)
- **Immediately accretive**
  - 2.7% distribution increase announced
  - No public equity required by EEP

## Drop Down Outlook:

- **Enbridge reviewing potential larger scale drop down plan to Partnership<sup>(1)</sup>**
  - Over \$10 billion of U.S. liquids pipeline assets available
  - Eastern Access & Mainline Expansion 15% upsize options at cost
  - *Enhances EEP's distribution growth potential*



**Enbridge reviewing potential larger scale drop-down plan to EEP <sup>(1)</sup>**

# Enbridge Liquids Pipelines Drop-Down

Potential: \$10 Billion +

Distributable Cash



## Examples:

### Pipeline System

### Upsize Option

### Capital Cost/ Book Value\*

▪ Eastern Access	\$0.4 (2016/2017)	~ \$1.5
▪ Mainline Expansion	\$0.4 (2016/2017)	~ \$1.4
▪ Line 3 Replacement**	\$0.4 (2018)	~ \$0.9
▪ Southern Access Extension	-	~ \$0.6
▪ Flanagan South	-	~ \$2.8
▪ Seaway/Seaway Twin	-	~ \$2.4

~ \$10B +

**Substantial drop-down opportunities from parent supports long-term growth outlook**

\* Estimated capital cost or net book value of assets held by Enbridge Inc.

\*\* Line 3 Replacement Joint Funding Agreement under consideration by a Special Committee of the independent Board of Directors., including an option to upsize EEP ownership by 15% one year after the in-service date. Capital cost assumes 50% estimated funding by Enbridge Inc..

# Key Takeaways



## Low-risk business model

- Well positioned in current uncertain commodity price environment
- Targeting 2% – 5% annual distribution growth

## Transformative growth underway

- Organic growth on-track: coverage continues to strengthen as projects enter service

## Low cost organic growth potential

- Low cost ‘bolt-on’ expansion and extension opportunities remain plentiful in low crude price environment

## Strategic alignment with Enbridge supports long-term growth outlook

- Enbridge reviewing potential larger scale drop down plan to EEP <sup>(1)</sup>

**Safety and operational reliability are cornerstones that underpin our business and growth outlook**

# Supplemental Slides

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## Enbridge Energy Partners, L.P.

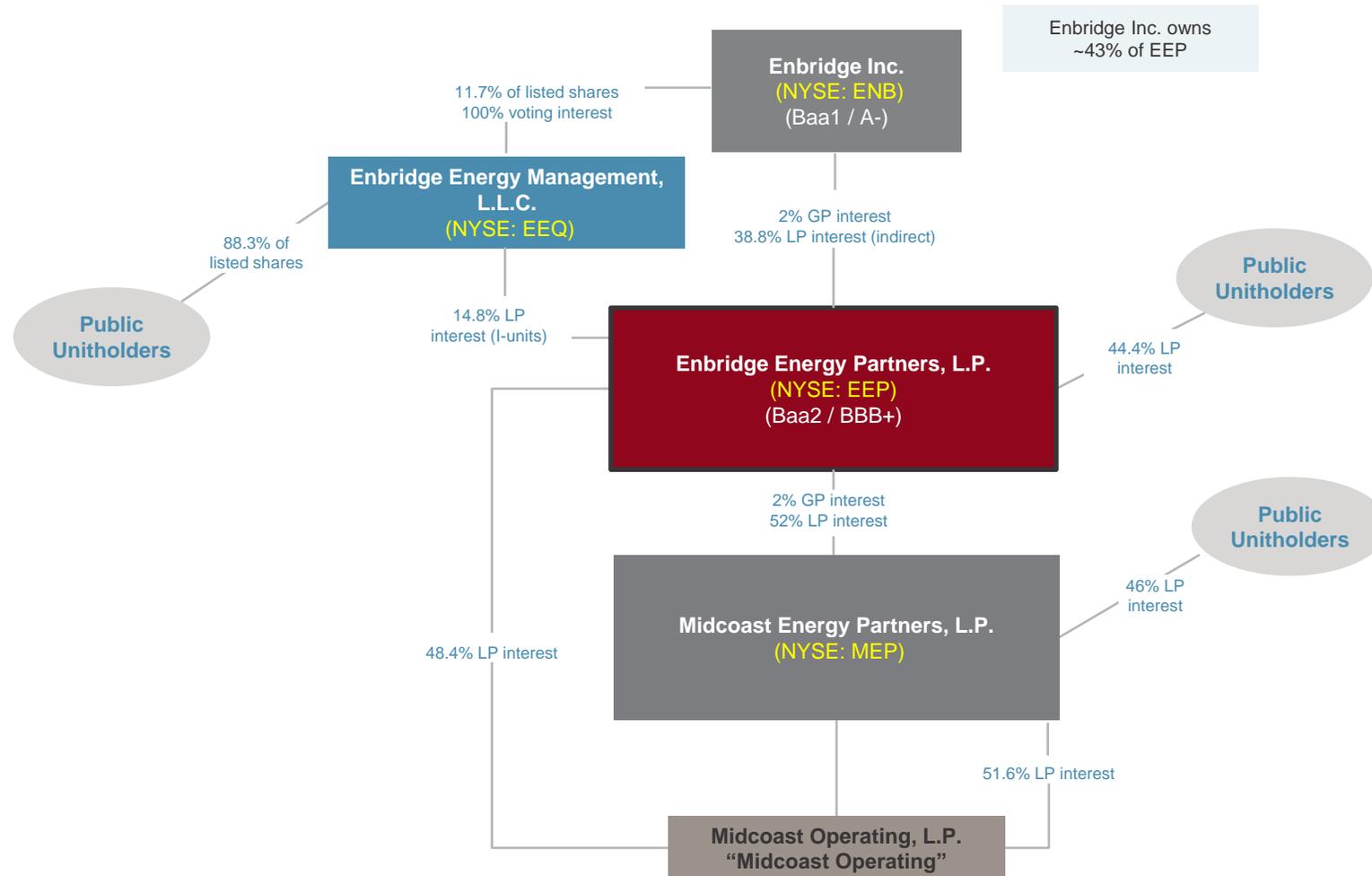
Investment Community Presentation

March 2015

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# Corporate Structure



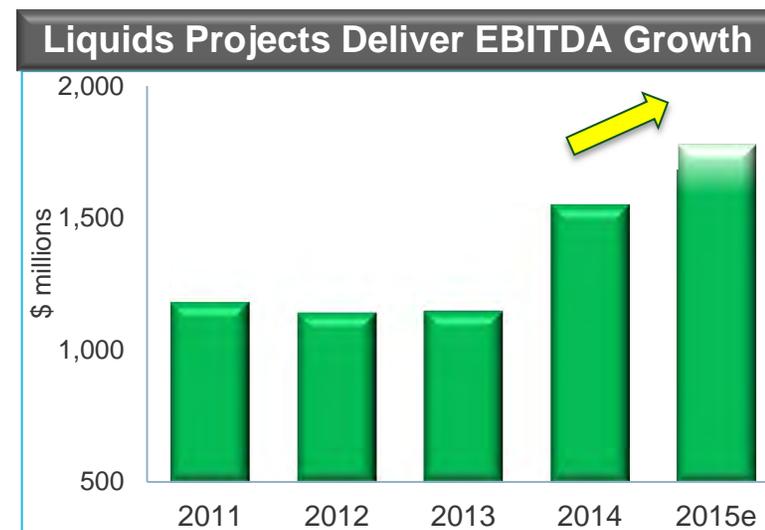
Corporate structure as of February 13, 2015

# Financial Outlook 2015

Growing Financial Strength

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Earnings & Cash Flow Outlook		
Enbridge Energy Partners (\$ millions)	2014	2015e
Adjusted EBITDA <sup>(1)</sup>	\$1,551.0	\$1,680 - 1,780 ↑
Distributable Cash Flow	\$809.3	\$900 - 960 ↑
Coverage	0.90x	0.90 - 0.96x ↑
Cash Coverage	1.09x	1.10 - 1.20x ↑



Based on adjusted EBITDA.

Liquids Volumes (kbpd)		
	2014	2015e
Lakehead	2,113	2,250- 2,450 ↑
North Dakota <sup>(2)</sup>	318	335 - 355 ↑
Mid-Continent	200	200 - 220 ↑
Total	2,631	2,785 - 3,025 ↑

Natural Gas & NGL Volumes		
	2014	2015e
Anadarko (Mmbtu/d)	827	825 - 900
East Texas (Mmbtu/d)	1,030	1,050 - 1,150
North Texas (Mmbtu/d)	293	300 - 330
Total (Mmbtu/d)	2,150	2,175 - 2,380
NGL Production (bpd)	83,675	88,000-92,000

23 enbridgepartners.com (1) Adjusted EBITDA on a fully consolidated basis; inclusive of non-controlling interest and other income.  
(2) North Dakota volume forecast does not include 100,000 bpd of take-or-pay volumes on Bakken Pipeline.

# Market Access Growth Projects On-Track

Organic growth projects deliver low-risk, highly certain cash flow growth



## Distribution coverage strengthens as growth projects enter service



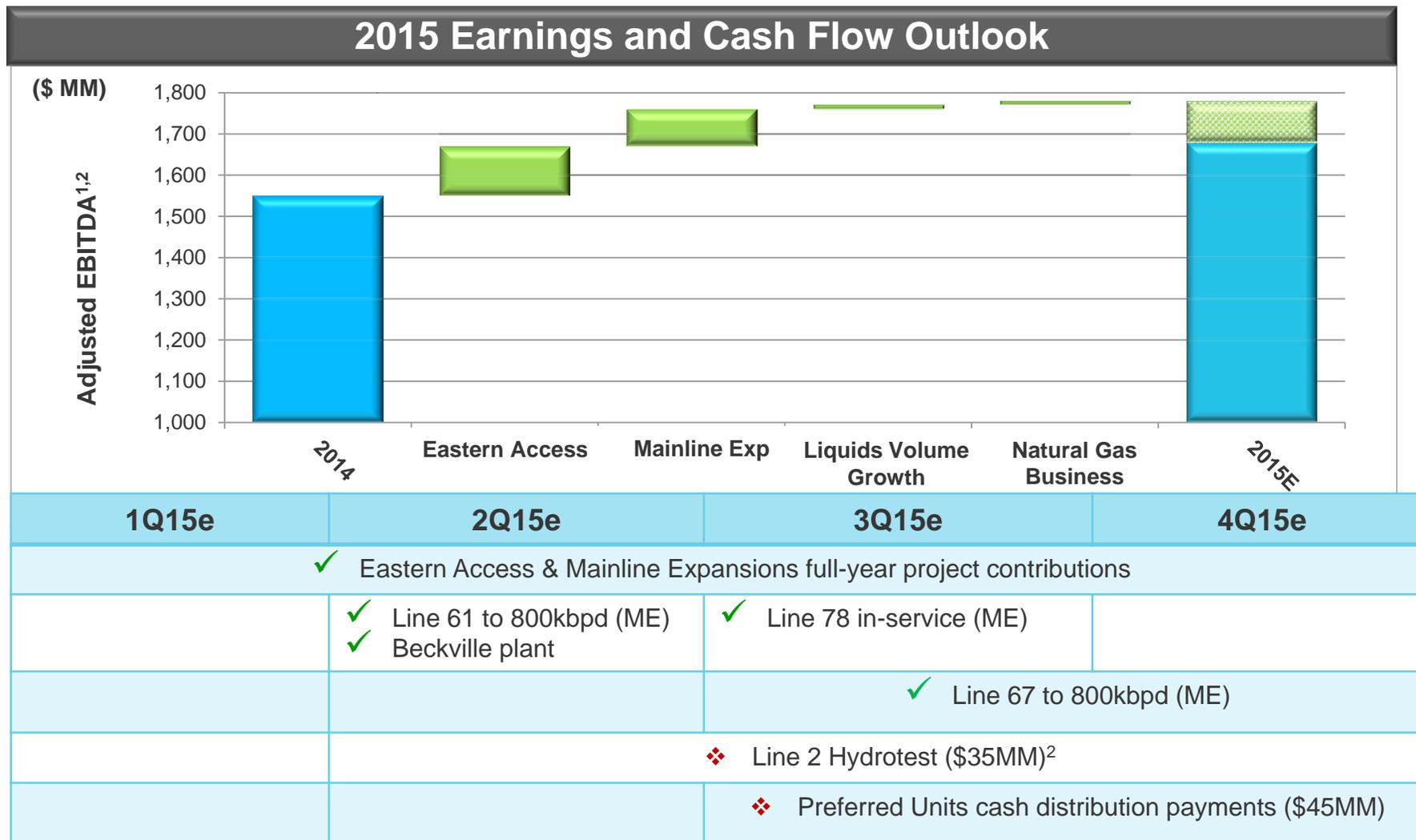
2015 Project In-service	Capital (\$MM) <sup>1</sup>	Timing
Line 67 Alberta Clipper +230 kbpd <b>1</b>	\$240	2H 2015
Line 61 Southern Access + 240 kbpd <b>2</b>	\$395	2Q 2015
Storage & Tankage	\$360	2Q15-2016
Line 78 + 570 kbpd <b>3</b>	\$495	3Q 2015

- Organic Growth Projects:**
- ✓ Commercially secured
  - ✓ Low risk framework
  - ✓ Long-term contracts

<sup>1</sup> Represents 100% of forecasted capital cost. Eastern Access and US Mainline Expansion projects are jointly funded 75% by Enbridge Inc. and 25% by EEP.

# Low Risk Earnings and Cash Flow Growth

2015 Adjusted EBITDA forecasted to increase ~ 12% over 2014



(1) Adjusted EBITDA on a fully consolidated basis; inclusive of non-controlling interest and other income.

(2) Adjusted EBITDA assumes normalization of approximately \$35MM of unrecovered costs associated with planned Lakehead Line 2 Hydro test.

# Delivering Prudent Growth

(\$MM)	Growth Capital	Net Capital EEP	Target In-Service	Risk Profile
<b>Liquids:</b>				
<b>Bakken Growth Projects</b>				
Sandpiper	2,600	1,625	2017	✓ Long-term Ship-or Pay/ Cost of Service
<b>Eastern Access <sup>(1)</sup></b>				
Line 6B Replacement, Line 5, Line 62 expansion	2,400	600	In-Service	✓ 30 year Cost of Service → Highly Certain Cash Flows ✓ No Volume Risk ✓ No Capital Risk <sup>(2)</sup>
Line 6B Expansion + tankage	310	78	early 2016	
<b>US Mainline Expansion <sup>(1)</sup></b>				
Line 67 (Border to Superior) <sup>(4)</sup> Line 61 (Superior to Flanagan)	1,780	445	Phase 1 In-Service; Phase 2 2015-2017	✓ No Capital Risk <sup>(2)</sup>
Line 78 (Chicago Connectivity)	495	124	3Q 2015	
Line 3 Replacement <sup>(5)</sup>	2,600	1,300	Late 2017	✓ 30 year Cost of Service
<b>Natural Gas:</b>				
Beckville Plant <sup>(3)</sup>	145	79	2Q 2015	⚠ Commodity & volume risk
Eaglebine Developments <sup>(6)</sup>	160	77	2015 - 2016	✓ Demand Based
	<b>\$10,490</b>	<b>\$4,328</b>		

<sup>(1)</sup> Eastern Access and Mainline Expansion Liquids projects to be jointly funded by EEP & ENB. Sandpiper construction to be funded 37.5% by Marathon Petroleum Corp.

<sup>(2)</sup> Eastern Access has modest capital cost risk

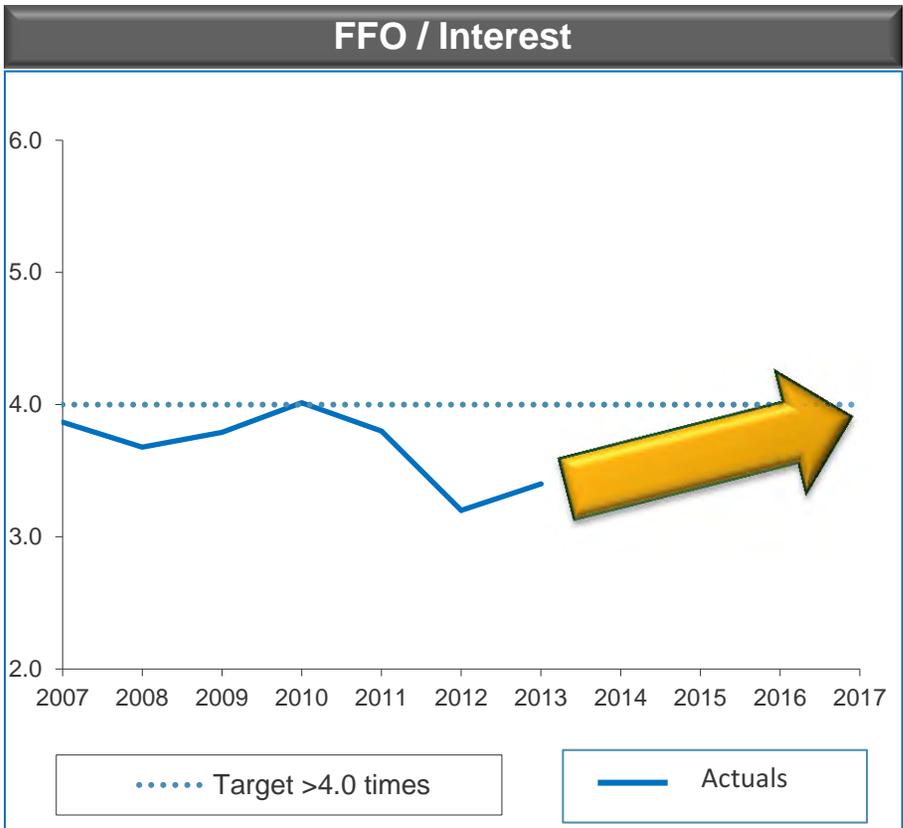
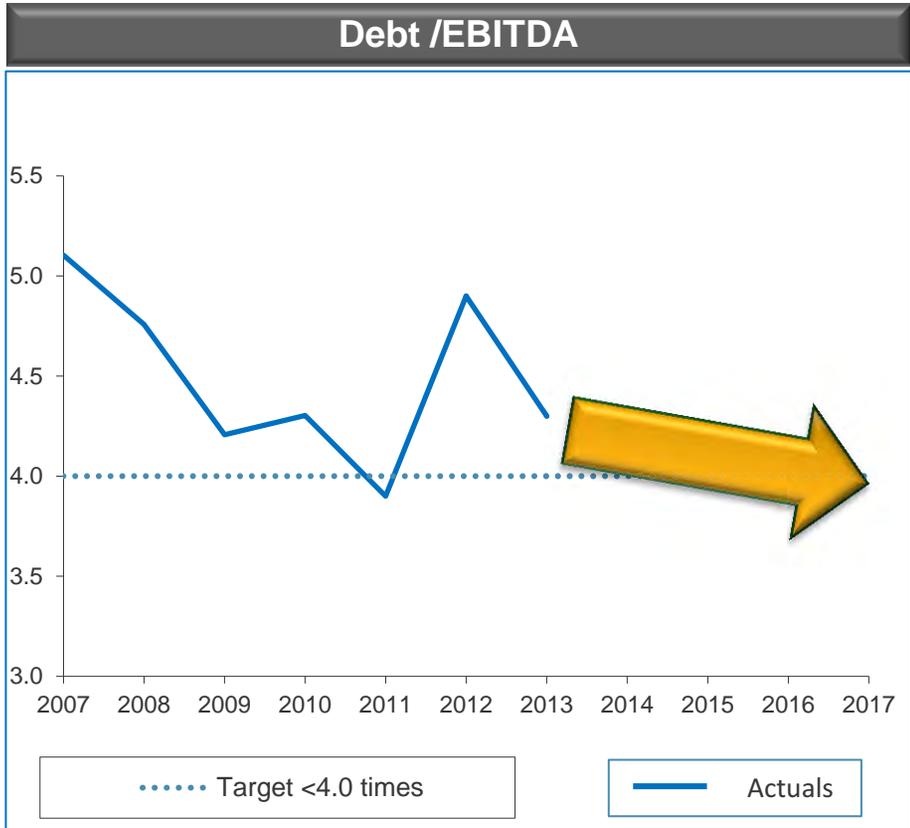
<sup>(3)</sup> Assumed capex is proportionally funded based on EEP's weighted average ownership of Midcoast Operating.

<sup>(4)</sup> Line 67 in-service delayed, however, throughput impacts expected to be substantially mitigated by temporary system optimization actions.

<sup>(5)</sup> Joint funding with Enbridge Inc. includes estimated 50% funding by Enbridge Inc. for U.S. component of Line 3 Replacement program and 50% estimated funding by EEP. Participation levels under consideration by Independent Special Committee.

# Growing Financial Strength

**Strengthening credit metrics as expansion projects begin to generate cash**



Credit metrics post-2009 normalized for Lines 6A and 6B remediation costs and insurance recoveries.

**Will maintain strong investment grade credit profile (BBB+/Baa2)**

# Equity Restructure

## EEP Equity Restructuring

GP Incentive Share of Growth in Distributable Cash Flow <sup>(1)</sup>	Magnitude of Growth in Distributable Cash Flow (illustrative) <sup>(1)</sup>
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Prior Structure

50%



Revised Structure

25%



## Prospective Benefits

- ✓ Improves EEP's cost of capital
- ✓ Increases distributable cash available to LP unit holders
- ✓ Establishes momentum for distribution growth
- ✓ Enhances acquisition competitiveness

**Enhances DCF per unit available to EEP/EEQ investors**

# Joint Funding Agreements

## Joint funding enhances Partnership's financing flexibility

### Enbridge Inc. Joint Funding

#### Eastern Access and US Mainline Expansions

- Enbridge Inc. to fund 75% of projects ~ in form of 100% equity investment
- EEP has separate options to upsize interest by up to 15% one year from last in-service date

#### Line 3 Replacement

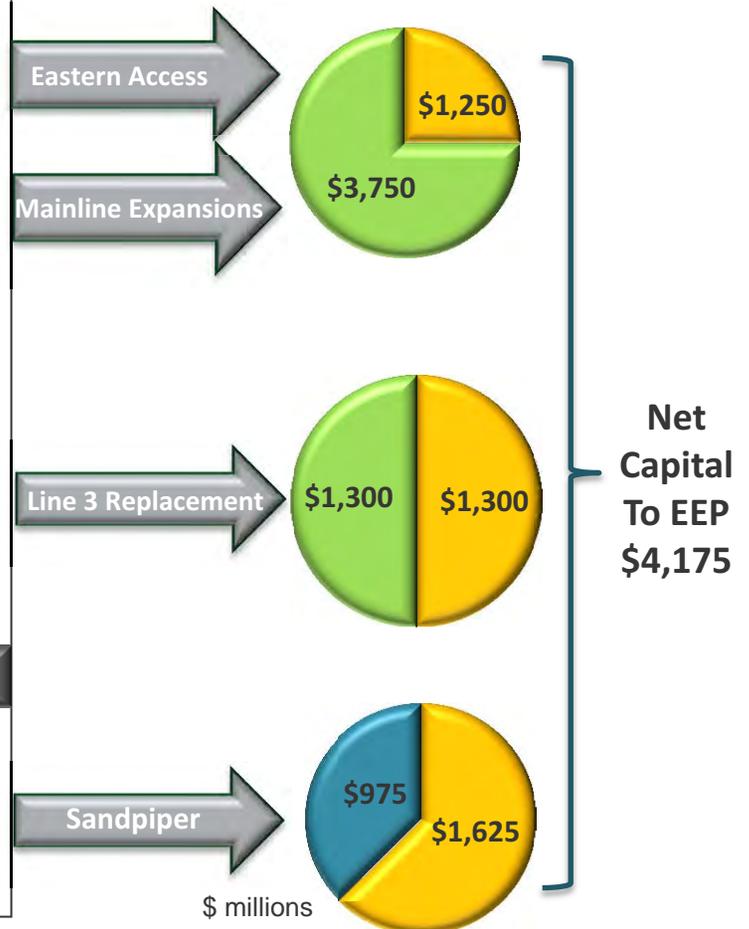
- Project to be jointly funded with Enbridge Inc.\*

### Marathon Petroleum Corp. Joint Funding

#### Sandpiper

- Marathon Petroleum Corp. will fund 37.5% of Project Sandpiper construction costs. \*\*

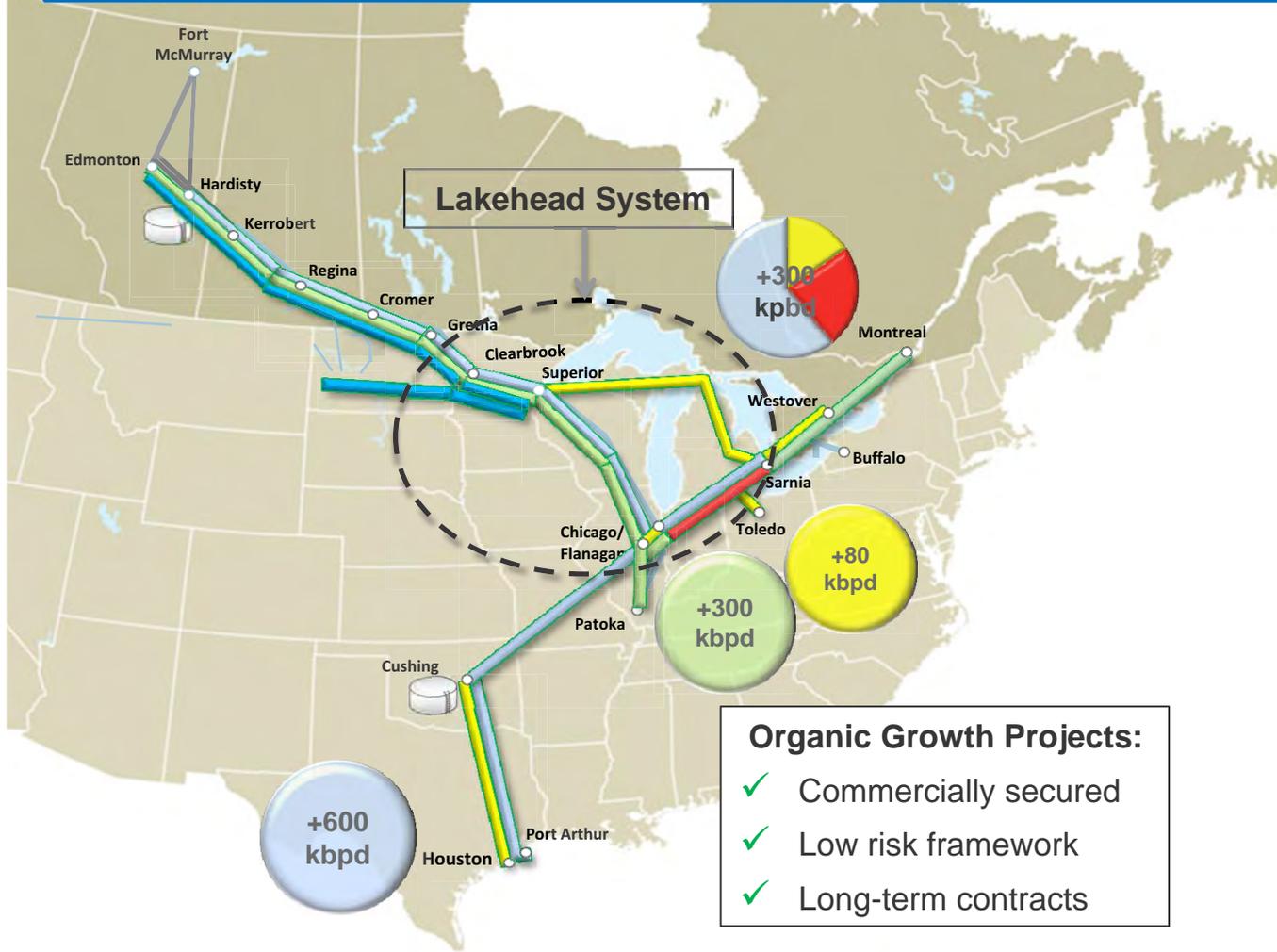
■ EEP Funded    
 ■ ENB Funded    
 ■ MPC Funded



\*Assumed 50% joint funding participation levels under consideration by a Special Committee of the independent Board of Directors.  
 \*\*Marathon Petroleum Corp. will fund 37.5% of Project Sandpiper cost and assume a ~27% equity interest in the EEP North Dakota system, once the project enters service.

# Market Access Program

**Solid project execution to-date → 2015 organic growth on target**



**Organic Growth Projects:**

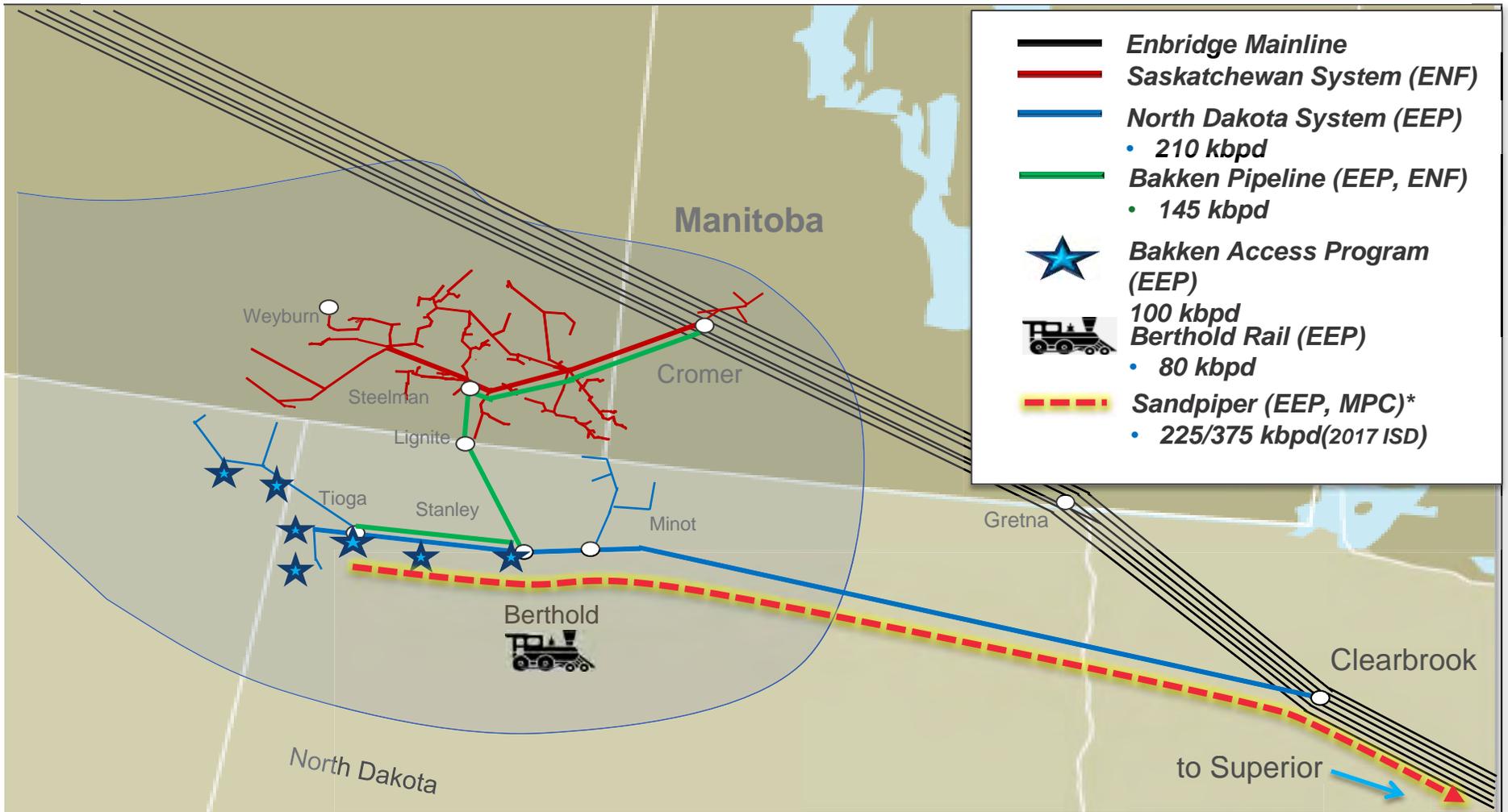
- ✓ Commercially secured
- ✓ Low risk framework
- ✓ Long-term contracts

2013
<ul style="list-style-type: none"> <li>✓ Bakken Pipeline Expansion+ Berthold Rail - EEP</li> <li>✓ Line 5 Expansion (+50 kbps) - EEP</li> <li>✓ Line 62 Expansion (+105 kbps) - EEP</li> <li>✓ Line 9A Reversal (+50 kbps) - ENB</li> <li>✓ Toledo Pipeline Partial Twin (+80 kbps) - ENB</li> <li>✓ Seaway Pipeline Expansion (+400 kbps) - ENB</li> </ul>
2014
<ul style="list-style-type: none"> <li>✓ Line 6B Replacement (+260 kbps) - EEP</li> <li>✓ Line 67 (+120 kbps) <sup>(1)</sup>- EEP</li> <li>✓ Line 61 (+160 kbps) - EEP</li> <li>✓ Flanagan South Pipeline (+600 kbps) - ENB</li> <li>✓ Seaway Twin + Lateral (+450 kbps) - ENB</li> </ul>
2015
<ul style="list-style-type: none"> <li>• Line 9B Reversal + Expansion (+300 kbps) - ENB</li> <li>• Line 67 (+230 kbps) - ENB/EEP</li> <li>• Line 61 (+640 kbps) - EEP</li> <li>• Line 78 (+570 kbps) - EEP</li> <li>• Southern Access Extension (+300 kbps) - ENB</li> <li>• Edmonton to Hardisty (+570 kbps) - ENB</li> </ul>
2016
<ul style="list-style-type: none"> <li>• Line 6B Expansion (+70kbps) - EEP</li> </ul>
2017
<ul style="list-style-type: none"> <li>• Sandpiper Pipeline (+225/+375 kbps) - EEP</li> <li>• Line 3 Replacement -ENB/ EEP</li> </ul>

<sup>(1)</sup> Phase 1 of Line 67 in-service delayed, however, throughput effects expected to be substantially mitigated by temporary system optimization actions.

# Bakken Infrastructure

**EEP pipeline takeaway will reach 580 kbpd with next phase of expansion**



\*Marathon Petroleum Corp. will fund 37.5% of Project Sandpiper cost and assume a ~27% equity interest in the EEP North Dakota system, once the project enters service.

# Market Access – Eastern Access

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Enhances security of supply and refinery competitiveness

Eastern Access Projects	Timing
1. Line 5 Expansion + 50kbpd	Completed
2. Spearhead North Expansion + 105kbpd	Completed
3. Line 6B Replacement + 260 kbpd	Completed
4. Line 9A Reversal + 240 kbpd	Completed
5. Line 9B Reversal + 300 kbpd	2Q 2015
6. Toledo Pipeline Twin + 80 kbpd	Completed



# Market Access – Western USGC Access

**Enbridge’s Western USGC Access is the linchpin for Canadian liquids development**



Western USGC Access Projects	Timing
<b>1. Mainline Expansions</b> - Alberta Clipper + 120 kbpd - Southern Access + 160 kbpd	In-progress  Completed
<b>2. Flanagan South</b> + 600 kbpd	Completed
<b>3. Seaway Acquisition &amp; Reversal</b> + 400 kbpd	Completed
<b>4. Seaway Twin</b> + 450kbpd	Completed

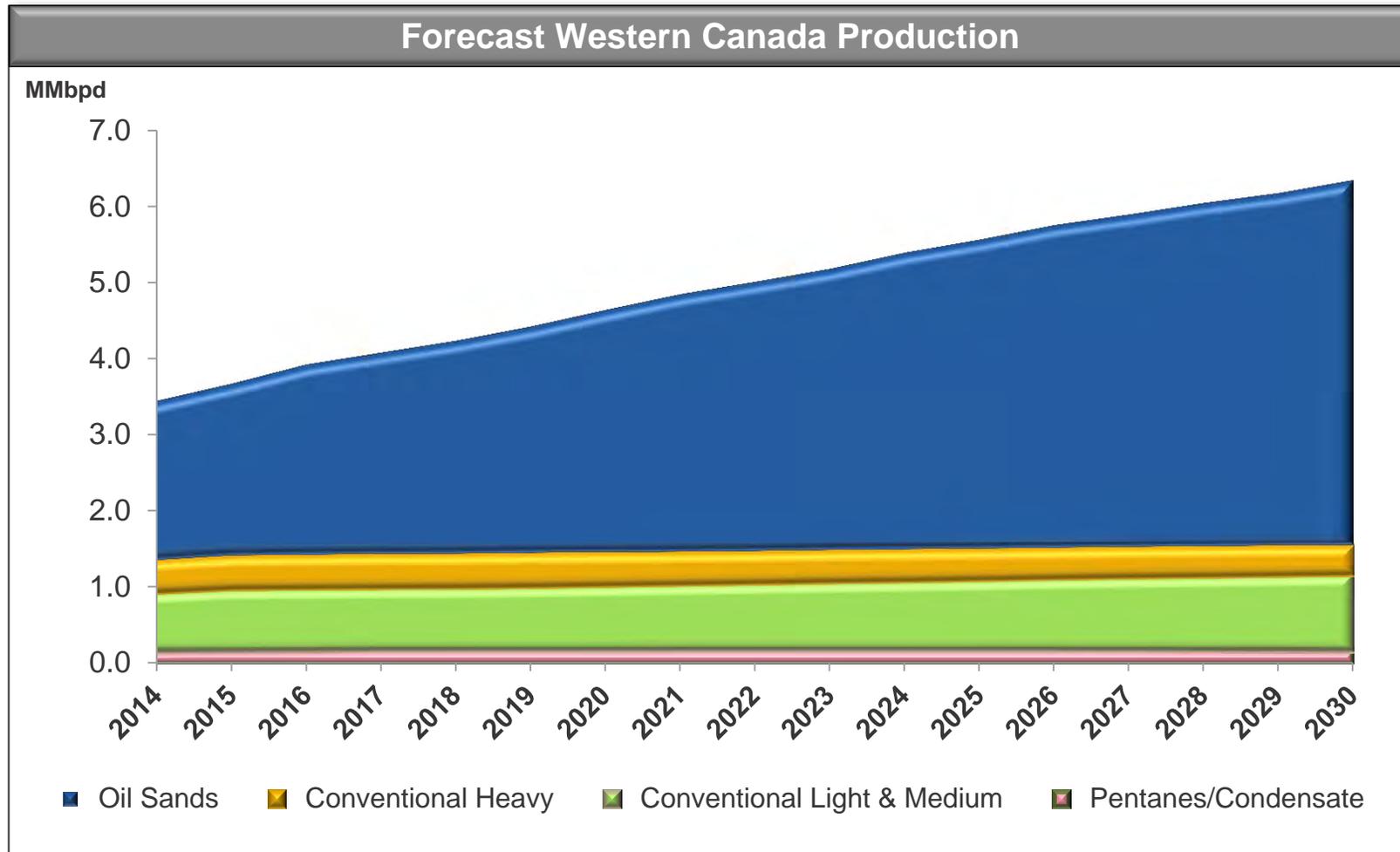
# Market Access – Light Oil Market Access

Competitive transportation cost to multiple markets for Canadian light oil and Bakken producers relative to differentials



LOMA Projects	Timing
1. Mainline Expansions	2014 / 2015
2. Line 9 Expansion + 80 kbpd	2015
3. Line 6B Expansion + 70 kbpd	2016
4. Southern Access + 640 kbpd	2015
5. Southern Access Extension + 300 kbpd	2015
6. Line 78 + 570 kbpd	2015
7. Sandpiper + 225 kbpd	2017

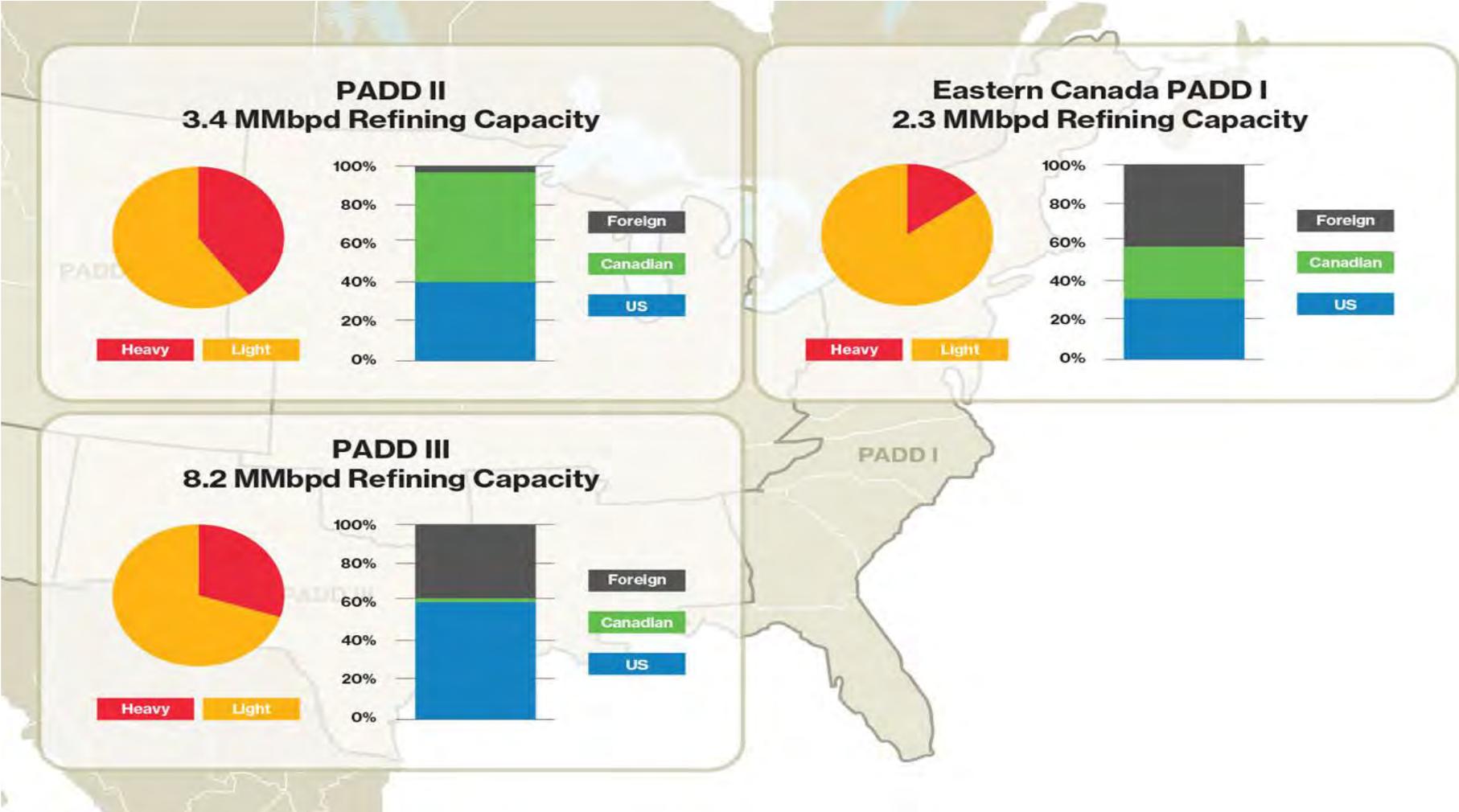
# Western Canada Supply Growth



**Oil sands production projected to grow by an annual average of 170 kbpd through 2030**

# Enbridge Target Markets

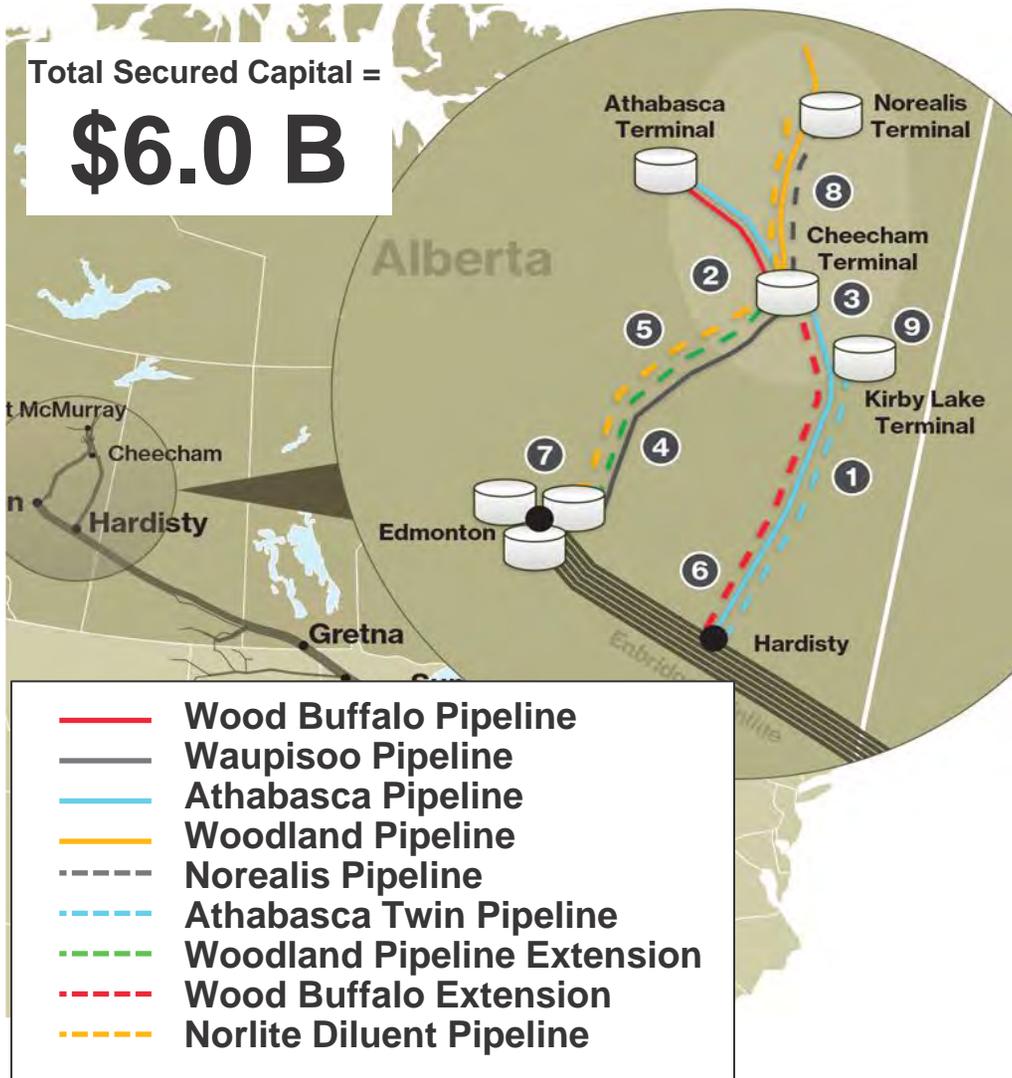
**PADD III, Eastern Canada & PADD I hold the bulk of displaceable oil supply**



# ENB: Largest Oil Sands Service Provider

EEP LISTED NYSE  
EEQ LISTED NYSE

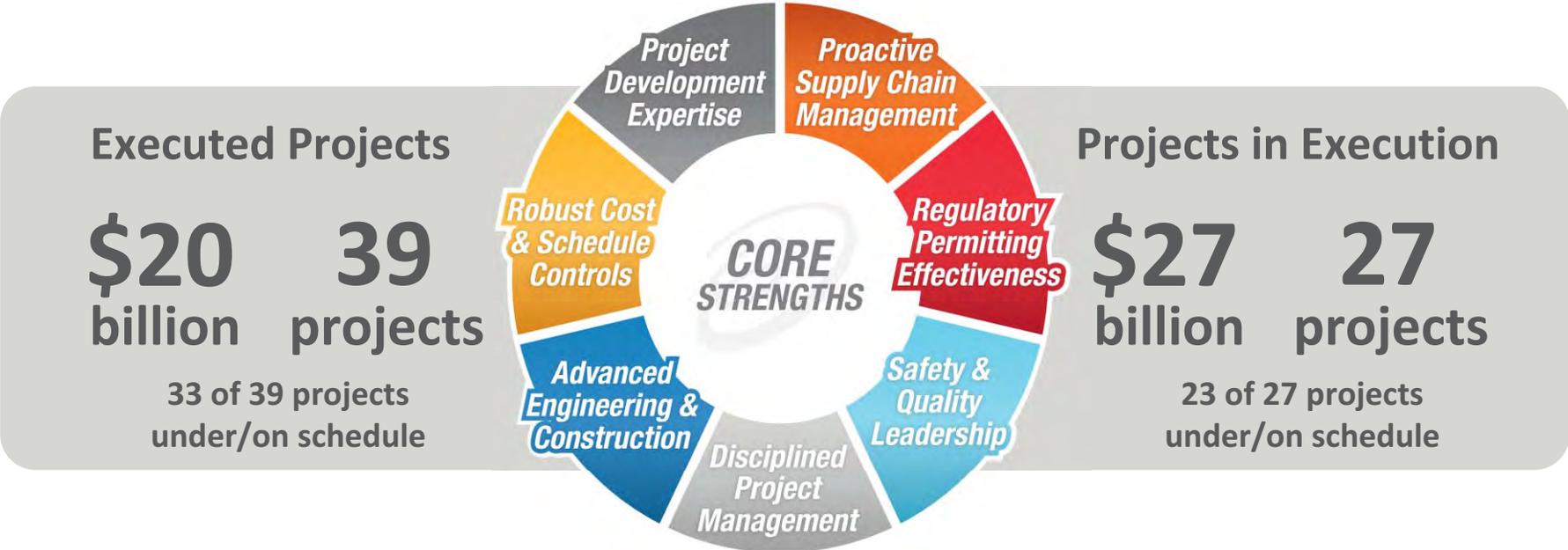
Total Secured Capital =  
**\$6.0 B**



Regional Oil Sands Projects	Timing
1. Athabasca Twin	2017
2. AOC Hangingstone Lateral	2H 2015
3. Surmont Cheecham Facilities	Q4 2014/ Q1 2015
4. Woodland Pipeline Extension	Q3 2015
5. JACOS Lateral	Q1 2016
6. Wood Buffalo Extension	2017
7. Norlite Diluent Pipeline	2017
8. Norealis Pipeline	 Q2 2014
9. Sunday Creek Terminal	2015

# Executing with Confidence

Proven competencies enable repeatable performance



# Impact of Line 6B Incident

Estimated Costs*			
	<u>As of</u> <u>September 30,</u> <u>2014</u>	<u>Booked in Q4</u> <u>2014</u>	<u>Total to Date</u>
<b>Total Costs</b>	<b>\$1,208</b>	<b>\$1</b>	<b>\$1,209</b>
Less: Insurance Recoveries	\$547	\$0	\$547
<b>Total Normalized</b>	<b>\$661</b>	<b>\$1</b>	<b>\$662</b>

Unaudited, \$ in millions. Represents life-to-date amounts pursuant to impact of the Line 6B incident.

\*Includes \$47.5 million in fines and penalties associated with the Line 6B incident. Due to the absence of sufficient information, we cannot provide a reasonable estimate of our liability for additional fines and penalties that could be assessed in connection of the line 6B incident. As a result, except for the penalties disclosed herein, we have not recorded any liability for expected fines and penalties.

# Tax Considerations

	EEQ	EEP
Allocated Taxable Income	no	yes
Mutual Fund Limitations	no	yes
Unrelated Business Income Tax	no	yes
Schedule K-1	no	yes
Form 1099	yes*	no
State Filing Obligations	no	yes



\* Form 1099 issued for tax year during which shares are disposed.

My name is Sandra Skinaway and I am the Chairwoman of the Sandy Lake Band of Mississippi Ojibwe. We are located just north of McGregor here and my family has been here for centuries, we have hunted, fished, and gathered here. Our reservation encompasses Big Sandy Lake and a small part of Lake Minnewawa. The mighty Mississippi River also runs along our reservation's boundaries.

As I have said many times in the past, Aitkin County is one big swamp where many aquifers are present and connected. Pipelines will destroy all that as well our life sustaining Manoomin, also known as Wild Rice. Also impacted will be our medicinal plants, the wildlife and other forms of life within the web of life. The local people here all know how important Wild Rice is to our people.

Wild rice and Water are the life blood of the Anishinaabe people. We have a responsibility to protect these for our future generations as we are responsible for our seven generations into the future.

Pipelines have a track record and are known to leak, as a matter of fact, they are pretty much guaranteed to leak sooner or later. Replacing Enbridge's line 3 and placing it within 25 feet of another pipeline going through our water rich lands is completely absurd and downright crazy for lack of a better word. Why does Enbridge think and believe they have this right or privilege?

Now the Aitkin County Board of Commissioner have already placed their rubber stamp on this pipeline and we are here to say they do not speak for us. No one speaks for the Sandy Lake Band of Mississippi Ojibwe but ourselves. It's too bad that today's Aitkin County Commissioners are only interested in monetary values and not environmental values as the former Aitkin County Commissioners once did.

In the United Nations Declaration on the "Rights of Indigenous Peoples",

Article 37, states: Indigenous peoples have the right to the recognition, observation and enforcement of treaties, agreements, and other constructive arrangements concluded with States or their successors, and to have States honour and respect such treaties, agreements, and other constructive arrangements.

Article 29 states “that Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their land or territories and resources. States shall establish and implement assistance programs for indigenous peoples for such conservation and protection without discrimination.

The Declaration on the Rights of Indigenous Peoples was adopted by the General Assembly on September 13, 2007 by a majority of 144 states in favour, 4 votes against (Australia, Canada, New Zealand, and the United States) and 11 Abstentions. (Azerbaijan, Bangladesh, Bhutan, Burundi, Colombia, Georgia, Kenya, Nigeria, Russian Federation, Samoa, and Ukraine)

Now the provisions set forth in this Declaration are interpreted in accordance with the principles of Justice, democracy, respect for human rights, equality, non-discrimination, good governance, and in good faith.

Speaking on behalf of the Ojibwe people and my family at Sandy Lake, we sincerely hope that the Public Utilities Commission does not grant a routing permit and would recommend that Enbridge REROUTE their Line 3 replacement pipeline and their Sandpiper pipeline to the other proposed routes that have been submitted for consideration and far from the Wild Rice and Waters. Preferably along the I-94 corridor. *of which Enbridge can make up ten fold.*

Miigwech for the opportunity to speak our opposition.

Enbridge's ~~total~~ <sup>stated</sup> benefits for

I'm going to focus only on the ~~risks and benefits~~ of Line 3. There needs to be a reasonable balance between risks and benefits. Enbridge ~~says that their~~ benefits to Minnesota in exchange for our taking a risk with Line 3 are jobs, economic benefits, and tax revenues.

First, the jobs: Enbridge says the Line 3 project would create about 750 jobs for Minnesotans. I looked up some jobs data and was relieved to learned that Minnesota is among the highest employers of pipe fitters in the U.S. The U.S. Department of Labor Statistics reports that employment of pipefitters is projected to grow faster than the average for all occupations, and it's not pipelines they're building, it's new septic systems and building construction that are driving the growth in this sector. According to this report, growth could be even better, but employers are having trouble *finding* qualified pipefitters. Enbridge makes it sound like their Line 3 jobs are rescuing pipefitters from the unemployment line, so it's good to know that there is no job shortage for pipefitters. It looks like we're just fine without this benefit. And besides, Line 3 is not and should ~~not~~ <sup>not</sup> be considered a jobs program.

As for economic benefits, Enbridge promises the following to Minnesotans in their application, quote "The [Line 3] project will stimulate local economies through the purchase of goods and services from local retailers and suppliers of accommodation and food for workers," End Quote. That's their economic benefit: workers spending money in towns along the route during construction. It seems a bit miserly, compared to the riches we're being asked to risk — and what's great for Enbridge is that it won't cost them a dime. Once the pipeline is in, that money will dry up, and these towns will be right back where they started, except now they'll have a pipeline to worry about.

As for tax revenues: in 2013, Enbridge promised \$25 million annually in tax revenue to the state of Minnesota for the Sandpiper, to be divided among counties on the route. Many county commissioners were thrilled to lend their support, and started making plans for their windfall. Unfortunately, Enbridge is currently in tax court, asking Minnesota to *lower* their \$25 million tax payment, which they used in advertisements all this past year to get citizens onto their side. Enbridge can't build their pipeline without using our land, yet they feel \$25 million is too much to pay — and it's relatively *peanuts*. Our state's tourism industry generates \$840 million annually in sales tax revenue

alone and over \$35 million per day in gross sales. Enbridge wants us to think we need their yearly tax payment, but we'd truly be better off without it.

Enbridge's insistence on investing in tar sands only makes sense for the players — the guys getting all they can while the getting's good. Enbridge and their friends are depending on our compliance so they can make billions of dollars, while we'll be stuck with an aging pipeline and memories of how "grand" life was during the construction phase, back when we were still getting all those great benefits.

My last point: A week and a half ago in Canada, the Ontario Energy Board made a decision about the \$12 billion Energy East pipeline project, stating, "We have found that there is an imbalance between the economic and environmental risks of the project and the expected benefits for Ontarians," The Energy Board's report will be the basis of Ontario's position at Canada's National Energy Board's hearings on this project. Government agencies are *finally* ~~finally starting to see~~ the truth about this expensive, dangerous tar sands *SCUM*. ~~nonsense~~. Why aren't the Minnesota PUC and Dept of Commerce seeing it too? *Why* are you treating a profitable Canadian conglomerate as though it's a public utility when this oil is headed to Illinois refineries and Marathon's export markets? After all the risks and benefits are weighed, there is NO benefit to Minnesotans from tar sands ~~NO benefit~~. If you approve Enbridge's plan to start a new pipeline corridor through our lakes country, it will be ~~obvious you think Enbridge's need outweighs our risk~~ and what we are risking is our priceless water. We need that more than anything else, ~~and so do you, even though I have to wonder if you realize that yet.~~ *our future*. If the Administrative Law Judge and the PUC board dismiss our legitimate and reasonable concerns like they did with the Sandpiper certificate of need, there will be no rest. Because more and more Minnesotans are becoming ~~concerned~~ *educated* about this issue, and we will not be ~~backed~~ *be* ~~ing~~ *ing* down. Thank you.

*in fact, there are no consequences in denying them cert. of need.*

Please provide your contact information. This information and your comments will be publicly available.

Name: Jim Sloan Phone: 651-253-0585

Street Address: 3345 144<sup>th</sup> ST. W.

City: ROSEMOUNT State: MN ZIP: 55068

Email: JSLOAN455@GMAIL.COM

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the *Route Permit*)
- Are there any alternatives to the project that should be considered? (Related to the *Certificate of Need*)

- DON'T WANT ANY NEIGHBORHOODS GETTING DESTROYED BY  
A LEAKING OLD PIPE LINE

**RECEIVED**

SEP 14 2015

**MAILROOM**

September 24, 2015

Re: PUC docket # PL-9/CN-14-916 and  
PUC docket # PL-9/PPL-15-137

Members of the Public Utilities Commission,

I am an ordinary citizen who thinks that it is ludicrous for America to continue destroying our lands and the lands of other countries for fossil fuel extraction and consumption. The time for investing in clean, cheap, renewable energy is now.

Jobs can be created in building infrastructure for clean energy and in updating and manufacturing current above ground transportation of oil.

Thank you for your time,



Nannette Snyder  
PO Box 112  
Carlton, MN 55720

**RECEIVED**

SEP 28 2015

**MAILROOM**

**From:** [margaret sorensen](#)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** Line 3  
**Date:** Wednesday, September 30, 2015 3:04:05 PM

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To put Line 3 through Minnesota's lake country without a full EIS is hard to believe. An environmental impact, certainly there will be an impact and we need to know just what it will be.

Margaret Sorensen

Comments on Enbridge Line 3 Revision Aug. 19, 2015

Docket # 15-137

I am concerned about the probability of a severe oil spill into the lakes and the aquifers of northern Minnesota if the proposed line 3 revision is put into place. I've lived on Fish Hook Lake for 42 years.

A recent Minneapolis Star Tribune article by a retired MPCA staffer said that the northern Minnesota lakes--from Park Rapids and Bemidji to the northeast border--are clean and can be protected from deterioration.

We in northern Minnesota spend much time, effort and money to protect our waters--preventing invasion by exotic species, rules on shoreland development, attempts by farmers to reduce fertilizers, for instance.

There is an attempt by Enbridge to expand the pipeline corridor in western Hubbard County that goes through sensitive lakes, wetlands, wild rice beds and aquifers. The MinnCan line was constructed in 2007-2008 before there was much public awareness of the problems of pipeline leaks. Since then a massive Enbridge pipeline leak occurred near Kalamazoo, Michigan, in 2010 and there have been other huge leaks in Montana and California. Line 3 would carry Canadian tar sands oil. Similar tar sands lines (Trans Canada's Keystone 1 in Missouri and Nexen's double hulled line in Alberta) have either developed significant erosions of pipe or have actually spilled oil despite their companies' assertions that state of the art equipment and monitoring was used. The public has now become very aware of the problems of pipeline oil spills and the devastation they can wreak. (Thank Air Burns)

As a retired physician I have always believed that it is healthier and less costly to prevent a disease than to treat the consequences of the disease. Oil pipelines through sensitive water resources can be likened to a disease. A massive leak can be likened to a heart attack. If it happens, it's better for it to occur in a place where emergency personnel are readily available, rather than in a remote area with difficult access--better for a pipeline rupture to occur in agricultural land with quick access to the leak rather than occurring in a wetland, lake or river, for instance.

Enbridge states that their number one priority is "the safety and reliability of our operations," and "nothing is more important to us than the safety of our pipelines, our communities and the environment" on their website. What nonsense. The number one priority of a corporation is to make money. But they know that spending money on public relations gets the results they want--acquiescence and acceptance of their plans.

Enbridge is a master of public relations. It pours money into Park Rapids to ingratiate itself into our community--from free public dinners and entertainment to prominently storing their pipes near Lake George for all to see. It soothingly tells us not to worry, everything will be fine, they'll take care of any problems, we'll get lots of jobs and tax money and so forth.

*Why can't they replace line 3 where it lies?*

How do we know what they're saying is true? Do we have independent analyses of their products and assertions? They admit that they can't guarantee that a spill will never happen. Even though I'm not a pipeline expert I know a way to guarantee there will never, ever be a spill in our lake country--don't put the pipelines here!

Ideally, if everyone in our country had the public interest at heart, we'd all be working feverishly to get off fossil fuels and onto clean energy. But currently there is too much greed at stake, too many powerful fossil fuel interests whose main concern is to make money in the short term. At the very least the Department of Commerce and the Public Utilities Commission should insist on a detailed Environmental Impact Statement of the effects of multiple massive oil pipelines being placed through lake country done by experts in environmental science, not by those promoting business interests. The DOC and the PUC owe it to the people of Minnesota to insure the safest possible route. They work for us, not for foreign corporations.

Maurice Spangler MD, 15995 Freedom Drive, Park Rapids, MN 56470

A handwritten signature in black ink, appearing to read "M. Spangler MD", written in a cursive style.

Sept. 29<sup>th</sup>, 2015

Commissioners: Beverly Heydinger, Nancy Lange, Dan Lipschultz, John Tuma, and Betsy Wergin  
Minnesota Public Utilities  
121 7<sup>th</sup> Place East, Suite 350  
St. Paul, MN 55101

Jamie MacAlister, Environmental Review Manager  
Minnesota Department of Commerce  
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St. Paul, MN 55101  
jamie.macalister@state.mn.us

James E. LaFave  
Administrative Law Judge  
Office of Administrative Hearings  
Box 64620  
St. Paul, MN 55164

Daniel P. Wolf  
Executive Secretary  
Minnesota Public Utilities Commission  
121 Seventh Place East, Suite 350  
St. Paul, MN 55101  
dan.wolf@state.mn.us

Submitted by email to: [James.Lafave@state.mn.us](mailto:James.Lafave@state.mn.us) ; [jamie.macalister@state.mn.us](mailto:jamie.macalister@state.mn.us); and MPUC  
Commissioners via dan.wolf@state.mn.us

Re: In the matter of Sandpiper application of North Dakota Pipeline Company LLC (NDPC)  
MPUC Docket No. PL-6668-CN-13-473 (Certificate of Need)  
OAH Docket No. 8-2500-31260  
MPUC Docket No. PL-6668-PPL-13-474 (Routing Permit)  
OAH Docket No. 60-2500-31259

And in the matter of the Line 3 Replacement application of Enbridge Energy, Limited Partnership  
MPUC Docket No. PL-9/CN-14-916 (Certificate of Need)  
OAH Docket No. 11-2500-32764  
MPUC PL-9-PPL-15-137 (Routing Permit)

Dear Commissioners and Administrative Law Judges:

There are currently two pipeline permit applications before the MPUC submitted by affiliated companies, the North Dakota Pipeline Company LLC (NDPC) with the Sandpiper Pipeline Project proposal, and Enbridge Energy with the Line 3 Reconstruction Project proposal. With these applications NDPC has requested to construct a largely all new pipeline corridor across Minnesota to bring crude oil from the Bakken oil field of North Dakota through the Sandpiper, and from the tar sands region of Canada via the

Line 3 Reconstruction, with both projects proposed to terminate in Superior, Wisconsin. These two proposals would have the Line 3 Reconstruction project utilize the Sandpiper pipeline corridor, meaning these two projects are connected actions. Under 4410.1700 subp. 9 these "connected and phased actions shall be considered a single project for the purposes of the determination of need for an EIS." Also, under **Chapter 4410.4400 Mandatory EIS Categories Subp. 1 Threshold test** : it states that "Multiple projects and multiple stages of a single project that are connected actions or phased actions must be considered in total when comparing the project or projects to the threshold of this part."; and under Subp. 24 **Pipelines** are specifically cited as needing a mandatory EIS.

At a Sandpiper hearing on June 5<sup>th</sup>, 2015 the MPUC granted a Certificate of Need (CON) for the Sandpiper project. Intervenor in the case, including the Carlton County Land Stewards, Friends of the Headwaters, White Earth Reservation, and Honor the Earth throughout the CON proceedings presented ample testimony that neither NDPC in their application for this project, nor the State through the Dept. of Commerce (DOC) had yet presented an environmental review that met requirements outlined in statute under MEPA (Minnesota Environmental Protection Act). State Statute (MEPA) **116.D.04 Subd. 2a. When prepared** - mandates that all major construction projects "Where there is potential for significant environmental effects resulting from any governmental action, the action shall be preceded by a detailed environmental impact statement prepared by the responsible government unit." Nor had NDPC as the applicant, fulfilled its obligations for environmental review under the rulemaking requirements in Chapter 7853, which requires the applicant to prepare an EIS comparable environmental assessment to be submitted along with its application for permit.

The Friends of the Headwaters, and Carlton County Land Stewards (as amicus), brought this matter before the Minnesota Court of Appeals, asking the Court to find that the MPUC cannot issue a Certificate of Need (CON) in the matter of the Sandpiper Pipeline, until the EIS process has been fully developed. The Court of Appeals on Sept. 15<sup>th</sup>, 2015 ruled in favor of the Intervenor, saying -

*"We reverse the grant of a certificate of need and remand to the MPUC to complete an EIS before conducting certificate of need proceedings consistent with this opinion.*

This ruling must now apply not just to the CON in the Sandpiper case, but it's clear that the ruling is applicable to the Line 3 Replacement Project, because both of these permit applications form **connected actions** under MEPA. As connected actions, an EIS must be completed prior to any government permitting action. This then allows the public, the applicant, and all involved government agencies, including the Federal government, an opportunity to provide input during the scoping for the study and have an opportunity to comment throughout the EIS proceedings, with an end result that all parties are fully informed on the magnitude of any and all **cumulative environmental consequences** prior to making a final determination on any of these projects, as parts or as a whole. To do otherwise would clearly be in violation of MEPA and would also be contrary of the ruling of the Court of Appeals.

Since it has been pointed out during the CON proceedings that NDPC has failed to successfully meet its obligation to submit a valid application to the US Army Corp of Engineers for the Sandpiper project, and because MEPA in statute, as well as practice, is suppose to be initiated and run simultaneously with Federal agencies under NEPA, it's time for the State to initiate communications with its Federal partners on this matter, and perform a joint EIS. To do otherwise is to ignore proper procedures for interagency coordination on such projects, and would dilute the robust nature of a comprehensive EIS.

Therefore, I feel it is imperative that the MPUC **stay all proceedings, including both the CONs and Routing Permits, now before them for both the Sandpiper and Line 3 Reconstruction proposals,** while initiating a joint State and Federal Environmental Impact Statement .

Thank you for your time and consideration of this matter.

Sincerely,

Craig R. Sterle  
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Barnum, MN 55707  
218-384-4054  
[csterle777@gmail.com](mailto:csterle777@gmail.com)

Sept. 30<sup>th</sup>, 2015

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Submitted by email to MPUC Commissioners via Dan Wolf at: [dan.wolf@state.mn.us](mailto:dan.wolf@state.mn.us) and [jamie.macalister@state.mn.us](mailto:jamie.macalister@state.mn.us)

Re: In the matter of the Line 3 Replacement application of Enbridge Energy, Limited Partnership (Enbridge)  
MPUC Docket No. PL-9/CN-14-916 (Certificate of Need)  
OAH Docket No. 11-2500-32764  
MPUC PL-9-PPL-15-137 (Routing Permit)

And in the matter of Sandpiper application of North Dakota Pipeline Company LLC (NDPC)  
MPUC Docket No. PL-6668-PPL-13-474 (Routing Permit)  
OAH Docket No. 60-2500-31259

Dear Commissioners, Mr. Wolf and Ms. MacAlister:

Since scoping is the place where questions are asked and answers sought, our comments are lean on the kind of answers that will inform the process, but add to questions to study. Through a rigorous EIS process, answers will be found to these questions, which should serve to enlighten all that participate, hopefully leading to the best possible outcome. This current comment period on Line 3 should not replace but include the record for the CON and routing of the Sandpiper. This Line 3 review should not be able to circumvent the proposed Sandpiper as a way to avoid involving the parties and issues previously raised because under MEPA these are connected actions and cannot be separated.

First, any EIS analysis performed in compliance with **MEPA (116D.02 Subd. 1d)** must involve the Federal agencies (**4410.3900 Joint Federal and State Environmental Documents. Subp. 1 Cooperative processes.**) responsible for permitting this project and conducting environmental review, including the US Army Corp of Engineers and the EPA (**Subp. 2 "Where a joint federal and state environmental document is prepared, the RGU and one or more federal agencies shall be jointly responsible for its preparation."**) Failure to include these agencies in this EIS would violate both MEPA and NEPA. Inclusion of these Federal agencies will bring a more robust EIS, allowing review beyond the boundaries of Minnesota when necessary. Thus, this *scoping must involve Federal participation. If this has not happened, this scoping deadline and the scoping process must be extended to allow federal input.*

The Line 3 Replacement Project Application has several environmental issues that need addressing. First is the proposal to move Line 3 from its current location in the Lakehead Mainline Corridor, and move it to a new, and as yet unapproved pipeline corridor, NDPC proposed Sandpiper project. Enbridge also proposes to abandon in place their current Line 3 pipeline infrastructure. The State should not allow the Applicants to: 1. move to a new location, thus creating a new corridor of environmental damage; and 2. abandon the current infrastructure in place without any attempt to remove it, clean-up the soils, and restore the natural landscape. By proposing to construct on a new corridor and significantly expanding the size of Line 3 leads more realistically to a conclusion this is a new pipeline proposal – not a replacement. Thus, the long-term environmental impacts to be studied must include whether abandonment relieves Enbridge of the responsibility for contamination in the water and soils from the existing Line 3 which would result in costs to the landowners, tribes, local counties or state, and what are the impacts if Enbridge retains the right of continued use by calling it “idling in place” for storage or reinstatement of the existing or parts of Line 3, which would lead to greater exposure to failure, environmental damage and costs as this pipeline continues to age. Also, if Enbridge is allowed to abandon the existing Line 3 without removal, the clean-up and remediation costs of exposed pipelines along waterways, ditches, or that are a risk to public safety must to be studied and included in the environmental analysis.

The State has for years had in place statute that prevents a gasoline service station from abandoning underground storage tanks, requiring that they be dug up, the site inspected for any leaked gasoline, and then rehabbed if there are no leaks or other issues. It would appear Enbridge wants to abandon hundreds of miles of pipeline (think very long, buried tanks) without inspecting for contamination, without removing its obsolete infrastructure, and without restoring the natural landscape (yes, the presences of these existing pipelines do have ongoing environmental consequences). If that pipeline was on our property, we should have every right to insist that it be removed. Under **216G.09 Reversion of Easement** it says “...all easement interests acquired after May 26, 1979 for the purpose of constructing and operating a pipeline shall revert to the then fee owner if the pipeline ceases operation for a period of five years.” While the Line 3 land acquisitions may precedes this date, no landowner should be forced to reside with someone else’s abandoned junk. For example, it’s like a landlord having the tenant move out and abandons their junk car in the rental building’s driveway. Should it be the landlord’s responsibility or the tenant’s responsibility to remove the junker? The tenant should be responsible for removing their property and clean-up the land to its original state. So, ***in the scoping process, the State needs to look at the abandonment issue and determine if this is proper and whether there are negative environmental consequences for doing so. And what mitigation steps beyond those proposed by the Applicant, might be appropriate, including pipeline removal, and any and all other prudent steps needed to protect the environment, and rights of the land fee holder, all should be need to be examined.***

The Applicant claims that removing the abandoned pipeline will result in greater environmental damage. There needs to be a comparison of the damage created during construction of these new pipelines across Minnesota, much of it through reasonably undisturbed ground, with the impact of removing the pipe from the existing corridor and then while the trench is open, reusing that space for a new pipeline. The new pipe can go in a more pristine environment (the proposed Sandpiper corridor), or it can go back into an already compromise, hazardous materials, industrial corridor. Logic would say it should go back into the existing corridor, in the same trench as the old Line 3. So, ***the Scoping process needs to study the overall environmental impact of creating a new pipeline corridor verses removing the old obsolete pipe and replacing it with the new pipeline in the existing Lakehead Mainline.***

Because they are **connected actions** under MEPA, the Line 3 Replacement and Sandpiper Pipeline proposals must be **examined for their cumulative environmental impacts**. This cumulative impact also applies to those locations on the landscape where either of these two project proposals will be sharing space with other already existing pipelines or powerline utilities. So, ***the scoping needs to look at all cumulative environmental impacts associated with these two projects, as well as impacts associated with parallel alignment in existing corridors, plus any other reasonably anticipated projects using the same or adjacent corridor space.***

There is also a safety concern about the compatibility of using high voltage powerline corridors as part of the pipeline corridor space. ***The scoping should study the latest information on the hazards and risks of mixing pipeline with high voltage powerlines, including studying examples of accelerated pipeline corrosion associated with stray voltage.***

Comments by MPCA and DNR during the Sandpiper Certificate of Need proceedings indicate that their analysis found that routes south of I-94 were environmentally superior to the Sandpiper Preferred Route. Since there is little or no refining capacity and no unmet demand for the oil from either the Sandpiper or Line 3 at Superior Wisconsin or anywhere in Minnesota, it seems prudent to look at the ultimate destination of the crude at eastern Midwest refineries. ***Therefore, the scoping should closely examine the environmental impacts associated with utilizing the existing pipeline corridors in Minnesota (as well as those outside of Minnesota that would provide similar direct transportation service) connecting the Bakken oil fields to domestic US refiners that would be using these types of crude in Illinois or other Midwestern states, the Gulf states and the east coast. This information needs to be compared to the environmental impacts associated with the construction and use of the Sandpiper Preferred Route into Superior and beyond to the next hub near Chicago. By equitably evaluating impacts from oil field to refiner, there's an opportunity to better determine which option ultimately provides the least impact and best available option to protect Minnesota's natural resources while still delivering the crude in the most expeditious manner to the refiners. This type of regional analysis is best suited to be handled by the US Army Corp of Engineers and EPA, who as I've mentioned must be partners in this EIS analysis.***

Other alternatives corridors also exist that need robust investigation and analysis, including use of the Lakehead Mainline, utilizing the existing space in the corridor presently occupied by the current Line 3. There was also affirmation by Enbridge during the Alberta Clipper permitting proceedings that in addition to the Alberta Clipper, there was still room for an additional pipeline in the Mainline corridor. Both alternatives should be analyzed during the EIS review. ***The scoping should seek to analyze whether the existing Line 3 corridor and/or other additional space with the Lakehead Mainline could accommodate one or both the Sandpiper and Line 3.***

As with most environmental analysis, this one needs to look at potential impacts on all natural resources across the landscape, including but not limited to the surface waters and aquifers, plants, animals, and fishes and the impacts on the habitats that support them, the impacts on sensitive plants, animals and biomes, impacts on aesthetic and recreational amenities and their values, and the impacts on the economic values associated with these natural resources. ***The scoping must take into account the impact on and value of our State's natural resources at each of the proposed projects as well as at any potential alternatives.***

There needs to be a rigorous risk assessment done to capture the impacts to human and natural resources within the potential effected area for a worse-case catastrophic rupture of the pipeline, similar to the Enbridge spill near Kalamazoo, Michigan, or in the two recent pipeline ruptures in the Yellowstone River in Montana. The Applicant has made no publicly available worse case risk assessment, so the impacts of a major (guillotine) rupture in conjunction with a fire, and their environmental impacts need to be done during the EIS process so the public and the regulatory agencies have an opportunity to judge and comment on the results. ***The scoping must examine worse-case pipeline rupture scenarios in order to properly determine which of the proposed route is superior or deficient in comparison to the other potential routes.***

There needs to be a thorough look at the impact the various routes might have on the native American communities along each of the potential corridors. This includes not just their archeological and historic sites, but also the hunting and gathering sites (especially wild rice) they presently use, their ability to sustain themselves physically, culturally and spiritually in an ever shrinking landscape, and to really look at the impact a hazardous materials industrial corridor will have on their health and well being of future native generations. ***The federal government, in cooperation with the State, must thoroughly examine the impacts of this project on today's tribal members, their societies and lives, all across the length of the proposed projects, from the Bakken oil fields all the way to the refineries. This may be beyond the abilities of the DOC and MPUC, but it clearly falls within the jurisdiction of the federal agencies, and it must be included in the EIS.***

There is a glaring disconnect between the statutory goals passed by the Minnesota legislature for reducing Minnesota's energy dependence on carbon based fuels with this industry's growing greenhouse gas footprint, and the permitting process for two crude oil pipelines designed to transport well in excess of a million barrels per day of crude oil. This application review process attempts to dodge the Legislature's intention at reduction by failing to examine the impact of facilitating the prolonged life of the very industry that is rapidly upsetting the atmospheric balance of chemistry and climate of the planet. Unfortunately, the decision process focuses its justification on expanding the industry's growth because of mere dollars and the promise of employment for a few handfuls of people (for example 22 ongoing employees for Sandpiper). Parts of these dollars are tax dollars, yet Enbridge has been in the courts suing western MN counties to lower the past 3 years of taxes. So if tax dollars are included in the analysis, please include this impact to Counties (See attachment 1). Also, Minnesota's lawsuit against a North Dakota coal-based power company that is supplying power to Minnesota homes is an indication that we see our role in reducing carbon emissions extending beyond our borders. To do otherwise is to label Minnesota as the "carbon-drug pushers". ***The scoping needs to take a serious, in-depth, and critical look at the impacts these proposed pipeline projects will have on carbon based emissions, not just the pipeline's construction and operational footprint of CO<sub>2</sub>, but also the carbon footprint of the product being shipped daily, over the projected useful live of these pipelines.***

Due to rapidly and ongoing falling demand for petroleum across the globe, driven in large part by steadily falling consumer consumption and world crude production feeding a glut of oil onto an already saturated market, the economics that for a very brief time drove frantic rail and pipeline transportation competition for delivering crude to market has eased considerably since the initial conception of these two pipeline projects. These pipeline projects could become stranded assets sooner than predicted. Therefore, the no-build alternative and the Line 3 as a true replacement alternative by remaining the same size in its existing corridor must be included in this analysis.

A “perfect storm” that pinched rail deliveries of perishable agricultural goods to market, coal to power plants for winter energy production during two brutal winter heating seasons, that slowed taconite shipment for steel production, etc. has all but evaporated. The new reality is that the Bakken production has fallen off precipitously, and shippers are no longer feeling the pressure they did 2-3 years ago. While there is still concern over rail safety along lines that handle the bulk of Bakken shipments, federal and state agencies armed with new legislation are stepping up their efforts to improve rail safety and emergency response planning, not just for crude shipments but also *for all shipments*. And that’s a great thing! Now it’s time to take a deep breath, and take our time to closely examine if there is a need for these pipelines, and closely examine alternative and current locations to find which best serves the public interest of Minnesota citizens. As a pseudo-utility and armed with the most powerful right reserved to the government, that of eminent domain, the right to forcefully seize private property is reserved only for those that serve the public good, not the business interests of a company and their shareholders.

Pipeline projects should only be approved and cited on the Minnesota landscape when and where there is a demonstrated benefit for Minnesota’s citizens over the whole life of the project. If the project provides fewer lifetime project benefits than overall costs, if the risks outweigh the benefits, then the project should be rejected until the company can demonstrate that they have a well thought out, rigorously defensible proposal to be built at the least damaging site on the Minnesota landscape. From my perspective, that has not happened with these two proposals. These projects threaten Minnesota’s natural environment and resources like growingly valuable pristine water along a hastily developed “preferred route” which threatens to repeat the mistake made 60 years ago when the State approved the route and construction of the Lakehead Mainline across the lake country and through the Indian Reservations of northern Minnesota, without any environmental analysis or modeling of worse case rupture impacts. The preferred route would double down and more (see Attachment 2) on this bad decision, creating a largely new corridor again through the northern lake country, where damage from oil spills will create maximum damage to the environment due to the character of the soils, the prevalence of surface water and porous aquifers, and access problems encountered in the many swampy, remote locations in that part of the state.

Thank you for your time and consideration of this matter.

Sincerely,

Craig and Sandy Sterle  
2676 County Road 104  
Barnum, MN 55707  
218-384-4054  
[csterle777@gmail.com](mailto:csterle777@gmail.com)

Attachments below

<http://www.duluthnewtribune.com/news/3826041-enbridge-seeks-huge-payback-taxes>

# Enbridge seeks huge payback on taxes

By **Jean Ruzicka, Forum News Service** on Aug 26, 2015 at 8:09 p.m.

PARK RAPIDS, Minn. — Oil pipeline company Enbridge Inc. has filed a petition with the Minnesota Tax Court in an attempt to reduce their Hubbard County property taxes by \$336,892 for the past three years.

Polk and Clearwater counties face similar tax court decisions.

The Calgary, Alberta-based company has a pipeline running through the counties and is planning to gain approval for an expanded line along the same route. Enbridge primarily transports energy in North America.

In Hubbard County, three parcels in Farden and Helga townships have been named in the Enbridge petition.

The payback would affect all government entities in each of the counties — schools, cities, townships, counties — which rely on property tax revenue.

“This is a worst case scenario,” county assessor Ginger

Woodrum told Hubbard County commissioners this week. “It’s an Enbridge estimate, not the Department of Revenue’s.”

Clearwater County could face paybacks more than \$1 million. The company has asked for refunds of \$338,000 from 2013, \$952,000 in 2014 and additional amounts in subsequent years, according to a county board resolution expressing “significant concerns with its ability under existing law to manage refunds that may result” from a valuation reduction by the tax court.

As for Polk County, in a letter to Hubbard County Board Chair Dan Stacey on the issue, Polk County administrator Chuck Whiting stated the court’s ruling could easily exceed \$100,000 per year for their county.

“Tax court decisions are beyond the scope of county control and can require local units of government to refund to utilities collected property taxes in amounts that may not only cause fiscal hardship to these units of government, but can come in significant amounts relative to the overall levy,” Whiting said.

“We have no say,” Hubbard County attorney Don Dearstyne agreed. “This should be a legislative fix.”

“This puts a lot of stress on counties,” Hubbard County Commissioner Matt Dotta said.

<http://www.mprnews.org/story/2014/07/29/enbridge-pipelines-exposed>

# Erosion exposes Enbridge oil pipelines near river in NW Minn.

## Environment

Dan Gunderson · Moorhead, Minn. · Jul 29, 2014

An Enbridge crude oil pipeline is exposed by erosion where it crosses the Tamarac River in northwestern Minnesota. *Dan Gunderson/MPR News*

Like many streams in the Red River Valley, the Tamarac River twists and winds its way across the northwest Minnesota landscape.

Constantly changing shape as floodwater erodes the soil, the Tamarac flows into the Red River about two hours north of Moorhead.

But in a grassy swath carved out of trees that flank the river, the channel's normally placid brown water is broken by pipelines spanning the Tamarac.

Flooding has uncovered three of seven Enbridge Corporation pipelines that cross the river, pipes that

largely carry crude oil from Canada across Minnesota. Although the pipelines generally are buried three to four feet below ground, in some places erosion has exposed them to the elements.

*Pipelines are visible in this image from Google Maps:*

Chad Jerome, a local farmer, said he has seen an exposed pipe in the spot for the 14 years that he has planted and harvested fields along the river. But until recently he didn't realize how many pipelines were uncovered.

"I guess I have faith that Enbridge knows what they're doing and that safety measures are in place and it's not an issue," Jerome said.

The three exposed lines include a 24-inch pipe, constructed in the early 1960s, a 34-inch line built about 1968, and a 20-inch pipe laid in 2010, Enbridge spokesperson Becky Haase said the lines flow across Minnesota to Superior, Wis.

Some pipes are suspended across the river channel, which is about 30 feet wide. In one case, a pipe is exposed along the river channel for about 100 feet. Enbridge has installed steel legs to stabilize that pipe.

The exposed pipes run the risk of pipelines being damaged, but no law requires Enbridge to rebury them, said Jon Wolfgram, chief engineer for the Minnesota Office of Pipeline Safety. The agency enforces federal rules for pipelines in the state, which require companies to

check exposed pipes for corrosion every three years.

"There are certainly risks," he said. "If you had log jams, and things like that could put a pipeline at risk, yes."

Wolfgram said the risks increase the longer a line is exposed. But determining the level of risk is up to Enbridge, not the Office of Pipeline Safety, he said.

It's unclear how long the pipes have been exposed, but Wolfgram said they were during the only time a state inspector visited the site, in 2007.

Although federal regulations specify how deep pipelines must be buried, Wolfgram said the rules only apply during initial construction.

"If it does become exposed, it more or less becomes a requirement for the operator to monitor that and inspect it," he said. "But there isn't necessarily any requirement making them bury the pipeline again."

An Enbridge crude oil pipeline is exposed by erosion where it crosses the Tamarac River in rural Marshall County. *Dan Gunderson/MPR News*

Wolfgram said he is aware of several locations across the state where exposed pipelines cross rivers or ditches. Enbridge has detected exposed pipes at a handful of Minnesota river crossings.

Enbridge, which began inspecting exposed pipes at the northwest Minnesota site in 2009, has determined the lines are safe and do not pose any risk said Haase, the

company spokesperson. Initially, she said the company conducts risk assessments at the site and did not plan to rebury the pipes.

"We have Enbridge crews out there every couple of weeks just monitoring that river crossing and making sure that those pipelines that are exposed are operating safely," she said.

Haase later said Enbridge is finalizing plans to stabilize one of the pipes this fall and reroute two of the lines next year. A third line is slated for replacement in 2017, she said.

The company has not yet filed any plans with the Minnesota Department of Natural Resources, which issues permits to build utilities across a river.

Such exposed lines have caught the attention of members of Congress. Some questioned if federal river crossing regulations were adequate after a pipeline crossing the Yellowstone River in Montana ruptured in 2011.

A study last year by the Pipeline and Hazardous Materials Safety Administration found "depletion of cover" was a factor in 16 significant pipeline spills at river crossings since 1991.

But the agency later told Congress no additional rules were needed.



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September 17, 2015

Paul Stolen  
37603 370<sup>th</sup> Avenue SE  
Fosston, MN 56542

RE: Proposed Enbridge Sandpiper and Line 3 Enlargement/Relocation/ Abandonment projects in Minnesota: Policy and technical reasons for independent, scientifically sound analysis of the risk and environmental, cultural, and human consequences of oil releases for the 50 + years of the projects

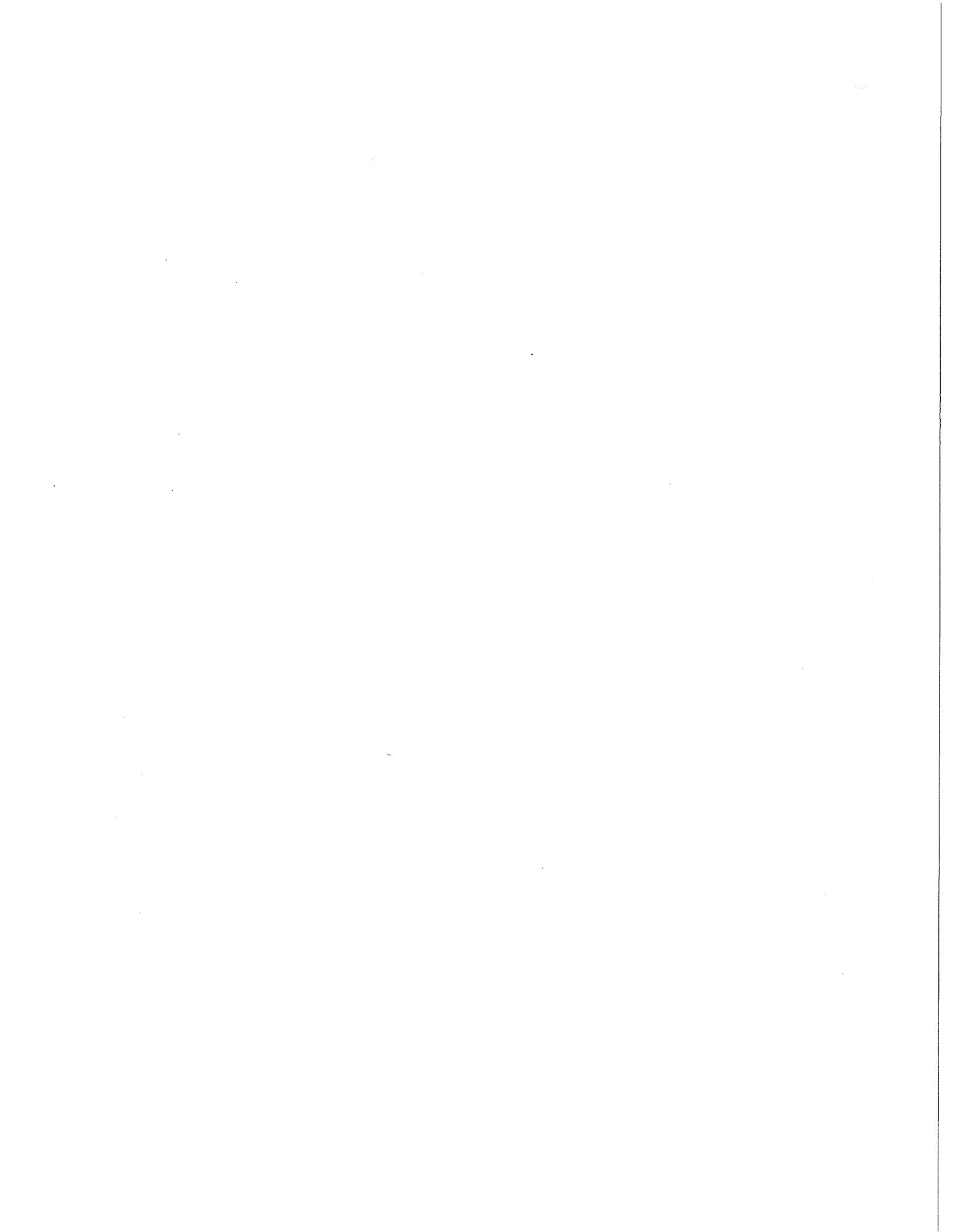
Dear Mr. Stolen:

Thank you for your comments concerning the environmental analysis of the Line 3 and Sandpiper pipeline proposals. I have asked our Energy Environmental Review and Analysis unit to review your letter as it develops the scope of the Department's review.

Sincerely,

Mike Rothman  
*Commerce Commissioner*

cc: Bill Grant, Deputy Commissioner



August 29, 2015  
Paul Stolen  
37603 370th Av. SE  
Fosston, MN 56542  
218-435-1138

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Michael Rothman, Commissioner  
Minnesota Department of Commerce  
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Tamara Cameron,  
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US EPA, Region 5, 77 West Jackson Blvd.  
Chicago, IL 60604-3507

Re: Proposed Enbridge Sandpiper and Line 3 Enlargement/Relocation/Abandonment projects in Minnesota: *Policy and technical reasons for independent, scientifically sound analysis of the risk and environmental, cultural, and human consequences of oil releases for the 50 + years of the projects*

Dear Commissioner Rothman, Ms. Cameron, and Mr. Westlake:

I am writing this letter because two large industrial oil facilities are planned for a Minnesota landscape highly susceptible to oil releases. This landscape contains highly valuable natural and cultural resources, many of which are in inaccessible locations. . But even more concerning, they are being planned, to-date, *without adequate independent review by any government entity*. The topic of this letter is the portion of the independent review I refer to in the topic line of this memo: *independent, scientifically sound analysis of the risk and environmental, cultural, and human consequences of oil releases for the 50 + years of the projects*.

I am writing you at this time because crucial and as-yet unmade policy decisions are sorely needed on these two pipeline projects. Such decisions are past due. As I describe below, Minnesota agencies are currently not yet taking the proper approach to this subject. *I am thus urging that you collectively implement a coordinated state-federal policy that results in the proper science-based review of the two Enbridge pipelines with respect to the risks and impacts of oil releases*. And it is simply bad government to not coordinate federal and state reviews. The federal government, especially the Environmental Protection Agency, has more experience supervising the type of studies I am recommending. The model for such studies are contained in the three studies in Item 3 of Attachment 1 of this letter. I note that all of them were instigated by federal agencies.

I have the credentials for speaking about this topic. I worked for over 30 years on environmental policy and on the review of the potential impacts of many kinds of projects. This included numerous energy projects, and the review of about 12 pipeline projects—natural gas, carbon dioxide, crude oil, and water pipelines. (A short bio is included at the end of Attachment 1.) I am also familiar with risk assessment methods and with interstate and cross-border projects. I helped coordinate many reviews of projects with overlapping federal and state jurisdiction and permits. Such coordinated reviews simply reflect good government practice, but they are also written into regulations to some extent.

The three addressees of this letter are individuals who have the legal and policy authority to make decisions about the depth of technical analysis as well as locations of alternative routes to be studied for the two proposed Enbridge pipelines. This is the level where policy, law, and regulations are interpreted and subsequent directives given to technical staff. Both the Clean Water Act and the National Environmental Policy Act provide this authority, and require that reasonable alternatives that have less potential impact be studied. And the US Fish and Wildlife Act *requires* federal consultation with the state fish and wildlife agency with respect to impacts of a project. This agency is the Minnesota Department of Natural Resources.

I am copying key federal and state decision-makers with this letter. This includes the US Fish and Wildlife Service, and three State of Minnesota agencies—the Department of Natural Resources, Pollution Control Agency, and Department of Health. I have also included public participants who have been deeply involved and concerned about these projects. The other four agencies have the statutory ability to insist that the three addressees of this letter authorize the type of studies that are needed, and to insist that alternative routes through less sensitive landscapes be included in the analysis.

I have looked at the draft proposed contents of the Department of Commerce Comparative Environmental Assessment for the Sandpiper project (and cumulative impacts of Line 3.) "Worst-case" risk is mentioned only in passing. This is completely inadequate and, if pursued as proposed, will neither result in a proper risk assessment nor consequence analysis. It will not result in proper comparison of routes because alternative routes through landscapes less susceptible to damage from oil spills and that are more accessible are not being included in the analysis.

Up to now, it appears that Minnesota agencies contemplating permits for proposed new oil pipelines have never previously considered potential impacts of oil spills. Nor have they considered the cumulative impacts of adding new and ever larger pipelines alongside old and small pipelines permitted long before modern environmental laws were created—even though *Minnesota environmental law and regulations require that this be done*. Given this woeful lack of study, it is not surprising that existing pipeline corridors are given automatic preference.

The two Enbridge projects apparently are still being treated by Minnesota agencies as if they are relatively routine pipeline projects. As if there are no better landscapes than where old pipelines were originally routed. As if the chances of pipeline rupture and serious leaks are only theoretical events that happen in other states or countries. *As if selecting pipeline routes that all cross environmentally sensitive, difficult landscapes does not bias the outcome of a comparison of routes with respect to human, environmental, and cultural impacts*. I believe that this is not because of ill intent by state employees—rather it is because of lack of policy analysis and coordination, and lack of understanding of risk and consequence analysis methods for large industrial oil facilities. This is why I believe that federal assistance on the complex topic is needed.

*Attachment 1* provides the technical reasons why the studies I am recommending must be accomplished for these two projects. For example, In recent weeks, the new Nexen pipeline in Canada recently ruptured and apparently leaked for weeks in spite of sophisticated new automated control systems. The Keystone 1 pipeline in Missouri, built in 2009, *suffered extreme and unexpected corrosion only three years after installation*. An internal report commissioned by the pipeline company found that this was caused by stray voltages. The result was deep corrosion pits that nearly ate through the pipeline wall. And time and time again, pipeline management failures have caused serious spills or explosions that caused loss of life.

Furthermore, there are even some indications that new technologies, new engineering complexities, and sophisticated control systems may even introduce new risks and causes of pipeline failures. These two Enbridge projects, costing billions of dollars, are technically complex industrial facilities, and will be remotely monitored and controlled from a high-tech, satellite-connected control center 1,000 miles away in Canada. Such control centers are the subject of a 2014 Department of Homeland Security warning that they can fail or result in false pipeline pressure readings from the effects of solar storms.

*Attachment 2* contains descriptions of two specific areas extremely vulnerable to very damaging oil releases. These are: 1. The LaSalle Creek Valley, with its lakes north of Itasca Park, and the short distance to the Mississippi river; and 2. Upper and Lower Rice Lakes in southern Clearwater County. Both areas have very extensive and important wetlands, as well as highly valued public and cultural natural resources. *Should a significant release occur at the pipeline river crossings at these sites under certain normal conditions, oil recovery would likely be very difficult or impossible, recovery efforts would add to the damages, and human and natural resource impacts could occur for generations into the future.*

I am not claiming the Enbridge pipelines will certainly rupture and severely damage Minnesota's human and natural environment. But they will be in place for 50 or more years. I am *merely* saying an independent, appropriate, and thorough analysis be done of the risk and consequences of such events. *This is an eminently reasonable request, based in law, regulations, and common sense.* And I expect that route alternatives be included in the study that cross landscapes inherently less prone to damage from oil releases and more prone to easier clean-up. In fact, in my 30 year career doing environmental review—sometimes of complex projects—I have never encountered a situation where such large projects are not thoroughly and independently reviewed in this manner. *Ever.*

Of course, I am not a lawyer, but I have lots of policy experience, including interpreting the policy implications of court opinions and providing direction to other staff. I am reminded of a project I was deeply involved in where a federal judge made a statement quite appropriate to the current Enbridge situation. It was a proposal from the state of North Dakota to move Missouri River water into the Hudson Bay drainage, and was one of two such projects under consideration. Such proposals have lots of potential problems, including policy problems. The Bureau of Reclamation had only done an Environmental Assessment on one of the projects, known as "NAWS." They had dismissed adverse effects from introducing damaging biota across the Continental Divide into the Hudson Bay basin during the transfer. They were hoping to do the same with the other project. Manitoba sued, asking for an Environmental Impact Statement.

In an opinion admonishing the error of the Bureau of Reclamation, one could almost replace Judge Collyer's reference to "biota" with "risk and consequences of oil releases":

"Federal Defendants argue that the risks of leakage are low and, therefore, that no further study is necessary. . . . "What may seem minor in terms of percentages may be substantial in net effect. . . . Therefore, even a low risk of leakage may be offset by the possibility of catastrophic consequences should any leakage occur. Without some reasonable attempt to measure these consequences instead of bypassing the issue out of indifference, fatigue, or through administrative legerdemain, the Court cannot conclude that BOR took a hard look at the problem." (My emphasis added.) (United States District Court for the District of Columbia, Government of the Province of Manitoba, Plaintiff, v. Gail A. Norton, Secretary, United States Department of the Interior, et al., Defendants. Civil Action No. 02-cv-02057 (RMC) February 3, 2005.

I have in the past served as a technical consultant to Friends of the Headwaters, a citizens group advocating a more suitable route for these projects. Technical testimony I prepared was submitted by this group during the early rounds of hearings on the Sandpiper project. This current letter is my own, and has not been reviewed by that organization. For those who seek motives behind this letter, mine is simple and uncomplicated: I am profoundly concerned that these very large projects could greatly damage Minnesota's environment during the more than 50 year project life. My career experience with pipelines and other very large projects also drives this concern.

Thank you for your consideration, and please give me a call if you have any questions.

Sincerely,

  
Paul Stolen

C: John Linc Stine, PCA Commissioner  
Tom Landwehr, DNR Commissioner  
Will Seuffert, Minnesota EQB  
Joe Plumer, Counsel, White Earth  
Richard Smith, Friends of the Headwaters  
Steve Schulstrom, Carlton County Land Stewards  
Craig Sterle, CCLS  
Bill Grant, Department of Commerce  
Willis Mattison  
Bill Sierks, MPCA  
Tom Melius, US Fish and Wildlife Service  
Dr. Edward Ehlinger, Commissioner for Health  
Kathryn Hoffman, Counsel, MCEA  
Jerry Von Korff, Counsel for Carlton County Land Stewards  
Molly Pederson, Governor Dayton's Office  
Randall Doneen, MDNR  
Winona LaDuke, Honor the Earth  
Paul Blackburn  
Todd Moilanen, Mille Lacs Ojibway Band

## ATTACHMENT 1

### **Enbridge Sandpiper and Line 3 Enlargement/Relocation/Abandonment projects Policy and technical reasons for independent, scientifically sound analysis of the risk and environmental, cultural, and human consequences of oil releases for the 50 + years of the projects**

1. Lack of study to-date. No study of the Enbridge Sandpiper and Line 3 proposals has yet been done by any government agency of Minnesota--or any federal agency--of the risk of oil releases and consequences to natural resources and to people from such releases. There may be an assumption that the decision to do such a study is connected with the decision to do an EIS. The need for a state EIS is under litigation, and the need for a federal EIS has been recommended, but not yet decided. A proper risk and consequence analysis of oil releases is needed to determine where to locate the pipelines, is also needed for proper environmental permitting and any other public interest decision. It is not dependent on the decision to do an EIS.

2. Recent (since about 2009) very large and damaging pipeline accidents and ruptures have changed how risk assessments are conducted and demonstrated why they are needed. These events, and subsequent studies, all have occurred after the last two large Enbridge projects were permitted in Minnesota (Alberta Clipper (now Line 67) and Southern Lights.) These events caused extreme damage to natural resources, loss of life, and have demonstrated lack of adequate federal oversight of pipeline regulations. They have demonstrated appalling failures of those managing the pipelines, and ensuring their integrity. Some of the events include the Enbridge oil pipeline rupture in Michigan, the San Bernadino gas pipeline explosion in California, the two recent river pipeline ruptures in the Yellowstone River riverbed. In addition, there are two 2015 incidents with new pipelines specifically described below in Items #5 and 6. These events have led to recent studies of pipeline oil release risk and consequence analysis that are much more rigorous than studies done prior to 2009. Some are described in Item #3 below. (See Sandpiper hearing record before the Minnesota PUC.)

3. Keystone XL Environmental Impact Statement studies, as well as other recent studies provide sound guidance for conducting the proper risk and consequence studies. Excellent studies of the risk and consequences of oil releases from pipeline ruptures and leaks were recently completed for the Keystone pipeline. Another excellent study was done recently by the Oak ridge National Laboratory. It contained highly useful methods of determining potential costs of pipeline ruptures and damage to natural resources. These studies were accomplished even though natural resources—a surface and groundwater resources—along the Keystone route are of less magnitude and extant than those found along the Enbridge proposed route. The three main studies that can be used as a rough model are:

--"Third-Party Consultant Environmental Review of the TransCanada Keystone XL Pipeline Risk Assessment" Exponent, 1800 Diagonal Road, Suite 500 Alexandria, VA 22314 April 26, 2013

--"Keystone XL Pipeline: Independent Engineering Assessment – Final Report" December 2013. Energy Systems, Battelle Memorial Institute, 505 King Avenue, Columbus, OH 43201

"Studies for the Requirements of Automatic and Remotely Controlled Shutoff Valves on Hazardous Liquids and Natural Gas Pipelines with Respect to Public and Environmental Safety." October 2012. Prepared by Oak Ridge National Laboratory, Oak Ridge, Tennessee 37831-6283, managed by UT-Battelle, LLC for the U.S. Department of Energy.

4. Forecasts of new pipeline failures over a 25 year period contained in the Bristol Bay EIS on Pebble Mine. There are three pipelines in support of this proposed Alaska mining project. The final EIS indicated the probability of large rupture under several scenarios over the 25 year life of the project. It found that the chance of rupture ". . . would exceed 25%, 30%, and 67% . . . . . (and) In each of the three scenarios, there would be a greater than a 99.9% chance that at least one of the three pipelines carrying liquid would fail during the project." (See January 2014 Final EIS release, Chapter 11, pipeline failures.)

5. July 2015 rupture of the new Nexen Pipeline in Alberta. This double-walled pipe was carrying a mixture of hot tar sand oil and water. Over 31,000 barrels leaked out into wetlands, and, in spite of a new automatic monitoring system, the rupture might have gone undetected for as long as two weeks (See Toronto Globe and Mail article on Nexen Pipeline, July 23, 2015.)

6. Deep corrosion in only three years of the new Keystone 1 pipeline in Missouri. This pipeline, built in 2009, was found in 2012 to have developed deep corrosion pits at sites in Missouri. According to an internal report prepared for the company, and inadvertently made public, these pits had corroded almost through the pipeline wall in only three years, and were caused by stray electrical voltage. This was in spite of modern, high-tech and cathodic protection coatings similar to those used by Enbridge, which are touted as sufficient to protect against such corrosion. A possible cause of such rapid erosion is discussed in Item #7 below. (Note: See available on the web: *TransCanadaKeystone Root Cause Report\_Feb 15 ver1docx\_2\_.pdf*; a confidential report prepared for TransCanada Pipeline Company that was inadvertently put into the public record of the South Dakota Public Utility Commission.)

7. Pipelines are subject to rapid corrosion in certain conditions of exposure to electric fields that induce an electric current. Long steel structures develop measurable electrical currents because of the earth's electromagnetic field, proximity to high voltage power lines, stray ground currents, large solar storms, and so forth. This has long been known to increase corrosion. Pipeline owners have responded with "cathodic protection" measures to prevent the corrosion. (Note the previous Item #6 regarding the Keystone 1 rapid erosion caused by stray voltage.) However, such protection itself isolates the pipeline further, which in turn can increase the induced current, and result in more difficult design issues, including site specific variations, and even more rapid corrosion. Enbridge proposes to follow some existing high voltage transmission lines, as well as places where such lines cross the proposed routes. (See for example, a. "AC Corrosion Induced by High Voltage Power Line on Cathodically Protected Pipeline," 2014. *International Conference on Control, Engineering & Information Technology (CEIT'14) Proceedings IPCO-2014 ISSN 2356-5608*; b. "The effects of geomagnetic disturbance on electrical systems at the earth's surface", *Adv. Space Res. Vol 22, No. 1, pp. 17-27*; c. "Geomagnetic disturbances and their impact on power systems, Status report," Olof Samuelsson, *Industrial Electrical Engineering and Automation, Lund University*; d. "Solar Storm Impacts on Wireless Networks, 2012. Nigel McKelvey, *International Journal of Engineering and Technology Volume 2 No. 4, April, 2012. ISSN: 2049-3444 © 2012 Letterkenny Institute of Technology, Port Rd., Letterkenny, Co Donegal, Ireland*; and e. *Calculation and Analysis of the Coupling Effects of High Voltage Transmission Lines in Joint-use Corridors Shared by Multi-systems. 2011. PIERS Proceedings, Suzhou, China, September 12{16, 2011 School of Electrical Engineering, Southwest Jiaotong University.* )

8. Department of Homeland Security 2014 warnings about pipeline control system damage from solar storm events. This federal agency issued an advisory warning about the effects on satellite based pipeline control systems, as well as effects on other types of industrial control systems from solar storms. The advisory pertains to systems such as Enbridge's modern control center in Alberta, and

indicated that GPS as well as satellites could be affected. This advisory has partly resulted because of the very rapid adoption of such control systems in a short period of time, accompanied by the realization that large and unusual solar storms have not occurred during this recent short time period. With respect to other pipeline effects besides control systems, the advisory also states: "Solar storms can affect pipe-to-soil voltages, leading to currents that disturb flow meter signals, which can result in false pipeline flow rate data. The induced currents can also increase pipeline corrosion rates. Insulating flanges meant to interrupt current flow create an additional point where electric potential can result in current flow to ground, increasing the risk for corrosion." (See *Department of Homeland Security Advisory (ICSA-11-084-01) "Solar Magnetic Storm Impact on Control Systems Original,"* release date: March 26, 2011 | Last revised: January 02, 2014. See also *Risk Management Issue Brief, May 2011. "Geomagnetic Storms: An Evaluation of Risks and Risk Assessments,"* By the U.S. Federal Office of Risk Management and Analysis)

9. Rupture of pipelines of this size can result in large oil releases even if ideal rupture detection and shutdown actions occur. Enbridge relies on what they say is a state of the art pressure and automatic block valve control system based in Alberta. It relies on GPS and satellite systems. They say this will allow rapid shutdown of any pipeline that is ruptured by third party actions (such as non-pipeline company excavators) or any other cause of rupture. But on pipelines of the size of Line 3 (36 inches), even ideal shutdown response times can result in a worst-case release of over 20,000 barrels of oil from the rupture. The Sandpiper/Line 3 route has landscapes particularly susceptible to long-term damage from such a release. (For "worst case" risk assessment results, and discussions of the kinds of damage that can occur, as well as discussions of the kind of landscape susceptibility along the proposed Enbridge routes, see "Third-Party Consultant Environmental Review of the TransCanada Keystone XL Pipeline Risk Assessment" Exponent, 1800 Diagonal Road, Suite 500 Alexandria, VA 22314 April 26, 2013; "Keystone XL Pipeline: Independent Engineering Assessment – Final Report" December 2013. Energy Systems, Battelle Memorial Institute, 505 King Avenue, Columbus, OH 43201; and "Studies for the Requirements of Automatic and Remotely Controlled Shutoff Valves on Hazardous Liquids and Natural Gas Pipelines with Respect to Public and Environmental Safety." Prepared by Oak Ridge National laboratory, Oak Ridge, Tennessee 37831-6283, managed by UT-Battelle, LLC for the U.S. Department of Energy.)

10. Modern remote controlled block valves can accidentally close and result in oil releases. A report to Congress that was recently done after a number of pipeline accidents found that automatic block valves can shut down accidentally, resulting in oil releases. (See "PIPELINE SAFETY, Better Data and Guidance Needed to Improve Pipeline Operator Incident Response," Report to Congressional Committees January 2013. GAO-13-168. United States Government Accountability Office (GAO)).

11. Highly significant leaks of many barrels per day can remain undetected for weeks. Automatic monitoring systems respond to drops in pipeline pressure. Even the most sophisticated leak and pressure detection systems cannot detect some leaks. This can occur because small leaks don't result in a pressure drop that is detectable by monitoring systems. According to the Exponent report cited it #3 above, such leaks can go undetected for months. They estimated that for a 36-inch pipeline the leak was about 28 barrels/day. If this is correct, this means a potential underground leak of 840 barrels, or 20 35,280 gallons, per month. Such leaks are only found when they reach the surface. Clearly, given the project's 50-year life, deep pipeline burial under rivers due to Horizontal Directional Drills, and the prevalence of both surface and groundwater, along the proposed route, this issue must be thoroughly addressed in a risk and consequences study, and when comparing alternative routes. (See "Third-Party Consultant Environmental Review of the TransCanada Keystone XL Pipeline Risk Assessment," Exponent 1800 Diagonal Road, Suite 500 Alexandria, VA 22314 April 26, 2013.)

12. Federal pipeline safety regulations require "worst-case" risk assessments yet these studies allow companies to keep them from the public. Enbridge has done these for the Sandpiper project and their other pipelines. Therefore, since they are secret, there is no ability to determine findings or adequacy of the reports. The Keystone XL review indicated substantial underestimation of risk when the company's forecasts were made available. *(See several locations in the PUC hearing record, Sandpiper project; also note the discussion above about the rapid corrosion of the Keystone 1 pipeline discussed in #6 above.)*

13. Standard risk assessment methods require assessing rare events when they have high consequences. Many miles of pipelines in the United State haven't ruptured. But a fundamental principle of risk assessments as practiced in the USA and elsewhere is that if the consequences of a pipeline rupture are very high, then rare and unlikely scenarios must be addressed in the risk assessment. The large size of the Sandpiper and Line 3 pipelines and their location in highly sensitive areas certainly mean potentially large releases and large consequences over a 50 or more year project life. Furthermore, there are obviously differences in landscapes such that consequences are lower in some locations, and containment of spills is easier in some locations. Therefore, it is a certainty that risk and consequence analysis results should be considered in deciding the proper location of pipelines. *(See hearing record, Sandpiper before the Minnesota PUC. See also Risk Management Issue Brief, May 2011. "Geomagnetic Storms: An Evaluation of Risks and Risk Assessments," By the U.S. Federal Office of Risk Management and Analysis)*

14. Standard "worst case" risk assessments should also consider the consequences of liquid pipeline ruptures being accompanied by fire that damages adjacent pipelines. Since Enbridge proposes to locate its pipelines as close as 25 feet from its other pipeline, a rupture and fire scenario may cascade to adjacent pipelines. Some products carried by these large pipelines (30-36 inches in diameter) are considered to be as explosive as gasoline. Risk and consequence studies need to consider whether cascading damages to adjacent lines could occur, and, if so, examine consequences. *(For a risk assessment study of liquid pipeline rupture accompanied by fire see "Studies for the Requirements of Automatic and Remotely Controlled Shutoff Valves on Hazardous Liquids and Natural Gas Pipelines with Respect to Public and Environmental Safety." October 2012. Prepared by Oak Ridge National Laboratory, Oak Ridge, Tennessee.)*

#### Summary biography of Paul Stolen

My scientific training is in fisheries and wildlife management, and I have published papers on waterfowl behavior in refereed journals. I also attended graduate school in the University of Minnesota School of Journalism and Humphrey Institute of Public Affairs. I am retired, after working for the University of Minnesota, Minnesota Department of Natural Resources, Minnesota Legislature, Montana Department of Natural Resources and Conservation (Energy Division), University of Minnesota, and a short time for a private consulting firm.

My professional experience and personal interest involves a focus on the use of scientific information in public policy and decision making. A main focus while employed and as an involved citizen during this 40 year career has been on applying impact assessment laws and regulations, and on policy analysis. I have written and reviewed many environmental impacts studies, and written environmental regulations for energy facilities, including pipelines. I've worked with other states and the federal government on water, energy, and other projects. I have worked as a reviewer/regulator on about 12 different pipeline projects, was Assistant Director of the Montana Interagency Pipeline Task Force, and have been an environmental inspector on a number of pipeline projects. I first began my involvement with pipelines

as a union laborer on the bending crew of 34-inch pipeline in Minnesota, which is now known as Enbridge Line #3.

I have also worked with Canada—both the federal Foreign Affairs Office, Manitoba, and Canadian Consulate in Minneapolis—and U.S. federal agencies and other states on water issues, including boundary issues with Canada. I am a veteran of the US Army, and spent a year at the Walter Reed Institute of Research in Washington, D.C. and a year in Vietnam doing diagnostic work and research on tropical diseases affecting people and animals.

## ATTACHMENT 2

### Two examples of locations along the Enbridge proposed route needing careful analysis of the risk and consequences of "worst-case" oil releases.

I have selected the following two examples because I am familiar with both locations. This knowledge comes from my professional and educational career, as well as personal knowledge. During the initial period of review of the Sandpiper project, several alternative routes were proposed to take Bakken oil directly to its destination in the Chicago instead of continuing to expand pipeline corridors—or create new ones—through landscapes sensitive to damage from oil spills. My education and career in the Minnesota DNR, Minnesota Legislature, and Minnesota EQB, and with a private consulting company, has given me broad knowledge of the landscapes of Minnesota. I can say with some confidence that those southern and western routes are unlikely to cross areas of such high cultural, ecological, and natural resource significance as the following two examples. In addition, those southern and western routes are *much* more accessible when compared to these two examples, should a serious oil release occur.

#### **Example 1: Proposed Enbridge Sandpiper/Line 3 projects crossings of LaSalle Creek Valley and potential impacts to LaSalle Creek, Big LaSalle Lake, associated wetlands, LaSalle Lake State Recreation Area, Scientific and Natural Area, cultural and historic sites, Mississippi River, etc.**

Example 1: Site description and Enbridge proposals. This site straddles the Clearwater and Hubbard County line and is about five miles north of Itasca Park, Minnesota. This area is very hilly glacial till, with many isolated depressions that result in precipitation entering groundwater rather than running off. The till is very mixed, with gravel or sand layers mixed in with more impervious material. Groundwater flows can be very rapid laterally, and are complex. LaSalle Creek runs through a glacial tunnel valley with steep ridges on each side that are on the order of 100 feet above the valley. The valley bottom is covered in wetlands with deep organic material—likely 40 or more feet deep—except where the lakes are present. Many emergent springs from the hillsides result in wetlands actually are being found on the lower slopes of the hills. The creek itself is a trout stream at the pipeline crossing location, and it meanders through the wetlands until reaching Big LaSalle Lake about one-half mile from the pipeline crossing.

The proposed Enbridge route follows a pipeline corridor established 60 or so years ago, prior to any significant environmental laws. My familiarity with the site dates to 2007-2008 when I was employed by the MDNR. The 24-inch MinnCan pipeline was constructed within a few feet of the old pipelines in that time period. I also am familiar with groundwater issues in this terrain. While employed at the DNR, I was the representative dealing with a nearby difficult highway project. Test drilling for bridge foundations resulted in severe eruption of groundwater from the test hole when groundwater under high pressure from nearby higher terrain was intercepted.

I recommended, after an internal coordinated review of the MinnCan proposal, that the LaSalle Creek Valley area was the most problematic in my work area. At that time, this was about a 100 mile length of the proposed pipeline. After the project was approved by the Department of Commerce, the creek crossing was done with an HDD bore of about 3,000 feet in length in the winter. There was a large "frac-out" of drilling mud that resulted in a major clean-up operation and difficulty. The cause of this was almost certainly the uprising groundwater, and very saturated muck in the valley. The issues that came up during this clean-up operation are somewhat indicative of the problems that could occur if there was a pipeline rupture in this location, as discussed in the next section regarding oil release consequences in this area.

Now, Enbridge proposes—with Sandpiper—to cross the valley with a trenched crossing closer to Big LaSalle Lake. I assume they will propose the same with the Line 3 project. In my experience, this type of site will need sheet pile, at best, in order to dig a trench. At worst, this could well be a construction engineering experiment with very bad environmental consequences during construction, such as a very wide disturbed area, and siltation into Big LaSalle lake. Concrete weights will be needed to suspend the pipes below the surface within the water-saturated wetland muck soils.

There are two lakes downstream of Big LaSalle Lake in the same tunnel valley, Middle LaSalle Lake (a small lake about two miles from the pipeline crossing,) and LaSalle Lake, about 3.5 miles from the crossing. The Mississippi River is immediately downstream of LaSalle Lake, about 5.5 miles from the pipeline crossing. LaSalle Lake is an extremely high value Minnesota resource, based on the following information from the DNR about the LaSalle Lake State Recreation Area (SRA):

*"At 221 acres and 213 feet deep, with over 18,600 feet of shoreline, LaSalle Lake is one of Minnesota's most pristine and deepest lakes. The lake supports walleye, northern pike, largemouth bass, black crappie, and bluegill sunfish populations. . . .In the early 1990s, an early Native American Elk Lake Culture prehistoric site was discovered adjacent to LaSalle Creek near the outlet of LaSalle Lake. The site was identified during planning for an upgrade of the county highway and was partially excavated in 1995 before the road was rebuilt.*

*The Institute for Minnesota Archaeology states: "...artifacts recovered from the LaSalle Creek site have provided archaeologists with a clearer picture of how the producers of Brainerd Ware ceramics lived, what they ate, and what tools they made. In addition, the date of 3,180 years ago obtained from charred residue on the inside of a ceramic shard at the LaSalle Creek Site is one of the earliest known dates for an Elk Lake Culture occupation in Minnesota."*

*The northern headwaters of the Mississippi River is an extremely important area for these early archaeological sites, and additional cultural resource areas may be discovered on the property. Because the side slopes of the LaSalle Creek glacial tunnel valley and LaSalle Lake's bottom are so steep, the lake's littoral zone is relatively narrow and represents a very small portion of the lake's surface area. . . .The landscape was identified by the Minnesota County Biological Survey (MCBS) as an area of "High and Outstanding Biodiversity Significance." Over 90 species of trees and shrubs and more than 140 species of herbaceous plants, including 12 species of orchids, have been surveyed and recorded growing in the area.*

*MCBS has also identified numerous rare, threatened, endangered, and special concern species of plants and animals, including ram's head lady slipper, hair-like sedge, northern oak fern, two species of caddisfly, and trumpeter swan.*

*LaSalle Lake's west facing slopes host red pine and jack pine forests and woodlands. East facing slopes are covered with hardwood forests that include occasional large white pines, balsam fir, and white spruce. To the north, close to where the LaSalle Creek empties into the Mississippi River, a small but high quality old-growth northern white cedar forest exists where springs emerge from terraced slopes. A portion of La Salle Lake SRA has been designated as a scientific and natural area (SNA), recognizing the high quality native communities and rare plant and animal species found there." (MDNR web site description of SRA.)*

Example 1: Consequence analysis of an "worst-case" pipeline rupture and oil release at the crossing of the LaSalle Creek tunnel valley. The following is a preliminary list of issues that need to be addressed in a proper analysis:

1. A "worst-case" pipeline rupture for a 36 inch pipeline is calculated to be about 20,000 barrels of oil, according to the studies cited in Item #3 above, even with a rapid response time. Also, the Enbridge 36-inch pipeline rupture in 2010 in Michigan was about 20,000 barrels, even though it wasn't a "worst-case" rupture with respect to the type of rupture that occurred (a "fish-mouth" break occurred whereas normal "worst-case" considers a "decapitation" break where the entire pipe is opened. The issue at the Michigan spill was that Enbridge didn't shut down the pipeline for 17 hours after the rupture.) That rupture polluted at least 35 miles of the Kalamazoo River, and clean-up costs have reached \$1.3 billion.
2. As noted, the two Enbridge pipelines are proposed to be constructed alongside three other older pipelines now present at the LaSalle Creek crossing. As discussed in Item #14 in Attachment 1, "worst-case" risk assessments consider the scenario of a pipeline rupture accompanied by fire. Therefore, study is needed to assess whether if this occurs, adjacent pipelines will be damaged and also rupture before they could be shut down.
3. Critical resources are very close to the pipeline route. Big LaSalle Lake is one-half mile downstream of the pipeline crossing of the tunnel valley and creek, and would be closer than that with the proposed Enbridge crossings. The LaSalle Lake State Recreation Area is 3.5 miles downstream, and the Mississippi River is 5.5 miles downstream from the crossing. In other words, *these stream reaches are much closer and could have a similar result as occurred in the 35 mile stretch of the Kalamazoo River in Michigan polluted by another Enbridge project.* In addition, the Exponent Report cited in Item #3 in attachment 1 indicated that impacts associated with small streams should be assessed out to 10 miles from the pipeline in landscapes such as this.
4. All of the tunnel valley, creeks, lakes, and Mississippi River have poor access for clean-up equipment.
5. Steep terrain means pipeline ruptures at various locations can reach these critical waters.
6. The break-out of drilling mud during construction of the MinnCan pipeline occurred in the winter. Springs were so abundant that the ground and wetland surfaces were unfrozen even in a cold midwinter. Even relatively light motorized equipment for clean-up could not be used, and clean-up was done largely by hand, and with small pumps. This characteristic of the lower parts of the slopes of the LaSalle Creek tunnel valley is present all the way to the outlet of LaSalle Lake. *Therefore, heavy equipment either will not be able to be used for clean-up, or, if used, will cause all sorts of long-term environmental damage.*
7. A proper assessment must take into account whether an oil spill at this location could ever be cleaned up, and would need to address potential impacts to all of the values inherent in these downstream locations.
8. A proper assessment of alternatives must compare potential impacts at this site with potential impacts along other routes, such as the southern and western alternative to take Bakken oil directly to the Chicago area rather than through Superior, Wisconsin. The federal Clean Water Act, and National Environmental Policy Act requires that alternatives that have fewer impacts be carefully considered.

**Example 2: Proposed Enbridge Sandpiper/Line 3 projects effects on Upper and Lower Rice lakes, the Wild Rice River and potential impacts to wetlands, cultural resources, wild rice, and environmental justice issues. Southern Clearwater County Minnesota.**

Site description and Enbridge proposals. The proposed route crosses the upper watershed of the Wild Rice River, and crosses the edge of Mud Lake, a small shallow lake containing wild rice. This lake has an outlet that reaches the Wild Rice River via a ditch about three miles long. The river itself originates as an outlet of Upper Rice Lake. The existing pipeline route also crosses wetlands that are about one-half mile from Upper Rice Lake.

Upper Rice Lake is a well-known wild rice lake, and is considered a highly important waterfowl lake. Even though shallow, at times it has a significant northern pike population and fishery. The Upper Rice Lake Wildlife Management Area is adjacent to this lake, and is described as follows: *"This WMA is mixed grassland, wetland and forest which adjoins Upper Rice Lake, a 1860-acre major migratory waterfowl and wild rice lake. About 40% of this unit is upland and lowland forest, 35% wet meadow, shrub wetland and marsh. Deer, bear, ruffed grouse, goose and duck hunting and wildlife observation opportunities exist on this unit."* (DNR web site.)

I became acquainted with this area when the MinnCan pipeline was proposed and constructed through the Mud Lake wetland. While working at the Minnesota DNR, I documented that long-term impacts have resulted from installation of the pipelines at this location.

Lower Rice Lake is about seven miles "as the crow flies" from Upper Rice Lake, and likely about 10 river miles downstream on the Wild Rice River. This lake is about 2,000 acres in size, and, according to a report on the lake, it is *"the major wild rice producing lake on (the White Earth Reservation and) produces more than 200,000 pounds of rice each year. Many individuals gather here in the fall to harvest wild rice."* ("Lower Rice Lake, the major wild rice-producing lake on the White Earth Reservation: Historic to Present Water Levels," Lainey Fineday, White Earth Tribal and Community College, 2011 NASA- Kiksapa Summer REU.)

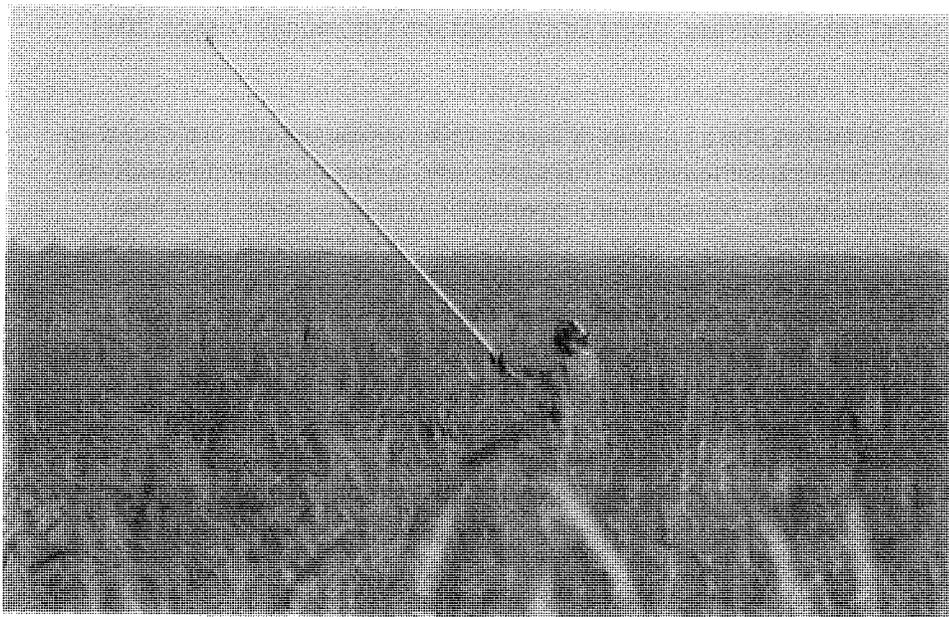
The surface of Lower Rice Lake, as well as and a number of square miles surrounding it, are closed for ricing and hunting by non-White Earth band members. Therefore, little is known about it outside of Ojibway people and waterfowl specialists. My personal knowledge of the lake comes from two technical sources, and a long-term personal knowledge of the lake and its surrounding area. I did a waterfowl study of the lake for an undergraduate class while attending the University of Minnesota field station at Itasca State Park. But importantly, while employed at the DNR, I was involved in the restoration of the river and wetlands south of Minnesota Highway 200. They are immediately upstream of the lake, and are important to its water quality and growth of rice. The Wild Rice River crosses Highway 200 twice, first flowing south, and then back north and on into the lake. A bypass ditch was built in the 1930s to divert flow along the north side of the highway in order to reduce the need for bigger bridges for the two crossings. I worked with the Minnesota Department of Highways, and the White Earth Biology Office to accomplish the restoration while employed at the Minnesota DNR.

The restoration of the river and wetlands resulted in less fluctuations of water levels in Lower Rice Lake and potential long-term improvement in water quality—because flood flows spread out over the wetlands instead of immediately dumping into the lake. The White Earth Biology Office concluded that this benefited the wild rice growth, and reduced the potential for contamination from large, old poultry operations a short distance upstream on the Wild Rice River.

Since I have had a professional and personal interest in this lake for many years, I have seen first-hand the abundance of waterfowl that use the lake when the wild rice is ripe. I have seen waterfowl concentrations as large or larger than those I have seen elsewhere, including in other states. Data on this use will be available in DNR files, since they fly the lake doing waterfowl counts. One autumn about seven years ago, while I watched from Bonga Landing, the ricing access near the outlet, enormous numbers of waterfowl flights were in the air and in the rice. Many species were represented. Later, I learned the DNR had coincidentally flown the lake about the time I was there in order to count waterfowl. They estimated conservatively that 20,000 waterfowl were on the lake. When pressed, the individual who did the count said it could have been 40,000 birds present. There were so many birds in the air they could only safely make one pass over the lake, he said.

Lower Rice Lake is of high cultural and heritage significance to not only the White Earth Band, but likely to the Ojibway of Minnesota in general. George Bonga, for which the name "Bonga Landing" comes from, was an early fur trader and historic figure in this area. Also, according to an individual in the White Earth Biology Office, this was the pre-settlement site of peaceful gatherings between the Ojibway and the Santee from the Dakotas—while trading for rice and perhaps buffalo hides. (These tribes were normally enemies, at least at times.) In addition, the original land survey of Minnesota identified a trail already in existence at the time of the 1850s survey from the Lower Rice Lake area to the outlet of the Red Lake River at Upper Red Lake Northwest of Bemidji.

Lastly, I need not describe the cultural and religious significance of wild rice to the Ojibway. I only wish to emphasize as strongly as possible that wild rice on Lower Rice Lake could be considered almost the epitome of growth of this plant, and of its significance to the Ojibway. At times, it looks as if the entire 2,000 acres is all in one stand of rice. Below is a picture taken of ricing at the lake. (Source: Canku Ota (Many Paths), An Online Newsletter Celebrating Native America, October 1, 2009 - Volume 7 Number 10.)



Poling The Canoe Through The Wild Rice Bed

Example 2: Consequence analysis of an "worst-case" pipeline rupture and oil release affecting Upper and Lower Rice Lakes, adjacent wetlands, cultural and religious significance of wild rice, and waterfowl and other natural resources values.

The following is a preliminary list of issues that need to be addressed in a proper analysis. There are some similarities to Example 1 for the LaSalle Creek area:

1. A "worst-case" pipeline rupture for a 36 inch pipeline is calculated to be about 20,000 barrels of oil, according to the studies cited in Item #3 above, even with a rapid response time. Also, the Enbridge 36-inch pipeline rupture in 2010 in Michigan was about 20,000 barrels—even though it wasn't a "worst-case" rupture with respect to the type of rupture that occurred (a "fish-mouth" break occurred whereas normal "worst-case" considers a "decapitation" break where the entire pipe is opened. The issue at the Michigan spill was that Enbridge didn't shut down the pipeline for 17 hours after the rupture.) That rupture polluted at least 35 miles of the Kalamazoo River, and clean-up costs have reached \$1.3 billion.
2. The two Enbridge pipelines are proposed to be constructed alongside 3-4 other older pipelines now present on this route. As discussed in Item #14 in Attachment 1, "worst-case" risk assessments consider the scenario of a pipeline rupture accompanied by fire. Therefore, study is needed to assess whether there is any chance adjacent pipelines will be damaged and also rupture before they could be shut down. If so, the analysis must address this additional "worst-case."
3. Both Upper and Lower Rice Lake and associated wetlands are within about 10 miles of the Enbridge proposed crossings of their watershed and of waterways capable of carrying oil downstream. The Exponent Report cited in Item #3 in attachment 1 indicated that impacts associated with small streams should be assessed out to 10 miles from the pipeline in landscapes such as this. Furthermore, as noted above, the Enbridge pipeline rupture in Michigan in 2010 polluted a 35 mile stretch of the Kalamazoo River in Michigan.
4. Wild rice is sensitive to oil pollution, and is likely sensitive to dredging operations to clean up oil spills. Wetlands adjacent to wild rice waters are important for maintaining water quality in these lakes.
5. This area has extremely poor access for clean-up equipment, especially heavier equipment. Clean-up operations themselves can damage wetlands for the long-term.
6. Steep terrain is less of an issue in this area as compared to the LaSalle Creek area. However, the large drainage area can mean rapid downstream transport of oil if leaks and ruptures that reach the Wild Rice River during high flow periods.
7. A proper assessment must take into account whether an oil spill at this location could ever be cleaned up. It would need to address potential impacts to all of the values inherent in these downstream locations, including environmental, cultural, historic, and religious issues.
8. A proper assessment of alternatives must compare potential impacts at this site with potential impacts along other routes, such as the southern and western alternative to take Bakken oil and Line 3 oil directly to the Chicago area rather than through Superior, Wisconsin, given the requirements of the federal Clean Water Act, and National Environmental Policy Act to address alternatives that have fewer impacts.



August 29, 2015  
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Re: Proposed Enbridge Sandpiper and Line 3 Enlargement/Relocation/Abandonment projects in Minnesota: *Policy and technical reasons for independent, scientifically sound analysis of the risk and environmental, cultural, and human consequences of oil releases for the 50 + years of the projects*

Dear Commissioner Rothman, Ms. Cameron, and Mr. Westlake:

I am writing this letter because two large industrial oil facilities are planned for a Minnesota landscape highly susceptible to oil releases, and that contains highly valuable natural and cultural resources. But even more concerning, they are being planned, to-date, *without adequate independent review by any government entity*. The topic of this letter is the portion of the independent review I refer to in the topic line of this memo: *independent, scientifically sound analysis of the risk and environmental, cultural, and human consequences of oil releases for the 50 + years of the projects*.

I am writing you at this time because crucial and as-yet unmade policy decisions are sorely needed on these two pipeline projects. Such decisions are past due. As I describe below, Minnesota agencies are currently not yet taking the proper approach to this subject. *I am thus urging that you collectively implement a coordinated state-federal policy that results in the proper science-based review of the two Enbridge pipelines with respect to the risks and impacts of oil releases*. And it is simply bad government to not coordinate federal and state reviews. The federal government, especially the Environmental Protection Agency, has more experience supervising the type of studies I am recommending. The model for such studies are contained in the three studies in Item 3 of Attachment 1 of this letter. I note that all of them were instigated by federal agencies.

I have the credentials for speaking about this topic. I worked for over 30 years on environmental policy and on the review of the potential impacts of many kinds of projects. This included numerous energy

projects, and the review of about 12 pipeline projects—natural gas, carbon dioxide, crude oil, and water pipelines. (A short bio is included at the end of Attachment 1.) I am also familiar with risk assessment methods and with interstate and cross-border projects. I helped coordinate many reviews of projects with overlapping federal and state jurisdiction and permits. Such coordinated reviews simply reflect good government practice, but they are also written into regulations to some extent.

The three addressees of this letter are individuals who have the legal and policy authority to make decisions about the depth of technical analysis as well as locations of alternative routes to be studied for the two proposed Enbridge pipelines. This is the level where policy, law, and regulations are interpreted and subsequent directives given to technical staff. Both the Clean Water Act and the National Environmental Policy Act provide this authority, and require that reasonable alternatives that have less potential impact be studied. And the US Fish and Wildlife Act *requires* federal consultation with the state fish and wildlife agency with respect to impacts of a project. This agency is the Minnesota Department of Natural Resources.

I am copying key federal and state decision-makers with this letter. This includes the US Fish and Wildlife Service, and three State of Minnesota agencies—the Department of Natural Resources, Pollution Control Agency, and Department of Health. I have also included public participants who have been deeply involved and concerned about these projects. The other four agencies have the statutory ability to insist that the three addressees of this letter authorize the type of studies that are needed, and to insist that alternative routes through less sensitive landscapes be included in the analysis.

I have looked at the draft proposed contents of the Department of Commerce Comparative Environmental Assessment for the Sandpiper project (and cumulative impacts of Line 3.) "Worst-case" risk is mentioned only in passing. This is completely inadequate and, if pursued as proposed, will neither result in a proper risk assessment nor consequence analysis. It will not result in proper comparison of routes because alternative routes through landscapes less susceptible to damage from oil spills and that are more accessible are not being included in the analysis.

Up to now, it appears that Minnesota agencies contemplating permits for proposed new oil pipelines have never previously considered potential impacts of oil spills. Nor have they considered the cumulative impacts of adding new and ever larger pipelines alongside old and small pipelines permitted long before modern environmental laws were created—even though *Minnesota environmental law and regulations require that this be done*. Given this woeful lack of study, it is not surprising that existing pipeline corridors are given automatic preference.

The two Enbridge projects apparently are still being treated by Minnesota agencies as if they are relatively routine pipeline projects. As if there are no better landscapes than where old pipelines were originally routed. As if the chances of pipeline rupture and serious leaks are only theoretical events that happen in other states or countries. *As if selecting pipeline routes that all cross environmentally sensitive, difficult landscapes does not bias the outcome of a comparison of routes with respect to human, environmental, and cultural impacts*. I believe that this is not because of ill intent by state employees—rather it is because of lack of policy analysis and coordination, and lack of understanding of risk and consequence analysis methods for large industrial oil facilities. This is why I believe that federal assistance on this complex topic is needed.

*Attachment 1* provides the technical reasons why the studies I am recommending must be accomplished for these two projects. For example, in recent weeks, the new Nexen pipeline in Canada recently

ruptured and apparently leaked for weeks in spite of sophisticated new automated control systems. The Keystone 1 pipeline in Missouri, built in 2009, *suffered extreme and unexpected corrosion only three years after installation*. An internal report commissioned by the pipeline company found that this was caused by stray voltages. The result was deep corrosion pits that nearly ate through the pipeline wall. And time and time again, pipeline management failures have caused serious spills or explosions that caused loss of life.

Furthermore, there are even some indications that new technologies, new engineering complexities, and sophisticated control systems may even introduce new risks and causes of pipeline failures. These two Enbridge projects, costing billions of dollars, are technically complex industrial facilities, and will be remotely monitored and controlled from a high-tech, satellite-connected control center 1,000 miles away in Canada. Such control centers are the subject of a 2014 Department of Homeland Security warning that they can fail or result in false pipeline pressure readings from the effects of solar storms.

*Attachment 2* contains descriptions of two specific areas extremely vulnerable to very damaging oil releases. These are: 1. The LaSalle Creek Valley, with its lakes north of Itasca Park, and the short distance to the Mississippi river; and 2. Upper and Lower Rice Lakes in southern Clearwater County. Both areas have very extensive and important wetlands, as well as highly valued public and cultural natural resources. *Should a significant release occur at the pipeline river crossings at these sites under certain normal conditions, oil recovery would likely be very difficult or impossible, recovery efforts would add to the damages, and human and natural resource impacts could occur for generations into the future.*

I am not claiming the Enbridge pipelines will certainly rupture and severely damage Minnesota's human and natural environment. But they will be in place for 50 or more years. I am *merely* saying an independent, appropriate, and thorough analysis be done of the risk and consequences of such events. *This is an eminently reasonable request, based in law, regulations, and common sense.* And I expect that route alternatives be included in the study that cross landscapes inherently less prone to damage from oil releases and more prone to easier clean-up. In fact, in my 30 year career doing environmental review—sometimes of complex projects—I have never encountered a situation where such large projects are not thoroughly and independently reviewed in this manner. *Ever.*

Of course, I am not a lawyer, but I have lots of policy experience, including interpreting the policy implications of court opinions and providing direction to other staff. I am reminded of a project I was deeply involved in where a federal judge made a statement quite appropriate to the current Enbridge situation. It was a proposal from the state of North Dakota to move Missouri River water into the Hudson Bay drainage, and was one of two such projects under consideration. Such proposals have lots of potential problems, including policy problems. The Bureau of Reclamation had only done an Environmental Assessment on one of the projects, known as "NAWS." They had dismissed adverse effects from introducing damaging biota across the Continental Divide into the Hudson Bay basin during the transfer. They were hoping to do the same with the other project. Manitoba sued, asking for an Environmental Impact Statement.

In an opinion admonishing the error of the Bureau of Reclamation, one could almost replace Judge Collyer's reference to "biota" with "risk and consequences of oil releases":

*"Federal Defendants argue that the risks of leakage are low and, therefore, that no*

*further study is necessary... . "What may seem minor in terms of percentages may be substantial in net effect. . . . Therefore, even a low risk of leakage may be offset by the possibility of catastrophic consequences should any leakage occur. Without some reasonable attempt to measure these consequences instead of bypassing the issue out of indifference, fatigue, or through administrative legerdemain, the Court cannot conclude that BOR took a hard look at the problem."* (My emphasis added.) (United States District Court for the District of Columbia, Government of the Province of Manitoba, Plaintiff, v. Gail A. Norton, Secretary, United States Department of the Interior, et al., Defendants. Civil Action No. 02-cv-02057 (RMC) February 3, 2005.

I have in the past served as a technical consultant to Friends of the Headwaters, a citizens group advocating a more suitable route for these projects. Technical testimony I prepared was submitted by this group during the early rounds of hearings on the Sandpiper project. This current letter is my own, and has not been reviewed by that organization. For those who seek motives behind this letter, mine is simple and uncomplicated: I am profoundly concerned that these very large projects could greatly damage Minnesota's environment during the more than 50 year project life. My career experience with pipelines and other very large projects also drives this concern.

Thank you for your consideration, and please give me a call if you have any questions.

Sincerely,

Paul Stolen

C: John Linc Stine, PCA Commissioner  
Tom Landwehr, DNR Commissioner  
Will Seuffert, Minnesota EQB  
Joe Plumer, Counsel, White Earth  
Richard Smith, Friends of the Headwaters  
Steve Schulstrom, Carlton County Land Stewards  
Craig Sterle, CCLS  
Bill Grant, Department of Commerce  
Willis Mattison  
Bill Sierks, MPCA  
Tom Melius, US Fish and Wildlife Service  
Dr. Edward Ehlinger, Commissioner for Health  
Kathryn Hoffman, Counsel, MCEA  
Jerry Von Korff, Counsel for Carlton County Land Stewards  
Molly Pederson, Governor Dayton's Office  
Randall Doneen, MDNR  
Winona LaDuke, Honor the Earth  
Paul Blackburn  
Todd Moilanen, Mille Lacs Ojibway Band

## ATTACHMENT 1

### **Enbridge Sandpiper and Line 3 Enlargement/Relocation/Abandonment projects Policy and technical reasons for independent, scientifically sound analysis of the risk and environmental, cultural, and human consequences of oil releases for the 50 + years of the projects**

1. Lack of study to-date. No study of the Enbridge Sandpiper and Line 3 proposals has yet been done by any government agency of Minnesota--or any federal agency--of the risk of oil releases and consequences to natural resources and to people from such releases. There may be an assumption that the decision to do such a study is connected with the decision to do an EIS. The need for a state EIS is under litigation, and the need for a federal EIS has been recommended, but not yet decided. A proper risk and consequence analysis of oil releases is needed to determine where to locate the pipelines, is also needed for proper environmental permitting and any other public interest decision. It is not dependent on the decision to do an EIS.

2. Recent (since about 2009) very large and damaging pipeline accidents and ruptures have changed how risk assessments are conducted and demonstrated why they are needed. These events, and subsequent studies, all have occurred after the last two large Enbridge projects were permitted in Minnesota (Alberta Clipper (now Line 67) and Southern Lights. ) These events caused extreme damage to natural resources, loss of life, and have demonstrated lack of adequate federal oversight of pipeline regulations. They have demonstrated appalling failures of those managing the pipelines, and ensuring their integrity. Some of the events include the Enbridge oil pipeline rupture in Michigan, the San Bernadino gas pipeline explosion in California, the two recent river pipeline ruptures in the Yellowstone River riverbed. In addition, there are two 2015 incidents with new pipelines specifically described below in Items #5 and 6. These events have led to recent studies of pipeline oil release risk and consequence analysis that are much more rigorous than studies done prior to 2009. Some are described in Item #3 below. *(See Sandpiper hearing record before the Minnesota PUC.)*

3. Keystone XL Environmental Impact Statement studies, as well as other recent studies provide sound guidance for conducting the proper risk and consequence studies. Excellent studies of the risk and consequences of oil releases from pipeline ruptures and leaks were recently completed for the Keystone pipeline. Another excellent study was done recently by the Oak ridge National Laboratory. It contained highly useful methods of determining potential costs of pipeline ruptures and damage to natural resources. These studies were accomplished even though natural resources—a surface and groundwater resources—along the Keystone route are of less magnitude and extant than those found along the Enbridge proposed route. The three main studies that can be used as a rough model are:

--"Third-Party Consultant Environmental Review of the TransCanada Keystone XL Pipeline Risk Assessment" Exponent, 1800 Diagonal Road, Suite 500 Alexandria, VA 22314 April 26, 2013

--"Keystone XL Pipeline: Independent Engineering Assessment – Final Report" December 2013. Energy Systems, Battelle Memorial Institute, 505 King Avenue, Columbus, OH 43201

"Studies for the Requirements of Automatic and Remotely Controlled Shutoff Valves on Hazardous Liquids and Natural Gas Pipelines with Respect to Public and Environmental Safety." October 2012. Prepared by Oak Ridge National Laboratory, Oak Ridge, Tennessee 37831-6283, managed by UT-Battelle, LLC for the U.S. Department of Energy.

4. Forecasts of new pipeline failures over a 25 year period contained in the Bristol Bay EIS on Pebble Mine. There are three pipelines in support of this proposed Alaska mining project. The final EIS indicated the probability of large rupture under several scenarios over the 25 year life of the project. It found that the chance of rupture ". . . would exceed 25%, 30%, and 67% . . . . . (and) In each of the three scenarios, there would be a greater than a 99.9% chance that at least one of the three pipelines carrying liquid would fail during the project." (See *January 2014 Final EIS release, Chapter 11, pipeline failures.*)

5. July 2015 rupture of the new Nexen Pipeline in Alberta. This double-walled pipe was carrying a mixture of hot tar sand oil and water. Over 31,000 barrels leaked out into wetlands, and, in spite of a new automatic monitoring system, the rupture might have gone undetected for as long as two weeks (See *Toronto Globe and Mail article on Nexen Pipeline, July 23, 2015.*)

6. Deep corrosion in only three years of the new Keystone 1 pipeline in Missouri. This pipeline, built in 2009, was found in 2012 to have developed deep corrosion pits at sites in Missouri. According to an internal report prepared for the company, and inadvertently made public, these pits had corroded almost through the pipeline wall in only three years, and were caused by stray electrical voltage. This was in spite of modern, high-tech and cathodic protection coatings similar to those used by Enbridge, which are touted as sufficient to protect against such corrosion. A possible cause of such rapid erosion is discussed in Item #7 below. (Note: See available on the web: *TransCanadaKeystone Root Cause Report\_ Feb 15 ver1docx\_2\_.pdf*; a confidential report prepared for TransCanada Pipeline Company that was inadvertently put into the public record of the South Dakota Public Utility Commission.)

7. Pipelines are subject to rapid corrosion in certain conditions of exposure to electric fields that induce an electric current. Long steel structures develop measurable electrical currents because of the earth's electromagnetic field, proximity to high voltage power lines, stray ground currents, large solar storms, and so forth. This has long been known to increase corrosion. Pipeline owners have responded with "cathodic protection" measures to prevent the corrosion. (Note the previous Item #6 regarding the Keystone 1 rapid erosion caused by stray voltage.) However, such protection itself isolates the pipeline further, which in turn can increase the induced current, and result in more difficult design issues, including site specific variations, and even more rapid corrosion. Enbridge proposes to follow some existing high voltage transmission lines, as well as places where such lines cross the proposed routes. (See for example, **a.** "AC Corrosion Induced by High Voltage Power Line on Cathodically Protected Pipeline," 2014. *International Conference on Control, Engineering & Information Technology (CEIT'14) Proceedings IPCO-2014 ISSN 2356-5608*; **b.** "The effects of geomagnetic disturbance on electrical systems at the earth's surface", *Adv. Space Res. Vol 22, No. 1, pp. 17-27*; **c.** "Geomagnetic disturbances and their impact on power systems, Status report," Olof Samuelsson, *Industrial Electrical Engineering and Automation, Lund University*; **d.** "Solar Storm Impacts on Wireless Networks, 2012. Nigel McKelvey, *International Journal of Engineering and Technology Volume 2 No. 4, April, 2012. ISSN: 2049-3444 © 2012 Letterkenny Institute of Technology, Port Rd., Letterkenny, Co Donegal, Ireland*; and **e.** *Calculation and Analysis of the Coupling Effects of High Voltage Transmission Lines in Joint-use Corridors Shared by Multi-systems. 2011. PIERS Proceedings, Suzhou, China, September 12{16, 2011 School of Electrical Engineering, Southwest Jiaotong University.* )

8. Department of Homeland Security 2014 warnings about pipeline control system damage from solar storm events. This federal agency issued an advisory warning about the effects on satellite based pipeline control systems, as well as effects on other types of industrial control systems from solar storms. The advisory pertains to systems such as Enbridge's modern control center in Alberta, and

indicated that GPS as well as satellites could be affected. This advisory has partly resulted because of the very rapid adoption of such control systems in a short period of time, accompanied by the realization that large and unusual solar storms have not occurred during this recent short time period. With respect to other pipeline effects besides control systems, the advisory also states: "Solar storms can affect pipe-to-soil voltages, leading to currents that disturb flow meter signals, which can result in false pipeline flow rate data. The induced currents can also increase pipeline corrosion rates. Insulating flanges meant to interrupt current flow create an additional point where electric potential can result in current flow to ground, increasing the risk for corrosion." (*See Department of Homeland Security Advisory (ICSA-11-084-01) "Solar Magnetic Storm Impact on Control Systems Original," release date: March 26, 2011 | Last revised: January 02, 2014. See also Risk Management Issue Brief, May 2011. "Geomagnetic Storms: An Evaluation of Risks and Risk Assessments," By the U.S. Federal Office of Risk Management and Analysis*)

9. Rupture of pipelines of this size can result in large oil releases even if ideal rupture detection and shutdown actions occur. Enbridge relies on what they say is a state of the art pressure and automatic block valve control system based in Alberta. It relies on GPS and satellite systems. They say this will allow rapid shutdown of any pipeline that is ruptured by third party actions (such as non-pipeline company excavators) or any other cause of rupture. But on pipelines of the size of Line 3 (36 inches), even ideal shutdown response times can result in a worst-case release of over 20,000 barrels of oil from the rupture. The Sandpiper/Line 3 route has landscapes particularly susceptible to long-term damage from such a release. (*For "worst case" risk assessment results, and discussions of the kinds of damage that can occur, as well as discussions of the kind of landscape susceptibility along the proposed Enbridge routes, see "Third-Party Consultant Environmental Review of the TransCanada Keystone XL Pipeline Risk Assessment" Exponent, 1800 Diagonal Road, Suite 500 Alexandria, VA 22314 April 26, 2013; "Keystone XL Pipeline: Independent Engineering Assessment – Final Report" December 2013. Energy Systems, Battelle Memorial Institute, 505 King Avenue, Columbus, OH 43201; and "Studies for the Requirements of Automatic and Remotely Controlled Shutoff Valves on Hazardous Liquids and Natural Gas Pipelines with Respect to Public and Environmental Safety." Prepared by Oak Ridge National laboratory, Oak Ridge, Tennessee 37831-6283, managed by UT-Battelle, LLC for the U.S. Department of Energy.*)

10. Modern remote controlled block valves can accidentally close and result in oil releases. A report to Congress that was recently done after a number of pipeline accidents found that automatic block valves can shut down accidentally, resulting in oil releases. (*See "PIPELINE SAFETY, Better Data and Guidance Needed to Improve Pipeline Operator Incident Response," Report to Congressional Committees January 2013. GAO-13-168. United States Government Accountability Office (GAO).*)

11. Highly significant leaks of many barrels per day can remain undetected for weeks. Automatic monitoring systems respond to drops in pipeline pressure. Even the most sophisticated leak and pressure detection systems cannot detect some leaks. This can occur because small leaks don't result in a pressure drop that is detectable by monitoring systems. According to the Exponent report cited it #3 above, such leaks can go undetected for months. They estimated that for a 36-inch pipeline the leak was about 28 barrels/day. If this is correct, this means a potential underground leak of 840 barrels, or 20 35,280 gallons, per month. Such leaks are only found when they reach the surface. Clearly, given the project's 50-year life, deep pipeline burial under rivers due to Horizontal Directional Drills, and the prevalence of both surface and groundwater, along the proposed route, this issue must be thoroughly addressed in a risk and consequences study, and when comparing alternative routes. (*See "Third-Party Consultant Environmental Review of the TransCanada Keystone XL Pipeline Risk Assessment, " Exponent 1800 Diagonal Road, Suite 500 Alexandria, VA 22314 April 26, 2013.*)

12. Federal pipeline safety regulations require "worst-case" risk assessments yet these studies allow companies to keep them from the public. Enbridge has done these for the Sandpiper project and their other pipelines. Therefore, since they are secret, there is no ability to determine findings or adequacy of the reports. The Keystone XL review indicated substantial underestimation of risk when the company's forecasts were made available. *(See several locations in the PUC hearing record, Sandpiper project; also note the discussion above about the rapid corrosion of the Keystone 1 pipeline discussed in #6 above.)*

13. Standard risk assessment methods require assessing rare events when they have high consequences. Many miles of pipelines in the United State haven't ruptured. But a fundamental principle of risk assessments as practiced in the USA and elsewhere is that if the consequences of a pipeline rupture are very high, then rare and unlikely scenarios must be addressed in the risk assessment. The large size of the Sandpiper and Line 3 pipelines and their location in highly sensitive areas certainly mean potentially large releases and large consequences over a 50 or more year project life. Furthermore, there are obviously differences in landscapes such that consequences are lower in some locations, and containment of spills is easier in some locations. Therefore, it is a certainty that risk and consequence analysis results should be considered in deciding the proper location of pipelines. *(See hearing record, Sandpiper before the Minnesota PUC. See also Risk Management Issue Brief, May 2011. "Geomagnetic Storms: An Evaluation of Risks and Risk Assessments," By the U.S. Federal Office of Risk Management and Analysis)*

14. Standard "worst case" risk assessments should also consider the consequences of liquid pipeline ruptures being accompanied by fire that damages adjacent pipelines. Since Enbridge proposes to locate its pipelines as close as 25 feet from its other pipeline, a rupture and fire scenario may cascade to adjacent pipelines. Some products carried by these large pipelines (30-36 inches in diameter) are considered to be as explosive as gasoline. Risk and consequence studies need to consider whether cascading damages to adjacent lines could occur, and, if so, examine consequences. *(For a risk assessment study of liquid pipeline rupture accompanied by fire see "Studies for the Requirements of Automatic and Remotely Controlled Shutoff Valves on Hazardous Liquids and Natural Gas Pipelines with Respect to Public and Environmental Safety." October 2012. Prepared by Oak Ridge National Laboratory, Oak Ridge, Tennessee.)*

#### Summary biography of Paul Stolen

My scientific training is in fisheries and wildlife management, and I have published papers on waterfowl behavior in refereed journals. I also attended graduate school in the University of Minnesota School of Journalism and Humphrey Institute of Public Affairs. I am retired, after working for the University of Minnesota, Minnesota Department of Natural Resources, Minnesota Legislature, Montana Department of Natural Resources and Conservation (Energy Division), University of Minnesota, and a short time for a private consulting firm.

My professional experience and personal interest involves a focus on the use of scientific information in public policy and decision making. A main focus while employed and as an involved citizen during this 40 year career has been on applying impact assessment laws and regulations, and on policy analysis. I have written and reviewed many environmental impacts studies, and written environmental regulations for energy facilities, including pipelines. I've worked with other states and the federal government on water, energy, and other projects. I have worked as a reviewer/regulator on about 12 different pipeline projects, was Assistant Director of the Montana Interagency Pipeline Task Force, and have been an environmental inspector on a number of pipeline projects. I first began my involvement with pipelines

as a union laborer on the bending crew of 34-inch pipeline in Minnesota, which is now known as Enbridge Line #3.

I have also worked with Canada—both the federal Foreign Affairs Office, Manitoba, and Canadian Consulate in Minneapolis—and U.S. federal agencies and other states on water issues, including boundary issues with Canada. I am a veteran of the US Army, and spent a year at the Walter Reed Institute of Research in Washington, D.C. and a year in Vietnam doing diagnostic work and research on tropical diseases affecting people and animals.

## ATTACHMENT 2

### **Two examples of locations along the Enbridge proposed route needing careful analysis of the risk and consequences of "worst-case" oil releases.**

I have selected the following two examples because I am familiar with both locations. This knowledge comes from my professional and educational career, as well as personal knowledge. During the initial period of review of the Sandpiper project, several alternative routes were proposed to take Bakken oil directly to its destination in the Chicago instead of continuing to expand pipeline corridors—or create new ones—through landscapes sensitive to damage from oil spills. My education and career in the Minnesota DNR, Minnesota Legislature, and Minnesota EQB, and with a private consulting company, has given me broad knowledge of the landscapes of Minnesota. I can say with some confidence that those southern and western routes are unlikely to cross areas of such high cultural, ecological, and natural resource significance as the following two examples. In addition, those southern and western routes are *much* more accessible when compared to these two examples, should a serious oil release occur.

#### **Example 1: Proposed Enbridge Sandpiper/Line 3 projects crossings of LaSalle Creek Valley and potential impacts to LaSalle Creek, Big LaSalle Lake, associated wetlands, LaSalle Lake State Recreation Area, Scientific and Natural Area, cultural and historic sites, Mississippi River, etc.**

Example 1: Site description and Enbridge proposals. This site straddles the Clearwater and Hubbard County line and is about five miles north of Itasca Park, Minnesota. This area is very hilly glacial till, with many isolated depressions that result in precipitation entering groundwater rather than running off. The till is very mixed, with gravel or sand layers mixed in with more impervious material. Groundwater flows can be very rapid laterally, and are complex. LaSalle Creek runs through a glacial tunnel valley with steep ridges on each side that are on the order of 100 feet above the valley. The valley bottom is covered in wetlands with deep organic material—likely 40 or more feet deep—except where the lakes are present. Many emergent springs from the hillsides result in wetlands actually are being found on the lower slopes of the hills. The creek itself is a trout stream at the pipeline crossing location, and it meanders through the wetlands until reaching Big LaSalle Lake about one-half mile from the pipeline crossing.

The proposed Enbridge route follows a pipeline corridor established 60 or so years ago, prior to any significant environmental laws. My familiarity with the site dates to 2007-2008 when I was employed by the MDNR. The 24-inch MinnCan pipeline was constructed within a few feet of the old pipelines in that time period. I also am familiar with groundwater issues in this terrain. While employed at the DNR, I was the representative dealing with a nearby difficult highway project. Test drilling for bridge foundations resulted in severe eruption of groundwater from the test hole when groundwater under high pressure from nearby higher terrain was intercepted.

I recommended, after an internal coordinated review of the MinnCan proposal, that the LaSalle Creek Valley area was the most problematic in my work area. At that time, this was about a 100 mile length of the proposed pipeline. After the project was approved by the Department of Commerce, the creek crossing was done with an HDD bore of about 3,000 feet in length in the winter. There was a large "frac-out" of drilling mud that resulted in a major clean-up operation and difficulty. The cause of this was almost certainly the uprising groundwater, and very saturated muck in the valley. The issues that came up during this clean-up operation are somewhat indicative of the problems that could occur if there was a pipeline rupture in this location, as discussed in the next section regarding oil release consequences in this area.

Now, Enbridge proposes—with Sandpiper—to cross the valley with a trenched crossing closer to Big LaSalle Lake. I assume they will propose the same with the Line 3 project. In my experience, this type of site will need sheet pile, at best, in order to dig a trench. At worst, this could well be a construction engineering experiment with very bad environmental consequences during construction, such as a very wide disturbed area, and siltation into Big LaSalle lake. Concrete weights will be needed to suspend the pipes below the surface within the water-saturated wetland muck soils.

There are two lakes downstream of Big LaSalle Lake in the same tunnel valley, Middle LaSalle Lake (a small lake about two miles from the pipeline crossing,) and LaSalle Lake, about 3.5 miles from the crossing. The Mississippi River is immediately downstream of LaSalle Lake, about 5.5 miles from the pipeline crossing. LaSalle Lake is an extremely high value Minnesota resource, based on the following information from the DNR about the LaSalle Lake State Recreation Area (SRA):

*"At 221 acres and 213 feet deep, with over 18,600 feet of shoreline, LaSalle Lake is one of Minnesota's most pristine and deepest lakes. The lake supports walleye, northern pike, largemouth bass, black crappie, and bluegill sunfish populations. . . .In the early 1990s, an early Native American Elk Lake Culture prehistoric site was discovered adjacent to LaSalle Creek near the outlet of LaSalle Lake. The site was identified during planning for an upgrade of the county highway and was partially excavated in 1995 before the road was rebuilt.*

*The Institute for Minnesota Archaeology states: "...artifacts recovered from the LaSalle Creek site have provided archaeologists with a clearer picture of how the producers of Brainerd Ware ceramics lived, what they ate, and what tools they made. In addition, the date of 3,180 years ago obtained from charred residue on the inside of a ceramic shard at the LaSalle Creek Site is one of the earliest known dates for an Elk Lake Culture occupation in Minnesota."*

*The northern headwaters of the Mississippi River is an extremely important area for these early archaeological sites, and additional cultural resource areas may be discovered on the property. Because the side slopes of the LaSalle Creek glacial tunnel valley and LaSalle Lake's bottom are so steep, the lake's littoral zone is relatively narrow and represents a very small portion of the lake's surface area. . . .The landscape was identified by the Minnesota County Biological Survey (MCBS) as an area of "High and Outstanding Biodiversity Significance." Over 90 species of trees and shrubs and more than 140 species of herbaceous plants, including 12 species of orchids, have been surveyed and recorded growing in the area.*

*MCBS has also identified numerous rare, threatened, endangered, and special concern species of plants and animals, including ram's head lady slipper, hair-like sedge, northern oak fern, two species of caddisfly, and trumpeter swan.*

*LaSalle Lake's west facing slopes host red pine and jack pine forests and woodlands. East facing slopes are covered with hardwood forests that include occasional large white pines, balsam fir, and white spruce. To the north, close to where the LaSalle Creek empties into the Mississippi River, a small but high quality old-growth northern white cedar forest exists where springs emerge from terraced slopes. A portion of La Salle Lake SRA has been designated as a scientific and natural area (SNA), recognizing the high quality native communities and rare plant and animal species found there." (MDNR web site description of SRA.)*

Example 1: Consequence analysis of an "worst-case" pipeline rupture and oil release at the crossing of the LaSalle Creek tunnel valley. The following is a preliminary list of issues that need to be addressed in a proper analysis:

1. A "worst-case" pipeline rupture for a 36 inch pipeline is calculated to be about 20,000 barrels of oil, according to the studies cited in Item #3 above, even with a rapid response time. Also, the Enbridge 36-inch pipeline rupture in 2010 in Michigan was about 20,000 barrels, even though it wasn't a "worst-case" rupture with respect to the type of rupture that occurred (a "fish-mouth" break occurred whereas normal "worst-case" considers a "decapitation" break where the entire pipe is opened. The issue at the Michigan spill was that Enbridge didn't shut down the pipeline for 17 hours after the rupture.) That rupture polluted at least 35 miles of the Kalamazoo River, and clean-up costs have reached \$1.3 billion.
2. As noted, the two Enbridge pipelines are proposed to be constructed alongside three other older pipelines now present at the LaSalle Creek crossing. As discussed in Item #14 in Attachment 1, "worst-case" risk assessments consider the scenario of a pipeline rupture accompanied by fire. Therefore, study is needed to assess whether if this occurs, adjacent pipelines will be damaged and also rupture before they could be shut down.
3. Critical resources are very close to the pipeline route. Big LaSalle Lake is one-half mile downstream of the pipeline crossing of the tunnel valley and creek, and would be closer than that with the proposed Enbridge crossings. The LaSalle Lake State Recreation Area is 3.5 miles downstream, and the Mississippi River is 5.5 miles downstream from the crossing. In other words, *these stream reaches are much closer and could have a similar result as occurred in the 35 mile stretch of the Kalamazoo River in Michigan polluted by another Enbridge project.* In addition, the Exponent Report cited in Item #3 in attachment 1 indicated that impacts associated with small streams should be assessed out to 10 miles from the pipeline in landscapes such as this.
4. All of the tunnel valley, creeks, lakes, and Mississippi River have poor access for clean-up equipment.
5. Steep terrain means pipeline ruptures at various locations can reach these critical waters.
6. The break-out of drilling mud during construction of the MinnCan pipeline occurred in the winter. Springs were so abundant that the ground and wetland surfaces were unfrozen even in a cold midwinter. Even relatively light motorized equipment for clean-up could not be used, and clean-up was done largely by hand, and with small pumps. This characteristic of the lower parts of the slopes of the LaSalle Creek tunnel valley is present all the way to the outlet of LaSalle Lake. *Therefore, heavy equipment either will not be able to be used for clean-up, or, if used, will cause all sorts of long-term environmental damage.*
7. A proper assessment must take into account whether an oil spill at this location could ever be cleaned up, and would need to address potential impacts to all of the values inherent in these downstream locations.
8. A proper assessment of alternatives must compare potential impacts at this site with potential impacts along other routes, such as the southern and western alternative to take Bakken oil directly to the Chicago area rather than through Superior, Wisconsin. The federal Clean Water Act, and National Environmental Policy Act requires that alternatives that have fewer impacts be carefully considered.

**Example 2: Proposed Enbridge Sandpiper/Line 3 projects effects on Upper and Lower Rice lakes, the Wild Rice River and potential impacts to wetlands, cultural resources, wild rice, and environmental justice issues. Southern Clearwater County Minnesota.**

Site description and Enbridge proposals. The proposed route crosses the upper watershed of the Wild Rice River, and crosses the edge of Mud Lake, a small shallow lake containing wild rice. This lake has an outlet that reaches the Wild Rice River via a ditch about three miles long. The river itself originates as an outlet of Upper Rice Lake. The existing pipeline route also crosses wetlands that are about one-half mile from Upper Rice Lake.

Upper Rice Lake is a well-known wild rice lake, and is considered a highly important waterfowl lake. Even though shallow, at times it has a significant northern pike population and fishery. The Upper Rice Lake Wildlife Management Area is adjacent to this lake, and is described as follows: *"This WMA is mixed grassland, wetland and forest which adjoins Upper Rice Lake, a 1860-acre major migratory waterfowl and wild rice lake. About 40% of this unit is upland and lowland forest, 35% wet meadow, shrub wetland and marsh. Deer, bear, ruffed grouse, goose and duck hunting and wildlife observation opportunities exist on this unit."* (DNR web site.)

I became acquainted with this area when the MinnCan pipeline was proposed and constructed through the Mud Lake wetland. While working at the Minnesota DNR, I documented that long-term impacts have resulted from installation of the pipelines at this location.

Lower Rice Lake is about seven miles "as the crow flies" from Upper Rice Lake, and likely about 10 river miles downstream on the Wild Rice River. This lake is about 2,000 acres in size, and, according to a report on the lake, it is *"the major wild rice producing lake on (the White Earth Reservation and) produces more than 200,000 pounds of rice each year. Many individuals gather here in the fall to harvest wild rice."* ("Lower Rice Lake, the major wild rice-producing lake on the White Earth Reservation: Historic to Present Water Levels," Lainey Fineday, White Earth Tribal and Community College, 2011 NASA- Kiksapa Summer REU.)

The surface of Lower Rice Lake, as well as and a number of square miles surrounding it, are closed for ricing and hunting by non-White Earth band members. Therefore, little is known about it outside of Ojibway people and waterfowl specialists. My personal knowledge of the lake comes from two technical sources, and a long-term personal knowledge of the lake and its surrounding area. I did a waterfowl study of the lake for an undergraduate class while attending the University of Minnesota field station at Itasca State Park. But importantly, while employed at the DNR, I was involved in the restoration of the river and wetlands south of Minnesota Highway 200. They are immediately upstream of the lake, and are important to its water quality and growth of rice. The Wild Rice River crosses Highway 200 twice, first flowing south, and then back north and on into the lake. A bypass ditch was built in the 1930s to divert flow along the north side of the highway in order to reduce the need for bigger bridges for the two crossings. I worked with the Minnesota Department of Highways, and the White Earth Biology Office to accomplish the restoration while employed at the Minnesota DNR.

The restoration of the river and wetlands resulted in less fluctuations of water levels in Lower Rice Lake and potential long-term improvement in water quality—because flood flows spread out over the wetlands instead of immediately dumping into the lake. The White Earth Biology Office concluded that this benefited the wild rice growth, and reduced the potential for contamination from large, old poultry operations a short distance upstream on the Wild Rice River.

Since I have had a professional and personal interest in this lake for many years, I have seen first-hand the abundance of waterfowl that use the lake when the wild rice is ripe. I have seen waterfowl concentrations as large or larger than those I have seen elsewhere, including in other states. Data on this use will be available in DNR files, since they fly the lake doing waterfowl counts. One autumn about seven years ago, while I watched from Bonga Landing, the ricing access near the outlet, enormous numbers of waterfowl flights were in the air and in the rice. Many species were represented. Later, I learned the DNR had coincidentally flown the lake about the time I was there in order to count waterfowl. They estimated conservatively that 20,000 waterfowl were on the lake. When pressed, the individual who did the count said it could have been 40,000 birds present. There were so many birds in the air they could only safely make one pass over the lake, he said.

Lower Rice Lake is of high cultural and heritage significance to not only the White Earth Band, but likely to the Ojibway of Minnesota in general. George Bonga, for which the name "Bonga Landing" comes from, was an early fur trader and historic figure in this area. Also, according to an individual in the White Earth Biology Office, this was the pre-settlement site of peaceful gatherings between the Ojibway and the Santee from the Dakotas—while trading for rice and perhaps buffalo hides. (These tribes were normally enemies, at least at times.) In addition, the original land survey of Minnesota identified a trail already in existence at the time of the 1850s survey from the Lower Rice Lake area to the outlet of the Red Lake River at Upper Red Lake Northwest of Bemidji.

Lastly, I need not describe the cultural and religious significance of wild rice to the Ojibway. I only wish to emphasize as strongly as possible that wild rice on Lower Rice Lake could be considered almost the epitome of growth of this plant, and of its significance to the Ojibway. At times, it looks as if the entire 2,000 acres is all in one stand of rice. Below is a picture taken of ricing at the lake. (Source: Canku Ota (Many Paths), An Online Newsletter Celebrating Native America, October 1, 2009 - Volume 7 Number 10.)



Poling The Canoe Through The Wild Rice Bed

Example 2: Consequence analysis of an "worst-case" pipeline rupture and oil release affecting Upper and Lower Rice Lakes, adjacent wetlands, cultural and religious significance of wild rice, and waterfowl and other natural resources values.

The following is a preliminary list of issues that need to be addressed in a proper analysis. There are some similarities to Example 1 for the LaSalle Creek area:

1. A "worst-case" pipeline rupture for a 36 inch pipeline is calculated to be about 20,000 barrels of oil, according to the studies cited in Item #3 above, even with a rapid response time. Also, the Enbridge 36-inch pipeline rupture in 2010 in Michigan was about 20,000 barrels—even though it wasn't a "worst-case" rupture with respect to the type of rupture that occurred (a "fish-mouth" break occurred whereas normal "worst-case" considers a "decapitation" break where the entire pipe is opened. The issue at the Michigan spill was that Enbridge didn't shut down the pipeline for 17 hours after the rupture.) That rupture polluted at least 35 miles of the Kalamazoo River, and clean-up costs have reached \$1.3 billion.
2. The two Enbridge pipelines are proposed to be constructed alongside 3-4 other older pipelines now present on this route. As discussed in Item #14 in Attachment 1, "worst-case" risk assessments consider the scenario of a pipeline rupture accompanied by fire. Therefore, study is needed to assess whether there is any chance adjacent pipelines will be damaged and also rupture before they could be shut down. If so, the analysis must address this additional "worst-case."
3. Both Upper and Lower Rice Lake and associated wetlands are within about 10 miles of the Enbridge proposed crossings of their watershed and of waterways capable of carrying oil downstream. The Exponent Report cited in Item #3 in attachment 1 indicated that impacts associated with small streams should be assessed out to 10 miles from the pipeline in landscapes such as this. Furthermore, as noted above, the Enbridge pipeline rupture in Michigan in 2010 polluted a 35 mile stretch of the Kalamazoo River in Michigan.
4. Wild rice is sensitive to oil pollution, and is likely sensitive to dredging operations to clean up oil spills. Wetlands adjacent to wild rice waters are important for maintaining water quality in these lakes.
5. This area has extremely poor access for clean-up equipment, especially heavier equipment. Clean-up operations themselves can damage wetlands for the long-term.
6. Steep terrain is less of an issue in this area as compared to the LaSalle Creek area. However, the large drainage area can mean rapid downstream transport of oil if leaks and ruptures that reach the Wild Rice River during high flow periods.
7. A proper assessment must take into account whether an oil spill at this location could ever be cleaned up. It would need to address potential impacts to all of the values inherent in these downstream locations, including environmental, cultural, historic, and religious issues.
8. A proper assessment of alternatives must compare potential impacts at this site with potential impacts along other routes, such as the southern and western alternative to take Bakken oil and Line 3 oil directly to the Chicago area rather than through Superior, Wisconsin, given the requirements of the federal Clean Water Act, and National Environmental Policy Act to address alternatives that have fewer impacts.



September 30, 2015

Jamie MacAlister, Environmental Review Manger  
Minnesota Department of Commerce  
85 7th Place East, Suite 500  
St. Paul, MN 55101

PL-9/CN-14-916 – Certificate of Need  
PL-9/PPL-15-137 – Route Permit

Re: Public comment on Line 3 Notice

I hereby submit the following comments on this project.

**I. Procedural issues and fulfillment of the intent of the Minnesota Environmental Policy Act.**

A. Confusion in state government. There is potential—and actual—confusion in the PUC and Department of Commerce regarding both the procedures for reviewing the Line 3 and Sandpiper Enbridge projects, as well as the application of the Minnesota Environmental Policy Act. However, there are factual statements that can be made regarding such policies and procedures. The over-riding facts are these:

1. The Minnesota Court of Appeals has stated an EIS is necessary and must be completed before the Certificate of Need is completed on Sandpiper.
2. A Certificate of Need is also needed on Line 3.
3. Sandpiper and Line 3 are proposed to be located for most of their routes generally within a few feet of each other, and essentially in the same construction time frame.
4. The purpose of these projects, as well as the other Enbridge pipelines, is largely to carry petroleum product to refineries far to the Southeast and South of Minnesota—not Superior Wisconsin.
5. The PUC has stated that "cumulative impacts" of Line 3 must be addressed during the review of Sandpiper—without explaining how this is done.
6. The language of MEPA regarding the policies to be implemented by state agencies, and the purpose of this law, as well as its regulations and MEQB guidance documents, *factually exist*.
7. Enbridge is also in the process of seeking an enlargement of its Line 67.
8. There are two older pipelines in the Enbridge mainline corridor that pre-date Line 3.
9. Enbridge has multiple pipelines in Minnesota and frequently talks about its "system." In addition, it has historically changed the product flows *in this system* to meet its various contracts and purposes.

**B. Conclusions that flow from these facts.**

1. Environmental review policies (supported by case law and regulations) regarding projects that are proposed in the same location in the same time period mean they must be reviewed together. This is therefore more than a "cumulative impacts" analysis endeavor. Rather, essentially, Enbridge has proposed enlargement of its "pipeline system" with two pipelines in the same place.
2. The manner in which project alternatives are defined in environmental review policies is to identify alternatives which achieve the project purpose. In the case of both Enbridge pipelines, the purpose is to carry petroleum project to refineries in the Chicago area, farther east, and also to the Gulf Coast. Therefore, alternative physical routes to achieve this, as well as alternate pipeline configurations, are to be identified.
3. The replacement of the two older pipelines in the Mainline Corridor need to be addressed in the EIS analysis, since there is potential for future additional pipelines being proposed in the new corridor. Line 13 in the Mainline Corridor is an old line, and is inside the corridor—which means it has the same replacement problems that Line 3 has (according to Enbridge.) When this needs replacement, will Enbridge propose that it too go into the new Line 3/Sandpiper corridor Enbridge proposes to create?
4. An EIS must be done on the Certificate of Need for the Line 3 project.
5. Enbridge's product flows within its multiple pipelines should be subject to public interest review—and analysis in this (or these) EISs since there is potential to reduce environmental impacts by changing such flows while still yet meeting the needs of downstream users or refineries, since, under MEPA, *economic considerations alone do not determine permit decisions*.
6. In the face of procedural and regulatory confusion, the language of MEPA needs to be consulted, lest regulators stray into perversion of the statute's intent. If one does this, MEPA guidance (as well as regulations) is to do an EIS on both Sandpiper and Line 3, and to look at alternative routes in this analysis that go directly to the Chicago (and so forth) locations, rather than the longer routes through Wisconsin.

## **II. Proposed Enbridge Sandpiper and Line 3 Enlargement/Relocation/Abandonment projects in Minnesota: Policy and technical reasons for independent, scientifically sound analysis of the risk and environmental, cultural, and human consequences of oil releases for the 50 + years of the projects**

I hereby submit the attached letter written by me to the US Environmental Protection Agency, Army Corps of Engineers, and the Minnesota Department of Commerce, dated August 29, 2015. It has the above title, and is a comment identifying key issues and recommending techniques of accomplishing the proper assessment of risk and consequences of oil spills.

## **III. Proposed Alternative to Line 3 to be studied: Replacement of Line 3 capacity by replacing and/or enlarging the two older pipelines in the Enbridge mainline corridor to Superior and by shifting product flows within the Enbridge system.**

A. Proposed alternative: remove Line 2 (26 inches) and Line 13 (18 inches) and replace with two other bigger pipelines, or various iterations of this plan.

The following discussion provides a basis for concluding that this alternative needs careful study in the EIS. I am not stating I favor this alternative, instead I strongly feel it needs careful analysis and independent review from experts outside of Enbridge itself.

Figure 6.6.1-2 of Enbridge's application for a Route Permit for Line 3 indicates a "typical pipeline configuration of the Enbridge mainline system." (Page 6-9). The two pipelines shown to be on the outside (north side) of the mainline corridor are Line 2 and Line 13. Each pipeline in this corridor is shown to have a separation of 25 feet.

Enbridge spent considerable time in its application discussing the alternative on digging up Line 3 and replacing it. Enbridge stated there are major problems in doing this because Line 3 is in the midst of the seven pipelines shown in Figure 6.6.1-2. (Elsewhere it is noted that there are six pipelines east of Clearbrook.) They state that doing this would be very difficult because of the need for extensive bridging, long construction times, and risk to existing lines, and so forth.

Based on the Enbridge strong statements that the obstacle to replacing Line 3 is that it is inside its mainline corridor, it is an entirely reasonable to conclude:

1. This problem doesn't exist for the two outside lines, Line 2 and 13.
2. Line 2 and 13 are even older than Line 3. It must be assumed they need replacement at some time.
3. If these two pipelines were removed and replaced with bigger pipelines—size unknown at this time—it is possible Enbridge could build such projects within the same right of way as currently exists through Indian reservation land and through U.S. Forest Service land. At least, likely enough so that such an alternative should receive a very serious look. According to the page 6-19, Enbridge Line 4 is 34/48 inches in diameter.
4. It would seem reasonable that a new 48 inch pipeline could easily carry more than the capacity of a 16 and 26 inch line. Line 3 could then be built alongside this other new line, resulting in added capacity to the mainline system and still be within the same corridor.

B. The issue then remains as to how to deal with getting product to refineries during the down time while these two lines are removed and replaced.

This would be part of the analysis, and would need substantially more—but necessary—information on Enbridge terms and data about its system. Here are some thoughts on the subject:

1. A large benefit would appear to be that two old pipelines—approximate 63 and 67 years old respectively—would be replaced with new.
2. Prior to commencing the removal and replacement, Enbridge could build a new pipeline of indeterminate size from Canada to Clearbrook, according to their current proposal. Currently there are proposals to increase capacity in the current pipelines south of Clearbrook. Enbridge could then route product south of Clearbrook while Lines 2 and 13 are out of service via agreements.

3. What to do with Lines 2 and 13 west of Clearbrook would need to be examined. Conceivably, they could be kept in service somewhat longer and the new pipeline built west of Clearbrook could be smaller.
4. Under this scenario, Line 3 would continue to be used until the new lines are constructed.
5. Alternatively, Enbridge is now expanding capacity of Line 67. While Lines 2 and 13 are out of service, product could be routed to Line 67 and the Line 67 expansion delayed.
6. Are the other two lines in the mainline corridor (Line 4 and 1) at maximum capacity? If not they could take up some of product while 2 and 13 are out of service.
7. Pipeline construction proceeds with contracts with separate pipeline contractors in "spreads." Enbridge, at additional expense, could hire additional contractors in order to speed up construction. Line 2 and 13, or variations thereof, could be out of service for 1.5 years or perhaps even less if construction went well and with proper planning and coordination.

#### **IV. Conclusion**

This concludes my comments. Please contact me with any questions, and thank you for your consideration.

Sincerely,

Paul Stolen  
37603 370<sup>th</sup> Av SE  
Fosston, MN 56542  
218-435-1138

Please provide your contact information. This information and your comments will be publicly available.

Name: Paul Struse Phone: 651-380-8067  
Street Address: 28833 365 TH ST.  
City: COONING State: MN ZIP: 55027  
Email: STRUSEP@HOTMAIL.COM

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the Route Permit)
- Are there any alternatives to the project that should be considered? (Related to the Certificate of Need)

- CREATES GREAT JOBS  
- PIPELINES ARE SAFER way OF TRANSPORTATION  
- PLEASE SUPPORT THIS PIPELINE  
- PRODUCTS WILL FLOW TO OUR AREA, CREATING MAJOR  
ECONOMY + IMPACT FINANCIALS OF MIDDLE CLASS WORKING FAMILIES.

Please provide your contact information. This information and your comments will be publicly available.

Name: MIKE SUNDSDMO Phone: 651-494-2439

Street Address: 2314 EAST COUNTY RD. F

City: WHITE BEAR LAKE State: MN ZIP: 55110

Email: \_\_\_\_\_

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the *Route Permit*)
- Are there any alternatives to the project that should be considered? (Related to the *Certificate of Need*)

IF IT IS NOT TAKEN CARE OF, IT WILL TURN  
INTO A BIGGER PROBLEM! REPLACE THE LINE!

**From:** [Nancy Terhark](#)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** Fwd: Public Comment:Line 3 Pipeline Replacement Project (PL-9/CN-14-916,PPL-15-137)  
**Date:** Tuesday, September 29, 2015 3:21:27 PM

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Sent from my iPad

Begin forwarded message:

**From:** Nancy Terhark <[nancyterhark@gmail.com](mailto:nancyterhark@gmail.com)>  
**Date:** September 29, 2015 at 3:07:22 PM CDT  
**To:** [jamie.macallister@state.mn.us](mailto:jamie.macallister@state.mn.us)  
**Subject:** **Public Comment:Line 3 Pipeline Replacement Project (PL-9/CN-14-916,PPL-15-137)**

Nancy Terhark  
818 Woodland Ave.  
Park Rapids, MN 56470  
763-442-4295

Jamie MacAlister,

In light of the recent Court of Appeals decision on the need for a complete Environmental Impact Statement (EIS) for the Sandpiper Line I believe and am officially requesting that a full and complete EIS be part of the decision for the Line 3 replacement as well. The environmental impact of a pipeline through the designated route causes great concern to those of us who live in the city of Park Rapids. We place great value in our aquifers, wild rice beds, wetlands, and in our northern Minnesota lakes, streams, and rivers and request a thorough and independent evaluation of any project that would allow a pipeline to be routed through them.

Thank you,

Nancy Terhark,

--

Nancy

Please provide your contact information. This information and your comments will be publicly available.

Name: Chris Thacker Phone: 218-728-5151

Street Address: 2002 London Road

City: Duluth State: MN ZIP: 55808

Email: \_\_\_\_\_

**Please share your comments on the proposed Line 3 Pipeline Replacement Project.**

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the Route Permit)
- Are there any alternatives to the project that should be considered? (Related to the Certificate of Need)

I am here today to support the Line 3 replacement project. Pipelines are the safest and most efficient way to transport oil. There is a need to replace the aging existing Line 3. Enbridge can replace Line 3 safely and efficiently. We all use oil daily in one form or the other. There is a need for this project, so please approve it.

Thank you, Chris Thacker

Please provide your contact information. This information and your comments will be publicly available.

Name: Roger Thein Phone: 651 653-3652

Street Address: 5385 Reed Place

City: White Bear Lake, State: MN ZIP: 55110

Email: exergy3206@comcast.net

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the *Route Permit*)
- Are there any alternatives to the project that should be considered? (Related to the *Certificate of Need*)

*There is no safer way to transport oil. Replace and upgrade the existing pipeline.*

September 30, 2015

Jamie MacAlister, Environmental Review Manager  
Minnesota Department of Commerce  
85 7<sup>th</sup> Place East, Suite 500  
St. Paul, MN 55101

Sent via email to [Jamie.macalister@state.mn.us](mailto:Jamie.macalister@state.mn.us)

Re: PUC Docket Numbers PL-9/CN-14-916 Certificate of Need PL-9/PPL-15-137  
Route Permit

Dear Ms. MacAlister:

As a Minnesota resident and taxpayer, I am writing regarding PUC Docket Numbers PL-9/CN-14-916 Certificate of Need PL-9/PPL-15-137 Route Permit. As recently ruled by the Minnesota Court of Appeals, an environmental impact study with ample opportunity for public input should be conducted prior to the issuance of a Certificate of Need.

If we are to risk subjecting our fragile Mississippi Headwaters to the impact the construction of a pipeline and a potential spill would pose, we should take the time to follow clear Minnesota environmental law. Doing any less than this is a breach of the public trust.

Sincerely,

Lisle Thielbar  
Plymouth, MN

**From:** [Chris Thillen](#)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** Enbridge Plan  
**Date:** Tuesday, September 29, 2015 10:05:38 AM

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I have lived in Minnesota all my life and am deeply concerned about Enbridge's plan to add a new pipeline corridor from the Mississippi Headwaters to Superior, Wisconsin. Here are some of the things I want you to consider while making your decision:

- The route that Enbridge has chosen runs through some of the cleanest lakes in Minnesota. We can't keep treating our lakes like they don't matter, when they will in fact be more valuable to future generations than oil.
- All of the people who have spoken out in favor of the pipeline are in it for the money. The risks of a new pipeline route far outweigh the benefits to all Minnesotans who will have no direct benefit, such as temporary jobs.
- The current Line 3 is in such bad shape, Enbridge claims it's too difficult to repair. This line should be decommissioned, removed, and shut down completely. There should be no more Line 3, no more tar sands being pumped through Minnesota.
- We need to address climate change now, not later. Let's keep Minnesota clean and green, and continue to be among those states leading the way in environmental concerns!

Thank you.  
Chris Thillen



Recd 08-19-15  
Park Rapids - 11AM

**Comment Form: Scoping**  
Energy Environmental Review and Analysis

Please provide your contact information. This information and your comments will be publicly available.

Name: Steve Trepanier Phone: 218 830 0548

Street Address: 5810 Blueberry Lane N.W

City: Bemidji State: MN ZIP: 56601

Email: Trep5@paulbunyan.net

**Please share your comments on the proposed Line 3 Pipeline Replacement Project.**

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the Route Permit)
- Are there any alternatives to the project that should be considered? (Related to the Certificate of Need)

The project is a huge ~~econ~~ economic benefit to our area. I support the pipeline 100%. The pipeline will supply a product that we all benefit from. Pipelines are the safe way to transport the product.

**From:** [Ann Truelson](#)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** Sandpiper / Line 3 replacemnt comments  
**Date:** Monday, August 31, 2015 12:54:53 AM

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Environmental document:

The Line 3 replacement/ Sandpiper oil line is a potential hazard to the Mississippi headwaters. Past records of 52 oil spills in MN is a clear record that cannot be ignored. Minnesota's decision to allow an oil line thru the Mississippi headwaters affects all the people down stream - 15 million people use the Mississippi for drinking water in 50 communities in many states. A toxic spill of hundreds of gallons of tar sand oil into the Mississippi headwaters would risk water for all who use the river water.

The migratory birds use the Mississippi for food, water & a resting place on their long journey to the Gulf or South America.

The Loon population of MN & WI has been greatly affected by the BP oil spill of 2010 in the Gulf. Many birds died. Current studies on the Loons show their systems have chemicals from the Gulf oil spill which are causing possible long term health problems.

Route:

Line 3 should be replaced in it's current location. The line is old and failing - leaking oil which contaminates the ground and water surrounding the pipeline. Enbridge has many oil spills which they worked on to clean up in other states and countries

Enbridge has a responsibility to decontaminate the area in MN and remove the entire oil line as each section fails the problem grows.

Another route to the south of the Sandpiper proposed route is over dry ground which would lesson the risk of water contamination.

MN cannot risk an oil spill into the headwaters of the Mississippi as millions of people depend on it's water for life!

Ann Truelson (218-426-3381)  
20783 508Th Lane McGregor Mn 55760

Please provide your contact information. This information and your comments will be publicly available.

Name: Iyler Ivonne Phone: 763-772-8269

Street Address: 703 121<sup>st</sup> LN NE

City: Blaine State: MN ZIP: 55434

Email: Ivonne@iylor.com

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the Route Permit)
- Are there any alternatives to the project that should be considered? (Related to the Certificate of Need)

- Minnesota need jobs!

**From:** [d-boy](#)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** Sept. 30, PUC Hearing  
**Date:** Tuesday, September 29, 2015 10:46:04 AM  
**Attachments:** [KXL.odt](#)

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RE: PL-9/CN-14-1916 Certificate of Need  
PL-9/PPL-15-137 Route Permit

My name is Donald Twaddle and I live north of Staples, MN. I am absolutely opposed to line 3 across the Headwaters of the Mississippi.

1. Facts do not support a need for tar sand as a Minnesota utility
2. Oil pipeline spills are about 1/3 as frequent as train spills but spill 3 times as much
3. Oil pipeline spills are much more difficult to clean up. There are still 20 feet of oil at the bottom of an an aquifer near Bemidji and the spill occurred in 1979.
4. The US needs to reduce the carbon footprint and tar sands are some of the dirtiest and worst at increasing carbon pollution.
5. The oil produced is destined for sale abroad. Congress has made it clear they want to remove the ban on sales of oil to foreign countries.
6. Enbridge does not have a good safety record.
7. There is a safer, but longer, route that could be used.
8. The Enbridge/PUC attempt at an end run around the EIS is egregious. If the proposed line would have such little impact on the environment, why resist the EIS?
9. I have attached some of the information I have gathered which, I believe, supports my opposition to the Certificate of Need and the Route Permit. I do realize that some of it refers to the KXL but all of it applies to line 3 as well.

Park Rapids Enterprise

Letter: Oil spills are a concern

By John Weber from Nevis on Jan 31, 2015 at 4:36 p.m.

There is already one oil spill study site in northern Minnesota: Pinewood near Bemidji. Back in 1979 a spill happened in a shallow, glacial aquifer there. After all these years it has only been partially cleaned up. Still two feet of oil under 20 feet of water. [democraticunderground.com](http://democraticunderground.com) reported in Nov., 2014, "To date, TransCanada has had almost 50% of the pipe manufactured outside the U.S."

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TransCanada predicted 11 possible oil spills in first 50 years; there were 30 the first year.

In May 2011, a Keystone pipeline pumping station in North Dakota failed, sending 21,000 gallons of crude oil spewing into the air. It was one of many failures. In a single year, Keystone experienced 14 oil spills in several states.

For the record, pipeline maintenance will require 35 permanent employees, plus 15 temporary contract jobs. Construction will employ approximately 42,000 additional people, directly or indirectly, for a period of two years or less. (That's all according to numbers directly from the U.S. State Department's report on the pipeline, which came from TransCanada.)

Mike Klink, a former pipeline inspector for Bechtel, which was working under contract with TransCanada — the company behind KXL — became a whistleblower when he wrote that TransCanada cut corners on the construction of the pipeline and as a result the project is a spill waiting to happen.

Feb. 2012 Representative Mike Doyle (D-PA) revealed that he found that 148 miles of pipe have already been constructed in India and shipped to Welspun's subsidiary Welspun Tubular in Little Rock, AR.

The steel being used comes from the same Indian manufacturer behind the original Keystone pipeline, which has already seen 12 spills in one year, possibly because of defective steel.

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Pipe Dreams? Cornell study on Keystone and...

[www.democraticunderground.com](http://www.democraticunderground.com) > ... > Forums & Groups > Main

Nov 21, 2014 · Report Overview TransCanada, the American Petroleum Institute and other proponents of the Keystone XL (KXL) ... (The Perryman Group study).

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".....but the ultimate shift to sustainable energy is dependent upon Congress having the foresight to see

the transition through." Rep John Conyers 1/09/15

Trains have twice as many spills; pipelines spill 3 times as much oil. Is anybody determining how many of these exploding tankers are substandard?

How much of Enbridge's justification of need is based on the current decline? And, there is still going to be a need for trains to carry crude east of the Mississippi. One doesn't see that mentioned very often.

Please provide your contact information. This information and your comments will be publicly available.

Name: Paul Utke Phone: 218-255-1131  
Street Address: 15666 Deerwood Loop  
City: Park Rapids State: MN ZIP: 56470  
Email: paulutke@unitelc.com

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the Route Permit)
- Are there any alternatives to the project that should be considered? (Related to the Certificate of Need)

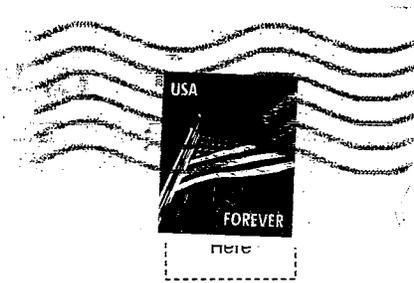
The proposed Line 3 Pipeline Replacement Project is a much needed improvement. We as a city, county, state, and nation need to do everything we can to help support the transfer of oil from its source to refineries as efficiently and safely as possible. **I personally fully support the current proposed route and scope of work.** Enough studying and meetings have been done; it is time to get the project started.

Pipelines built with today's technologies and materials are the most efficient and safest way to move oil in our country. They could run the line under my house if they needed to. I am completely confident in the company's ability to build and maintain a safe oil transportation pipeline.

This pipeline also has a positive economic impact for our city, county and state! Please help this project move forward and get the work started.

Paul Utke  
15666 Deerwood Loop  
Park Rapids, MN 56470

MINNEAPOLIS MN 553  
TAPE HERE (PLEASE DO NOT STAPLE)

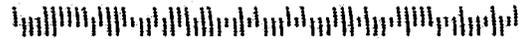


Energy Environmental Review and Analysis  
MN Department of Commerce  
85 7th Place East, Suite 500  
Saint Paul, MN 55101-2198

RECEIVED  
SEP 30 2015  
MAILROOM

JAMIE MACALISTER  
MN DEPARTMENT OF COMMERCE  
85 7TH PLACE EAST STE 500  
SAINT PAUL MN 55101-2198

55101601399



FOLD HERE

## Public Comment Period Closes Wednesday, September 30, 2015

Comments must be post-marked or received electronically by the comment deadline.

### *How to comment:*

- Submit this form to the Environmental Review Manager at a public meeting
- Mail this form remembering to affix appropriate postage
- Mail comments in a separate envelope using the mailing address on this form
- Fax comments to the Environmental Review Manager: (651) 539-0109
- E-mail comments to the Environmental Review Manager: [jamie.macalister@state.mn.us](mailto:jamie.macalister@state.mn.us)
- Use the online comment form at: <http://mn.gov/commerce/energyfacilities/#comment>

Comments do not need to be on this form to be accepted. We encourage you to provide comments in whatever way is most convenient for you. If commenting by email or fax use "Public Comment: Line 3 Pipeline Replacement Project (PL-9/CN-14-916, PPL-15-137)" in the subject line.

**THANK YOU for participating in the permitting process!** By commenting you are helping inform the Minnesota Public Utility Commission's decision regarding this project.

FOLD HERE

### **Line 3 Pipeline Replacement Project** Docket Nos. PL-9/CN-14-916, PPL-15-137

Applicant's stated purpose: The Line 3 Pipeline Replacement Project is designed to replace an existing pipeline that enters Minnesota in Kittson County and terminates in Superior, Wisconsin, and to continue deliveries to Minnesota Pipe Line Company at the Clearbrook Terminal.

Please share your comments on the proposed project. Comments will be used to help focus the environmental review on the potential human or environmental impacts and issues important to making an informed permit decision. Please be as detailed as possible. Use additional pages as needed. Contact the Environmental Review Manager, Jamie MacAlister, with any questions about commenting generally or submitting your comment(s). For help suggesting an alternative route, refer to the meeting handout: *How to Suggest an Alternative Pipeline Route* available through the project information web link below.

For project information visit: <http://mn.gov/commerce/energyfacilities/Docket.html?Id=34079> or contact the Environmental Review Manager at: [jamie.macalister@state.mn.us](mailto:jamie.macalister@state.mn.us) or (651) 539-1775.

**From:** [apache@web.lmic.state.mn.us](mailto:apache@web.lmic.state.mn.us)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** Viner Wed Sep 30 22:17:48 2015 PPL-15-137  
**Date:** Wednesday, September 30, 2015 10:17:49 PM

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This public comment has been sent via the form at: [mn.gov/commerce/energyfacilities/publicComments.html](http://mn.gov/commerce/energyfacilities/publicComments.html)

You are receiving it because you are listed as the contact for this project.

Project Name: Line 3 Pipeline Replacement

Docket number: PPL-15-137

User Name: Martha Viner

County:

City: Albia

Email: [mviner@iowatelecom.net](mailto:mviner@iowatelecom.net)

Phone: 6419325440

Impact: I am the fourth generation to own Lakeshore land in Hubbard County Minnesota. I cherish the clear water of our Lake, the wildlife especially the loons which reflect the quality of our Lakes.

This Enbridge oil pipeline project will be within a mile of the Mississippi Headwaters and will be very close to the Mantrap chain which feeds our Lake. Enbridge is notorious for unmonitored spills. A test pipeline just this week leaked thousands of gallons of colored water. Enbridge has polluted the land and water of Alberta many, many times. Clean-up has been contentious.

Enbridge is a Canadian company whose own countrymen do NOT want their pipelines crossing and polluting Canada. There is much organized opposition in the neighboring provinces of Canada.

Enbridge will pay for a couple of seasons of construction and then remotely monitor the line so very few long term jobs are created.

Most importantly, we all know that this pipeline is NOT a PUBLIC utility so the Minnesota Public Utility Board cannot approve it as such. This pipeline goes directly to the refinery (Superior WI) and then directly to Houston and then directly to China. None of this corrosive tar sands oil is intended for use of by any of the public in Minnesota.

I am completely opposed to this project.

Mitigation: Do not route this corrosive tar sands oil through the lake region of Minnesota! Ship this stuff by rail until we finish transitioning to non-fossil fuels in the next 5 years. If you do not protect our state, we will end up like Louisiana with the Minnesota underground and shorelines swiss-cheesed with old unused pipelines and no one responsible to stop them from oozing and corroding. We already know that, unlike in Canada where old abandoned pipelines must be removed, our country just lets companies walk away from all responsibility.

Enbridge has a terrible reputation for shoddy pipelines and shyster politics in their own country.

Submission date: Wed Sep 30 22:17:48 2015

This information has also been entered into a centralized database for future analysis.

For questions about the database or the functioning of this tool, contact:

Andrew Koebrick  
andrew.koebrick@state.mn.us

**From:** [apache@web.lmic.state.mn.us](mailto:apache@web.lmic.state.mn.us)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** Viner Wed Sep 30 18:21:43 2015 PPL-15-137  
**Date:** Wednesday, September 30, 2015 6:21:44 PM

---

This public comment has been sent via the form at: [mn.gov/commerce/energyfacilities/publicComments.html](http://mn.gov/commerce/energyfacilities/publicComments.html)

You are receiving it because you are listed as the contact for this project.

Project Name: Line 3 Pipeline Replacement

Docket number: PPL-15-137

User Name: William Viner

County: Hubbard County

City: Park Rapids

Email: [willieviner@yahoo.com](mailto:willieviner@yahoo.com)

Phone:

Impact: The Court of Appeals ruled in favor of Friends of Headwaters' contention that an EIS was necessary under MEPA law. I'd like to point out that Enbridge and the DOC have to comply

Mitigation: The Court of Appeals ruled in favor of Friends of Headwaters' contention that an EIS was necessary under MEPA law. I'd like to point out that Enbridge and the DOC have to comply

Submission date: Wed Sep 30 18:21:43 2015

This information has also been entered into a centralized database for future analysis.

For questions about the database or the functioning of this tool, contact:

Andrew Koebrick  
[andrew.koebrick@state.mn.us](mailto:andrew.koebrick@state.mn.us)

## Ries, Natalie (COMM)

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**From:** Ries, Natalie (COMM)  
**Sent:** Monday, October 05, 2015 2:21 PM  
**To:** Ries, Natalie (COMM)  
**Subject:** FW: WAGES

---

**From:** Ron and Amy . [<mailto:reaw72@hotmail.com>]  
**Sent:** Wednesday, September 30, 2015 12:55 PM  
**To:** MacAlister, Jamie (COMM)  
**Cc:** Ron and Amy .  
**Subject:** Docket Numbers 15-137 and 14-916

My husband and I are opposed to the Enbridge's plan for Line 3 because:

- We need to start addressing climate change now, not later when it is too late.
- The route threatens Minnesota's cleanest lake area and rivers and forests.
- If there is a spill that goes into the Mississippi River how does that affect the environment, people, economy, and water quality of Minnesota and other states. People drink water from this river and this should be considered and studied.
- I want my grandchildren to have clean lakes, rivers, and environment to enjoy.
- The risks far outweigh the benefits. There are many more risks that I may not be aware of and can put in this email, that is why a EIS is needed.
- What is the effect on tourism (economy of region) if there is a spill?
- This would threaten the largest stand of natural wild rice in the country.
- We have to stop using tar sands and move towards renewable energy.
- If there was a spill (and there will be a spill with Enbridge's track record of spills), how are they going to clean it up and how are they going to alert someone if there is a spill. There are areas that are very remote and a spill may not be found for a long time. How will that affect the environment? You can not clean something like that up completely. It would be very bad for the lakes, rivers, people, tourism, economy, water quality and environment. Enbridge should be looked at for their record of spills and ability and timeline to recognize they have a spill and ability and timeline to clean up a spill on the ground, in a wet land, ground water (wells), lakes and rivers. The clean up should not take years, decades or generations. They should have the ability to restore the environment to the way it was before the pipeline was installed. Having a company pay penalties or go bankrupt so they do not have to clean up is not good enough for the people of Minnesota or the rest of the state along the Mississippi River.

There MUST be an Environmental Impact Statement (EIS) done for this pipeline and Enbridge. If Enbridge thinks it so safe, then they should not have an issue having a Environmental Impact (EIS) done. What don't they want us (people of Minnesota) to know.

Thank you for allowing us to raise our concerns.

Annemarie and Ronald Wages

**From:** [Beth Walling](#)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** written comments for Pine River hearing  
**Date:** Monday, August 24, 2015 1:34:08 PM

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PL-9/CN-14-916 *Certificate of Need* Page 3  
PL-9/PPL-15-137 *Route Permit*

Dear J MacAlister:

We have several concerns regarding both the Sandpiper and the Line 3 proposed pipelines:

1. Why is it necessary to go through such pristine land with the potential to erode/destroy water quality, wildlife, habitat, related economies and property value?
  - a. In Fifty Lakes, we don't even have agriculture north of us impacting our water quality.
  - b. If we can't be assured of the high environmental quality that we have presently, this will cause us to reconsider cabin remodeling plans presently in the design phase.
2. With so many of us experiencing frozen septic systems and water pipes due to lack of winter snowfall/thermal blanket over the last decade, how could there be insurances that the oil pipelines will not freeze and rupture as well?
3. It is hard to believe that the proposed properties seized under eminent domain will be equitably compensated as those will vary greatly in quality and value often subjective to the individuals affected.

Concerned property owners,  
Beth & WR Walling  
Eagle Lake, MN

To: Jamie MacAlister, Environmental Review Manager, Minnesota Department of Commerce  
jamie.macalister@state.mn.us

Re: The Minnesota Public Utilities Commission (PUC) Docket Numbers: PL-9/CN-14-916 -  
Certificate of Need PL-9/PPL-15-137 - Route Permit

On behalf of the Whitefish Area Property Owners Association (WAPOA), a nonprofit Sec 501c3 member association located in northern Crow Wing County, we firmly recommend and advocate for a continuance or delay in the consideration of the Certificate of Need and Route Permit for Enbridge's application for their Line 3.

The recent decision of the Minnesota Court of Appeals in reversing the MN Public Utilities Commission (MN PUC) decision approving the Certificate of Need for the Sandpiper pipeline and remanding the matter to the MN PUC and requiring an Environmental Impact Statement (EIS) be completed prior to any further consideration of Enbridge's applications for the Sandpiper pipeline. WAPOA fully agrees with the Court of Appeals decision, and have been advocating for the completion of an EIS.

Considering the requirement to complete the EIS, it logically follows that the Line 3 application must be continued, delayed, or denied until the EIS is completed. Enbridge's proposed routing for Line 3 follows the proposed routing for Sandpiper. It is obvious to WAPOA that the EIS must be completed before any further consideration by the MN PUC for Line 3.

Regards,

Thomas N. Watson  
President  
Whitefish Area Property Owners Association  
39195 Swanburg Court  
Pine River, MN 56474

September 28, 2015

PUC Dockets PL-9/CN-14-916 & PL-9/PPL-15-137

Please add these comments to what I already submitted at August 19, 2015 Public Information Meeting in Park Rapids, MN:

Before a CN proceeds on Line 3, a full EIS by the EQB with scoping assisted by MPCA and DNR should be performed. There is no guidance in MN law to do a CEA, but it exists for an EIS. In addition for having an EIS cover Minnesota itself, relative to Q.1 "Topics for Public Comment", Human/environmental impacts should be addressed 1) in Alberta, Canada where the tar sands are being extracted and 2) where the tar sands refinery waste ends up such as in southeast Chicago.

Thank you.



John Weber  
22382 Glacial Ridge Trl.  
Nevis, MN 56467-4018

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SEP 30 2015  
MAILROOM

September 30, 2015

Public comment – Enbridge “Line 3” and related matters:

PUC Docket #'s: PL-9/CN-14-916 &  
PL-9/PPL-15-137

Dear PUC Members and staff:

There are several critical aspects that the process needs to carefully collect, properly evaluate through non-Enbridge experts and disclose to the public as the deliberations move forward. In this document, I will attempt to clearly raise a number of issues. First, I wish to summarize my reactions to the claims being forwarded by Enbridge, their shell organization (LLC) Dakota Pipeline, and advocates – many of whom have already reached financial contracts / understandings with them and their agents.

I trust that everyone is reserving their decisions until the facts are assembled and the EIS evaluates the real world along these routes.

There are (in fact) three matters (highly inter-related), constantly evolving, presented as ‘urgent’ and must simply be properly adjudicated according to MN laws and expectation for finding the RIGHT place for infrastructure.

Those three matters are:

- 1) A (mostly) NEW corridor for transport of petroleum products from their initial sources (in North Dakota USA, and Alberta Canada) to the eventual markets in Chicago and southern Great Lakes cities – a new corridor which has hundreds of miles with no current nor previous evaluation for oil transport, but much of which has a high voltage power line already permitted and operating. That very fact should be a NEGATIVE for several reasons:
  - a. There is strong recent evidence that the interaction of a high voltage power transmission infrastructure adversely, dramatically, and swiftly destroys the coatings of the petroleum pipes – which then breaks down and leaks (relatively quickly / very much sooner than Enbridge has represented);
  - b. The properties along the power line easement were never assessed for the potential environmental impacts of petroleum transport – we presume that it was evaluated for the impacts of power transmission. It should be clear to all that a power line over a wetland presents very different risks than the construction, operation, maintenance, repair and eventual removal of a high volume pipeline complex carrying thousands of gallons of crude on a daily basis, year-round. Much of this alignment is ‘virgin’ woodlands, wetlands, streams, rivers and habitat which serves as the economic source and sustenance for the region via tourism and its values.
  - c. Any potential routing of such pipelines needs to be established long before millions of dollars are ‘invested’, and with the full disclosure of the total number of pipelines and their combined volumes that are being ‘routed’ and ‘permitted’. In the examination to date, it seems that there is no public declaration / discussion of the ‘eventual’ picture – how many lines / much oil. To that end, the courts seem to fully

agree, and the “big picture” needs to be seen as a major incursion on the streams, lakes, and wetlands of North-Central MN.

- 2) A “new” pipeline (“Sandpiper”) from Clearbrooke, MN which is expected to advance virtually all of its product to Chicago, Detroit and southern Canadian markets – not serving any MN markets. The fact that Enbridge has ‘contracted’ for suppliers to move product along this route to their intended market, without the existing capacity to handle the volumes should be seen as deception and illegal marketing by regulators – it should not be seen as an obligation on MN to advance such a perverse route. As such, that “Sandpiper” line it is of no value to MN – in any direct and clear manner. Furthermore, that routing is taking / encasing a circuitous route through the Great Lakes area and the significant wetlands, rivers, stream and lakes of the Mississippi Headwaters / sources in north-central MN, rather than follow the natural gas route from the Dakota sources to the markets in the Chicago are and East. It will risk Minnesota’s critical lakes area, may risk further damage like the spill at Kalamazoo (in Wisconsin and Michigan).
- 3) The ‘story line” that “Line 3” must be moved to accommodate capacity and maintenance shortcomings of the existing line 3 along MN highway 2. It seems clear from the documentation that this is factually a significant expansion of overall capacity, it exposes the fact that the new corridor may (most likely) become the NEW “MN highway 2” corridor with evermore gallons of oil surging across, under, over and undeniably into the area of these most critical lakes, wetlands, and Mississippi watershed.

Specifically, the deliberations (Dept of Commerce, PUC, MN DNR, MN PCA and others) need to:

- A) Show folks the picture. There needs to be “before and after” pictures of the pipeline through wetlands, across streams, and lakes - like the photos of the ‘solid ground’ story that Enbridge displays – so folks can see the differences in route impacts. Wetlands, streams, rivers and lakes are so significantly different from dry ground as to all aspects of building, operating, intervening, repairing, replacing, removing pipelines that folks need to see and cost-out the differences per mile!
- B) Therefore, the PUC needs to compile an accurate / factual profile of the costs per mile of ‘solid ground’ versus ‘wetland’, as well as for ‘stream / river crossings’. That breakdown should be detailed for each of the following aspects:
  - a. Preparation / surveying and related;
  - b. Construction and installation;
  - c. Restoration of ‘top soils’ and surface conditions;
  - d. Monitoring
  - e. Maintenance
    - i. Routine
    - ii. Periodic
  - f. Repairs
  - g. Restoration (at any stage of the pipeline’s life)

h. Removal

- C) Get sound scientific & agency examination of the real risks to the DNR Trout hatchery in Spire Valley in South East Cass County. And then determine a route that eliminates those risks. This formation in Spire Valley provides spring-water flowage to enable the DNR hatchery to stock (virtually) all MN streams as needed. Puncturing a hole into that aquifer which provides the water pressure / flowage, or spilling oil into the flowage at any level above or underground would destroy this one-of-a-kind facility. (I believe it also serves needs trout- stocking beyond MN).
- D) If “Old Line 3” has had so many leaks and spills, and it is now a “maintenance challenge”, then what does the future hold for this corridor / these new lines in this new alignment as they become ‘aged’? What about those new leaks and spills – the ones that now to come in wetlands and streams?
- E) With “Old Line 3” having leaked so much, Enbridge proposes ‘vacating’ it. That process is described with what seems to be a lot of ‘distracting language’. It is apparently going to be ‘cleaned and filled with liquid to sustain the pressures’ – or to that effect. That will be chemical liquids, those will be pressured, and there will be leaks of *that* material. If those pipes are NOT being cleaned and *carefully removed immediately*, then there must be a ‘sampling and response’ requirement that:
- a. If / when the new “vacated” configuration leaks, that section will be expeditiously cleaned-up and all contaminated materials and pipes / equipment removed from that stretch under specific EPA-approved procedures;
  - b. Each year, a set of earth / core samples will be extracted at line locations chosen by the MN PCA for “random checking”. Any previous leak, or any new leaks, discovered via this process will trigger the same clean-up and removal as described in (a) above.

It is time for the State of MN to require ‘escrowed funds’ for the eventual damages from failures of the pipelines, wherever it is routed. Economic endeavors that use public and other private properties should be required to “post substantial funds” that are to be used for repairing / restoring damages.

In this case, the economic entities (Enbridge, North Dakota Pipeline LLC, Marathon Oil and whomever) may use legal maneuvering and bankruptcy later (after having promised no problems) to leave uncompensated damages that would then have to be litigated. That is – if the organization that reaped the benefits even still exists and is/are under the jurisprudence of the State of MN, its citizens, local counties, cities, property owners, etc.

Given the final outcome, and the costs of the litigation and personal expenses involved, at Kalamazoo, MI, this should be evident to anyone who is truly independent and not beholdng to the oil pipeline companies and their agents.

Submitted by:

Darril Wegscheid –  
20231 Roosevelt Ridge – PO 251

Emily, MN 56447

Background:

MN State Senator – 1983-1988; Senate Environmental Committee, Senate Economic Development Committee (and others);

Lake Association Board Member -

Lake Roosevelt (Roosevelt And Lawrence Area Lakes Association – RALALA) – Outing, MN  
Participant in various efforts to prevent AIS spread in MN

Please provide your contact information. This information and your comments will be publicly available.

Name: Tony Wersal Phone: 651-244-7037

Street Address: 442 City Rd J

City: Hammond State: WI ZIP: 54015

Email: \_\_\_\_\_

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the *Route Permit*)
- Are there any alternatives to the project that should be considered? (Related to the *Certificate of Need*)

It will create plenty of jobs. Plus bring revenue to  
many of the towns along the pipeline

Please provide your contact information. This information and your comments will be publicly available.

Name: James Westphall Phone: 651-488-0377

Street Address: 362 Topping St

City: St. Paul State: MN ZIP: 55117

Email: \_\_\_\_\_

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the *Route Permit*)
- Are there any alternatives to the project that should be considered? (Related to the *Certificate of Need*)

A New Pipe Line should be installed before  
the old one starts to fail and serve one  
get heat.

## Ries, Natalie (COMM)

---

**From:** Ries, Natalie (COMM)  
**Sent:** Monday, October 05, 2015 2:17 PM  
**To:** Ries, Natalie (COMM)  
**Subject:** FW: WESTTRUM

-----Original Message-----

From: Charlene Westtrum [<mailto:rcwestrum@gmail.com>]  
Sent: Wednesday, September 30, 2015 1:08 PM  
To: MacAlister, Jamie (COMM)  
Subject: Enbridge Pipeline

PUC # PL-9/CN-14-916

Knowing that the EIS is required, we urge compliance with said ruling.

The protection of our water shed is crucial for not only the present, but for the future of this area that we cherish. We implore you to be mindful and act for a safe, healthy environment.

Respectfully,

Rod and Char Westrum

Sent from my iPhone

**From:** [cc.white](#)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** PUC Docket number PL-9/CN-14-916 Certificate of Need PL-9/PPL-15-137 Route Permit  
**Date:** Sunday, August 30, 2015 12:15:43 PM

---

Jamie, I hope you are the correct manager to send this comment to. I tried to submit this comment on the website, but the submit button although visible did not work. Please let me know if this was received and got to the proper people:

Thank you.

PUC Docket number PL-9/CN-14-916 Certificate of Need  
PL-9/PPL-15-137 Route Permit

**First Box:**

I attended the public meeting on the replacement Line 3 that runs through Hubbard County. I was very concerned about some of the information presented by both sides at this meeting. Many people are calling for a full environmental impact review, some say there is another way (EIS?) to get the same information. I'm assuming the alternative method is cheaper and quicker. My concern is that many of the "facts" are different as presented by each side. We need to have a full independent review from a team the public can trust. How can our public officials make decisions based on partial information? We also need to review all information presented as to who is paying for the research.

I also have read the recent draft report by the Straight River Groundwater Management group from the DNR. If the information in this report on our groundwater is accurate, then this route through Hubbard County is particularly vulnerable to spills. My drinking water comes from north and west of me. My well is only 50 feet deep. So from the information from DNR, this water comes from the area that will be crossed by the Replacement Line 3. (I'm about 10 to 5 miles from the pipeline) If there is a leak, this means I don't have drinking water, water for my garden and Long Lake that borders my property is at risk.

Therefore the impact on Hubbard County will be huge. It will affect individual land owners (drinking water and land values), and the economy which depends on tourism (fishing, water sports, hiking etc)

As citizens of a representative government, we need to have our officials weight the long term affects vs the short term gains.

**Second Box**

I'm not an engineer so to figure out how to mitigate these impacts is difficult. The easiest solution is to not route this pipeline through Hubbard Ct. This will protect our waters and our economy in the long term. The jobs we gain and the property taxes gained for the county are short term.

If a pipeline is approved, then we need to add extra protections by specifying safety features, adding extra monitoring and anything else to stop a leak quickly. The biggest thing would be to have the company pay a huge bond that would be used to clean up any spills and leaks. The state of Minnesota and Hubbard County can not be expected to pay these huge costs. This bond would be there even if the company is out of business.

Oil will run out or no longer be needed some day.. So we should think of how to decommission a pipeline and dispose of it. This should be part of the process.

Most of all during the decision making process, give the long term resources the proper weight as compared to short term resources.

--

**Carolynne (CC) White**

**218 732 9819**

**14388 Chippewa Loop, Park Rapids, MN  
Hubbard County, resident of Long Lake**



Jamie MacAlister  
Environment Review Manager  
Minnesota Department of Commerce  
87 7<sup>th</sup> Place East, Suite 500  
St. Paul, MN 55101-2198

Ms. MacAlister,

We are writing this letter in regard to docket number 15-137, or the L-3 line replacement. We as a company are in support of this line. As I sat in on some of the meetings, I heard a lot of statements from people in support of replacement, as long as we put it in someone else's backyard. I think what is being overlooked is what is best for Minnesota and the environment as a whole. L-3 has been found to have anomalies and defects causing Enbridge to warrant replacement. This should be the biggest issue on everyone's mind. The fact that most of the people I listened to worry more about the small chance of a new line failure than an aging line failure is very concerning to me.

We at Innovative are a broad mix of people and personalities. Many here are Veterans or reserve military. We have many outdoor enthusiasts from hunters to marathon runners. We as a whole have to take into account what is best for Minnesota.

On a personal note, I have family hunting land very near the proposed route. I would much rather see a new line running near this property than continued use of an aging line. That being said, I believe Enbridge should do everything in its power to build the best product possible. Be it x-raying the line before it is placed, to protective coatings for the weld joints, to ditch breakers to prevent damage after the placement. Having a plan in place to use the best technology available will be best for Minnesota.

Thank you,

Eric White  
Commercial Operations Manager  
Foundation Supportworks  
1100 Holstein Drive NE  
Pine City, MN 55063

1100 Holstein Dr  
Pine City, MN 55063  
USA

PHONE 320-629-3990  
FAX 320-629-3950  
EMAIL [ewhite@innovativefsw.com](mailto:ewhite@innovativefsw.com)  
WEB SITE [www.innovativefsw.com](http://www.innovativefsw.com)

Please provide your contact information. This information and your comments will be publicly available.

Name: John Wilking Phone: 651-257-4550  
Street Address: 10890 Green Lake Trail  
City: Chisago State: MN ZIP: 55013  
Email: john.wilking@Frontier.com

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the Route Permit)
- Are there any alternatives to the project that should be considered? (Related to the Certificate of Need)

Please replace this line to replace  
the old line & protect our environment.  
This will continue to replace our  
fuel for our cars and keep the price  
reasonable.

**From:** [Jenny Willoughby](#)  
**To:** [MacAlister, Jamie \(COMM\)](#)  
**Subject:** PUC DOCKET NUMBERS PL-9/CN-14-916 CERTIFICATE OF NEED PPL -15-137 ROUTE PERMIT  
**Date:** Tuesday, September 29, 2015 3:31:48 PM

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REGARDING: PUC DOCKET NUMBERS PL-9/CN-14-916 CERTIFICATE OF NEED  
PPL -15-137 ROUTE PERMIT

My name is Jennifer Willoughby of Minneapolis, Minnesota. I am writing to register my strong opposition to the proposed route for the construction of Enbridge Pipeline Line 3 intended to transport Bakken crude to Lake Superior. I am, and have been for 20 years, a frequent and enthusiastic visitor to Minnesota's lake country and the Mississippi Headwaters region. I believe the proposed Line 3 construction would irreversibly threaten the health and safety of the region's environment, citizens, wildlife and agriculture, as well as the ongoing ability of the region to attract community-sustaining tourist dollars.

Given plunging oil prices and rising national outrage over the grossly incompetent oil industry management of its transportation methods, safety inspections, geological degradation, and cleanup response to its many historical pipeline spills, it is ludicrous to give Enbridge, a company notorious for its massive 2010 contamination of the Kalamazoo River, carte blanche for Line 3. There have been 1,068 Enbridge spills across their pipeline system that have spilled 7.4 million gallons of oil between 1999 and 2013 - an average of 71 spills and 500,000 gallons per year.\*

The Minnesota DNR, Pollution Control Agency, and hundreds of thousands of concerned citizens have expressed grave concerns over this proposed route. I join them and urge the PUC to seriously consider alternate routes, to respect and protect the public interest, and to allow our great state's longstanding commitment to environmental stewardship to continue.

\*[http://www.oilandwaterdontmix.org/enbridge\\_safety\\_record](http://www.oilandwaterdontmix.org/enbridge_safety_record)

Sincerely,

Jennifer Willoughby

4604 Pleasant Avenue

Minneapolis MN 55419

PL-9/CN-14916 / PL-9/PPL-15-137

### Department of Commerce

energy

Our Sites

- [Facebook](#)
- [Twitter](#)
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- [GovDelivery](#)

Printed for me by Dul. Public Library -  
I have no computer or email,  
Please accept.

[Share or Print This Page](#)

## Public Comments

**Note: A bug has been identified on this page which effects some browsers. If you do not see a "submit" button at the bottom of the page, please do not fill out the form. Instead, please email your comment to the environmental review manager for your project.**

Thank you for taking the time to supply public comments for this project. Filling out this form and pressing submit will send your comments to the environmental review manager and register them in the project's public record. Please refrain from using profanity in your comments, as these words may cause your submission to be flagged as spam and not submitted.

Please note, this comment form is solely for open comment periods where comments are directed to the Minnesota Department of Commerce. Some comments during the permitting process may need to be directed to other agencies, e.g., the Office of Administrative Hearings. Please check the applicable notice for the appropriate place to send comments. See [Notices](#), [Press Releases](#), and [Meetings](#).

### Project

The following projects are open for comment. What project would you like to comment on?

Line 3 Pipeline Replacement (Scoping)

### Contact Information

First name \* William

Last name \* Wilton

Address 524 Anderson Road

City \* Duluth

State

MN

Zip code

55811

County

--ST. LOUIS

Email

Phone 218 722 4045

**RECEIVED**

SEP 18 2015

**MAILROOM**

## Comments

### Impacts

Please share your comments on the potential issues and impacts that should be considered in the environmental document to be prepared for this project. If you are commenting on a draft environmental document that has already been issued (e.g., draft EIS, draft site permit), what issues and impacts need to be further addressed?

PL-9/CN-14-916

This Project is strictly for monetary Gain. There is no need. Already there is talk of exporting our resources meaning we already have a excess & not even tapped the approved.

### Mitigation

Please share your comments on how the issues and impacts you've listed might be mitigated. If this is a project with a route, are there alternate routes or route segments that should be considered that would mitigate impacts? If so, please describe them. If this is a project with a site, are there alternate sites that should be considered that would mitigate impacts? If so, please describe them.

PL-9/PPL-15-137

It is unimaginable that any approved development that not possibly but "Probably" will contaminate any of our resources especially "water" could be approved that magnitude of which would be worse than an Atomic Bomb!

submit

Sincerely

Sept 15/15 William H. Wilton  
524 Anderson Road  
Duluth, Mn. 55811

Please provide your contact information. This information and your comments will be publicly available.

Name: Jeff Wirth Phone: 651-276-7931

Street Address: 596 Nevada Ave E

City: St. Paul State: MN ZIP: 55130

Email: Stearmfitter455@yahoo.com

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the *Route Permit*)
- Are there any alternatives to the project that should be considered? (Related to the *Certificate of Need*)

Creates jobs

Safe way to transport oil

Boosts communities in areas of construction

Please provide your contact information. This information and your comments will be publicly available.

Name: Marvin Youness Phone: 651-235-3078

Street Address: 400 1st Ave. So.

City: South St. Paul, MN State: MN ZIP: 55075

Email: \_\_\_\_\_

Please share your comments on the proposed Line 3 Pipeline Replacement Project.

- What human and environmental impacts should be studied in the environmental analysis?
- Are there any specific methods to address these impacts that should be studied in the analysis?
- Are there any routes or route segments that should be considered? (Related to the Route Permit)
- Are there any alternatives to the project that should be considered? (Related to the Certificate of Need)

I am for the replacement of the pipeline  
for the following reason. The old line is  
decades old and a new line would be safer  
for the environment.

Thank you,  
Marvin Youness

**From:** [Birkholz, David \(COMM\)](mailto:David.Birkholz@state.mn.us)  
**To:** [MacAlister, Jamie \(COMM\)](mailto:MacAlister.Jamie@state.mn.us)  
**Subject:** FW: Certificate of Need docket #CN-14-916, Route Permit docket #PPL-15-137Line 3 Pipeline Replacement (abandonment)  
**Date:** Wednesday, August 26, 2015 8:26:00 AM

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**From:** Naomi Zurcher [mailto:[treerap@sprintmail.com](mailto:treerap@sprintmail.com)]  
**Sent:** Wednesday, August 26, 2015 6:47 AM  
**To:** Birkholz, David (COMM)  
**Subject:** Fwd: Certificate of Need docket #CN-14-916, Route Permit docket #PPL-15-137Line 3 Pipeline Replacement (abandonment)

**From:** Naomi Zurcher <[treerap@sprintmail.com](mailto:treerap@sprintmail.com)>  
**Date:** August 19, 2015 11:12:21 AM EDT  
**To:** [david.birkholz@state.mn.us](mailto:david.birkholz@state.mn.us)  
**Subject:** **Fwd: Certificate of Need docket #CN-14-916, Route Permit docket #PPL-15-137Line 3 Pipeline Replacement (abandonment)**

Thank you for your assistance with submitting this comment

Begin forwarded message:

**From:** Naomi Zurcher <[treerap@sprintmail.com](mailto:treerap@sprintmail.com)>  
**Date:** August 19, 2015 10:59:24 AM EDT  
**To:** [jamie.macalister@state.mn.us](mailto:jamie.macalister@state.mn.us)  
**Subject:** **Certificate of Need docket #CN-14-916, Route Permit docket #PPL-15-137Line 3 Pipeline Replacement (abandonment)**

Good morning:

I am writing to oppose the replacement / abandonment of Pipeline 3. While I live in the State of New York, actions that pollute and contaminate our water and air and the Planet we live on affect all of us, no matter where we reside.

Enbridge, an extremely untrustworthy entity, should bare FULL responsibility for cleaning up any abandoned segments of Line 3. According to Minnesota's laws, this pipeline constitutes an underground storage tank. As such, petroleum remnants and PCB's can seep into groundwater long after the pipeline has ceased to operate. The Canadian Energy Board has a pipeline abandonment guidance document that identifies potential groundwater contamination from abandoned pipelines that include:

- substances produced in the reservoir and deposited on the walls of the pipeline;
- treatment chemicals in the pipeline;

- the line pipe and associated facilities;
- pipeline coatings and their degrading products;
- possible PCB contamination from lubricants.

The document also discusses the enormous hydrological impacts of abandoning a pipeline, which can transform over time into water conduits. Eventually, erosion allows water to enter the pipe, which leads to unnatural drainage of areas such as muskegs, sloughs, marshes, affecting the natural balance of the ecosystem and increasing the risk of soil and water contamination, especially in wetlands. Any water that infiltrates the pipeline is likely to carry residual pipeline contaminants as it flows.

Enbridge should NOT be allowed to walk away from Pipeline 3 without completing all necessary remediation of the existing pipeline corridor. If they are not required to remove the pipeline and restore the ecosystems their pipeline diminished and damaged, there may never be a full accounting of the on-going and future contamination from their abandoned pipeline infrastructure.

We and the lands we occupy deserve better than that and we expect your offices to hold Enbridge fully accountable on our behalf.

Thank you for the opportunity to submit comments on this important environmentally challenging issue.

Naomi Zurcher